



QUANTA
SERVICES

CONNECTING PEOPLE

POWERING TOMORROW

2021 Sustainability Report



2021 SUSTAINABILITY REPORT

Quanta is at the heart of helping society meet its biggest challenges — building the infrastructure necessary to support a net-zero economy and enabling a people-centered transition.

As the energy transition gains pace, our singular focus on having the most skilled and highly trained workforce in the industries we serve puts us at the intersection of creating both business and societal value.

At Quanta, we are connecting people to clean energy, information and opportunity.

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ABOUT THIS REPORT

Scope

This report, Quanta's 2021 Sustainability Report (SR), was published in August 2022 and reflects activities and initiatives in our fiscal year 2021 (January 1, 2021, to December 31, 2021), as well as certain subsequent events and initiatives that occurred after the end of fiscal year 2021, which we have endeavored to note as such. All quantitative data for Quanta included in this report, unless otherwise stated, represents fiscal year 2021. Additionally, unless otherwise noted, data in this report reflects the majority of our global operations (U.S., Canada and Australia), as relevant. All references to "Quanta," "Quanta Services," "Company," "us," "we," "our" or similar terms in this report are references collectively to Quanta companies covered by such operations.

Our last report, the 2020 Quanta Corporate Responsibility Report, was published in August 2021.

The preparation of the information included in this report, including, among other things, emissions and energy usage data, workforce data and specific project metrics, requires the use of estimates and assumptions. As a result, such information may be inaccurate, and there is no assurance that such information will not need to be revised in connection with our publication of any future reports. The information contained in this report has not been audited by any independent auditor and Quanta does not currently seek external assurance of information contained within this report. This report is prepared as a reference tool, and Quanta may elect to modify the format or discontinue publication of such reports at any time without notice.

This report has been reviewed by the Governance and Nominating Committee of Quanta's Board of Directors (Board).

Report Structure: Our Commitment to Transparency

This report follows an environmental, social and governance (ESG) structure, leading with the "People" (social) section, because people are at the center of what makes Quanta what we are, followed by "Planet" (environmental) and "Principles" (governance).

We are reporting against our most significant ESG topics, identified during our recently completed 2021 materiality assessment (see page 16). For purposes

of this report, we use the Global Reporting Initiative's definition of materiality.¹

This report has been written for a broad range of stakeholders, including but not limited to our customers, suppliers, investors and nonprofit organizations.

Quanta continues to seek ways to improve disclosures that are meaningful to our business and stakeholders. In this regard, and to improve ease of use and comparability with peers, we herein index our reporting (where applicable) against frameworks from the:

- Global Reporting Initiative (GRI),
- Sustainability Accounting Standards Board (SASB),
- Task Force on Climate-related Financial Disclosures (TCFD) and
- UN Sustainable Development Goals (SDGs).

These standards provide criteria for us to report against across a range of ESG topics and are summarized in the appendix on page 158.

We welcome your feedback on this report. For more information or to provide comments, please contact us at sustainability@quantaservices.com.

Forward-Looking Statements

This report (and oral statements regarding the subject matter of this report) includes forward-looking statements intended to qualify under the "safe harbor" from liability established by the Private Securities Litigation Reform Act of 1995. These forward-looking statements include any statements reflecting Quanta's business or financial outlook and expected opportunities, technological developments, competitive positioning, future economic and regulatory conditions and other trends in particular markets or industries, as well as other statements reflecting expectations, goals, targets, intentions, strategies, assumptions, plans or beliefs about future events or performance or that do not solely relate to historical or current facts. These forward-looking statements are not guarantees of future performance; involve or rely on a number of risks, uncertainties and assumptions that are difficult to predict or are beyond our control; and reflect management's beliefs and assumptions based on information available at the time the statements are made. We caution you that actual outcomes and results may differ materially from what is expressed, implied or forecasted by our

¹ [globalreporting.org/how-to-use-the-gri-standards/questions-and-answers/pre-2021-gri-standards-system-faq/materiality-and-topic-boundary/](https://www.globalreporting.org/how-to-use-the-gri-standards/questions-and-answers/pre-2021-gri-standards-system-faq/materiality-and-topic-boundary/)

forward-looking statements and that any or all of our forward-looking statements may turn out to be inaccurate or incorrect. For additional information concerning some of the risks, uncertainties, assumptions and other factors that could affect our forward-looking statements, please refer to Quanta's Annual Report on Form 10-K for the year ended December 31, 2021, as well as any other documents filed with the SEC, which are available on our website ([quantaservices.com](https://www.quantaservices.com)). Should one or more of these risks materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those expressed or implied in any forward-looking statements. You should not place undue reliance on Quanta's forward-looking statements, which are current only as of the date of publication of this report. Quanta does not undertake and expressly disclaims any obligation to update or revise any forward-looking statements to reflect events or circumstances after such date or otherwise, and Quanta does not undertake and expressly disclaims any obligation to verify any written or oral statements made by any third party regarding the subject matter of this report.

Additionally, any forward-looking projections or estimates included in this report are based on assumptions that are inherently subject to significant uncertainties and contingencies, many of which are beyond Quanta's control, and such projections and estimates involve increasingly higher levels of uncertainty the further out they extend from the date of preparation. The assumptions and information underlying such projections and estimates are inherently uncertain and are subject to a wide variety of significant risks and uncertainties that could cause actual results to differ materially from those contained in the projections and estimates. Moreover, statements in this report may be based on standards or methodologies that are still developing and for which internal controls and processes are continuing to evolve. Further, certain statements are based on third-party data, estimates or standards which Quanta has not independently verified or reviewed. While estimates and assumptions used are believed to be reasonable at the time of preparation, the inclusion of projections and estimates in this report should not be regarded as guarantees. Our disclosures based on any standards may change due to revisions in framework requirements, availability of information, changes in governmental policies or other factors which may be beyond control. The inclusion of projections and estimates in this report should not be regarded as an indication that Quanta considered or considers such information to be a reliable prediction of future events.

We are still in the very early days of a transition to a low-carbon economy, and Quanta has a key role to play in supporting this transformation.

A MESSAGE FROM OUR CEO



By providing critical infrastructure solutions for our customers, we are playing a key role in helping to accelerate this transition, while focusing on employee safety and conducting our business in a socially, economically and environmentally responsible manner. The transition to a low-carbon economy demands the synchronized transformation of multiple, interdependent systems. For example, an electrified vehicle fleet significantly addresses climate change only if it is charged with clean, renewable energy. Every day, we are building these critical connection points and synergies, in turn allowing organizations to work collaboratively to accelerate the adoption of some of the most impactful climate solutions.

At Quanta, keeping people connected — by improving system resiliency and reliability with technologies that will enhance the quality of life in the communities where we work — is who we are and what we do every day. Running a great business and delivering for our customers, partners, employees and shareholders is critical, but we have an opportunity — and a responsibility — to do more.

As we continue our sustainability journey, we will never lose sight of our deeply human approach to our business — that people are the core of everything we do. Every decision we make

is motivated by what will benefit our employees, customers, stockholders and the communities where we live and work. Our success is driven by the best, most skilled and highly trained workforce in the industries we serve. We never take our success for granted, and we must never take the people who work for Quanta or its operating companies for granted either.

We are committed to measuring our progress and providing increased transparency on our performance. In this report, for the first time, we share data in a consolidated format that reflects our company's progress. We are also building on our foundation of reporting against the SASB standards by expanding to include GRI, TCFD and SDG disclosures.

Led by our unwavering principles, our commitment to people is integral to who we are and what we do. We look forward to our continued partnerships as we execute the work ahead. Thank you for your trust and confidence in Quanta Services.



EARL C. "DUKE" AUSTIN, JR.

President & Chief Executive Officer, Quanta Services

OUR ROLE IN SOCIETY

HOW QUANTA IS POWERING THE ENERGY TRANSITION

At Quanta, we are at the heart of a tectonic change in the way energy is generated and distributed. By supporting our customers across all industries and always putting safety first, we are enabling and accelerating the transition to a carbon-neutral and digital future. As Quanta grows, so does our positive impact on the world.

KEY

- System Modernization & Resiliency
- Electrification & Decarbonization
- Enabling Technology

Safety & Training

People are our most important asset. By investing in our craft-skilled workforce, we benefit our employees, our customers and the overall industry. To create a sustainable workforce for the future, we are ensuring employee safety by investing more than \$100 million in training programs and facilities. See pages 44 and 52. ●●●

Connecting Renewables Projects

Quanta Services, together with its family of companies, is leading the construction of transmission to connect renewable projects to the grid. The United States will need to add about twice as much transmission as we have today to fully decarbonize by 2050.¹ See page 104. ●●

Response to Natural Disasters & Extreme Weather Events

As extreme weather caused by climate change becomes more frequent,² Quanta companies are working with their customers to provide industry-leading storm response and make America's power infrastructure more resilient to severe weather events and wildfires. See page 30. ●

Advanced Biofuels

Quanta companies are working with their customers to construct advanced biofuel facilities, such as renewable diesel and renewable natural gas (RNG), utilizing carbon circularity to turn organic matter into energy sources. See page 116. ●

Methane Leakage Prevention & Detection

Through our leading pipeline integrity work, we replace old gas distribution and pipeline infrastructure to ensure safety and prevent methane leakage, eliminating a potential major source of greenhouse gas emissions. ●●

Building the Electrification of Mobility

As the powertrain transition shifts into overdrive, Quanta companies are working with customers to construct an electric vehicle charging network across the U.S. See page 110. ●●●

Enabling Digital Equity With Next-Generation Telecommunications

Quanta companies are working with customers to expand access to high-quality and affordable communication services, allowing people to move across the digital inclusion continuum: from increasing technology access to developing skills to ultimately leveraging those skills for economic mobility. This is an important facilitator of social inclusion for individuals that are economically disadvantaged to develop technology skills and expand their horizons. See page 70. ●●

Renewable Energy Infrastructure

Supported by strong tailwinds of decarbonization and leveled cost of energy,⁴ Quanta, through its acquisition of Blattner Company (Blattner), has created an industry-leading renewables infrastructure platform. In 2021, Blattner constructed wind and solar capacity that is estimated to displace more than 11 million tons of CO₂ from the grid.⁵ See page 24. ●

Utility-Scale Energy Storage

Quanta is poised to install record amounts of battery storage in the coming years as the U.S. market for stationary batteries is projected to grow from about \$1 billion in 2020 to \$14 billion by 2030.³ See page 100. ●●

³ spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/us-energy-storage-developers-plan-9-gw-in-2022-building-on-2021-breakthrough-68012433

⁴ about.bnef.com/new-energy-outlook; eia.gov/outlooks/aeo/section_issue_policies.php; eia.gov/outlooks/aeo

⁵ CO₂ avoided calculations are estimates based on annual consumption and are for U.S. projects only. Source: cleanpower.org

¹ esig.energy/wp-content/uploads/2021/02/Transmission-Planning-White-Paper.pdf

² epa.gov/climate-indicators/weather-climate

WHO WE ARE

Quanta Services is the leading specialty contractor with one of the largest and most highly trained workforces in North America — providing fully integrated infrastructure solutions for the electric power, underground utility and communications industries. The company's geographic footprint spans the United States, Canada and Australia, and its network of companies ensures world-class execution with local delivery.

Our Values

Our values are not just words on a page. We live them daily. Our mission is always, in every way, to continue getting better.

Success at Quanta is a team effort, driven by the best, most highly skilled workforce in the industry. At Quanta, we cultivate a culture of trust, mutual respect and empowerment, which in turn manifests a sense of dedication, inspiration and passion in our employees.

Our focus is fixed on safety. Our most important commitment is ensuring every person working at our operating companies returns home safely each evening. A safe work environment on every job also makes our customers stronger and more efficient. Our focus on safety continues to bolster ingrained, long-standing relationships with our customers.

Our Culture: We Are Exceptional People

Our Employees

We are a people industry. Our companies recruit, empower and retain the best employees in the business. We celebrate diversity of backgrounds and ideas, and we trust employees to innovate with integrity. They are the heart of Quanta, so we empower them and seek ways to develop their future potential.

Our Customers

We honor our word and commitments. Our relationships with our customers have the advantage of local attention to detail, backed by the international resources and power of the Quanta Services family.

Our Stockholders

We believe the geographic diversity, unique operating model and entrepreneurial mindset of Quanta and its operating companies are the foundation that will allow us to continue to generate long-term value for all stakeholders.

Our Community

We are committed to the communities where we live and work, and we embrace a culture where each of us — and our company as a whole — can make a significant impact. We search out and create long-term partnerships with nonprofit organizations that are truly making a difference. We remain committed to responsibly using the resources we have to make the world around us better.

2021 AT A GLANCE

\$1.83 B

in revenue from Quanta's Renewable Energy Infrastructure Solutions segment



500+

electric Chevrolet Silverado trucks that Quanta has agreed to purchase

10.5%

reduction in fleet CO₂ intensity (g CO₂/\$ revenue) since 2019

INCREASED BOARD DIVERSITY

to 30% female and 10% minority

\$742 M

in diverse supplier spend, a 9% increase from 2020

31% minorities trained

at campus career programs at Northwest Lineman College (NLC), an increase from 26% since 2019



15,123

PEOPLE

trained in campus career programs at Northwest Lineman College (NLC), a 16% increase from 2019

8% DECREASE

in Total Recordable Incident Rate (TRIR) YOY



11,000+

automated external defibrillator (AED) units deployed to job sites

1.8 million man-hours

spent restoring power services in response to named storms in 2021



3,157

personal voltage detectors (PVDs) purchased for storm responders in 2021, an 85% increase from 2020

6,857 MW

installed by Blattner's construction of wind, solar and energy storage projects in 2021

11.9 M tons CO₂ avoided

from installation of Blattner's wind and solar projects in 2021

NOTABLE AWARDS: QUANTA SERVICES



Named No. 15 on the 2021 Healthiest 100 Workplaces in America by Healthiest Employers® for its investment in the health and well-being of its employees. This award honors the organizations that are demonstrating care for their people by investing in health and well-being solutions and initiatives. Scoring is based on each organization's Healthiest Employers Index, a metric based on six categories: Culture and Leadership Commitment, Foundational Components, Strategic Planning, Communications and Marketing, Programming and Interventions, and Reporting and Analytics.



No. 1 on the Top 50 Electrical Contractors list by *Electrical Construction & Maintenance* magazine



Edison Electric INSTITUTE

Recipient of Edison Electric Institute's inaugural **Thomas F. Farrell, II, Safety Leadership and Innovation Award**. Quanta was recognized in the Contractor Project category "for its Capacity Model, which approaches industry safety challenges by actively addressing serious injuries and fatalities through controls and employee engagement."

Named a 2021 All-America Executive Team by *Institutional Investor* Magazine. Quanta was ranked No. 1 across all categories in the Engineering & Construction Sector, including for Financially Material ESG Disclosures.



Quanta was also recognized as a Most Honored Company, representing the top-ranked companies across the entire survey.



No. 3 in the Engineering & Construction category of *Fortune's* World's Most Admired Companies



No. 1 Overall Specialty Contractor, No. 1 Overall Electrical Contractor and No. 1 Overall Utility Contractor, *Engineering News-Record* Top 600 Specialty Contractors list



No. 6, *Houston Chronicle* Chron 100 list



No. 2 Healthiest Employer, Texas, Extra Large category



No. 1266, *Forbes* Global 2000 list



No. 278 on the Fortune 500 list

RECOGNIZING QUANTA COMPANIES



Mears Group's Rappahannock River Crossing project was awarded the Project of the Year for New Trenchless Installation by the North American Society for Trenchless Technology (NASTT). This very technical and complex project successfully applied horizontal directional drilling (HDD) to place underground a critical pair of 12,200-ft. parallel power cables under the Rappahannock River near White Stone, Virginia.



HBK Engineering received the Greater Chicago Damage Prevention Council (GCDPC) Support of Service of the Year award at the GCDPC meeting. The award is given to recognize exemplary leadership in locating, engineering and industry collaboration to ensure public safety through progress and continued advancement of the damage prevention process and reduction of utility strikes in the Greater Chicago region.



Mark Groves, President of **NLC Innovations & Manufacturing**, has been honored as an inductee into the Lineman's Hall of Fame. The Lineman's Hall of Fame was created to honor, acknowledge and pay respect to lineworkers that have made notable contributions to the industry. Some of Mark's contributions to the industry include innovations like the Ox Block®, a revolutionary tool for rigging, load control and rescue, and in the delivery of domestic and international lineman training tools.



Blattner Company has been selected as The Cleanie Awards® Silver place winner for the 2021 Company of the Year (Enterprise). This award, judged by industry peers, is the leading awards program celebrating people and brands driving the clean energy economy.

Intermountain Electric, Inc., of Denver, CO, won 2021 Awards for Construction Excellence (ACE) for "Meeting the Challenge of a Difficult Job, Subcontractor" for Denver International Airport Emergency Fuel Shut-Off Replacement and "Best Building Project, Over \$10 Million, Subcontractor" for Denver International Airport Great Hall Phase 1.



Allteck was Jobs West's choice for the 2021 Employer of the Year. Jobs West enables people with developmental disabilities to prepare for, find and maintain community-based employment placements.

Nova Group received the American Institute of Steel Construction Safety Award of Honor.



Arnett & Burgess was awarded the Canadian Energy Pipeline Association Foundation Safety Award for their work on initiating the FAMILY program.

Quanta Utility Engineering Services was awarded Ameren's Tier II supplier of the year.

HBK Engineering, LLC, was ranked No. 294 Overall, No. 47 in Power and No. 32 in Telecom in the *Engineering News-Record* 2021 Top 500 Design Firms Sourcebook.

PROGRESS ON OUR CONTRIBUTION TO OUR PRIORITIZED SDGs



Building resilient infrastructure, promoting sustainable industrialization and fostering innovation

In 2021, Quanta employees provided **emergency restoration services** in response to hurricanes, storms and wildfires and spent 1.1 million man-hours responding to Hurricane Ida. See page 30.

Quanta companies are installing **broadband and next-generation wireless** in underserved communities, thereby helping people move across the digital inclusion continuum: from increasing technology access to developing skills to ultimately leveraging those skills for economic mobility. See page 70.

Ensuring sustainable consumption and production patterns

Quanta companies have been a member of the **Electric Utility Industry Sustainable Supply Chain Alliance** since 2012, a collective formed to help reduce the environmental impact of the electric utility industry's supply chain. See page 134.

Quanta has developed an ongoing collaboration with multiple utilities to take down, sort, tag and **recycle electrical infrastructure equipment**. See page 133.



Taking urgent action to combat climate change and its impacts

From 2019 to 2021, we **reduced our Scope 1 CO₂ emissions intensity** (g CO₂/\$ revenue) by 10.6%. See page 92.

As part of our work to reduce the carbon footprint of our fleet, we agreed to **purchase at least 500 all-electric Chevrolet Silverados**. See page 93.



Ensuring access to affordable, reliable, sustainable and modern energy for all

In 2021, Quanta Services acquired Blattner Company (Blattner), the **largest utility-scale renewable energy solutions provider in the United States**. Blattner has installed approximately 35% of all the wind energy in the U.S. market and four of the top ten wind energy projects in the United States. See page 24.

Blattner recently completed construction of **the largest renewable energy project in American history**. The wind project brought over 1,100 construction jobs to New Mexico, generating local spending, tax revenue and landowner payments in a remote area of New Mexico. See page 28.



Ensuring healthy lives and promote well-being for all at all ages

In 2021, **Total Recordable Incident Rate (TRIR) decreased by 8%** compared to 2020. See page 44.

Quanta was named **No. 15 on the 2021 Healthiest 100 Workplaces in America** by Healthiest Employers® for their investment in the health and well-being of its employees. Quanta was also named **second healthiest company in Texas** in the extra large category. See page 84.

Our sustainability efforts align with many of the **UN Sustainable Development Goals (SDGs)**—a shared blueprint for peace and prosperity for people and the planet, now and into the future.

The SDGs' success requires cooperation and ambitious commitments—values that align perfectly with our own about inclusivity, diversity and giving back.

As part of our performance in our sustainability focus areas, we show our contribution to achieving the SDGs we prioritize. We are tracking our delivery of all SDGs and aspire to improve our ESG ratings yearly. Further details on our contribution to the other SDGs are listed in "SDG Index" on page 178.



Ensuring inclusive, equitable, quality education and promoting lifelong learning opportunities for all

19% of individuals trained at Northwest Lineman College (NLC) in 2021 were **veterans**. See page 55.

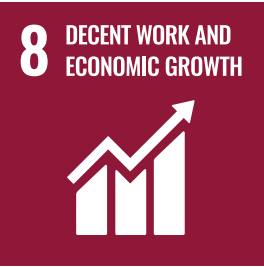
A Quanta company works in the community through LIVE Classroom, which **educates local talented youth** in Science, Technology, Engineering and Mathematics (STEM) in a real-world interdisciplinary and best-practice approach. See page 78.



Achieving gender equality and empowering all women and girls

From 2019 to 2021, Quanta **increased its share of women in the workforce** from 8% to 10%. See page 64.

Quanta employees participated in the **2021 Power Girls** event, which gave young women insight into what they do on a day-to-day basis on the job site and introduced them to the tools, materials and safety protocols of the electrical industry. See page 67.



Promoting sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

All of our **more than 40,000 employees received safety training**. In 2021, over 15,000 students were trained at Northwest Lineman College (NLC), helping to enable a safer, better-equipped workforce. See page 52.

Quanta Services and ATCO are investing in Puerto Rico with a brand-new, state-of-the-art technical training facility, **LUMA College for Technical Training**, designed to deliver industry-leading safety, training and workforce development products and services to the people of Puerto Rico. See page 57.



Reducing inequality within and among countries

Our diverse partners include an array of small business and minority enterprises, including those owned by women, veterans and disabled and LGBTQ+ individuals. In 2021, Quanta's **diverse business spend totaled more than \$742 million**, up from \$679 million in 2020. See page 61.

Quanta has been **assisting with the roll-out of Starry Connect**, a high-quality, ultra-low-cost internet access program for affordable and public housing communities, which now reaches more than 30,000 public and affordable housing units across the U.S. See page 71.



Promoting peaceful and inclusive societies for sustainable development, providing access to justice for all and building effective, accountable and inclusive institutions at all levels

In 2021, Quanta Services **increased the diversity of its Board** by increasing female representation to 30%. See page 140.

Q&A WITH QUANTA SENIOR LEADERS

We talked to five senior leaders about how Quanta is driving action on its ESG priorities in 2021.



JAYSHREE DESAI

Chief Financial Officer

Q. What does good governance of ESG issues look like? How is Quanta's Board helping oversee ESG issues at Quanta?

A. At Quanta, we believe that good governance starts at the top. From a top-down perspective, we have several mechanisms in place to ensure our sustainability strategy is integrated across Quanta and our progress is transparently reported and properly measured. At the highest level of our company, oversight is provided by Board committees. We also want our Board to reflect the communities where we work and live, and we are continuing our efforts to increase diversity of our Board to provide more perspectives and guidance on ESG matters.

Our executives and presidents of operating companies oversee the development of our sustainability strategy and collection of ESG data and metrics. At the operating company level, employees are engaged in reinforcing our sustainable and inclusive actions in many ways—including ensuring environmental compliance on projects, employee volunteer efforts and collaborative innovations with our customers.

Q. The last two years have been challenging, given the wide-ranging impacts resulting from the global pandemic. What have been your biggest learnings? What are you most proud of?

A. One of the biggest takeaways from the past few years has been the increased focus on the work of diversity and inclusion. As we work to create and expand equity and inclusion internally, we have the opportunity to do the same with an eye towards effecting change on a broader scale. While it goes without saying that a corporation will work diligently to hire, pay, promote and retain diverse talent, we must also look to engage in efforts to address societal challenges.



MOANICA CASTON

Vice President, Diversity & Inclusion

Q. What is Quanta doing to improve racial and diversity equity, and what changes would you like to see as a result of it?

A. We are focused on intentional actions to increase representation at all levels, with an emphasis on recruitment and hiring. We know that this is one of the keys to creating a workforce that reflects the customers and communities we serve. We are also working to highlight our value proposition as an employer of choice. As we have started to expand our recruiting, we are seeing that our culture and our careers are very appealing across so many dimensions of diversity.



DAVE MIESEL

Vice President, Fleet Management

Q. What are the key challenges and opportunities facing Quanta as we look to decarbonize our vehicle fleet?

A. With a network of more than 70,000 owned and leased units consuming a variety of conventional and alternative fuels, planning a decarbonization strategy for our fleet gives us plenty to consider. Our fleet is very heterogeneous, with a mix of both on-road and off-road equipment, meaning that, in the short term, decarbonization will be limited to what lower-emission vehicles are commercially available. For these reasons, our progress may be slow in the short term, but our longer-term commitment is clear. On our path to carbon reduction, we've already invested approximately \$1.3 billion over the last three years to support initiatives designed to make our fleet more efficient. For instance, across our on-road fleet, our recently announced agreement to purchase at least 500 of the all-electric Chevrolet Silverados is an illustration of our long-term strategy to transition parts of our vehicle fleet to low- and zero-emission technologies.



MATT COMPNER

Vice President of Safety, Health, Environmental & Quality

Q. As the head of safety, what are the biggest challenges, and how do you approach them?

A. With the increased investment in the electric grid, our industry is growing, and so we need to ensure that training and workforce development grows with the demand. We are focused on providing world-class training that supports the growth, allowing the next generation to enter the workforce and at the same time we are providing advanced training to the existing workforce. Our training ranges from apprenticeship and continues throughout the lineworker's career. Our focus is to take quality education to the worker, which entails advanced training using adult education techniques at or close to the job site. Essentially, the trainers and the classroom travel to the workforce, instead of the other way around. A properly trained workforce is fundamental to safety performance.

Q. What is Quanta's people-focused approach to ESG and sustainability?

A. Our people are the heart of Quanta, and it's what differentiates us from our competitors. Whether it's our unwavering focus on safety, training or inclusion, we are committed to putting our people first in every decision that we make. We also believe people are the key to delivering successful ESG and sustainability outcomes. That's why we think it's equally important to consider how our people are going to take us down a sustainable path in addition to having a good plan. Just like we are doing with training and safety, our people-first approach starts with leadership and finishes with embedding change everywhere in our organization.



KIM RIDDLE

Vice President of Human Resources

Q. How do we attract, develop and retain the leadership, talent and skills needed to drive ESG and sustainability strategy and outcomes?

A. One of the many unexpected consequences of the COVID-19 economy has been that all talent is re-evaluating their jobs, their careers and how they spend their time and money, and gaining clarity on their values. Employees are increasingly seeking out employers that share their own values. So, against this backdrop, we know that Quanta's strong sustainability position can have a positive impact on talent attraction and retention. Not only are we keeping our employees safe, but we are giving them a sense of purpose—knowing that they are building the energy transition and enabling a more sustainable future for their communities and society in general.

MATERIALITY

Input from key stakeholders and a comprehensive materiality assessment help us set our ESG strategy and commitments and maximize impact.

Materiality Assessment¹

Gaining clear insights into what is most important to our stakeholders and our business is important at Quanta. Therefore, a comprehensive understanding of the internal and external landscape of material topics is crucial to our strategic planning, reporting and ultimately our performance.

An important input to our sustainability strategy and reporting is an ESG materiality assessment. This assessment helps us understand ESG topics that are most important to our stakeholders and continuously assess our strategy and commitments. In 2021, we conducted our first comprehensive materiality assessment, and we plan to update the assessment every two years. In years that we do not conduct a full assessment, we plan to conduct an

¹ The discussion of materiality or significance, including discussion of material or significant ESG matters as determined in connection with this ESG material assessment, is not an indication that such information, topics, matters or issues are necessarily material to Quanta's investors under the federal securities law's definition of materiality in general or pursuant to disclosure or reporting requirements in connection with the rules and regulations of the SEC.

KEY

- People
- Planet
- Principles

internal assessment to refresh and continuously improve our data collection and analysis processes. This helps us validate priorities relative to business risks and opportunities.

Our 2021 assessment included gathering data and input from a broad set of stakeholders to understand priority ESG topics. The analysis consisted of three phases: 1) benchmarking, analysis of global trends and identification of ESG topics and definitions; 2) interviews with key stakeholders and 3) in-depth analysis and summary of findings. Stakeholders included investors, employees, Quanta executives, suppliers and customers.

Issues were weighted, prioritized and plotted on the following ESG Materiality Assessment Map according to their relative degree of importance. It is important to note that *all* ESG issues on the map—regardless of where they fall—were, and still are, relevant to the company. We identified 22 ESG topics that are important to our stakeholders, and of these, nine emerged as the most relevant:

- Occupational Health & Safety
- Ethics & Integrity
- Workforce Training & Development
- Product Quality & Safety
- Business Resilience
- Supporting the Energy Transition
- Corporate Governance
- Labor Relations
- Diversity, Equity & Inclusion

In addition to, and in support of, our formal ESG materiality assessment, Quanta teams regularly gather feedback on emerging issues and the quality of our reporting and performance from sources, including stakeholder inquiries and key ratings and rankings.

- Supporting Sustainable Innovation
- Supply Chain Management
- Waste Management
- Water Management
- Circular Economy
- Philanthropy

STAKEHOLDER ENGAGEMENT

The materiality process is also supported, in part, by regular discussions with our stakeholders that allows us to better align our business to social and environmental needs. We partner and have an open dialogue with a wide range of global and local organizations to shape and extend the reach of our sustainability programs, including investors, customers, suppliers, community members and nonprofits.

IMPORTANCE TO BUSINESS

PRIORITY TOPICS



HOW WE GOT HERE: A RICH HISTORY

After John Colson served his country in Vietnam, he returned to the United States and began working at PAR Electrical Services out of Kansas City, Missouri. His first job was to carry wooden stakes for surveying crews.

With hard work and mentoring, Colson moved up the ladder at PAR to take on the role of President. In 1997, he brought PAR, together with three other companies — Potelco, Union Power and TransTech — to form Quanta Services, a first-of-its-kind company to tackle large, complex projects in the energy industry.

Quanta’s annual revenues have grown from \$152 million in 1998 to \$12.98 billion in 2021. Maintaining a decentralized model led by the best entrepreneurs in the industry, Quanta has grown into one of the largest specialty contractor companies in North America.

Founded on solid values of dedication and hard work, many of our operating companies started as small, family-owned businesses and have been operating for more than 50 years.

● People ● Planet ● Principles

OUR JOURNEY



Rising to the Challenge: Driving Competitive Advantage Through Sustainability at the Operating Level

At Quanta, we recognize that embedding sustainability in business strategy is an increasing prerequisite for businesses to grow and protect business performance. For example, cost efficiencies from reduced waste and resource consumption can drive superior long-term financial performance and organizational resilience.

There is an inherent challenge and complexity to embedding sustainability at the heart of Quanta’s decentralized operating model. Challenges abound, from data and performance measurements in the 200+ companies in the Quanta organization to evaluating whether the strategies employed are having the desired impact for monitoring and reporting purposes.

We believe that all of these challenges can be overcome and should not be an excuse for not taking action. We have developed an approach that aligns every Quanta business with the available options and necessary actions required to achieve sustainable improvement, given the current context and enacted strategy. In this regard, we plan to roll out a flexible, detailed scorecard system that allows each business to benchmark their own sustainability performance and enables the evaluation of strategic options available that satisfy the unique nature of each business. This system will enable us to track the progress of sustainability practices of every business, which can then be turned into a quantitative company-wide metric. As we roll out this initiative, we look forward to sharing our progress here in years to come.



EMBEDDING SUSTAINABILITY THROUGH INNOVATION

An important way of further embedding sustainability in Quanta is to engage all employees in co-creating sustainable practices. Because sustainability cuts across all aspects of Quanta’s business, it is important to create systems and processes that make it easier for employees to have a sense of ownership and integrate sustainability into business decisions. It is not enough to have sustainability leaders at the top of our organization; rather, we recognize that they must be cultivated at all levels and in all geographies of Quanta. We believe we get more and better sustainability ideas when they bubble up from the bottom.

It is against this background that we have recently added a sustainability category to the Quanta Services 2021 CEO Innovation & Entrepreneurial Awards. The Quanta Services CEO Innovation & Entrepreneurial Award is a cornerstone of Quanta’s entrepreneurial business model, and the response from applicants each year is what keeps our Quanta entrepreneurial spirit at the forefront of everything we do to lead the industry.

By tapping into Quanta’s long-standing innovation culture, this platform enables employees to use their skills and passion to develop solutions to help protect the climate, advance a circular economy and foster more sustainable communities. With a clear vision of Quanta’s long-term purpose and the business case for sustainability, by submitting an idea to this platform, every employee is in a position to help further embed sustainability in the company.



What does sustainability ultimately boil down to for a company? After working in this field since 2008, I realized some time ago that only one thing truly matters: an organization’s enduring impact on society.

IN FOCUS

LOOKING AHEAD

A NOTE FROM QUANTA’S DIRECTOR OF SUSTAINABILITY

This is the primary reason why I took up the position of Director of Sustainability for Quanta—simply put, Quanta is at the heart of the energy transition, and as Quanta grows, so does our positive impact on the world.

Quanta provides critical infrastructure for the energy transition and is building the framework for the future of energy. This means that from a sustainability perspective, our business is already at the intersection of creating value for both business and society.

Our efforts in building equitable and sustainable solutions for our communities and the environment can already be seen throughout our business—from being an industry leader in shaping the U.S. energy transition to collaborating with customers to our diversity and inclusion commitments and support of underserved communities.

The task of driving a sustainability program for a company that has a unique, decentralized operating model (with 200+ independent operating entities) is immense, but I am up for the challenge.

We are already beginning to make progress. This year marks a key milestone for Quanta as we publish our first consolidated suite of sustainability metrics, including our Scope 1 and 2 emissions.



Looking ahead, we plan to underscore our commitments by publishing a set of ambitions, milestones and goals associated with some of these key metrics that are aligned with our values and vision.

Sharing our progress is an integral part of what we do. We’ll provide updates as we meet key milestones and share in-depth reporting here in our annual Sustainability Report, so our stakeholders can track our progress.

We’ve always held the belief that our most valuable asset—what truly sets us apart—is our employees. We know that when people feel valued and cared for, they do their work with stronger motivation and purpose, a deeper sense of meaning and a greater level of engagement. Led by our clearly defined principles, as we continue our sustainability journey, we will never lose sight of our deeply human approach to our business.



GRANT FORMAN, PH.D.

Director of Sustainability

2021: THE YEAR

IN STORIES

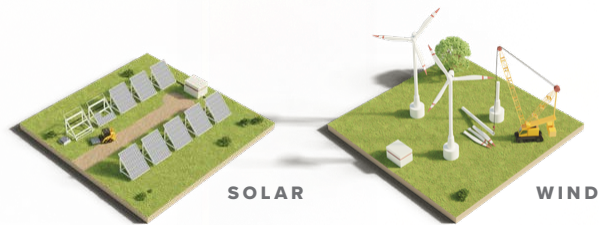
Our continuing commitment to sustainability is embedded in our purpose. That commitment creates value for Quanta and our stakeholders by helping us identify new market opportunities to apply our services that help address society's most complex issues.

At Quanta, we believe a connected world is a better world, and that belief helps guide everything we do. This year's focus stories underscore our continuing commitment to addressing societal challenges and serve to highlight our leadership position in building the energy transition in North America.



IN THIS SECTION

- 24** Blattner Acquisition: Expanding Our Industry-Leading Energy Transition Platform
- 30** Grid Restoration & Hardening: Responding to Natural Disasters & Extreme Weather Events
- 36** LUMA Energy: Making Immediate Progress



BLATTNER ACQUISITION

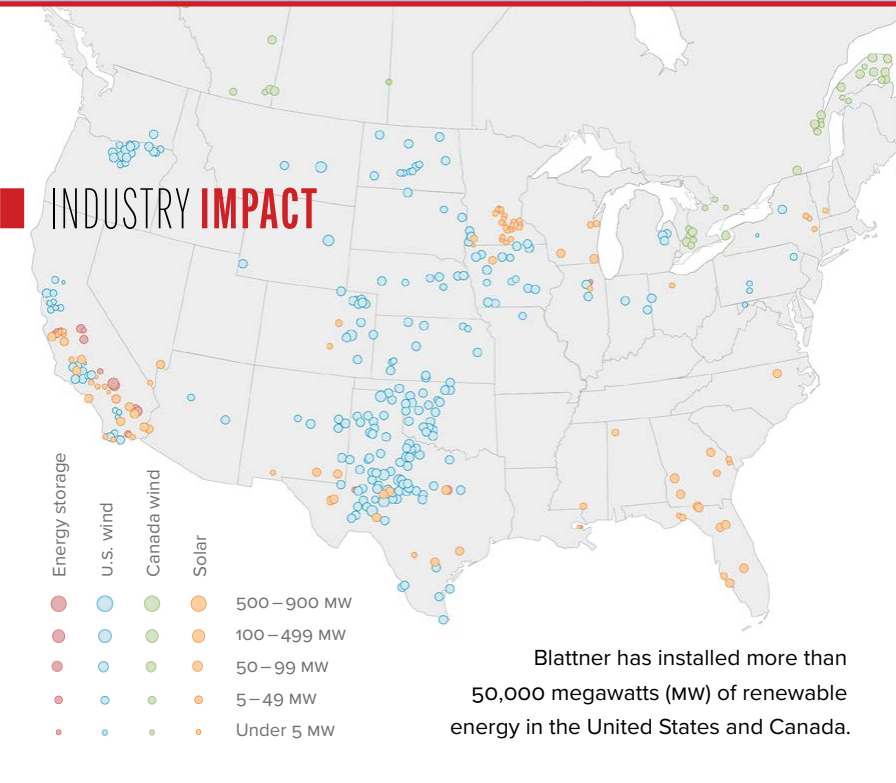
EXPANDING OUR INDUSTRY-LEADING

ENERGY TRANSITION PLATFORM

In 2021, Quanta Services acquired Blattner Company (Blattner), one of the largest and leading utility-scale renewable energy infrastructure solutions providers in the United States.

Diversified across technology and geography in the United States and operating across three main sectors — wind, solar and energy storage — Blattner provides front-end engineering, procurement, project management and construction services to the renewable energy industry.

Blattner’s services, customers and end markets are complementary to Quanta’s. Consequently, both companies are focused on the most active and attractive electric infrastructure solutions that support grid modernization, system hardening, electrification and renewables. This combination positions Quanta as a leader in the North American energy transition to a carbon-neutral economy.



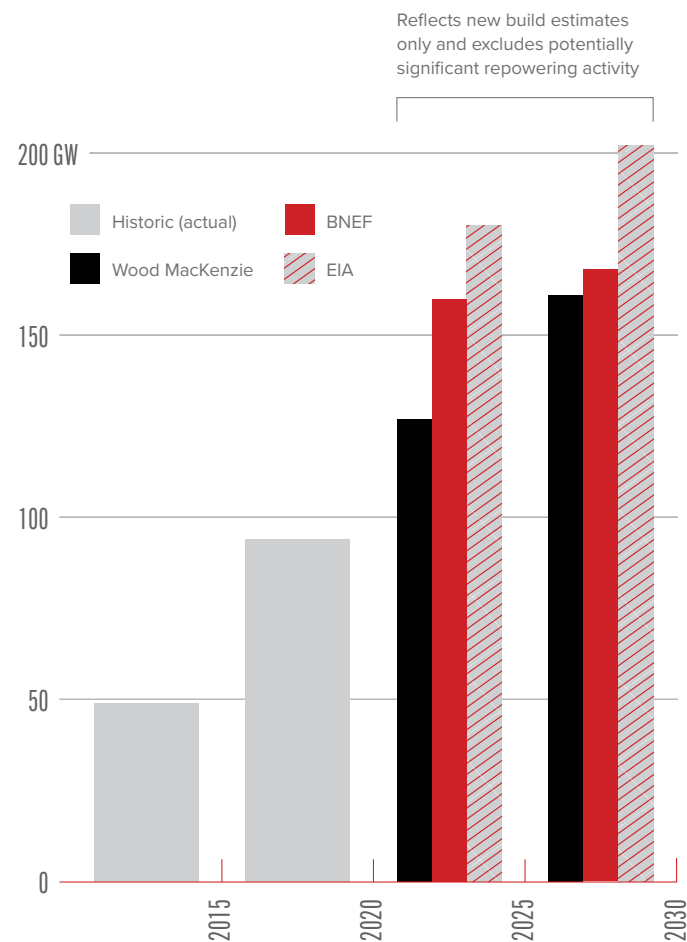
	2021	ALL TIME
Solar & Wind		
	6,417 MW	21,653,210
	installed capacity	solar panels installed
	11.9 MT	22,997
	CO ₂ avoided ¹	wind turbines installed: Approximately 35% of all the wind energy in the U.S. market
Energy Storage	440 MW	
	installed capacity	

¹ Data is for full year 2021. Completed projects only. CO₂ avoided calculations are estimates based on annual consumption and are for U.S. projects only. Source: cleanpower.org

Blattner & Quanta: At the Heart of the U.S. Energy Transition

The U.S. renewables market is poised for decades-long growth, supported by macro trends of decarbonization, electrification and leveled cost of energy. According to the federal U.S. Energy Information Administration (EIA), renewables now provide more than one quarter (25.1%) of total U.S. available installed generating capacity. Meanwhile, FERC data suggests renewables' share of generating capacity is on track to increase significantly over the next three years. New capacity additions for wind, minus anticipated retirements, suggest a net increase of 21,129 MW, while solar is projected to grow by 44,385 MW over the same period. In the medium term, analyses by Bloomberg, Wood Mackenzie and the EIA support continued robust renewables capacity additions to 2035.²

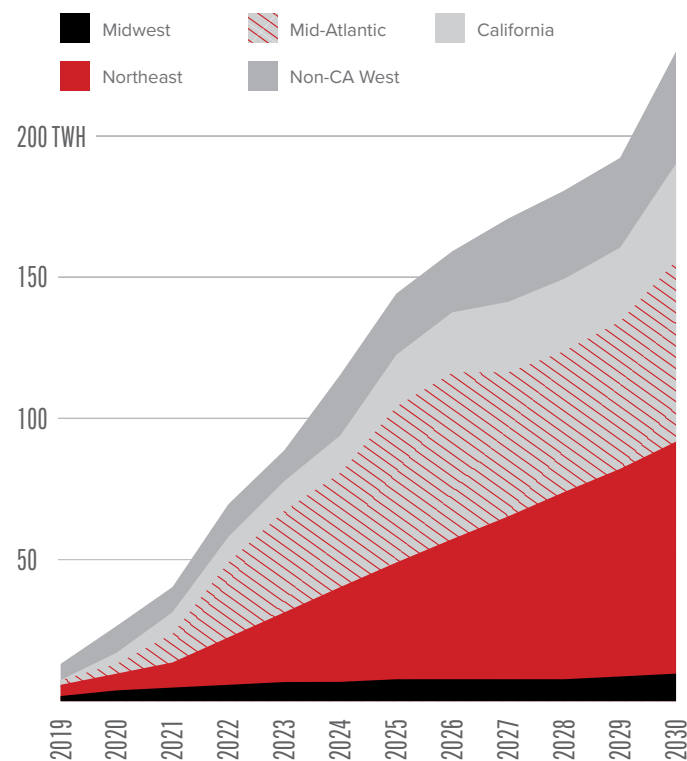
U.S. RENEWABLES MARKET GROWTH ESTIMATES¹



Enabling the Renewable Energy Infrastructure Megatrend

States and provinces in the United States and Canada are increasing renewable targets and establishing clean energy standards. In addition, a number of utilities and corporations are moving without state action, with many committing to 100% clean energy or net-zero carbon emissions by 2050.³ Notably, renewable generation facilities are often built in remote areas, away from where the electricity is consumed, frequently requiring large transmission lines and substation infrastructure to interconnect to the grid and deliver power to end users. The growing mix of renewable generation can increase intermittency on an aging infrastructure, potentially disrupting conventional methods for planning and operating of the electric grid. Growing renewable adoption and policies aimed at achieving meaningful carbon emissions reductions or carbon neutrality by 2050 are expected to require significant incremental transmission and substation investment. Quanta is positioned to capitalize on the North American renewable infrastructure megatrend.

REQUIRED INCREASE IN RPS COMPLIANCE GENERATION THROUGH 2030 BY REGION



² about.bnef.com/new-energy-outlook; eia.gov/outlooks/aeo/section_issue_policies.php; eia.gov/outlooks/aeo

³ wiresgroup.com/wp-content/uploads/2020/05/2020-01-13-ScottMadden-Informing-the-Transmission-Discussion.pdf



“THE CREW IS **FAMILY.**”

It's just the nature of the work that we spend a lot of time with the people on the job, so we have a pretty tight-knit bunch.

We have to look out for the planet, and we have to look out for our kids and our kids' kids. The more we can make it a cleaner planet,

THE BETTER IT'S GOING TO BE **FOR EVERYBODY.**

CHUCK DURSMA

Civil Superintendent, Blattner

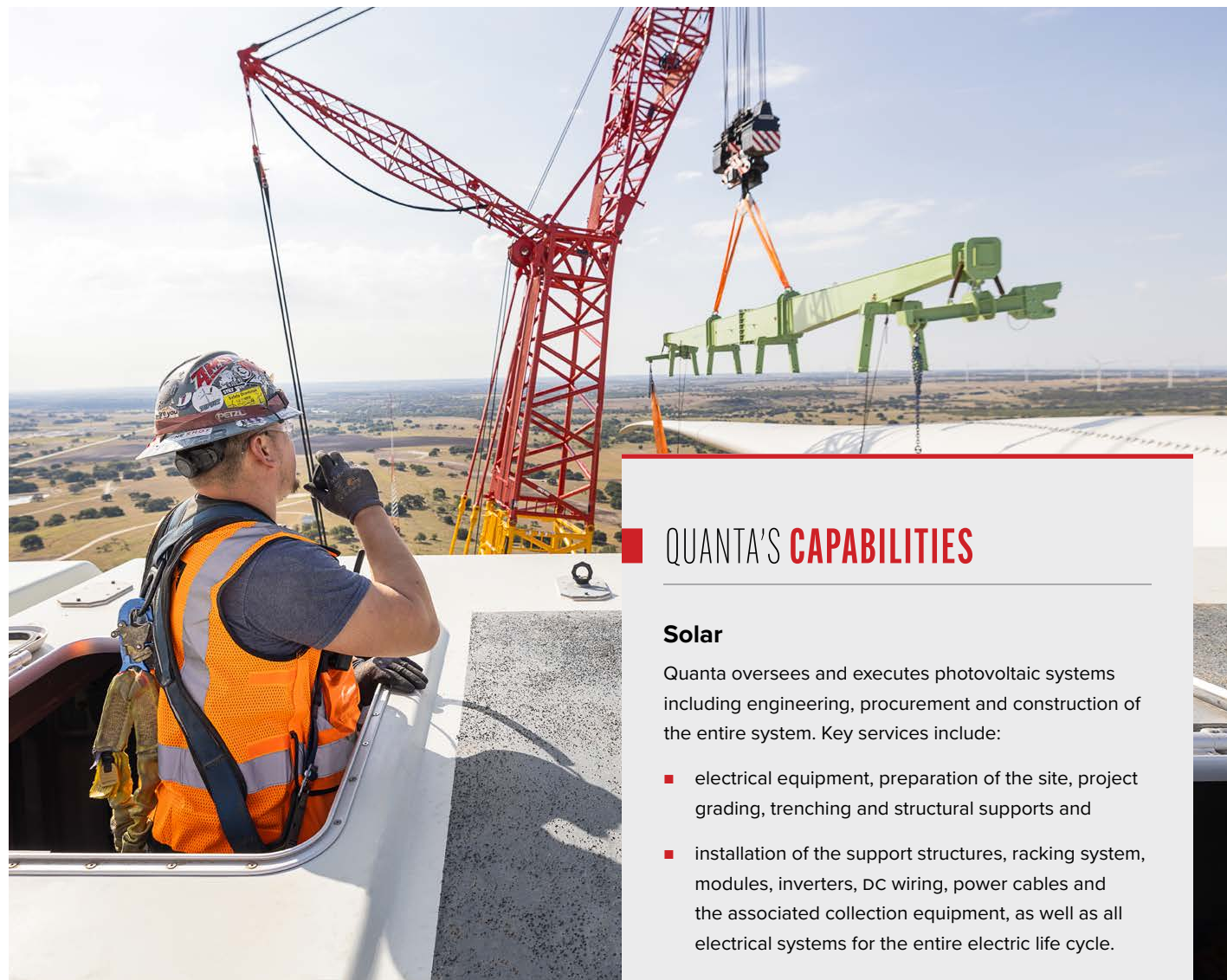
The People Behind the Success: A Strong Family Culture

For over 15 years, Blattner has been at the forefront of constructing utility-scale wind-farm projects in the United States and Canada.

Pride in Purpose

Motor grader operator John Martin takes great pride in his work: “When I come to a site and it's totally untouched other than stakes in the ground out across a field, and I get to be the first to run equipment through and cut the road—that brings me joy.” With the amount, size, weight and complexity of the wind-turbine components that need to be brought in, having stable, reliable access is critical.

“The biggest thing, though, is that building renewable-energy projects gives you a greater sense of purpose. You're working toward a goal not for yourself but as a country. That brings a unique sense of pride.”



Delivering Clean Energy: Creating Jobs & Empowering Communities

Blattner recently completed construction of the largest renewable energy project in U.S. history. The Western Spirit Wind project comprises four wind power facilities totaling more than 1,050 MW. It brought over 1,100 construction jobs to New Mexico, generated local spending, tax revenue and landowner payments in a remote area of New Mexico and is now delivering enough renewable energy to meet the electricity needs of more than 900,000 Americans. The four wind power facilities employ a total of 377 General Electric (GE) wind turbines ranging from 2.3 to 2.8 MW in size. The GE turbines utilize various tower heights to optimize the wind capture at each facility.

QUANTA'S CAPABILITIES

Solar

Quanta oversees and executes photovoltaic systems including engineering, procurement and construction of the entire system. Key services include:

- electrical equipment, preparation of the site, project grading, trenching and structural supports and
- installation of the support structures, racking system, modules, inverters, DC wiring, power cables and the associated collection equipment, as well as all electrical systems for the entire electric life cycle.

Wind

Quanta offers comprehensive wind power services — from initial site analysis, project design and turbine layout, to infrastructure construction through final connection to the grid. Our approach provides maximum cost savings while minimizing environmental impacts at every stage. Services include:

- site development, design and construction services for road access, wind turbine foundation, underground cabling and collection systems and
- switchyard and utility interconnection, mechanical and electrical completion and building construction.

IN FOCUS

ENABLING COMPANIES TO MEET THEIR

CLIMATE OBJECTIVES

Across America, Blattner is building wind, solar and energy storage projects that enable corporations to reach their sustainability commitments. As an example, Blattner's recent work in Texas on the Mesquite Sky Wind Project is expected to result in renewable power being sold through long-term virtual-power purchase agreements (VPPAs) to corporations that wish to offset the carbon embedded in their purchased electricity, or Scope 2 emissions.

Mesquite Sky is supporting local employment by providing up to 450 construction jobs and several permanent jobs. In addition, the project is expected to drive significant local economic development, including more than \$300,000 in local spending during construction and \$173 million in landowner payments and property tax revenue over the life of the project.

Mesquite Sky Fast Facts

20,000 ACRES

area covered by wind farm, with the majority still productive for farming, grazing and other uses

345 MW

wind farm capacity

1,200 GWH

annual energy generated

20-22 GWH

annual energy generated per wind turbine

500+ FT.

height of each wind turbine

Turbine height (500')

Average height human (5' 7")

height of each wind turbine

RESPONDING TO NATURAL DISASTERS

When a natural disaster or extreme weather event such as a hurricane, flood, wildfire, blizzard or ice storm happens, our workers stand ready to respond. We keep the lights on, heat flowing and communications connected.

Extreme weather events struck many parts of the country in 2021, impacting nearly one in three Americans, according to a *Washington Post* analysis released in September 2021.¹ These events included Hurricane Ida in the Gulf Coast, Hurricane Henri and the remnants of Hurricane Ida in the Mid-Atlantic and Northeast, repeated severe thunderstorms and tornadoes in many parts of the Midwest and catastrophic wildfires in the West. The summer of 2021 also brought severe weather to many parts of the Midwest. The pattern is illustrated by the experience in Michigan, where nine storms with tropical-force winds (39 to 74 miles per hour), including numerous tornadoes, caused significant damage to buildings, trees and energy infrastructure.

¹ [washingtonpost.com/nation/interactive/2021/weather-disasters-2021/](https://www.washingtonpost.com/nation/interactive/2021/weather-disasters-2021/)

GRID RESTORATION & HARDENING

& EXTREME WEATHER EVENTS

QUANTA'S STORM RESPONSE

2021 IN REVIEW

12,700

total lineworkers deployed
for named storms in 2021

1.8 M

man-hours spent restoring
power services in response
to named storms in 2021

HURRICANE IDA

2,162

lineworkers deployed at
the peak of Hurricane Ida

1.2 M

end users whose power
was restored

140

consecutive days response

1.1 M

man-hours spent restoring
power services in response
to Hurricane Ida



Hurricane Ida

Hurricane Ida was a deadly and destructive Category 4 Atlantic hurricane that became the second-most damaging and intense hurricane on record to make landfall in Louisiana, behind Hurricane Katrina in 2005.² The remnants of the storm also caused widespread tornadic destruction and catastrophic flooding across the Northeastern United States. Making landfall on August 29, Hurricane Ida caused severe devastation in parts of Louisiana and Mississippi. At the storm's peak, approximately 1.2 million customers on the Gulf Coast lost power. Ida's remnants later also caused approximately 212,000 customers in parts of the Northeast and Mid-Atlantic to lose power several days later.

In the hardest-hit areas, Hurricane Ida caused catastrophic damage. Ida's fury resulted in some communities being temporarily uninhabitable due to storm surges that were more than 15 feet high. Impacted electric companies needed to repair or replace more than 30,000 power poles, more than 36,000 spans of wire and more than 6,000 transformers. In total, Hurricane Ida destroyed more power poles than hurricanes Delta, Ike, Katrina and Zeta combined. In many places, damage from Ida meant that crews were forced to rebuild the entire energy grid, with many customers unable to receive power to their homes and businesses even after restoration was complete.

² nhc.noaa.gov/data/tcr/AL092021_Ida.pdf



Restoration & Building Grid Resiliency in Grand Isle, Louisiana

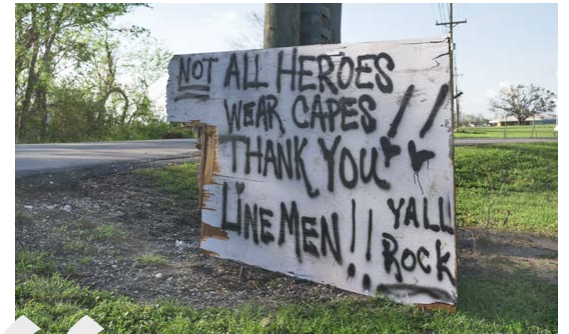
138 days after Hurricane Ida flattened more than 700 structures in the Town of Grand Isle and cut basic utilities to its homes and businesses, Quanta companies helped restore permanent power to the small barrier island community.

Those who had been able to return in the five months since Ida blew through had been using power supplied by large temporary generators positioned on either side of the island.

Reconstruction of the electrical infrastructure is now producing a more resilient system. For example, Class 1 utility poles (the largest

available) that have been installed are anchored through steel sleeves that go 15 feet into the ground. In some areas where the soil wasn't strong and poles were bent over by the wind, stronger fill has been added. One of the two main distribution feeders serving Grand Isle has now been placed underground to help the system withstand future storms. In addition, many of the traditional "T" shaped poles where the lines are hung on the cross bar were replaced by direct attachment to the pole itself, resulting in less resistance to high winds.

Put together, Grand Isle's power supply system, including the upgraded substation, is now rated to withstand winds of up to 150 miles per hour.



I CAN'T SAY ENOUGH ABOUT THE **GENEROSITY AND GRATITUDE** WE RECEIVED FROM

the people of the communities we served. There were groups of people bringing us food, hosting whole crews for meals, helping with laundry and so much more. There was a definite sense of community throughout. From the people who lived in the area, to other power line companies, to the contractors, we were all there to get the job done safely and as efficiently as possible—trying to get the power back on so those who still had homes could get back to them.

MARK MILLER

Stringing Supervisor, Quanta operating company

GRID RESILIENCY

IN FOCUS

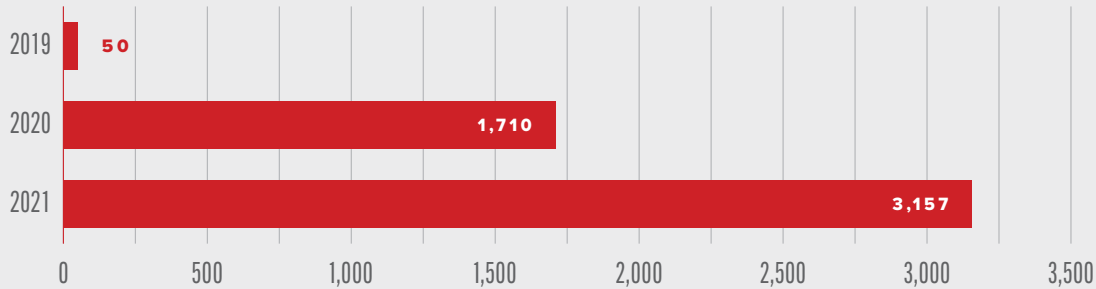


STAYING SAFE DURING STORM SEASON: PERSONAL VOLTAGE DETECTORS

In 2021, Quanta issued 3,157 personal voltage detectors (PVDs) to storm responders. PVDs are non-contact voltage and current detectors that are designed to alert users when they approach an electrified source. The PVD’s advanced notification system is designed to warn the user that a source is present and to inform them of its approximate location. In this manner, the internal sensors in the PVD are designed to detect both electrical fields (voltage) and magnetic fields (current). Worn on the underside of a hard hat brim, directly in front of the user’s face, the unit is within the user’s field of peripheral vision to maximize the visibility and effectiveness of voltage and current alerts. When the PVD detects voltage or current, it issues audio (beeping) and visual (flashing LED) proximity alerts. As the user approaches an electrified source, LED flashing and audio alerts will steadily increase.

PERSONAL VOLTAGE DETECTORS PURCHASED FOR STORM RESPONSE ACTIVITIES

In 2021, Quanta purchased 3,157 PVDs, an 85% increase compared to 2020.



Personal Voltage Detectors Saving Lives

On a storm worksite, a three-phase distribution line was unexpectedly energized by a third party. The lineworkers working on house services were alerted to the energization when their personal voltage detectors alarmed. Due to the alarm, before work began, **lineworkers implemented preventative controls that ensured no injuries occurred.**

While walking to access a cracked transmission pole with distribution underbuilt during a storm restoration project, a lineworker’s PVD alerted him to an energized secondary line on the ground. The lineworker was able to **immediately stop and alert nearby coworkers that the secondary line could be hot.** Listening to the lineworker’s warning, the crew then requested a shotgun and tester to test the line and confirm that the line was indeed energized. Continuing to follow protocol, the crew de-energized the line before continuing to perform storm restoration.

Supporting Indigenous Communities

A Quanta company worked to get power restored to two First Nations in eastern Manitoba after wildfires swept through the area, forcing communities to evacuate because of the wildfire threat. Crews needed to replace around 100 poles that were damaged by flames that disconnected approximately 1,500 customers in Pauingassi and Little Grand Rapids First Nations from power.

RESPONDING TO WILDFIRES

Quanta companies always stand ready to respond to the devastation of all natural disasters, including wildfires. Quanta companies have supported the emergency restoration work from the Marshall Fire (Colorado), Napa Valley Firestorm (California), Dixie Fire (California) and more. Quanta employees worked multiple shifts to offer 24-hour support to the restoration efforts, providing dozens of crews, including over 50,000 man-hours to the Dixie Fire, California’s largest single wildfire in history.

70+ AIRCRAFT

with 30 fully equipped to fight fire

5,000+ HOURS

flown on active fires

50+ INCIDENTS

dispatched to throughout the U.S.

7M+ GALLONS

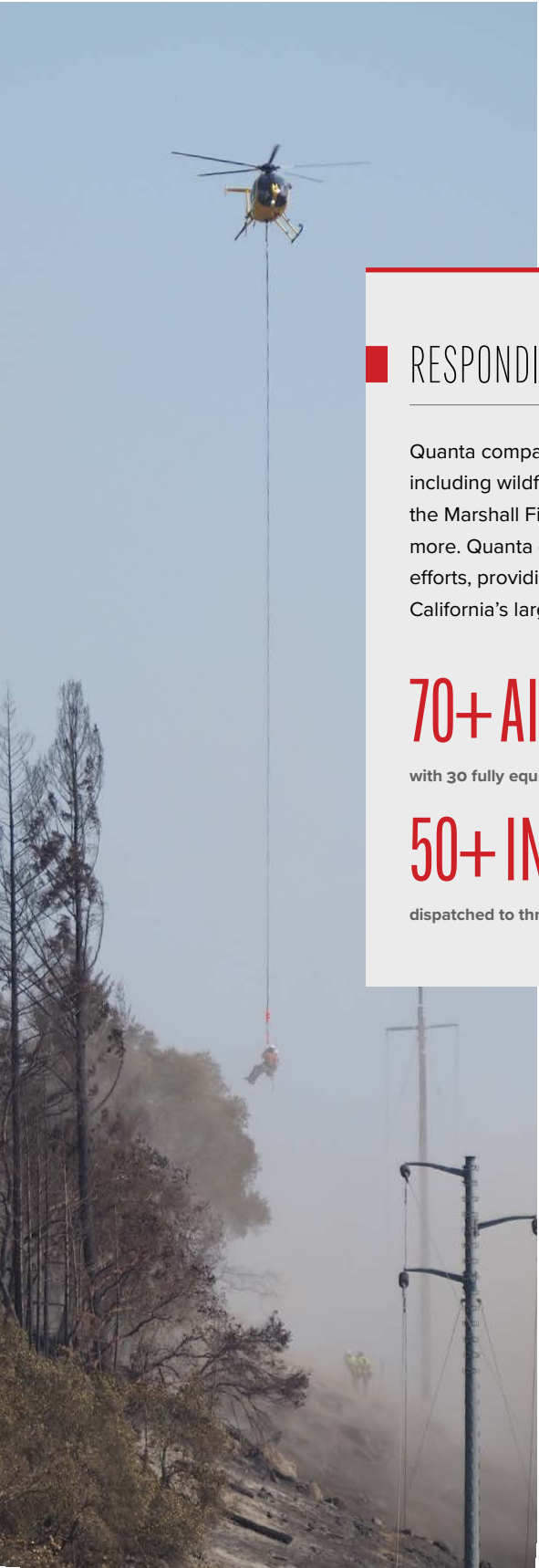
of water deployed from helicopters

Grid Hardening & Undergrounding

As extreme weather caused by climate change becomes more frequent, Quanta is working with its customers to make America’s power infrastructure more resilient to severe weather events and wildfires.

Replacing aging infrastructure vulnerable to these extreme weather events with stronger, more resilient upgrades is one of the most important approaches. This physical “hardening” of the grid encompasses various strategies, including moving power lines underground, replacing wooden poles with steel and concrete ones and raising the height of transformers, so they remain out of the path of floods.

These actions are typically combined with weather modeling to understand how and when distinct types of weather might impact the grid. By doing so, companies can identify system needs and prioritize the type of grid hardening required to meet these needs.



LUMA ENERGY

MAKING IMMEDIATE

LUMA Energy, LLC (LUMA), a joint venture in which Quanta owns a 50% interest, has made an immediate and significant impact in improving customer service, increasing reliability, responding to outages and empowering the growth of solar energy in Puerto Rico.

The LUMA team is delivering on the mission of building a better energy future for its 1.5 million customers.

Hurricane Maria struck Puerto Rico with sustained winds of 155 miles per hour, uprooting trees, downing cell towers and ripping wooden and tin roofs off homes. Electricity was cut off to 100 percent of the island and access to clean water and food became limited for most. The powerful storm devastated the island and plunged all of its 3.4 million residents into a desperate humanitarian crisis.

The tenth most intense hurricane on record in the Atlantic according to the National Oceanic and Atmospheric Administration (NOAA), Maria was a humanitarian catastrophe and severe blow to critical infrastructure in Puerto Rico. In a National Hurricane Center report on Hurricane Maria in February 2019,¹ Maria's damage to Puerto Rico was estimated at US\$90 billion, making it the third costliest hurricane in U.S. history.

¹ [nhc.noaa.gov/data/tcr/AL152017_Maria.pdf](https://www.nhc.noaa.gov/data/tcr/AL152017_Maria.pdf)



TRANSFORMING PUERTO RICO'S ELECTRICITY INFRASTRUCTURE

LUMA was selected through a competitive process established by law by the Puerto Rico Public-Private Partnerships Authority to transform the island's electricity system. LUMA is a joint venture between Canadian Utilities Limited, an ATCO company, and Quanta Services, in which each partner holds a 50% interest. Taking over from the Puerto Rico Electric Power Authority (PREPA), LUMA entered into a T&D system operation and maintenance agreement in June 2020.

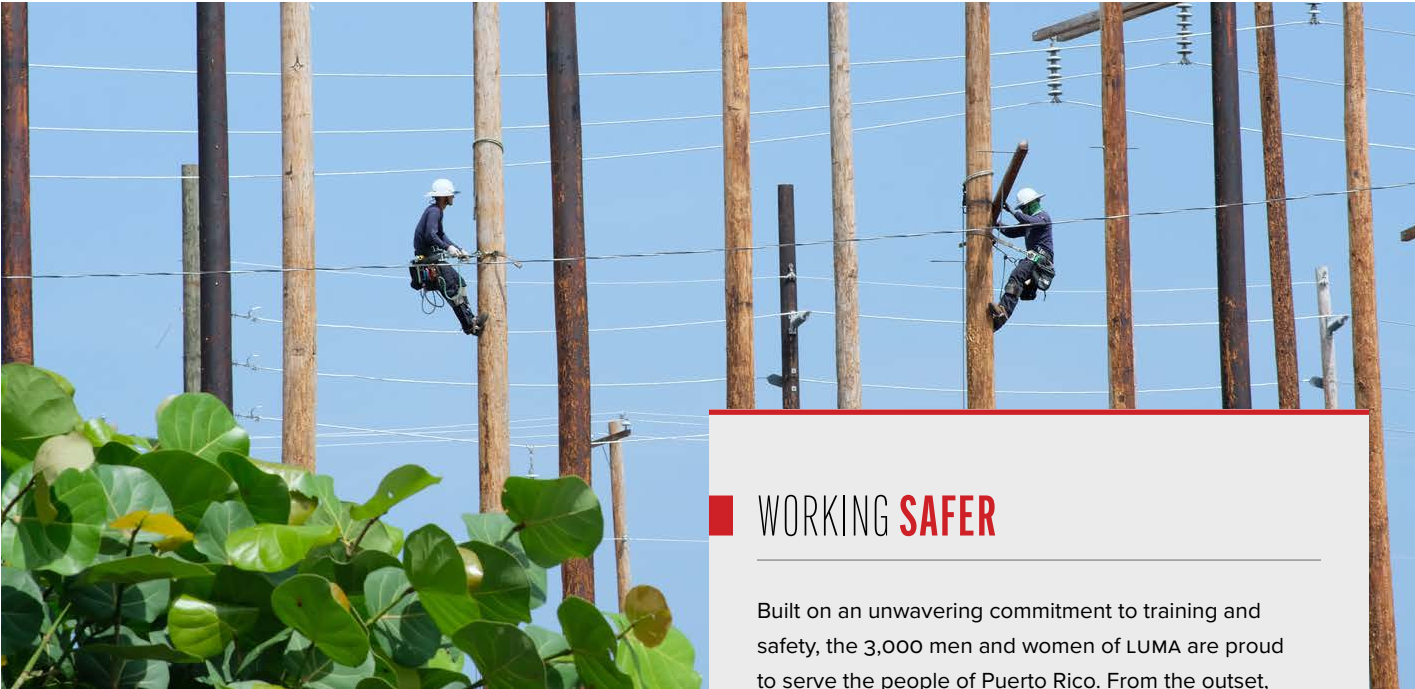
Between June 2020 and the start of its operations on June 1, 2021, LUMA performed a detailed assessment to identify gaps in planning, operations and procedures in Puerto Rico. Based on this assessment, LUMA has designed and submitted a comprehensive plan for improvement programs, budgets and operation principles as part of its transition.



The Mission for Puerto Rico

LUMA is recovering and transforming the utility to deliver customer-centric, reliable, resilient, safe and sustainable electricity at reasonable prices:

- **Prioritize Safety:** Reform utility activities to support a strong safety culture focused on employee safety and the safety of the people of Puerto Rico.
- **Improve Customer Satisfaction:** Transform utility operations to deliver a positive customer experience and reliable electricity at reasonable prices.
- **System Rebuild & Resiliency:** Effectively deploy federal funding to restore the grid and improve the resilience of vulnerable infrastructure.
- **Operational Excellence:** Enable employees to pursue operational excellence through new systems, processes and training.
- **Sustainable Energy Transformation:** Modernize the grid and the utility to enable the sustainable energy transformation.
- **A World-Class Utility:** Create and develop the workforce necessary to achieve these goals.



The Unique Challenges of Rebuilding Puerto Rico’s Grid

The Puerto Rican electric grid’s performance was an ongoing issue prior to Hurricanes Irma and Maria, which ultimately led to PREPA filing for bankruptcy in July 2017. Reliability metrics before the hurricanes were below U.S. industry standards, with the trend worsening between 2014 and 2017. LUMA’s assessment revealed that issues in Puerto Rico were not limited to damage from the hurricanes, but also included inadequate maintenance, aging infrastructure and operational issues which led to grid performance below industry standards.

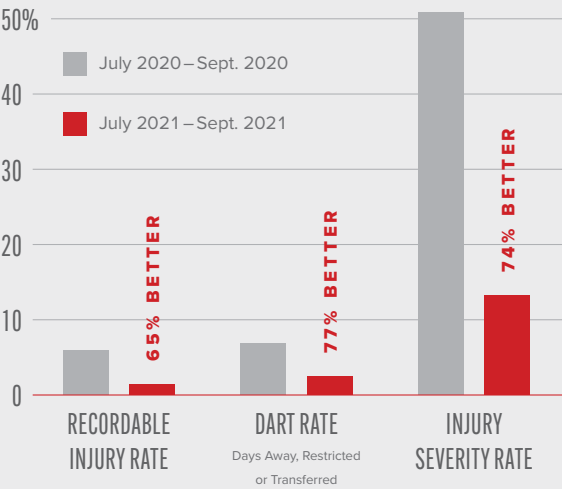
Puerto Rico also has many challenges that impact its vulnerability when outages occur. More than 40% of the Puerto Rican population lives below the poverty line. Additionally, approximately 15% of people under the age of 65 live with at least one disability. The overall population has also been declining, and because it is an island, it is not immediately accessible to an adjacent state or region for disaster assistance or electricity exchanges.

A functional grid can be achieved by remediating, recovering and repairing infrastructure and assets in the highest risk areas. LUMA has developed a system remediation plan for this purpose, designing improvement programs such as rebuilding distribution lines and repairing and rebuilding damaged substations.

WORKING SAFER

Built on an unwavering commitment to training and safety, the 3,000 men and women of LUMA are proud to serve the people of Puerto Rico. From the outset, LUMA made safety and training a key focus and provided field personnel with access to modern functioning tools, PPE, safety-compliant vehicles and heavy equipment. Public safety education was also a focus, using social media, presenting electrical safety best practices to first responders and participating in public safety and emergency management events. Put together, these efforts resulted in an immediate dramatic improvement in safety metrics.

IMPROVEMENTS IN SAFETY, FIRST THREE MONTHS



Making Immediate Progress		PRIOR TO LUMA	LUMA ²	IMPROVEMENT
CUSTOMER SERVICE 📞	Average customer call wait time	>10 <small>minutes</small>	<1 <small>minute</small>	98%
	Call abandonment rate	>50%	5%	90%
	Mi LUMA app	N/A	560K+ <small>downloads</small>	100%
ENHANCED RELIABILITY 🔧	Improvement in outage frequency	10.6 <small>outages</small>	7.5 <small>outages</small>	30%
	Total Recordable Injury Rate (TRIR)	8.63	2.74	68%
HEALTH & SAFETY ❤️	Injury severity rate	62.9	9.5	85%
	Net metering connections	8,000 <small>customer backlog</small>	25,000 <small>approved in 12 months</small>	400%
RENEWABLES ♻️	Monthly distributed generation installations	450	2,100	366%
FEDERAL PROJECTS 🏛️	Number of projects advanced	37 <small>projects (initiated)</small>	186 <small>projects</small>	400%

² First 12 months of LUMA operations, July 1, 2021, to June 30, 2022

SUSTAINABLE ENERGY TRANSFORMATION

Since inception, LUMA has:

- activated net energy metering service for 95% of projects inherited on June 1, 2021, many of which had been pending for over a year;
- presented the plan for the offshore wind study currently underway with the National Renewable Energy Laboratory and participated in the proceeding to further deployment of electric vehicle infrastructure in Puerto Rico and
- passed two important milestones by signing LUMA's first transmission for net metering contract (a process the applicant started with PREPA three years ago) and performing the first-ever system analysis focused on minimizing network costs for utility-scale renewable integration to reduce the cost of renewable energy.

NET ENERGY METERING

25,000

customers activated

130 MW

distributed solar generation

PHASE III STUDIES

844 MW

solar

220 MW

battery storage

Building Resiliency & Reliability Through Microgrids & Renewables

A consequence of the growing impacts of climate change is an overall increased risk of future disruptions related to extreme weather events in Puerto Rico. This underscores the importance of focusing on resilience and reliability in grid transformation, modernization and planning efforts.

A resilient electric grid is a building block for integrating clean energy and advanced technologies. However, when planning reliability and resilience improvements, the needs and overall status of the region and grid must be considered. This is especially important for damaged infrastructure, such as that of Puerto Rico.

A new approach like the use of microgrids demonstrated value to communities during widespread outages after a series of earthquakes hit the island in early 2020. Based on this experience, LUMA began developing a technical requirement and interconnection procedure for microgrids. LUMA believes bringing microgrids and other innovations to scale is the next big step toward building its resilience. Puerto Rico shares the unique challenges of an island electric system. This emphasizes

the need for a diverse set of resources, like utility-scale smart inverters and grid investments to ensure redundancy.

Building a Twenty-First Century Grid

LUMA's purpose is to rebuild and transform Puerto Rico's electricity system after years of neglect, lack of maintenance and disrepair made worse by a series of devastating hurricanes and earthquakes. In addition to restoring outages, LUMA is fixing infrastructure, so we can prevent them in the first place. This is a unique opportunity to introduce new ideas, technologies and methods to improve on pre-disaster conditions. In this manner, LUMA has started key repairs and has been collaborating with all levels of government to achieve these aims. LUMA plans to move Puerto Rico's twentieth-century grid to a twenty-first century grid, on par with industry standards and allowing an accelerated sustainable energy transformation to a resilient and renewable resource-leveraging grid. LUMA has:

- replaced 3,000 poles,
- reduced outages experienced by customers by 30% and
- cleared 100% of substations of hazardous vegetation.



I was a Paratrooper in the Army. I worked jumping out of the aircraft as an instructor. I ended up as staff sergeant in charge of a platoon. After 20 years of service, I retired from the Army. I found out about work in the electrical field, and it began to interest me.

During my time at Northwest Lineman College, an instructor approached me and informed me about an opportunity in Puerto Rico called LUMA. I was very interested. I wanted to return to Puerto Rico to offer the same I had offered my country.

I HAD SERVED MY COUNTRY AND WANTED **TO SERVE** PUERTO RICO IN THE **SAME WAY.** THAT IS WHY I CHOOSE THIS CAREER.



ANGEL COTTE

United States Army, Northwest Lineman College Graduate & Electrical Lineman Program



OUR COMMITMENT TO PEOPLE

The foundation of Quanta’s culture is a steadfast commitment to maintaining the highest standards of health, safety and well-being of our employees, customers and communities that we operate in.

We are deeply committed to creating a highly skilled, diverse and inclusive workforce for the future.



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2021 Safety Highlights

8%

decrease in Total Recordable Incident Rate (TRIR) YOY

11,156

automated external defibrillator (AED) units deployed to job sites

33

lives saved due to AEDs since program inception

3,157

personal voltage detectors (PVDs) purchased for storm response activities

84

Commitment Coins awarded to operating company employees in 2021

At Quanta, safety is a core value. We've always held the belief that our most valuable asset—what truly sets us apart—is our employees. At the end of the day, there's nothing more important than our employees coming home safely.

PROTECTING OUR EMPLOYEES

A CULTURE OF SAFETY



Our Commitment to Safety

At Quanta, every decision we make is motivated by what will benefit our employees, customers, shareholders and the communities where we live and work.

Our commitment to safety is not just words on a page. We live it daily. It is inspired by our people and ingrained in our culture.

Safety Is a Core Value

At Quanta, our goal is to complete every project without incident or injury. Quanta's management team creates a culture in which all employees take responsibility for their own safety and the safety of their coworkers. We self-perform more than 80% of our work, holding ourselves to high internal and customer safety standards. All of our more than 40,000 employees receive safety training. Our operating companies create customized emergency action plans on job sites, and we have a robust corporate job site program that ensures best-in-class safety. In 2021, corporate safety professionals performed observations at 490 job sites.

“FROM THE BEGINNING OF QUANTA, SAFETY WAS PARAMOUNT.”

JOHN COLSON

Founder, Quanta Services

The Capacity Model: A New Way to Plan, Execute & Learn From Work

The Capacity Model—with its focus on human performance and building capacity to fail safely—aims to eliminate life-threatening, life-altering and life-ending events.

What Is The Capacity Model?

Injury and illness prevention programs have helped reduce the number of occupational injuries during the last several decades, resulting in a reduction in the number of life-ending workplace events.¹ Despite this, in recent years the rate of reduction in these metrics has slowed, underscoring the need to develop new management systems that continue to drive positive change.² To further reduce catastrophic workplace events, Quanta Services has worked with industry-leading experts to develop The Capacity Model. The Capacity Model is a new way to plan, execute and learn from work. Developed from Quanta's existing company vision and strategic imperatives, it was inspired by years of excellence, service and world-class training.

¹ osha.gov/sites/default/files/OSHAwhite-paper-january2012sm.pdf

² https://www.bls.gov/news.release/archives/cfoi_12172019.htm

PILLARS OF THE CAPACITY MODEL

PREVENTION

Continue to work at preventing unwanted events from occurring.

LEARNING

Accept that mistakes are inevitable in life and business; learn from them to improve prevention and build the capacity to fail safely.

CAPACITY FOR FAILURE

Apply enough controls (safeguards, barriers, defenses) to absorb the consequences of failure safely (without seriously injuring or killing anyone) when a failure occurs.

The Capacity Model is not a program or initiative. It is a different approach to how organizations plan, execute and learn from work. Strategically building and ensuring capacity for failure does not mean that prevention is no longer a focus. Instead, The Capacity Model shifts the focus from simply aiming to prevent failures to building and ensuring capacity for failure in all aspects of work.

While The Capacity Model is particularly relevant for employees in operations and safety, it benefits employees in every part of an organization. When employees and organizations consistently use multiple layers of controls to protect against unwanted events and consequences, we will fulfill our number-one goal of bringing everyone home safely.

Elements of The Capacity Model

1. THE QUANTA ENERGY WHEEL

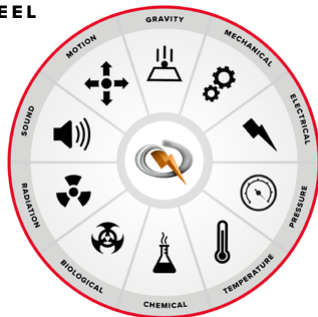
A hazard-identification tool that should be used before and during work

2. STKY (STUFF THAT KILLS YOU)

A focus on the hazards that can seriously injure or kill people

3. STKY CONTROLS FRAMEWORK

The STKY controls framework builds capacity for failure by providing a consistent, disciplined



approach to identifying hazards and controls. Using the STKY controls framework, organizations identify the critical tasks they perform and the minimum controls that must be in place before work begins.

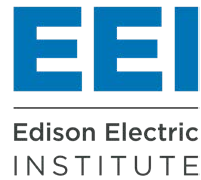
4. OPERATIONAL LEARNING

An approach to learning and improving that examines both successful operations and failure. Operational learning relies on frontline workers to explain how work is performed. Organizations that actively seek opportunities to learn and improve will enhance their performance while creating the capacity to fail safely.

Industry Recognition

Quanta was a recipient of Edison Electric Institute's inaugural Thomas F. Farrell II Safety Leadership and Innovation Award.

Quanta was recognized in the Contractor Project category "for its Capacity Model, which approaches industry safety challenges by actively addressing serious injuries and fatalities through controls and employee engagement."



Integration

Though the timing may vary for each operating company, integration of The Capacity Model starts with leadership buy-in. It is the catalyst for an integration process focused on continuous improvement of how organizations strategically plan, execute and learn from work.

This year we have made progress in engaging our leaders in fully supporting, operationalizing and promoting The Capacity Model through the dissemination of the Leadership Playbook.

We coach our leaders to persistently move the work culture away from blame and punishment to emphasize and embrace learning and improvement.

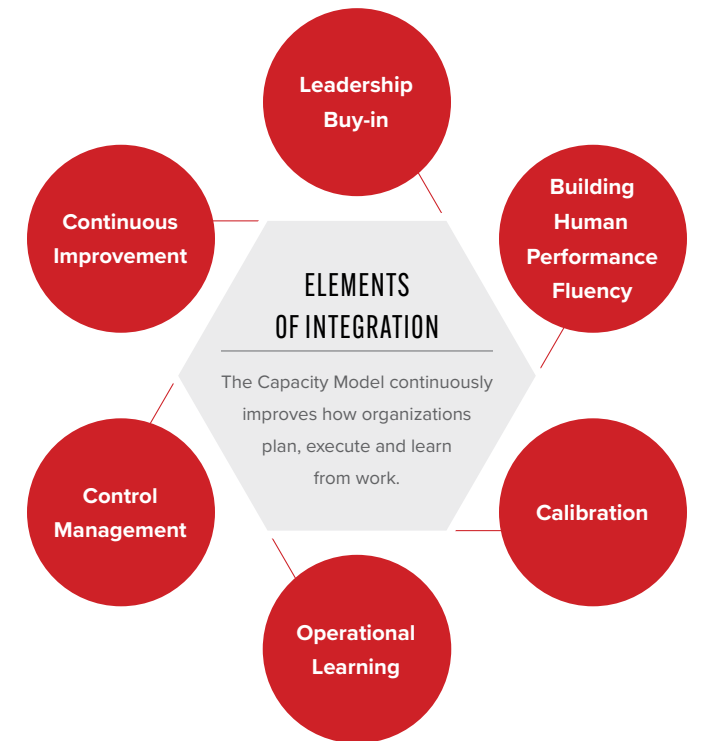
The Leadership Playbook describes the key phases of integration from engagement, to alignment, through sustainment and serves as a reference with practical steps leaders can take to:

- be more curious about how work is done and encourage people to tell their stories;
- enhance their ability to learn from both successes and failures, and apply lessons learned to strengthen the organization;
- suspend judgment and ask questions that seek to understand the contextual "what" and "how" surrounding events instead of the "who" and "why" and
- hold themselves and others accountable to discuss challenging issues and report and learn from the unexpected, both good and bad.

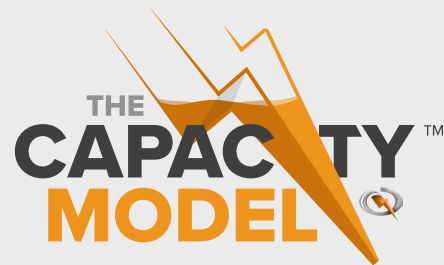
Accompanying the Leadership Playbook is an Integration Guide with milestone markers across a five-year span to help operating companies visualize what the journey will look like.

No matter where our operating companies are on their integration journey, we continue to emphasize that The Capacity Model is not about changing or fixing the workforce. Instead, it's an approach

to planning, executing and learning from work that requires buy-in from every employee, from leadership to crew members, to fulfill our number-one goal of bringing everyone home safely.



TRACKING OUR PROGRESS



Since our commitment to changing the way we view safety in 2018 and the official launch of The Capacity Model in 2019, we continue to further embed safety into our organization through the publication of The Capacity Model Leadership Playbook and the "STKY Controls Framework" course.

2018

- ▶ Quanta commits to changing the way we view safety.
- ▶ Introduction of Stuff That Kills You (STKY)
- ▶ Introduction of Energy Wheel

2019

- ▶ Official launch of The Capacity Model at Quanta Presidents' Meeting
- ▶ "Understanding The Capacity Model" course published (for all employees)

2020

- ▶ "Energy in the Workplace: STKY & the Energy Wheel" course published (for managers)
- ▶ Continued course curriculum development
- ▶ Emphasis on management training across Quanta

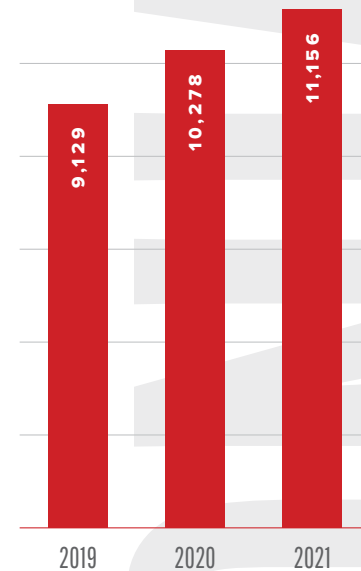
2021

- ▶ Leadership Playbook and Operating Unit Integration Guide published (for senior leaders)
- ▶ "STKY Controls Framework" course published (safety and operations managers)

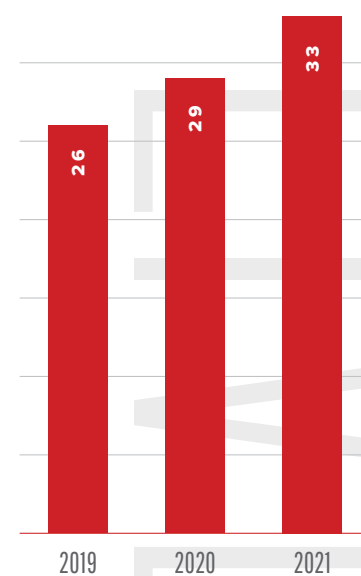
2022

- ▶ Quanta awarded the Edison Electric Institute inaugural Safety Leadership and Innovation Award in the Contractor Project category
- ▶ "STKY Controls for Crews" course published (for field employees)
- ▶ "Operational Learning Facilitator" course published (for select facilitators)

TOTAL AED UNITS DEPLOYED TO JOB SITES



TOTAL LIVES SAVED DUE TO DEPLOYED AED UNITS



Our First Aid, CPR & Automatic External Defibrillator Program: Saving Lives

The goal of our first aid, CPR and automated external defibrillator (AED) program is to train our employees to recognize the signs and symptoms of sudden cardiac arrest and to provide tools to increase the rate of survival for cardiac arrest patients.

Quanta Services makes CPR, first aid and AED training available to all employees. The purpose of the AED program is to provide equipment and training to enhance life safety response measures. AEDs make it possible for trained and untrained responders to administer defibrillation before emergency medical services (EMS) arrives.

Through our partnership with Sterlington Medical and Stryker, we work with our companies to deploy AEDs on every job site across North America. Thus far, our AED program has saved 33 lives (including members of the general public) and continues to be a life-saving success for our workforce and communities across North America.

In 2021, we deployed 878 AEDs across our job sites with four additional lives saved.



Demonstrating Our Commitment to Employees

We are dedicated to bringing all of our people home every day, and we know that, to reach the goal of eliminating all serious events, our leaders must drive safety initiatives.

To demonstrate our commitment to our employees, the Quanta Commitment Coin is awarded to operating company employees who exemplify safe work habits and a commitment to safety. In 2021, Quanta awarded 84 Commitment Coins to operating company employees.



AEDs in the Field

Two Quanta company lineworkers were flagged down to help a man who was found on the ground, unconscious. Utilizing their training, both lineworkers evaluated the man and began CPR after using their AED. The two men continued compressions and breaths until EMS arrived. Both linemen were awarded the Quanta Commitment Coin.

THE BENEFITS OF AEDs IN THE WORKPLACE

Research suggests that workers may suffer sudden cardiac arrest while on the job.³ Because of this, experts advocate placing AEDs in the workplace, along with providing a proper management system and training for employees on how to use the devices.

Doing so can mean the difference between life and death. On-site AEDs save precious treatment time and can improve survival odds because they can be used before EMS personnel arrive.

According to the American Heart Association, studies have shown that sudden cardiac arrest victims who received immediate defibrillation had up to a 60% survival rate one year after sudden cardiac arrest.⁴ Benefits of having an AED in the workplace include:

- A heart rhythm in ventricular fibrillation may only be restored to normal by an electric shock.
- The AED is compact, lightweight, portable, battery-operated, safe and easy to use.
- Modern AEDs won't allow victims to be shocked if they have a heartbeat, reducing the risk of doing more harm—a key reason for people not to step in and help.
- These devices have a proven track record of helping save lives in public places and in the workplace.
- Of the sudden cardiac arrest deaths that occur each year, more than 95% of the victims die before they reach the hospital.⁴
- Survival rates can improve dramatically when care is provided within five to seven minutes, including early treatment with an AED.⁴

³ [osha.gov/sites/default/files/publications/osh3185.pdf](https://www.osha.gov/sites/default/files/publications/osh3185.pdf)

⁴ cpr.heart.org/en/training-programs/aed-implementation



IN FOCUS

INNOVATION IN SAFETY

Innovation and safety are part of our DNA and come together in the CEO Innovation & Entrepreneurial Awards. Instituted in 2013, Quanta has collectively awarded more than \$600,000 to the winners of this competition, and many of these ideas have been practically implemented in the field. The purpose of this program is to continually encourage and recognize entrepreneurial drive and creativity and to benefit our customers and the overall industry with ongoing innovation. Our top two Safety Innovation Finalists for 2021 are detailed below.

Excavator Portable Winch System

A Quanta company developed a portable winch system (see photo, top right) for excavators that is designed to prevent the towed machine from tipping backwards or sliding back down a slope. The winch system includes a fail-safe brake system and counterbalance valves to stop the winch drum from running away under the load. In addition, a camera and monitor screen ensures safe visual spooling of rope on the drum, enabling loads to be gently controlled via the excavator controls. An operations, maintenance and training package has also been developed to allow ease of implementation.



Equipotential Matting

A Quanta company identified a new equipotential matting product as a safer alternative to the conventional equipotential zone (EPZ) matting approach. An EPZ gives the current a way to return to the ground safely in the event of a fault.

Advantages of the new equipotential matting nets include:

- **Improved continuity:** Built with all pressed connections, the new nets show, through testing, a safer and more consistent EPZ compared to traditional mats. This means more capacity and controls are built into the job site, providing a safer environment for crews.
- **Lightweight:** One employee can safely unload, position, stretch, stake and put away a net.



Safety & the COVID-19 Pandemic

In 2021, the COVID-19 pandemic continued to present unprecedented challenges in many parts of our business and operations, including with respect to keeping our employees safe. We continued to plan our site work differently to minimize the density of our craft workers, enhance office and project sanitization measures and ensure that remote employees remained connected through increased use of video meetings. We continue to monitor evolving health guidelines, respond to changes as appropriate and develop human resource guidance to assist our employees with the effects of the COVID-19 pandemic.

Partnering for a Safer Industry

At Quanta, we strive to improve the safety not only of our employees but of the entire industry. Through inclusive partnerships, built upon common principles, values and a shared vision, we are actively working to improve safety performance throughout the entire industry.

Construction Safety Research Alliance

Quanta is a member of the Construction Safety Research Alliance (CSRA), a group of industry leaders and experienced scientists who are focused on transformative construction safety research. The CSRA is the only industry-funded research group focused exclusively on advancing the science of safety, and it forms industry-academic teams to work together to understand industry needs, conduct field-based research in real-world settings, collect and analyze data and share results. This organization conducts safety research that passes the rigors of scientific peer-review and provides networking and knowledge-sharing opportunities via our communities of practice.

OSHA Partnership

Quanta is a founding member of the Electrical Transmission & Distribution (ET&D) OSHA Partnership, a formal collaboration of industry leaders that sets best practices for lineworker safety. Today, the ET&D covers a majority of total workers in the electric line construction industry and is one of only a few national partnerships between employers and OSHA. Partnership goals include the following:

- Analyze accident and incident data to identify common causes for fatalities, injuries and illnesses suffered by lineworkers, apprentices and other appropriate job classifications.
- Develop recommended best practices for each identified cause.
- Develop implementation strategies for each best practice and promote these strategies among the partners.
- Identify training criteria for supervisors, lineworkers and apprentices, to create an industry-wide culture change that places emphasis on health and safety.

Other Industry Safety Partnerships

Quanta is a member of many other industry associations that are dedicated to improving safety practices across the industry:





INNOVATION IN TEACHING

TRAINING & EDUCATION

Safety begins with training. We are fully committed to providing the resources designed to improve our employees' safety and invest in their future with the latest education and training available.

Northwest Lineman College: Improving Safety & Reliability Throughout the Industry

Quanta acquired Northwest Lineman College (NLC) in January 2018 to further expand its commitment to training the industry's workforce.

NLC offers career programs (entry-level) for electrical and telecommunications linework. NLC also provides apprentice and journey-level training for the electric utility industry. Hundreds of power and construction companies throughout the United States — and even internationally — use these programs.

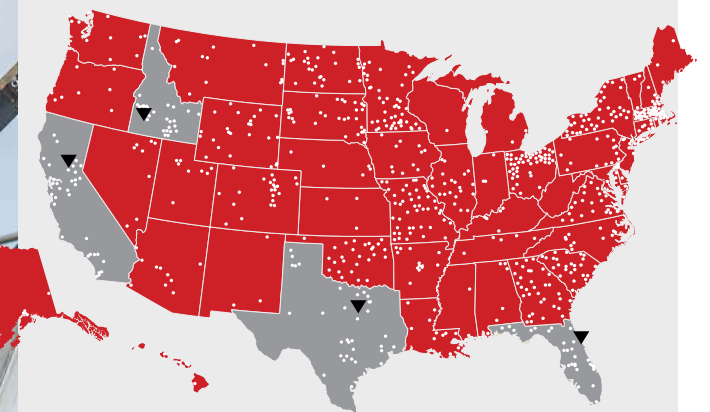
Major industry manufacturers, in their never-ending quest to improve safety and reliability, look to NLC for training and product advice. Students come from all over the country to attend NLC programs at one of four campuses.



In order to better expose students to prevailing methods, tools and the most current safety regulations, NLC has a rigorous recruiting, hiring and training process for its professional educators. Hundreds of power and construction companies use NLC's curriculum for training purposes. NLC was also specially selected by the U.S. Department of Energy to write curriculum related to the smart grid. Because the industries we serve continually evolve, NLC modernizes its materials on a regular basis.

NLC is committed to providing each student the tools and resources needed to successfully research, apply for and secure jobs and careers. NLC offers a specially designed "Career Planning and Strategies" course where students learn about various jobs and careers to which their education applies. Students also learn effective cover letter and résumé writing, interviewing skills, networking methods, preparation for entrance testing and professional behaviors.

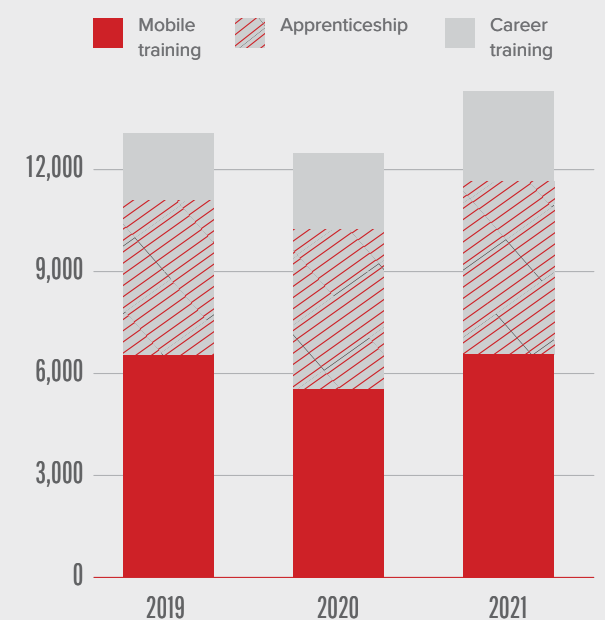
NLC'S INDUSTRY IMPACT



○ Companies using NLC training ▼ Campus locations

STUDENTS TRAINED

NLC continues to broaden its impact on industry. In 2021, NLC trained a total of 15,123 students across its mobile, apprenticeship and career programs at its campus and mobile training sites. This represents a 21% and 16% increase over 2020 and 2019, respectively.



SAFETY IN POWER DELIVERY

Ensuring that lineworkers establish proper safety principles early is the key to working safely, and NLC's Electrical Lineworker Program is focused on imparting these principles at every opportunity. The curriculum includes current OSHA regulations, as well as industry best practices and procedures. In the lab and field, students are taught to identify all components of electrical systems and the tools needed to safely work on them. When they complete their training, graduates can leverage the important safety values learned in the Electrical Lineworker Program.

All the tools, procedures and safety gear exist for lineworkers to enjoy a long and rewarding career. As one example, during the past several years, equipment has been widely adopted by the trade that ensures lineworkers are attached to structures 100% of the time—in fact, NLC has been contracted to certify lineworkers in proper use of this equipment by several major utility companies.

Three-Phase Educational Model

NLC created its Three-Phase Educational Model® based on well-researched educational theories. Using this model as the basis for the training in all NLC programs, each academic course, skill competency and behavior expectation fits directly into one of the three educational phases: knowledge, skill or behavior.

KNOWLEDGE PHASE

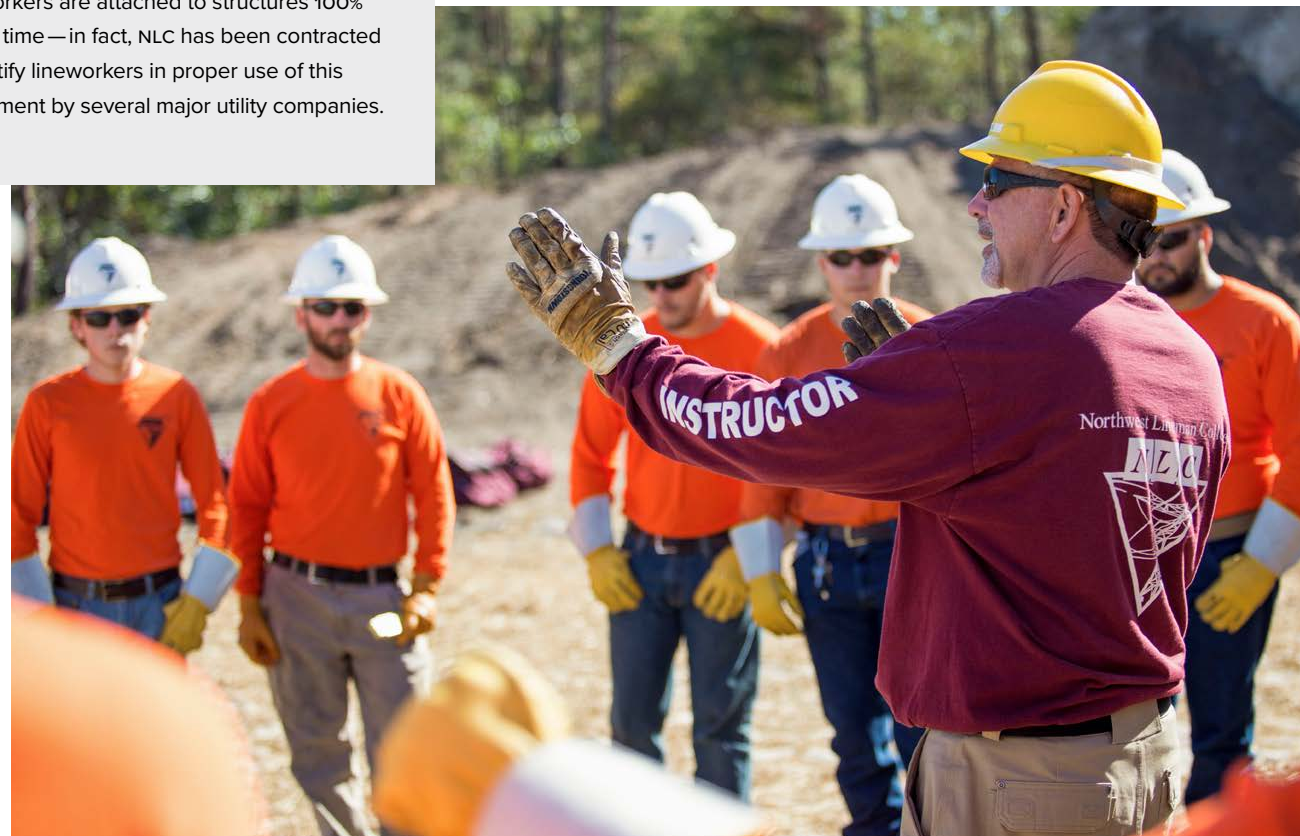
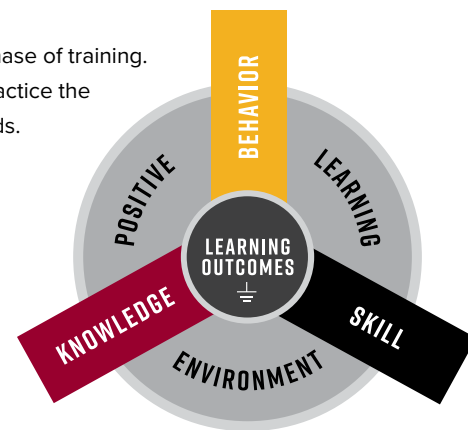
The knowledge phase addresses cognitive or intellectual activities.

SKILL PHASE

The skill phase is the “hands-on” phase of training. This is where students learn and practice the fundamentals of field-based methods.

BEHAVIOR PHASE

The behavior phase focuses on safety, camaraderie, customer service and community service to help students develop steadfast reputations for being mature, reliable, safe and civic-minded.



“A LOT OF TIMES, WHEN PEOPLE LEAVE THE MILITARY, THEY LOSE THAT SENSE OF PURPOSE THAT THEY HAD FOR SO LONG, BUT AS A LINEMAN, **THAT SENSE OF PURPOSE IS ALWAYS THERE.**”

From Serving the Country to Serving the Community: NLC Is Helping Veterans Transition Into Successful Careers

Joining the trades is a natural fit for those with a background of military service, having many similarities such as workplace camaraderie and doing whatever it takes to accomplish the mission.

Many skills veterans have developed are highly valued, such as critical thinking, leadership and integrity. These skills fit perfectly in an industry where reliability and dependability are paramount.

NLC is grateful to our men and women in service and is proud to accept funding provided by the GI Bill® program for the Electrical Lineworker Program.

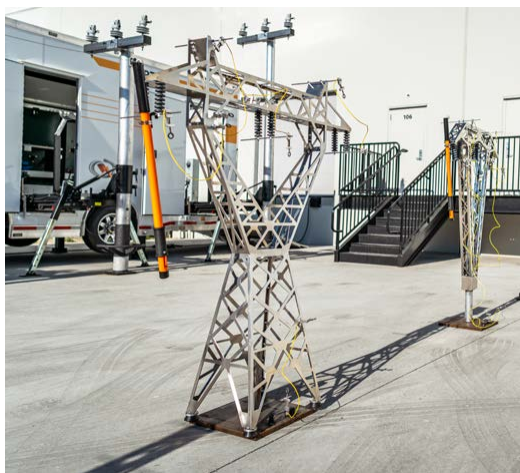
Veterans make great linemen because they have that sense of purpose. Each day there's a new mission, whether it's building a distribution line or going out and restoring power to millions of people after a hurricane. There's always something new and exciting about this job.

ANDY BURCHFIELD

U.S. Marine Corps Veteran

New Offerings in 2021

Quanta continues to invest in its suite of mobile training offerings, including:



The **EPZ Grounder Mobile Training Lab** provides equipotential bonding and grounding scenarios at four overhead distribution stations, eight switchable underground stations and eight scaled-down transmission stations. Each is designed to replicate real-world scenarios and allow workers to create and test different equipotential grounding and bonding setups. The overhead and underground distribution lines can be energized independently.

The trainee's work can be evaluated through the Lineman Meter, a touch-screen panel that simulates a worker's heartbeat. If the work is done improperly, the heartbeat will flatline, allowing trainees to fail safely. At the overhead stations, trainees can install grounds from an elevated position while belted off to the pole. This allows them to develop correct work positioning and learn sequential installation of grounds.



The **TransBanker® Mobile Lab** enables safety and savings as the world's premier transformer training lab. Available as a stationary lab or mobile lab, this two-day course is designed to refresh or enhance the knowledge of utility workers who are involved with transformer installation and operation for providing the most common service voltages to meet customers' needs.



The **Mobile Natural Gas Training Unit** has been developed directly through trade partners in a business-to-business, mobile capacity. While the nation continues to experience labor shortages, employers in the natural gas industry find themselves short on filling the demand for skilled tradespeople. To accommodate this demand, Northwest Lineman College is adapting its approach in the education and training of natural gas technicians. This change is intended to help employers develop the skills and careers of their technicians through training that combines work-based learning with local NLC instruction.

BUILT FOR
PUERTO RICO

IN FOCUS

LUMA COLLEGE FOR TECHNICAL TRAINING

Quanta Services and ATCO are investing in Puerto Rico with a brand-new, state-of-the-art technical training facility — LUMA College for Technical Training.

LUMA College for Technical Training is designed to deliver industry-leading safety, training and workforce development products and services to the people of Puerto Rico.



LUMA College will be critical for improving the overall workforce by providing best-in-class training programs, enabling long-term career opportunities and boosting the overall economic development of the island.

The facility includes an outdoor skills yard, an indoor learning laboratory and an administrative and classroom operations building. On-site parking, maintenance facilities and covered equipment parking are also included.

This investment creates approximately 22,000 square feet of building space for the purpose of training, education and administration. The development and construction of this site and these facilities is estimated to cost \$12.5 million.

Products & Services

Products and services offered by LUMA College for Technical Training include:

- Utility Lineworker Program
- Apprenticeship Program
- Advanced Transformers Course
- OSHA Courses
- Just-in-Time Training
- Crew Leadership Course
- Annual Refresher Training
- Aviation Training
- Skilled Labor Assessments



Quanta Advanced Training Center

The Quanta Advanced Training Center at the Lazy Q Ranch is a 2,200-acre campus in La Grange, Texas. The Lazy Q Ranch provides Quanta’s employees hands-on training in a controlled environment. Safety, skill development and certifications are the main focus at the Lazy Q. From electric power and underground to telecommunications, Quanta offers the technical training essential to developing a skilled workforce for the future. The Lazy Q facility offers the following programs:

Electric Power Program

The Lazy Q has a fully energized transmission system with voltages ranging from 13 to 345 kilovolts. Vaults for underground training simulate downtown networks and distribution systems.

Pipeline Training

The pipeline training area was designed to be flexible. The facilities house steel pipe in all major diameters, a flow loop and underground capabilities for pipeline integrity testing and training. The area is also used for training and method testing to develop custom solutions for challenging projects.

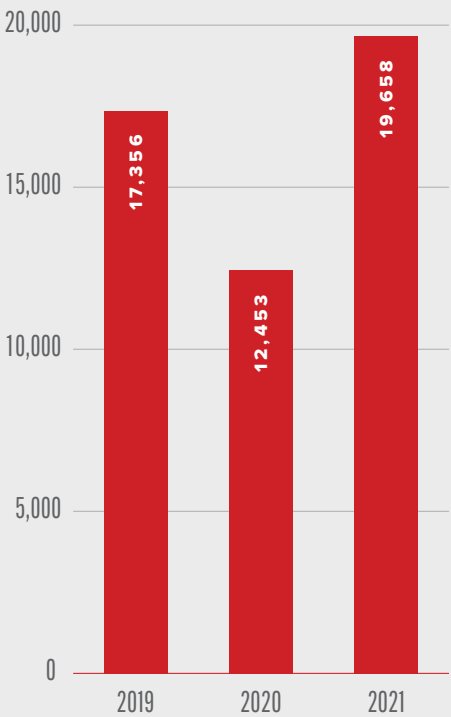
Telecommunications Training

The telecom training area is Quanta’s newest facility and offers six training programs. The village features a small, simulated neighborhood with homes in various stages of construction and with different types of utilities. This enables development training for all aspects of a telecom project.

INCREASING TRAINING CAPACITY

Lazy Q continues to expand its capacity to provide a consistently trained and skilled workforce to help meet our goal of having the safest job sites across North America. In 2021, Lazy Q Ranch performed a total of 19,658 training days, representing a 58% and 13% increase over 2020 and 2019, respectively.

LAZY Q: NUMBER OF TRAINING DAYS



Stronghold University

Quanta continues to invest in state-of-the-art training facilities like Stronghold University (SU). SU’s unique approach to education bridges the gap between theory and skills development with a real plant environment and interactive exhibits specifically designed and built to develop top talent in the industry.

At SU, students are provided with a comfortable, inviting and energetic environment that includes spacious and purpose-built interactive and multimedia classrooms and a fully fitted control room. The training center will improve the safety, quality and expertise for new and seasoned employees, as well as for partners within the industry.

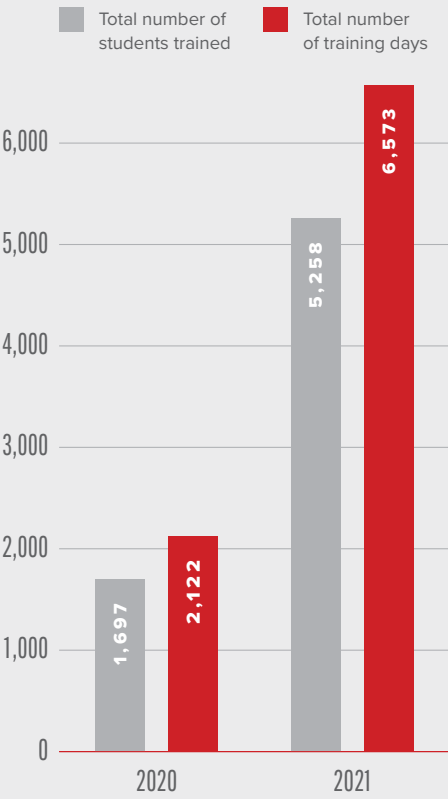
The training center includes a 100+ person auditorium and a 400+ person dining area, as well as access to classroom education and hands-on training in the following:

- Mock high pressure flanges
- Reactor and small exchanges
- Multi-bed, multi-vessel tray module
- Machinist training module

INVESTED IN EDUCATION

Stronghold University roughly tripled its training capacity between 2020 and 2021.

STRONGHOLD UNIVERSITY TRAINING



Our commitment is to be intentional in creating a culture of inclusion and belonging, with the success of our customers, our people and our communities at the center of all we do.

A CULTURE OF BELONGING

DIVERSITY, EQUITY



& INCLUSION



At Quanta, we believe that diversity, equity and inclusion delivers a better future for all team members, customers, suppliers and communities. We can only achieve our vision with full participation from a multitude of cultural and life experiences and communities. In order to fulfill our purpose and live our values, we aim to make our commitment to diversity, equity and inclusion evident in our organizational structures, policies, Board of Directors, staff, mission and vision.

Valuing Different Backgrounds

Our core values provide a foundation for building a team of diverse, committed individuals. We believe that diversity in all its forms—thought, culture, background and perspective—enables us to continue to innovate and push the boundaries as we grow. In this way, we foster a culture of mutual respect whereby contributions from different backgrounds are valued.

What Diversity, Equity & Inclusion Means to Quanta

As the societal definition of diversity is constantly evolving, we are dedicated to fostering diversity, equity and inclusion.

At Quanta, **diversity** is any dimension that can be used to differentiate people from one another both visibly (e.g., gender, ethnicity) and invisibly (e.g., belief system). These differences influence our problem-solving skills, our work styles and the way we communicate. We want our workforce to reflect the communities where we work and live.

Inclusion is creating a work environment where everyone, with all their diversity, feels welcomed, valued and respected. It's about treating each other fairly, respectfully, responsibly and transparently with zero tolerance for harassment and discrimination of any kind.

Equity refers to the policies and practices that support diversity and inclusion. Equity aims to identify and eliminate barriers to fair treatment, where everyone has a level playing field, equal opportunity and equal access to growth and development resources.



Our Strategic Pillars

Our goal is to recognize, learn to value and leverage differences on behalf of our business. We will be deliberate in leveraging diversity and inclusion as we:

Expand Our Operational Excellence

- Align with our business partners' priorities and work to create a diverse supply chain
- Support customers' local efforts to expand diverse supplier partnerships and local goals such as a seat at the Billion Dollar Roundtable¹

Build a Workforce of Exceptional Employees

- Create diversity in our workplace
- Foster an inclusive work environment

Deliver Stakeholder Value

- Continued collaboration with customers to support strategic initiatives and nonprofit efforts
- Identify and nurture relationships in the areas of education, youth development and advocacy of diversity, equity and inclusion in our local communities

¹ billiondollarroundtable.org

Supplier & Vendor Diversity: An Intentional Commitment to an Equitable Future

Our goal is excellence in supplier diversity throughout our business. Our approach is to proactively identify new, diverse suppliers through research and participation in trade fairs, workshops, conferences and other opportunities. We seek to create economic opportunities for women-owned, minority-owned, veteran-owned and other categories of underrepresented businesses.

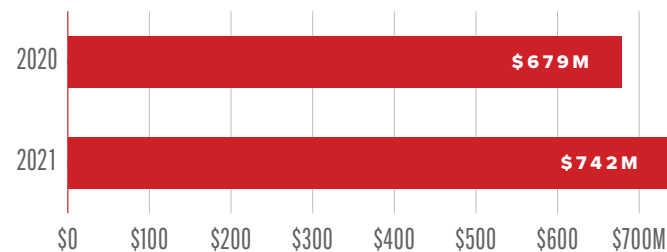
Our program continues to expand and evolve, providing increased opportunities for diverse suppliers, building on our combined strengths to drive mutual success. We take our commitment to local spend seriously. Focusing on long-term sustainability, our program provides community dialogue and provides Quanta with a way to create local jobs for local underrepresented businesses.

Looking Ahead: Diverse Vendors

This year we plan to further expand our diverse business engagement by tracking our engagement and spend with vendors that reflect the diversity of the communities where we live and work and of the clients we serve. We look for vendors that can bring a range of perspectives to help us discover creative, effective solutions.

TRACKING OUR DIVERSE SPEND

In 2021, Quanta's diverse business spend totaled more than \$742 million, a 9% increase compared to 2020 (\$679 million).



Supplier Diversity Partnerships

We partner with organizations that certify and support diverse businesses:



SUPPLIER DIVERSITY: OUR APPROACH

INTENTIONAL COMMITMENT TO AN EQUITABLE FUTURE

- A programmatic approach to diversifying our supply chain and developing suppliers
- Leadership support and accountability
- Policies and procedures to advance inclusion
- Identifying contracting opportunities while supporting supplier success with access to capital, industry development and sustainable growth
- Innovation, job creation and diversification within the industry
- Community advancement and stabilization
- Focused education, accountability and engagement
- Advocacy, support and engagement

We stand together with the LGBTQ+ community, and in 2021 we continued our focus on cultivating an inclusive work environment that recognizes LGBTQ+ employees' value, provides competitive benefits, fosters a sense of belonging and promotes growth and opportunities in Quanta.



Chicago Pride Fest

A Quanta company joined together to support not only their community partners but their own employees at the Chicago Pride Fest (see photo, left). The event was a celebration of diversity, equality and the Chicago LGBTQ+ community on Halsted Street, America's first recognized gay village. Volunteers engaged with the community in fun games and conversations about the company and its values. Proceeds from Pride Fest benefited the Northalsted Business Alliance, which works diligently to maintain a safe and beautiful neighborhood for residents, business owners and visitors.

Raising Awareness

A Quanta company LGBTQ+ employee resource group, Empower, hosted a panel discussion on "Building an Inclusive Climate in the Workplace." Presenters included Moanica Caston, Vice President of Diversity & Inclusion for Quanta, and the panel was moderated by Empower President Camden Breeding. About 60 people attended the virtual event, including guests from other Quanta operating companies. Topics discussed included:

- What are some of the major challenges you see facing LGBTQ+ people in the workplace today?
- Have you noticed the culture surrounding LGBTQ+ in the workplace change in the last five years?
- What role does intersectionality play in making the workplace a more welcoming and supportive environment for all people?

Quanta provides transgender-inclusive health benefits for employees, which include equivalency in same- and different-sex spousal medical benefits and equal health coverage for transgender individuals without exclusion for medically necessary care.

Looking ahead, our focus will be to continue to support the LGBTQ+ community by driving education and awareness programs for managers and employees to educate those outside the LGBTQ+ community, thereby fostering greater inclusion.



Human Capital: Tracking Representation

We track the representation of women and underrepresented communities because we know that diversity helps us build stronger teams that better represent the communities we operate in. We have made year-over-year progress, and we will continue to strive for better representation across our company.

U.S. WORKFORCE REPRESENTATION DATA²

	UNIT	2019	2020	2021
Female employees as share of total workforce	%	8%	9%	10%
Female employees in management and professional roles	%	13%	14%	14%
Overall employee ethnic diversity	%	34%	27%	32%
Ethnic diversity in management and professional roles	%	23%	22%	24%
Diverse supplier spending	Million USD	N/A	\$678.6	\$742.0

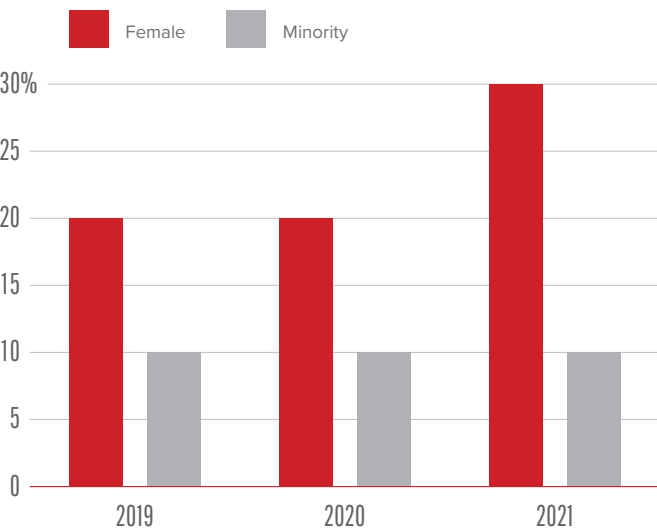
² 2019 representation data as of Nov. 30, 2019. 2020 representation data as of Nov. 30, 2020. 2021 representation data as of Nov. 30, 2021. "Management and Professional Roles" refers to (1) Executives, Senior Officials and Managers; (2) First and Mid-Level Officials and Managers and (3) Professionals as per EEO-1 report filing. "Ethnic Diversity" refers to (1) Black or African American, (2) Native Hawaiian or Pacific Islander, (3) Asian, (4) American Indian or Alaska Native, (5) Hispanic or Latino and (6) Two or More Races as per EEO-1 report filing. While we present male and female in this table, we acknowledge this is not fully encompassing of all gender identities. See information about our self-identification initiatives related to our LGBTQ+ employees on page 63.

Diversity Starts at the Top

Quanta's Board of Directors currently includes three directors who are women and one director who is ethnically diverse. In 2021, Quanta appointed Holli C. Ladhani, former President, Chief Executive Officer and a director of Select Energy Services, Inc., a publicly traded provider of water management and chemical solutions to the energy industry.

For more information, see "Board Diversity" on page 141.

BOARD COMPOSITION



Embracing Diversity & Inclusion in the Workplace

At Quanta, we recognize that our rich diversity is part of what makes this such a special place to work. For 2021, we added a "Special Holiday" to the list of existing paid holidays.

This "Special Holiday" enables our employees to celebrate a day that is special to them and other members of their faith, race, nationality or anything else that makes them unique.



INCREASING THE DIVERSITY OF THE PEOPLE WE TRAIN

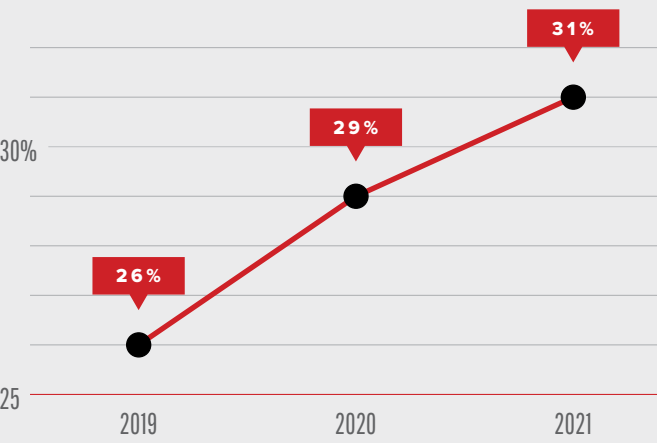
At Quanta, we recognize that commitment to the social dimension includes training and recruiting a workforce that represents the communities we work in, enabling each employee to bring their unique perspectives, ideas and best skills to work each day.

Northwest Lineman College

Northwest Lineman College's (NLC's) mission is to improve lives, the industries it serves and the country. It aims to be a dynamic, visionary and leading international educational institution providing the benchmark standard of human performance, training and products for the trades that exceed the expectations of customers.

Consistent with this vision, 31% of all students trained at NLC's campus career programs were minorities, up from 29% in 2020 and 26% in 2019.

MINORITY STUDENTS TRAINED AT NLC





Spotlight on Women in Engineering & Construction

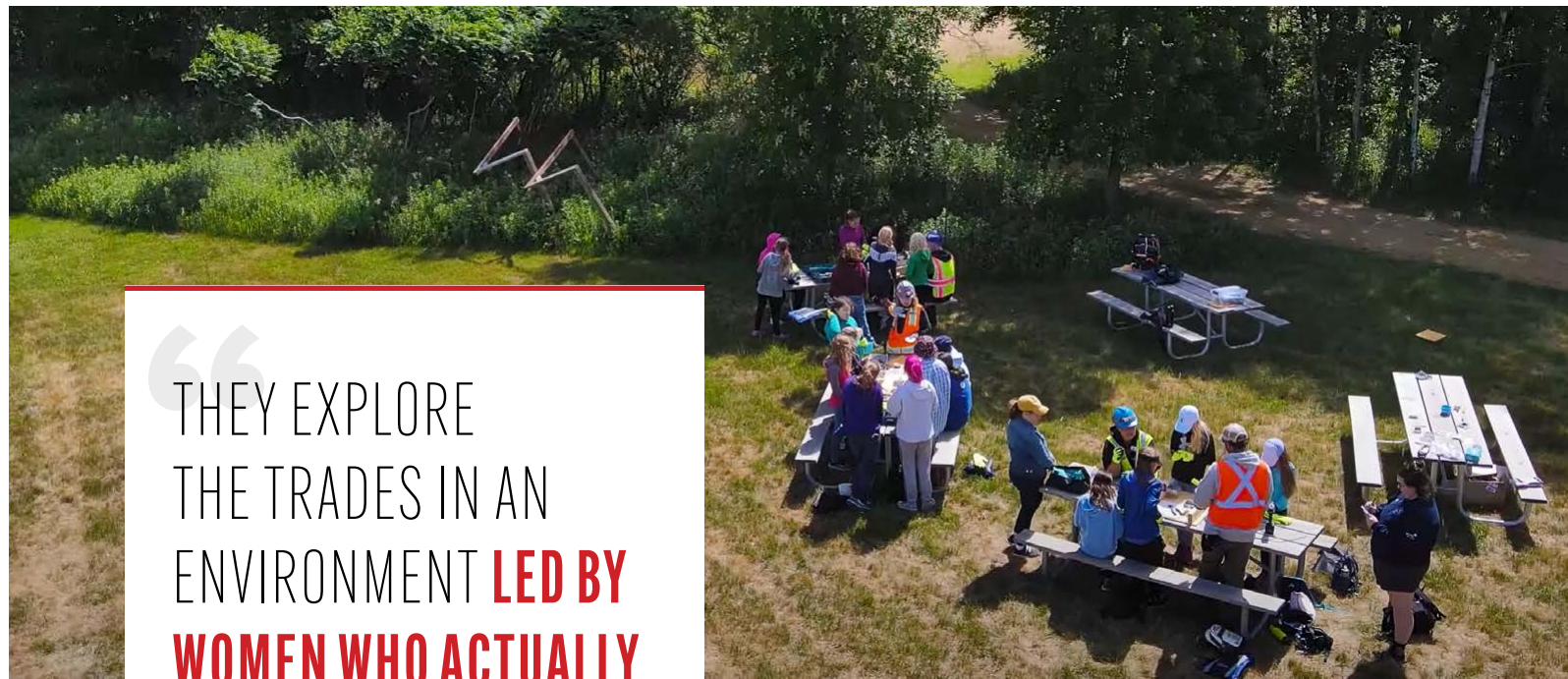
In 2020, women made up just 10.9% of the total construction workforce, compared to 47% of the entire labor force.³ Although this number has been slowly increasing and is expected to continue in a positive direction, it remains low and presents an opportunity for increased diversification within the industry.

A significant opportunity for female recruitment in the construction industry is the relatively low pay gap compared to other industries. According to the National Association of Women in Construction,⁴ women earn an average 99.1% of what men make in the construction industry for comparable roles. Despite this, there are still some major challenges to both recruiting and retaining women in construction industry roles. A study by The New England Institute of Technology³ suggests women in construction face the following hurdles:

- **Exclusion:** Eight out of ten women feel left out at company social events and gatherings.
- **Lack of Advancement:** Over 70% of female construction workers feel passed over for roles because of their gender.
- **Shortage of Role Models:** More than 45% of women in construction have never worked with female construction managers.

³ neit.edu/blog/women-in-construction

⁴ nawic.org/statistics#:~:text=Women%20working%20in%20construction%20numbered,entire%20U.S.%20workforce%20in%202018.&text=Women%20in%20the%20U.S.%20earn,percent%20of%20what%20men%20make



“THEY EXPLORE THE TRADES IN AN ENVIRONMENT **LED BY WOMEN WHO ACTUALLY WORK IN THE TRADES...** IT'S INCREDIBLY VALUABLE TO SEE ROLE MODELS, TO HEAR ABOUT WHAT THEIR DAY IS LIKE AND WHY THEY LIKE THEIR JOBS.

BREANNE HEGG

Vice President of Programs, Girl Scouts of Minnesota



Inspiring Girls to Be Tradespeople

Quanta employees participated in the 2021 Power Girls event⁵ created by Girl Scouts River Valleys. With the help of member contractors, electricians and sponsors across the industry, Power Partner MN was able to deliver a real circuit project for the participating Girl Scouts to troubleshoot and build. The Power Partner MN electricians, foremen and contractors were able to provide the Girl Scouts with insight into what they do on a day-to-day basis on the job site and introduce them to the tools, materials and safety protocols that they utilize every day.

Celebrating Women Engineers

Quanta company employees celebrated International Women in Engineering Day (INWED) on June 23, 2021, by taking selfies to support the INWED 2021 campaign (see photo, right). The INWED 2021 theme was #EngineeringHeroes. The campaign seeks to support women in achieving their potential as engineers, encourages women to become engineers and works to promote gender diversity and equality in the workplace.

This year the campaign aimed to highlight the work of women engineers around the world, profiling women in engineering who recognize a problem and dare to be a part of the solution.

⁵ girlscoutsv.org/en/support/power-girls.html



The Voices of Women in a Quanta Company

Since 2014, a Quanta company has seen consistent and continual growth in female employees with a concomitant narrowing between the types of roles male and female employees are fulfilling (see graph, below). Today, female employees fulfill key positions in almost every major department, including accounting, engineering, geology, project management, marketing and business development.

FEMALE REPRESENTATION AT A QUANTA COMPANY



Meet Sarah

Sarah is a Construction Engineer Project Manager who has been with the company for over five years. She spent her first four years as a Geotechnical Engineer on a major transmission line project in Southern California, and she is currently helping to manage a large-scale electric vehicle charging station build-out. Sarah grew up in Hayden, Idaho, and completed a B.S. in Geological Engineering at the University of Idaho as well as M.S. courses in Geotechnical Engineering at the University of Washington.



I sort of entered the industry by chance, but then realized it's a perfect fit for me. I was good at math in high school and decided to take advantage of scholarships that the University of Idaho was offering in Mining Engineering. This is where I had my first geology class, which I found incredibly interesting. More importantly, I really loved my classmates, professors and advisors.

I worked in consulting engineering across the west coast for ten years after college before deciding to make the switch to the contractor side with a Quanta company. My dad owned an earthwork construction company while I was growing up,

so I was already familiar with heavy equipment and construction site logistics, but I'm not sure I was overly prepared for being one of maybe five females on a project with over 100 employees.

There was a definite feeling at first that, as a woman, I didn't belong and was unworthy of being in the industry. I learned to enjoy the challenge of overcoming this and being an asset to the team by working hard, gaining an in-depth understanding of the industry and being as helpful as possible. I've also found an unmatched camaraderie amongst females in the industry, which I think is incredibly powerful and supportive!"

Meet RaeLynn

RaeLynn is a Journeyman Lineman who loves working outside and at heights. She's named one of Canada's Top 100 Women in Skilled Trades. When asked what advice she would give someone entering the field, she replied:

“ASPIRE TO BE THE POSITIVE CHANGE YOU WANT TO SEE IN THE WORLD.”



Meet Robin

Robin is a Geographic Information System (GIS) Manager and started at a Quanta company a little over four years ago. Robin grew up in Spokane, Washington, and graduated from Western Washington University with a B.S. in Geology. She and her husband have a one-year-old son and another on the way. Initially a Staff Geologist, Robin quickly came to understand the power of GIS in the electric transmission construction industry and has revolutionized the way the company uses it. She currently heads up an expanding department dedicated to data management and construction tracking/reporting for enhanced quality control.

I don't really see the construction industry being “male-dominated” as a deterrent or a benefit, but rather an indication of an inevitable shifting of tides and an opportunity for new perspectives and strategies to help steer the future of the industry. There have been times where my male counterparts are blatantly addressed over me in client meetings, or somewhat demeaning language is used to describe the role I have or work that I do. It can be disorienting to handle those situations tactfully, and I've found myself hesitate to ask a question that I later hear a male colleague ask unabashedly.

As a working mother, I've also faced the challenges of growing a family while trying to grow and maintain a career, which can certainly be more of a challenge when fewer employees at the company face the same thing. At the end of the day, the opportunity, challenge and encouragement offered to me by the Quanta company's leadership and culture has been highly impactful in my career path. If I had entered the construction industry with a company that didn't value making room for non-male ideas and advancement, I would have moved on to one that did. The female camaraderie that has resulted from this sort of culture has been one of the biggest positives I've experienced. Meeting and working with other women, at any level, and hearing about their experiences and career journeys is enlightening and puts my work into an entirely different perspective.

Seeing the success of female leads who have worked in either the field or office (or both), and have been around since the female headcount was much lower, has also been essential in encouraging my journey to a leadership role. I like to see my peers of any gender be successful and earn credit where it's due, but there's something extra satisfying and encouraging about seeing one of my female peers be recognized for their work.”



TELECOMMUNICATIONS

Quanta is partnering with broadband companies to expand digital equity to all communities.

PROMOTING DIGITAL INCLUSION

INTERSECTION OF

PEOPLE, TECHNOLOGY & COMMUNITIES

In today's digital age, technology is the primary conduit to economic opportunity, and it is vital to how we work, play, learn and connect with one another. COVID-19 has underscored the importance of having access to technology and a reliable, affordable internet connection at home for school, work and basic health and human services. As we shifted to working, learning and socializing from home, major inequities were exposed in broadband access across the United States. This digital gap is even more pronounced in public and affordable housing, communities that have been chronically under-connected and underserved by incumbent providers.



Installing Essential Infrastructure in Underserved Communities

By installing broadband and next-generation wireless technology in underserved communities, Quanta companies are enabling people to move across the digital inclusion continuum: from increasing technology access to developing skills to ultimately leveraging those skills for economic mobility. This is an important facilitator of social inclusion for individuals that are economically disadvantaged to develop technology skills and expand their horizons. Access to fast, low-cost internet allows people to fully benefit from and participate in the digital economy.

Bridging the Digital Divide in Rural Communities

In the first half of the twentieth century, electric cooperatives accepted the challenge of delivering electricity to rural America. As a result of the cooperative effort, economic opportunity flourished and quality of life for rural communities improved dramatically. The Federal Communications Commission (FCC) Rural Digital Opportunity Fund (RDOF)¹ offers the nation's electric cooperatives a similar opportunity for the twenty-first century: a funding partnership to deploy the infrastructure necessary to bridge the digital divide and deliver high-speed broadband services to many of these same rural communities. Quanta is partnering with broadband companies to support the construction of broadband networks in rural communities across the country.

¹ [fcc.gov/auction/904](https://www.fcc.gov/auction/904)

BUILDING NEXT-GENERATION WIRELESS BROADBAND

Quanta has partnered with Starry Group Holdings, Inc., to deliver high-speed internet service to the home wirelessly. Quanta is installing Starry's proprietary technology and helping to build a nationwide fixed wireless broadband network capable of delivering maximum speeds of a gigabit of internet service to the home. Starry's hardware beams high-speed internet from the tops of cellular towers to a building receiver roughly the size of a shoebox on apartment and residential roofs.

Wireless Internet Infrastructure

Quanta companies install the Starry Titan base station unit high up on existing radio towers. Once activated, it transmits a gigabit-capable internet signal to nearby receivers perched on apartment buildings and homes.

Partnering With Building Owners to Bring Internet to Underserved Residents

Starry partners with public and affordable housing owners to eliminate credit checks and individual eligibility requirements, such as proving income or an enrollment in WIC or school lunch programs, which are required by many internet service providers (ISPs) to qualify for their affordable internet programs. Removing these barriers enables our most vulnerable families to access the broadband they need to thrive. Starry Connect uniquely ties qualification for the program directly to the premises, so regardless of who lives in a unit, they are always provided the option to sign up for Starry's ultra-low-cost, high-speed broadband option.



Partnering With Customers to Expand & Upgrade Broadband Access: Advancing Digital Equity Among All Americans

Quanta companies are working with telecom companies to expand their fiber-optic footprint by building new fiber networks and by pushing fiber deeper into existing service areas. Fiber to the home (FTTH) is 85% more energy-efficient than copper networks² because it reduces the need for cooling systems and the number of central offices.

Compared to conventional copper wire, FTTH provides several notable efficiency-related benefits. For example, FTTH is significantly less susceptible to environmental degradation compared to copper, enabling approximately 1,000 times more bandwidth to be carried over 100 times longer distances. Meanwhile, over shorter distances, fiber optic cable can provide extremely reliable data transmission, whereas over similar distances, copper can experience significant quality degradation issues.

² [telefonica.com/documents/162467/144347968/Green-Bond-Reports-20210122.pdf/27874ce5-a0ad-6d78-d77c-d84c5e017ff1#:~:text=Energy%20efficiency%3A%20Fibre%20access%20per,%25%20efficiency\)%20than%20copper%20access](https://telefonica.com/documents/162467/144347968/Green-Bond-Reports-20210122.pdf/27874ce5-a0ad-6d78-d77c-d84c5e017ff1#:~:text=Energy%20efficiency%3A%20Fibre%20access%20per,%25%20efficiency)%20than%20copper%20access)

Protecting Vulnerable Communities: Enhancing Grid Flexibility & Resiliency

A growing consensus focuses on the disproportionate and unequal risks that climate change is projected to have on communities that are least able to anticipate, cope with and recover from adverse impacts. In addition to the changing threat and vulnerability landscape, physical infrastructure and social vulnerabilities can exacerbate the uneven impact of a natural disaster at the community level, including the speed and degree of recovery. Assessing the durability of the electric grid and other elements of essential infrastructure against disasters requires an understanding of historical risk and simulations for a range of uncertainties that the future holds.

Critical infrastructure, including electricity, water, gas, transportation, telecom and safety, are highly interdependent. Of the 16 different critical infrastructures identified by a Presidential Policy Directive,³ the energy sector is uniquely important because it provides an enabling function across all infrastructure sectors, especially as it relates to public health and safety. The safe operation of power systems is essential for energy security and the effective functioning of all infrastructures.

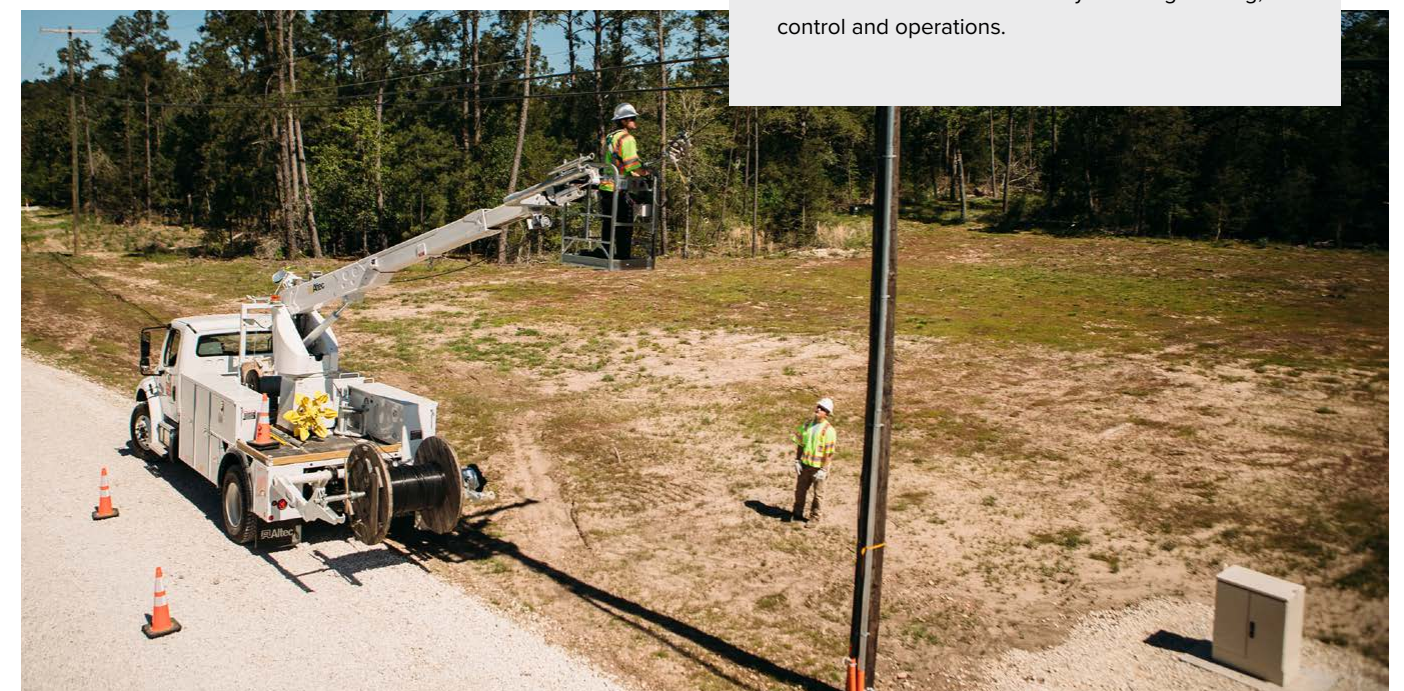
³ energy.gov/ceser/presidential-policy-directive-21

Many of the technologies used to enhance resiliency also help utilities enable vulnerable communities to have higher power reliability levels while also meeting their sustainability goals. Developing a modern grid begins with prioritizing the challenges impacting resiliency. This includes preparing for the disruptive events associated with climate change, assessing health pandemics' effects and identifying other challenges, such as aging infrastructure.

A microgrid is a group of interconnected loads and distributed energy resources (DERs) with clearly defined electrical boundaries that act as a single, controllable entity with respect to the grid and can connect and disconnect from the grid to enable it to operate in both grid-connected or islanded mode.

Quanta Technology has been supporting the development of several high-profile utility-scale, commercial-type and government-sponsored microgrid projects in the last several years, providing a wide range of engagement at all stages of the microgrid project life cycle, including:

- feasibility analysis and business case evaluation,
- detailed design and engineering,
- field implementation aspects requiring careful integration and testing of emerging technologies and
- addressing challenges associated with operation and maintenance.



THE BRONZEVILLE COMMUNITY MICROGRID

A Quanta company worked in collaboration with industry partners to optimize the design of the Bronzeville Community Microgrid (BCM), a flexible and adaptable grid that provides resiliency to infrastructure and the community it services. Once finished, the BCM will be the first utility-operated microgrid cluster, leveraging DERs, including solar photovoltaic (PV) and battery energy storage, to serve approximately 1,000 residences, businesses and public institutions with approximately 7 MW of load.

The project provides an opportunity to study the interaction and sharing of energy resources in utility grids, including high penetration of solar PV systems. Solar PV systems are designed to operate without deterioration of reliability, power quality and operational security and are expected to help improve efficiency by supplying loads locally when needed, under interconnected and islanded conditions. In this regard, this project provides a template for modern and future transmission and distribution system engineering, control and operations.

At Quanta, we give back to our fellow employees in need—and to the communities where we live and work. We have a policy that encourages our employees to do the same. Giving back our time and resources is core to who we are, and we embrace a culture where each of us—and our company as a whole—can make a significant impact.

GIVING BACK

SERVING & STRENGTHENING COMMUNITIES

Building a Better World in All We Do

Quanta has operating companies that have been collaborating with customers and giving back to employees and communities for more than a century. Every year Quanta donates millions of dollars to nonprofit partners and invests a significant amount of volunteer time in our communities.

We choose our charity partners intentionally, creating long-term partnerships with nonprofit organizations that truly make a difference and align with our company goals. Our decisions are motivated by what will benefit our employees, customers, stockholders and the communities where we live and work. Our success is driven by the best, most skilled and highly trained workforce in the industries we serve. We never take our success, or the people that create it, for granted.



BUILDING RESILIENCE

At Quanta, we believe that if our communities thrive, so do their businesses and residents. We are proud that every day our projects are building a more prosperous and sustainable future for our customers and creating a lasting impact on the communities that we serve.

It is against this background that we recognize disasters from extreme weather events driven by climate change—such as destructive wildfires,

hurricanes and floods—fall disproportionately on already disadvantaged communities. Not only do we hire from our communities and invest in their economic development, but we help to restore and upgrade essential services when disaster strikes. It's important to us that we help communities build resilience—to become stronger in the face of the unique physical, social and economic challenges before them.

Our Approach

In our commitment to human capital equity, we start by listening to and learning from our community stakeholders on everything from how we contribute philanthropically to how we engage and volunteer. We then take a strategic approach, implementing solutions that leverage our unique assets, capabilities and resources.

We focus on collaboration with communities and Indigenous peoples to identify and develop opportunities that strengthen community partnerships, support networks and foster constructive relationships. We champion initiatives that provide both societal and business value.

The challenges we seek to address are as diverse as the communities we serve. Our work spans the spectrum from hyper-local to national, with donations ranging from hundreds of dollars to millions. Our investments are a blend of support for organizations serving community needs, programs and partners seeking to reshape systems and responsive support providing relief in times of crisis and need.

YOUTH EDUCATION & WELLNESS



Allying With Families of Children With Cancer

Candlelighters Childhood Cancer Family Alliance was founded by families of children with cancer for families of children with cancer. Candlelighters serves all children with cancer and their families at every stage of their journey.

Their emotional and financial support extends to families of children in treatment, long-term survivors, adult survivors and those whose child lost their battle with cancer.

Quanta employees share Candlelighters' commitment to make every effort to provide stability to families throughout their child's treatment period, no matter how long that may last, so that no family and no child will fight cancer alone. Quanta employees engage directly with families through the Adopt-a-Family program at Christmas and various other events throughout the year.



Preparing Young People to Succeed

Since 2003 Quanta has supported Junior Achievement of Southeast Texas, whose mission is to inspire and prepare young people to succeed. With CEO Duke Austin serving as an Executive Committee Board Member, the partnership is based around a mutual commitment to excellence, thereby benefiting the needs of our future workforce entrants.

Throughout 2021, Quanta volunteers supported Junior Achievement programs by delivering lessons and sharing their life experiences. In this way, volunteers serve as role models to positively impact young people's perceptions about the importance of education. Research shows that Junior Achievement alumni are more likely to have a college degree, feel confident managing money, have career success and have started a business as an adult.



Supporting Youth Sports & the Community

Quanta employees contribute to the various programs and initiatives supported by the Astros Foundation throughout the year.

The Astros Foundation seeks to support youth sports and education programs, recognition and honor of the military, childhood cancer and domestic violence awareness and efforts to reduce homelessness. Cornerstone initiatives include the Community Leaders program, the Astros MLB Youth Academy (AYA) and the Astros Reviving Baseball in Inner Cities (RBI) Program.

The AYA provides free baseball and softball instruction, life skills training and academic support to youth in Houston. The AYA is home to the Astros RBI program, which includes a free summer baseball and softball league. Additionally, AYA experienced staff members provide mentoring, leadership development and assistance with the college application process. These cornerstone initiatives of the program align closely with Quanta's own.



Helping Children in Foster Care

Quanta has worked with Child Advocates since 1999, providing support through both volunteer efforts and monetary donations.

Child Advocates recruits, trains and supports volunteers who provide a voice for children in foster care. Advocate volunteers begin a process of information gathering to identify the child's needs with the goal of guiding abused children out of the foster care system, thus ensuring they receive critical rehabilitative services. They act as a communications link between the child, the courts and everyone involved in the case, including parents, caregivers, relatives, caseworkers, attorneys and therapists. By linking the children with a wide variety of esteem-boosting activities, volunteers are able to locate the vital therapeutic and rehabilitative services that are necessary to help the children deal with trauma and abuse.



Encouraging Vocational Training

Quanta and the National High School Rodeo Association (NHSRA), the world's largest youth rodeo association, announced a new multi-level partnership agreement in 2021 that is intended to elevate members of the NHSRA by turning their experience in rodeo into career opportunities for working in the skilled trades. Founded in 1949, the NHSRA's mission is to promote and support education and to develop the essential attributes of leadership, dedication, commitment and responsibility in high school students.

The five-year agreement with Quanta supports the NHSRA's mission to provide educational opportunities to its members by offering yearly scholarships to a Quanta-owned vocational technical college, with a focus on careers in the electric power delivery industry. Quanta recognizes the values, work ethic and applicable skill sets that individuals in the Western industry possess and believes the partnership will benefit not only members of the NHSRA but the Western industry as a whole.

Working in the Community to Inspire the Next Generation

Employees from Quanta companies frequently visit local schools to present information about their careers and answer questions from students of all ages. In 2021, employees have also participated in events that promote STEM (Science, Technology, Engineering and Math) to children and families through personal interactions with and demonstrations by people in STEM professions.

For example, Quanta company employee Eddie Vizcaino presented two virtual Museum of Science and Industry (MSI) Junior Science sessions to public school fourth-grade classes. Eddie discussed what it means to be an engineer and the various sorts of projects he works on day to day. He discussed various engineering specialties, including utility-locating marking colors and showed students an existing intersection from both its surface pictures and CAD drawing. Eddie then answered a number of questions from the children, including what tools he uses, what a typical day looks like and what he likes about his job.

Providing Hands-On Learning & Mentoring

Quanta employees have a passion for helping to build better communities and regularly share their time and talents.

By providing a hands-on demonstration, two employees from a Quanta company showcased the career of a pipeline welder to welding students at Jefferson College in Hillsboro, Missouri. (see photo, right).

Encouraging STEM Careers

A Quanta company has a long and extensive history of reaching into the community to provide leadership, financial support and boots on the ground through the many hours of volunteerism. Live Classroom builds on that foundation by contributing to youth STEM education in a real-world interdisciplinary and best-practice approach.

The mission is to inspire students to become leaders in STEM fields by engaging in hands-on electrical projects to teach the importance of the application of science, engineering, technology and math. Additionally, the program will help students develop the self-confidence and professional communication skills necessary to pursue future careers in STEM fields.



COMMUNITY RESILIENCY



Giving Back to Our Own Employees

Quanta Cares provides confidential, timely, short-term crisis relief for those employees in the Quanta family needing assistance with living expenses such as food, clothing, utilities, temporary housing, property repairs and other basic necessities.

Quanta Cares was established to provide emergency assistance to Quanta employees that were devastated by Hurricane Harvey in 2017. Employee donations, matched by Quanta, initially raised \$1.3 million. Subsequent contributions have continued to grow and benefit employees impacted by other tragic and catastrophic events.



Integrating Volunteerism Into Corporate DNA

Quanta has long cultivated a culture that strongly encourages employees to get involved in their communities. Our investments and support of local communities continue to evolve, helping us to build trust with external stakeholders, thus realizing our corporate purpose of putting people first. A Quanta company has recently rolled out a new volunteer initiative where employees are given the chance to take one day per quarter to volunteer at any organization of their choice. This program also includes the option of two corporate days a year volunteering as a group (see photo, above). The latter program was so successful that the teams became involved in many projects, for example, partnering with an under-resourced school to collect and donate supplies before the beginning of the school year.



Protecting Local Ecosystems Through Giving

Quanta employees give back to local communities by volunteering their time to projects that eliminate waste and protect local ecosystems. For example, clearing brush, adding soil to the hiking path and cutting trees were among the tasks volunteers from a Quanta company completed in August 2021 during the Schuylkill River Trail Clean-Up in Philadelphia, Pennsylvania. The banks of the Schuylkill River are maintained in a partnership between Philadelphia Parks & Recreation and Schuylkill River Development Corporation, while volunteer efforts help keep the adjacent trail clean year-round.



Removing Waste & Beautifying Shared Spaces

As part of the DuPage County Adopt-A-Highway program, volunteers from a Quanta company cleaned up a 1.3-mile stretch of main road in Cedar Rapids, Iowa. This thoroughfare leads from the City Service Center, the location of the City Engineering and Public Works Departments, to the Quanta company office.

The same employees also helped plant more than 800 annuals in Cedar Rapids on May 13, 2021. The event was part of the “Day of Caring,” in which Iowa businesses allowed their employees to volunteer for several community projects.



Connecting History, Culture & Community

A Quanta company provided civil, structural and electrical engineering services to the recently opened Jaffee History Trail. The trail transforms 4.5 acres of parkland in Lincoln Park, Chicago, into an educational history trail. The trail includes historical elements such as a massive relic from the Great Chicago Fire of 1871 that represents Chicago’s resilience, as well as the Couch Tomb, a small building that serves as a reminder that the space was once a city cemetery. The trail has a storyline that explains the resilience, complexities and connectedness associated with the past, present and future of Chicago’s history.

Striving to Support Our Youth

A Quanta company participated in the Kids Above All Holiday Gift Drive. Volunteers from the company’s women’s resource group, Strive, pitched in to act as Santa’s helpers in the Toy Room by matching gift donations to requests made by the many Kids Above All participants. With their efforts, the holidays will be more enjoyable for those who might not receive gifts otherwise. Earlier in 2021, the same Quanta company helped paint a group home, which provides supportive living environments, enabling teens to finish high school, heal from trauma and become independent adults.



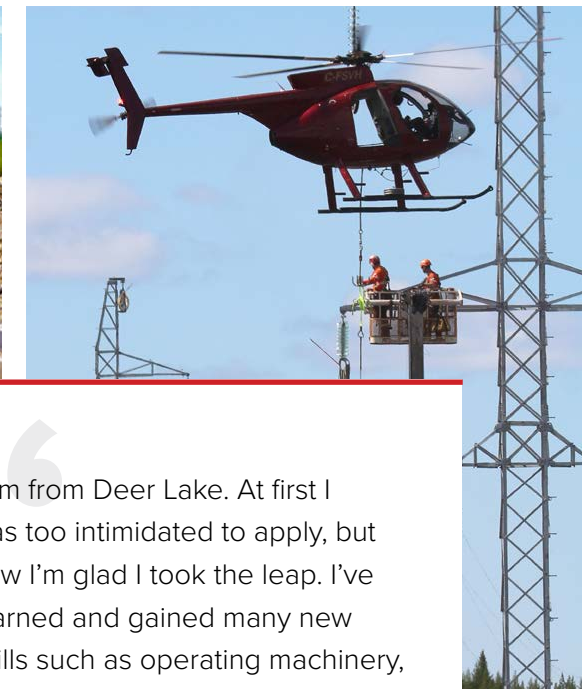
PARTICIPATION IN AUSTRALIA

Aboriginal and Torres Strait Islander (Indigenous) cultures and heritage are a part of Australia’s national identity. Increasing effort on reconciliation, which aims to strengthen relationships between Aboriginal and Torres Strait Islander peoples and non-Indigenous peoples, has evolved throughout the years and is now a foundation of community and social sustainability for our Australian operating companies.

Reconciliation is based and measured on five dimensions: historical acceptance, race relations, equality and equity, institutional integrity and unity. Quanta’s businesses in Australia aim to develop meaningful social awareness and education, as well as deeper connections and opportunities.

Some of these examples include:

- A national partnership with Clontarf, a charitable not-for-profit organization that improves education and employment prospects of Indigenous and Torres Strait Islander men
- Reconciliation Action Plans that outline our commitments. The plans must be approved by Reconciliation Australia, the leading body for reconciliation in Australia.
- Donation and partnership with Polly Farmer Foundation (PFF), which supports 2,000 Aboriginal students in 57 locations mainly throughout Western Australia, providing after-school nutrition, mentorship and tuition to enable Aboriginal students to thrive in school
- Attendance at various promotion events, including the end-of-year alumni celebration dinner held by PFF
- Participation in National Aborigines and Islanders Day Observance Committee (NAIDOC) week, celebrating Aboriginal culture and providing internal education sessions
- In 2021, we donated to The Foundation for Indigenous Sustainable Health (FISH), which is involved in building infrastructure and providing culturally suitable support for Indigenous people, encouraging improved well-being.
- Active engagement with several Indigenous businesses to bolster our supply chain, most notably working with Karda Safety for the provision of personal protective equipment (PPE)



Providing Employment to First Nation Communities: The Wataynikaneyap Project

A Quanta company was selected by Wataynikaneyap Power to provide engineering, procurement and construction (EPC) solutions for the Wataynikaneyap Power Transmission Project in Northwestern Ontario, Canada. The scope of work on the project consists of EPC services for more than 1,600 kilometers of transmission and distribution infrastructure ranging in voltage from 25 to 230 kilovolts, as well as 22 substations.

The Wataynikaneyap Power Project is an unprecedented First Nations-led project to build transmission lines in Northwestern Ontario to connect 17 remote First Nations communities to the provincial transmission grid for the first time. The project will reinforce the existing transmission grid to Pickle Lake and bring reliable energy to the communities. When complete, the project will provide 14,000 First Nations people in northwestern Ontario with a clean, reliable and affordable supply of electricity.

The communities' diesel-generated energy is currently insufficient, resulting in load restrictions and power outages. Consequently, this inadequate power supply is reducing quality of life and dramatically limiting the expansion of remote First Nations communities. Connection to the power grid will provide cleaner and more reliable power to the population.

The Wataynikaneyap Power Transmission Project is expected to eliminate over 6.6 million tons of greenhouse gas (GHG) emissions over forty years by replacing approximately 25 million liters per year of diesel usage.

CLEAN50'S LEADING 2021 PROJECT

The Wataynikaneyap Power Transmission Project was voted the leading Clean50 Top Project in 2021 at the Clean50 Summit 10.0 held in Toronto. Votes were cast by sustainability advocates, emerging leaders, Top Project representatives, members of the Clean50 and other attendees at the summit.

Eliezar McKay, Chair of First Nation Limited Partnership, said, "Thank you to the Clean50 members for recognizing the importance of the Wataynikaneyap Power Transmission Project, not only for the land but also the community development that will follow when we have adequate, reliable power in place. This project is only possible through the cooperation, patience and support of our 24 First Nation owners, who share the vision of building and owning a transmission line to bring reliable power to their communities."

6.6 MILLION

tons CO₂e avoided over the next 40 years

Utilizing the Talents of First Nation Communities

Besides providing electricity to residents of a power-starved region of the province, the construction of the new electrical network is utilizing the talents and abilities of over 700 people from the 24 First Nation partner communities investing in the project.

A Quanta company is engaging with participating First Nations to:

- work with community and working groups for open lines of communication for COVID-19 updates with regards to travel and community access directives;
- engage with Indigenous Relations and Group Project Management to work with community and working groups to identify camp locations and services available to support work camps;
- facilitate and coordinate Indigenous participation opportunities for employment and procurement of goods and services;
- provide notification of encounters with sensitive wildlife, such as caribou sightings, to communities near the encounter;
- provide notification of caribou permanent survey plots within the communities and
- ensure all employees and members of the community are evacuated to a safe location in the event of a forest fire.

I am from Deer Lake. At first I was too intimidated to apply, but now I'm glad I took the leap. I've learned and gained many new skills such as operating machinery, reading prints, communication and how to work safely and effectively with others. I've met a lot of new people, making new friends...

IT'S NICE TO BE
AROUND PEOPLE
WHO **ENCOURAGE**
AND MOTIVATE YOU
TO LEARN AND TRY
NEW THINGS.



BRAD MEEKIS
Deer Lake First Nation

INVESTING IN OUR PEOPLE

EMPLOYEE INVESTMENT

We recognize that our employees are our most valuable asset, and we strive to hire and invest in the top talent in the industry from diverse backgrounds.

Employee Health & Wellness

At Quanta, we ensure that every employee has the tools necessary to manage, maintain or improve their health.

Quanta Named Second Healthiest Company in Texas & Fifteenth Healthiest Company in the United States

In 2021, Quanta was named the second healthiest company in Texas in the extra-large company category and the fifteenth healthiest company in the United States. Each year, the Healthiest Employers® awards program honors the best and brightest in workplace wellness.

Over the past two years, Americans learned how to adapt their workforces in light of a pandemic, so it is no surprise that the general idea of wellness has shifted. Quanta has also adapted its traditional methods of business to keep our workforce happy and healthy by offering flexible working schedules.

Employee Wellness Program

Quanta's health and wellness programs motivate employees and their families to make healthy lifestyle choices. Our wellness program services include "get moving" activities, weight-loss competitions, blood pressure wellness, free flu shots, tobacco cessation programs and even a yearly on-site health screening that covers cholesterol, weight and BMI.



Enhanced Mental Health Support

At Quanta, we recognize that mental health is just as important as physical health. The COVID-19 pandemic has increased the need for and awareness of mental health support for all employees. In this regard, it is vital that employees have access to the services they need to manage their mental health and overall wellness.

With this goal in mind, a Quanta company recently enhanced their group benefits plan to include services from a registered psychologist or social worker. This plan includes a Lifeworks employee assistance program, which is available to all employees and their dependents, providing access to confidential counseling 24 hours a day, seven days a week.

RAISING HEALTH & WELLNESS AWARENESS WITH EMPLOYEE CHALLENGES

In an effort to raise health and wellness awareness with employees, some Quanta companies run regular workplace wellness challenges. The aim of these activities is to engage people to become happier, healthier and more energetic at work. The purpose of the challenges is to encourage healthier lifestyle behaviors in a supportive, positive climate of fun and camaraderie, which helps people adopt or maintain a healthy way of living.

In the summer of 2021, a Quanta company initiated a fitness challenge to raise awareness of heart disease. Employees were awarded a T-shirt, water bottle and gift voucher if they could complete a prescribed number of push-ups, pull-ups and planks. Another challenge involved forming a team to participate in a steps challenge that was monitored by a fitness tracker supplied by Quanta. Overall feedback was positive, and additional challenges based on employee input have been planned.





Industrial Athlete Program

Quanta has developed an industrial athlete program designed to prevent injuries and promote overall wellness on job sites and in offices through stretching and education. The program, known as Stretch & Flex, was implemented throughout our corporate office and at several operating companies.

The pre-shift stretching program focuses on musculoskeletal areas most commonly affected by on-site injuries. The daily five-minute Stretch & Flex program offers employers the opportunity to decrease costs and associated losses due to injuries while increasing employee job satisfaction, productivity, career longevity, mental health and improving company culture.

Commitment to Education

Quanta and the industry as a whole benefit from an educated and trained workforce, and Quanta partners with various universities to recruit, hire and train employees. For example, Quanta began a partnership with Sam Houston State University (SHSU) in 2016, establishing a business relationship and workforce development program. SHSU professors, in conjunction with Quanta managers, created a proprietary curriculum, which, in addition to classroom coursework, provides SHSU students hands-on experiences at the Quanta Advanced Training Center and summer internship opportunities. We also have partnerships and scholarships at various educational institutions throughout North America.

As part of this workforce development program, Quanta funded three additional SHSU professors. Coupled with Quanta managers, they created an enhanced curriculum that includes hands-on training experience. Led by mentors and facilitators, students experience a real project through the Engineering, Procurement and Construction (EPC) life cycle.

Furthering Our Commitment to Hiring Veterans

Quanta companies have also partnered with Hiring Our Heroes to further expand our commitment to hiring veterans. The U.S. Chamber of Commerce Foundation's Hiring Our Heroes initiative launched in March 2011 as a nationwide effort to connect veterans, service members and military spouses with meaningful employment opportunities. Working with the U.S. Chamber of Commerce's vast network of state and local chambers and strategic partners from the public, private and nonprofit sectors, the goal is to create a movement across America in hundreds of communities where veterans and military families return every day. The initiative has the singular goal of investing in veterans' futures by providing them with the training needed to have safe and successful careers in the infrastructure solutions industry.

These programs aren't just for Quanta jobs. Through the H.E.R.O.E.S. (Hiring, Educating and Retaining Our Exceptional Service Men and Women) initiative, Quanta is committed to encouraging other companies and partners in their industry to hire America's heroes.

**HIRING OUR
HEROES**



Quanta H.E.R.O.E.S. is a comprehensive initiative to expand our long-standing support for the men and women of the U.S. Armed Forces.

IN FOCUS

OUR SUPPORT FOR THE

U.S. ARMED FORCES

In addition to hiring veterans, we're committed to ensuring they have the tools they need to effectively transition into a successful civilian career. By joining the energy infrastructure industry, they are continuing to serve their country in a different way—by keeping the lights on, heat generated and communications connected.

Quanta has partnered with Vector Force Development, a veteran-owned business, which aims to transition military veterans to jobs in the utility industry, whether it be in the field or the office.

This initiative will benefit our nation's heroes returning home and the industries we serve by providing a new source of



skilled, dependable leaders. Vector works across the entire utility industry, including gas distribution, electric, communications, fiber, program management, safety, quality control and heavy equipment.

VECTOR
FORCE DEVELOPMENT

OUR COMMITMENT

TO PLANET

Many of the services we provide facilitate efficient and safe delivery of clean energy and the migration towards a lower carbon economy while reducing the impact of our operations on the environment.

This aligns with Quanta's core values and we are collaborating widely to drive these outcomes. Making an inclusive and sustainable future possible requires us to take care of communities and the planet we all share.



IN THIS SECTION

- 90** Our Carbon Footprint
- 100** Enabling the Energy Transition Through Battery Storage
- 104** Connecting Renewables Projects
- 110** Electric Vehicle Charging: Building America's Essential Twenty-First Century Infrastructure
- 116** Enabling Advanced Biofuels Production
- 120** Minimizing Environmental Impacts
- 124** Water Conservation & Biodiversity Management
- 132** Waste Management, Supply Chain & Circular Economy Solutions

As we transition to a clean energy economy, evaluating and responding to climate change impacts are central to our planning for the future.

REDUCING OUR IMPACT

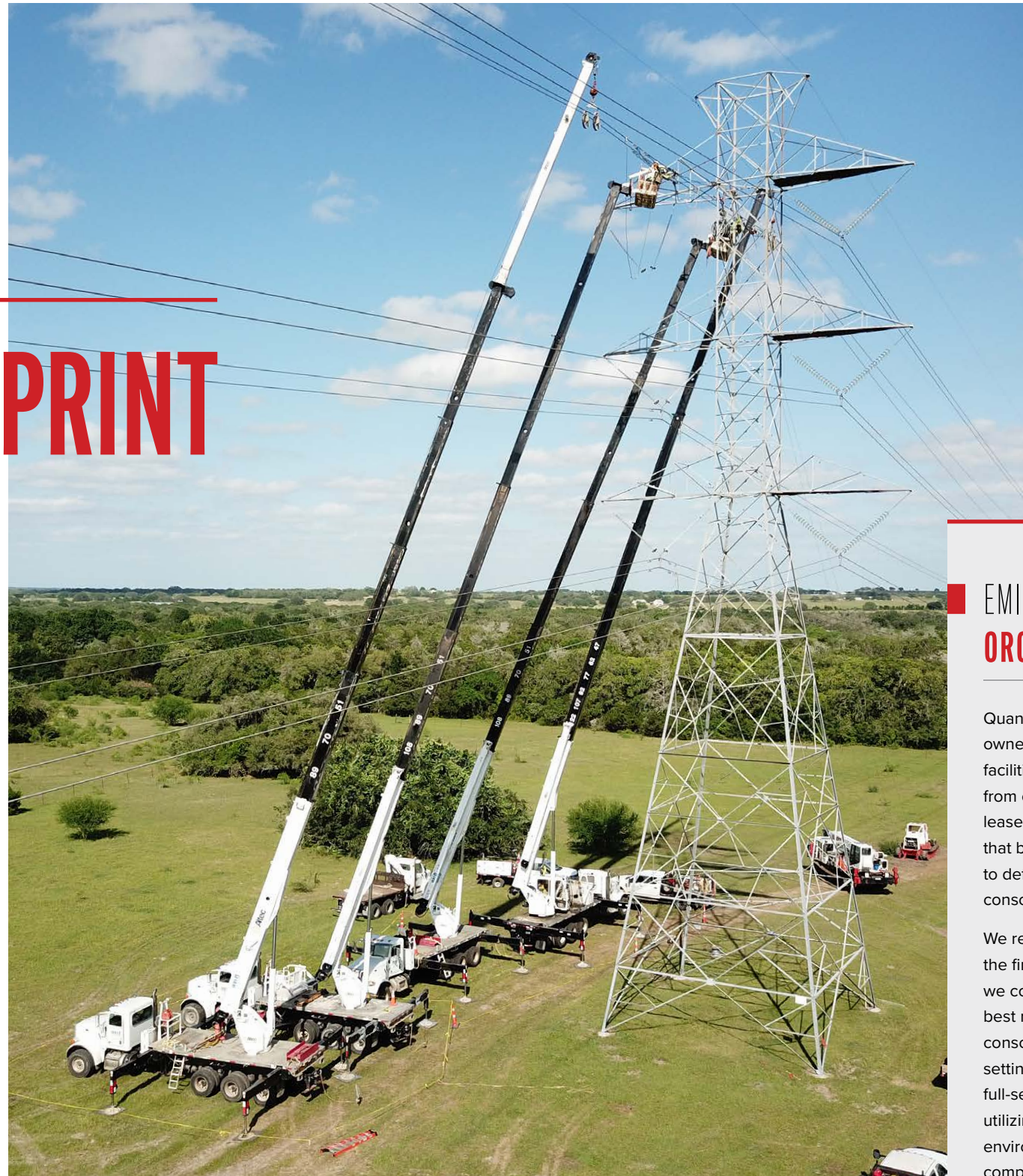
OUR CARBON FOOTPRINT

At Quanta, we recognize that climate change implications, such as severe weather events, greenhouse gas (GHG) emissions regulations and increased public awareness of the impacts of climate change, pose strategic risks for our company and our stakeholders. We remain steadfast in our commitment to minimize these impacts. Our sustainability philosophy and the results of our materiality assessment (see page 16) guide our environmental and decarbonization strategy.

At the same time, some of these risks also present opportunities for us as we work towards setting several decarbonization goals. Our approach to managing these impacts aligns with the recommendations from the Task Force on Climate-related Financial Disclosures (TCFD). In this regard, we continue to identify and evaluate both physical and transition climate-related risks through our enterprise risk management processes. For more information about how our enterprise risk management processes align with the TCFD framework, please see “How We Manage Climate Risks” on page 144.

We are currently developing a decarbonization strategy that will enable us to identify and implement the right initiatives to address our material impacts, improve efficiency, reduce costs and protect against future risks.

Throughout Quanta, team members are encouraged to implement our sustainability strategy and achieve our goals. We equip team members, who play a critical role in our success, with a variety of internal programs to advance our progress in reducing fuel emissions, energy use and waste in the workplace.



Our Vehicle Fleet

Transportation represents the majority of our Scope 1 emissions and as such will form a key pillar of our decarbonization plans. We are optimizing and transforming our fleet of vehicles through technological innovations, efficiency enhancements and alternative solutions that allow us to deliver our services more sustainably.

Quanta relies on a rolling stock of more than 70,000 owned and leased units worldwide. Over the last three years, we have invested nearly \$1.3 billion in our fleet of leased and owned vehicles, and we anticipate further significant commitments in the future. We are reducing emissions from traditional internal combustion engines used in these vehicles through electrification, alternative fuels, advanced technologies and the use of more efficient vehicles. Our vehicle efficiency efforts create value for our stakeholders by reducing fuel and maintenance costs while contributing to societal efforts. We continue to proactively upgrade and maintain our fleet, and we have begun converting portions of our fleet to electric and liquefied natural gas (LNG) vehicles while tracking idle time and speed to further reduce emissions.

EMISSIONS REPORTING: DEFINING OUR ORGANIZATIONAL BOUNDARIES & METHODOLOGY

Quanta's Scope 1 emissions result primarily from our fleet of approximately 70,000 owned and leased vehicles and natural gas consumption at our owned and leased facilities. Quanta's Scope 2 emissions are associated with the purchase of electricity from our owned and leased facilities. Because Quanta has a large percentage of leased vehicles and facilities, it is important that we establish the reporting boundary that best represents our business. The Greenhouse Gas Protocol allows a company to define the organizational boundary depending on the type of lease and the consolidation method.

We report Scope 1 and 2 emissions of all our owned and leased assets using the financial control method. This approach is favored because all of the energy we consume from these assets are considered together. This approach is the best representation for our business, allows us to track all of our emissions in a consolidated fashion and is the best reporting platform for any future target setting. For buildings where our energy is provided by landlords as part of a full-service contract, we do not include emissions. We calculate Scope 2 emissions utilizing both the location and market-based methods. We employ an integrated environmental management software system to ensure accurate reporting and compliance management.

SCOPE 1 EMISSIONS

Measuring Our Transport Emissions

Because acquisitions are central to Quanta's business model (Quanta has acquired more than 200 companies since 1997), we consider both the absolute tons of carbon in our Scope 1 emissions footprint and the change in our emissions intensity.

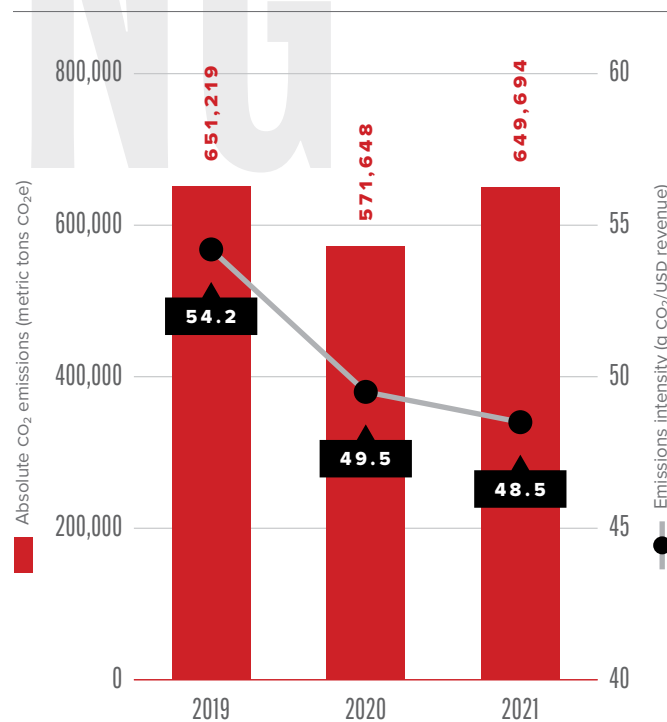
Our emissions intensity metric quantifies total carbon emissions, in grams of carbon dioxide equivalent (CO₂e), per dollar of revenue (\$). It is a metric commonly used to benchmark performance year over year, as it provides a relative comparison between annual metrics regardless of other changes to our business. Moreover, this metric is helpful to assess our progress in being more efficient in the fuel that our fleet consumes, even as we make more acquisitions and our business grows.

From 2019 to 2021, our business grew significantly, but our fleet's absolute carbon emissions decreased by 0.2% during the same period. Our fleet emissions intensity decreased 10.5%, from 54.2 grams of CO₂e per dollar of revenue in 2019 to 48.5 grams of CO₂e per dollar of revenue in 2021.

This year-over-year emissions intensity improvement reflects our early progress in decarbonizing our fleet as we continue to grow as a company. We believe that it will take several years for the carbon reduction benefits of our investments to be fully reflected in our footprint. While we are still in the early phase of reducing emissions of our vehicle fleet, we are pleased to see meaningful progress in several areas.

We expect to continue to rapidly scale our investments in carbon reduction solutions that are designed to have impacts and move us forward on our path to greater efficiency. As these investments

FLEET CO₂ EMISSIONS



become embedded across our business, we expect our carbon emissions to continue to decouple from our business growth, reflected in our emissions intensity metric.

The remaining component of our Scope 1 emissions is the natural gas consumed at our owned and leased facilities. In 2021, this was 4,300 tons (t) of CO₂e. Put together, our total Scope 1 emissions for 2021 were 653,993 tCO₂e.



OUR COMMITMENT TO ELECTRIC VEHICLES

We strive to employ the most advanced vehicle technologies to efficiently and safely perform our services across the regions in which we operate. By leveraging advancements in the zero-emission vehicle market, we have a long-term strategy to transition parts of our vehicle fleet to low and zero-emission technologies.

As part of our efforts to reduce emissions from our fleet, Quanta recently announced an agreement to purchase at least 500 of the all-electric Chevrolet Silverado. Key features include:

- Powered by the Ultium battery platform to deliver a General Motors-estimated range of 400 miles on a full charge
- Up to 510 peak horsepower and up to 615 lb.-ft. of maximum available torque with a dual motor configuration
- The chassis is designed with independent rear suspension and automatic adaptive air suspension, enabling the truck to raise and lower up to nearly two inches in each direction. Four-wheel steering offers a tighter turning radius at low speeds and improved handling and stability at higher speeds, including trailering dynamics.
- Up to 8,000 lbs. of maximum towing capacity with a max towing capacity of up to 20,000 lbs. on 2025 models
- When combined with the available accessory power bar, the power-based charging system offers up to 10 outlets to provide a total of 10.2 kilowatts of all-electric power available for the job site. The Silverado electric vehicle (EV) is also capable of charging another EV using an available accessory charge cord.
- Under the front hood is the e-trunk™, a lockable, weatherproof compartment with space for toolboxes, gear and equipment. The e-trunk™ also provides a 120-volt AC outlet, four bag hooks, four cargo tie-downs and drains for wet items.

“THE ELECTRIC SILVERADO MAKES PERFECT SENSE FOR US STRATEGICALLY IN THE WAY THE COMPANY **LOOKS FORWARD TO OUR GOALS AROUND SUSTAINABILITY.**”

DUKE AUSTIN

President & CEO, Quanta



IMPROVING FLEET MAINTENANCE, REDUCING EMISSIONS & IMPROVING SAFETY

The Verizon Connect fleet management system helps to manage vehicle maintenance more efficiently for Quanta. The system tracks service schedules and provides alerts and reminders, enabling:

- **Managing Vehicle Health:** Active diagnostic trouble-code (DTC) alerts help get vehicles into service before a major repair is needed or a breakdown occurs.
- **Engine Idling:** Engine hour tracking can tell precisely the total time a vehicle's engine has run, helping to reduce excessive engine idling that can negatively impact a vehicle's life cycle.
- **Tracking Service Records:** Tracking service records using fleet management software provides a better way to control and plan maintenance schedules.
- **Vehicle Utilization:** Monitoring actual vehicle utilization gives insight into low-utilization assets, allowing for targeted asset transfers and assisting in fleet right-sizing efforts.
- **Promoting Safe Driving:** The fleet management technology helps monitor unwanted driver behaviors, including speeding, hard braking and rapid acceleration.

Advanced Technology & Operational Efficiency: Verizon Connect

We leverage advanced technology to help optimize the efficiency of the vehicles in our fleet. As an example of our digital innovation principle, we have installed the Verizon Connect GPS tracking on the majority of our on-road fleet. By capturing an array of data related to fleet optimization, including idle time and speed, this system allows us to track all our on-road assets in real time.

The Verizon Connect GPS tracking live map lets our businesses see where any vehicle is at any time, and vehicle tracking reports provide historical data to prove a vehicle's whereabouts using GPS. The data we get from this system leads to drivers being aware and safe, and we also experience cost savings from less idling and fuel savings. Across our operating fleet, this GPS tracking system embeds a culture of awareness and sustainability practices by reducing fuel and maintenance costs while contributing to societal efforts.

Because a significant portion of our carbon footprint is linked to our fleet, we look to selectively utilize alternative fuel vehicles as part of our efforts to reduce fleet emissions.

IN FOCUS

INCREASING THE USE OF LNG TRUCKS:

DISPLACING DIESEL



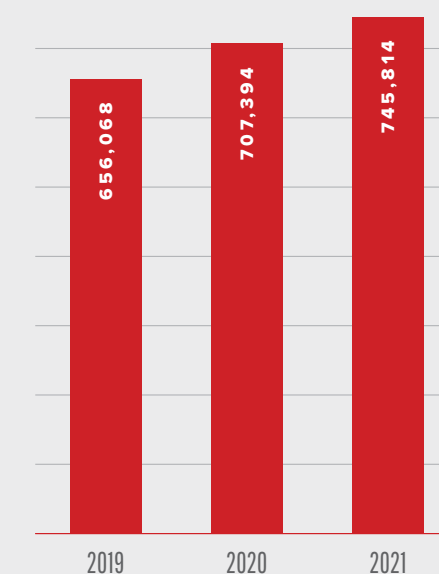
From 2019 to 2021, we increased the use of LNG in our fleet from 656,068 gallons to 745,814 gallons, a 14% increase. As a result, we continue to grow the total share of LNG as a percentage of overall fuel consumption.

Compared to diesel, LNG has several environmental benefits,¹ including:

- **Vehicle Longevity:** LNG is a clean, non-toxic substance. It can extend the life of a vehicle for up to three times longer than a diesel engine, resulting in reduced servicing and maintenance costs.
- **Reduced Noise Pollution:** Vehicles running on LNG are far less noisy than conventional diesel engines. The LNG reduces vehicle knock.

- **Fewer CO₂ Emissions:** Depending on the type of engine, heavy-duty vehicles running on LNG produce up to 20% to 25% fewer GHG emissions than diesel-powered vehicles.
- **Improved Air Quality:** Natural gas is the cleanest-burning fossil fuel, meaning vehicles running on LNG produce lower levels of toxic emissions and air pollution than equivalent diesel engines. Nitrogen oxides (NOx) emissions are reduced by 40% to 50% and particulate matter (PM) emissions are reduced by approximately 80%.

QUANTA FLEET LNG CONSUMPTION (GALLONS)



¹ publications.anl.gov/anlpubs/2018/06/144766.pdf

Addressing Local Air Quality: Criteria Pollutants

In addition to producing CO₂ emissions, vehicles are also a primary source of tailpipe emissions, otherwise known as criteria pollutants. Transportation is a leading source of harmful air pollution in the United States, representing over half of the total ozone- and particle-forming oxides of nitrogen (NOx) emissions in the United States. It can contribute to a variety of health issues, including increased asthma rates, heart and lung disease and certain types of cancer.

Many neighborhoods and communities, especially those in more densely populated areas of the country, are located near highways. As a result, low-income communities that may already face several health inequities can be disproportionately affected by increased exposure to vehicle criteria pollutants.

Our continued investment into maintaining our fleet, including increased investment in electric, natural gas and the cleanest diesel vehicles, can result in avoided health harms associated with asthma attacks and lost work days annually due to reductions in transportation-related pollution. For these reasons, we have begun measuring our fleets NOx, sulfur oxides (SOx) and PM10 emissions so we can measure our progress as we improve our fleet.

From 2019 to 2021, our fleet vehicle NOx, SOx and PM10 tailpipe emissions intensity (g/\$ revenue) decreased 14.2%, 15.7% and 13.6%, respectively. These reductions reflect new vehicle purchases that meet tighter tailpipe criteria pollutant emissions regulatory standards.

QUANTA FLEET TAILPIPE EMISSIONS



Photo courtesy of Greenfleet

Offsetting Fleet Carbon Emissions: Quanta Australia

Quanta Australia partners with Greenfleet² to offset a portion of its fleet's vehicle emissions. Greenfleet is a leading not-for-profit organization and Australia's first carbon offset provider, committed to protecting the climate by restoring forests in Australia and New Zealand. Greenfleet plants native biodiverse forests in Australia and New Zealand to restore critical ecosystems and capture carbon emissions on behalf of supporters like Quanta Australia. The planted forests are legally protected, absorb carbon from the atmosphere, improve soil and water quality and provide vital habitat for native wildlife. In 2021, Quanta Australia's partnership with Greenfleet helped offset 1,547 tons of CO₂e.

² greenfleet.com.au

BATTERY-OPERATED TOOLS

Quanta continues to partner with Milwaukee Tools for the use of their battery-powered cordless systems that eliminate the hazards associated with emissions, noise, vibration and the frustrations of gas maintenance. Replacing gas-powered tools with battery-operated tools increases job site efficiency and safety while reducing emissions. Since 2017 we have purchased more than 20,000 battery-powered tools and equipment through Milwaukee Tools' various product offerings.



Photo courtesy of Milwaukee Tool

SCOPE 2 EMISSIONS

The efficient operation and management of our properties is critical to achieving our business and sustainability goals. Quanta operates several facilities certified to external standards. Where appropriate, we adopt the Leadership in Energy and Environmental Design (LEED) standard in the U.S. to guide efficient facility design and construction of our facilities.

Measuring Our Facilities Emissions: Methodology

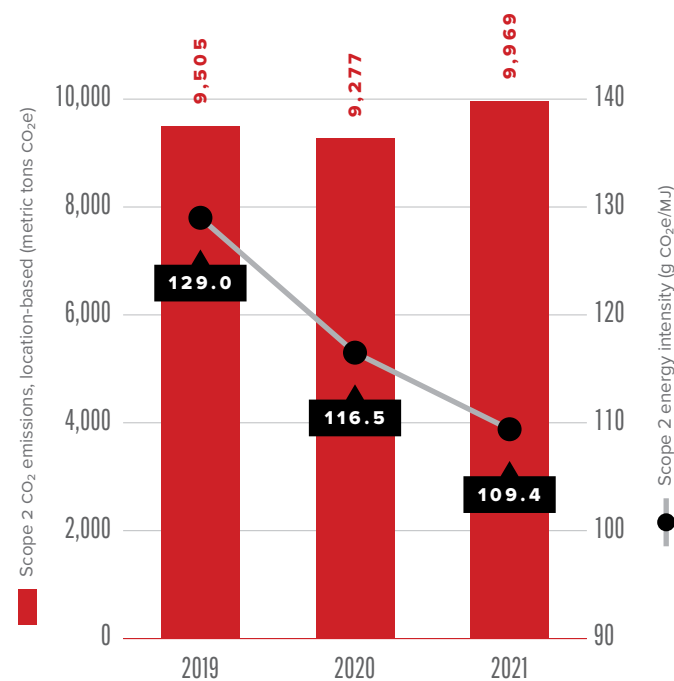
Scope 2 emissions are indirect emissions from the generation of purchased energy consumed at Quanta companies' facilities. Our primary calculation basis is location-based reporting, which means that the calculated Scope 2 GHG emissions are based on average energy generation emission factors for defined geographic regional boundaries (i.e., grid factors). Because of the decentralized nature of our business, we utilized a third-party IT solution to automatically extract activity data in kilowatt-hours (kWh) from the operating company's utility provider, which was aggregated in a centralized environmental health and safety (EHS) software database. Where this automated option was unavailable, data was manually inputted from invoices. These efforts covered more than 1,000 properties owned and leased by Quanta companies. In order to accurately quantify Scope 2 emissions using the location-based method, the appropriate quantity of electricity purchases was multiplied by the selected emission factors for each region. In this manner, the Scope 2 emissions from each facility were calculated and summed to afford total Quanta Scope 2 emissions for 2019 to 2021. Market-based Scope 2 emissions were calculated based on some operating companies that generate on-site renewable electricity that is returned back to the local grid.

Our 2019 to 2021 Scope 2 Emissions

From 2019 to 2021, our electricity consumption increased 24%, but our Scope 2 emissions (location-based) only increased 5% over the same period. This 15% decline in energy intensity reflects the decarbonization of the grid in the jurisdictions where our companies operate.



FACILITY SCOPE 2 EMISSIONS



Sustainable Design & Construction: Platinum LEED® Blattner Headquarters

In 2008, the 52,000-square-foot Blattner corporate headquarters office building was constructed. Utilizing sustainable techniques in both design and construction, the project has earned LEED® Platinum Certification. In 2015 Blattner completed a 20,000-square-foot, 2-story expansion—anchored by a state-of-the-art training and conference center, 87 new offices and workstations and a larger, upgraded employee fitness center.

Similar to the existing building, the addition promotes sustainable construction and efficient energy use. New features include electric car charging stations and geothermal HVAC system expansion. In addition, Blattner continues to power a portion of its campus from wind and solar energy produced on site.

BLATTNER BUILDING FEATURES

Energy Efficient

The LEED® Platinum building uses renewable energy and operates by a wind turbine, which is fully commissioned to measure and verify energy conservation. More than 20% of the building's materials came from recycled content and were supplied within a 500-mile radius. During construction, more than 75% of the construction waste was recycled. Interior finishes were carefully chosen to limit toxic emissions. The building allows employees to conserve energy by allowing control of light and temperature levels.

Sustainable Features

The building was designed to achieve the LEED Platinum certification by incorporating numerous sustainable features, such as habitat restoration, stormwater management and alternative transportation. Innovative technologies were implemented to reduce water consumption inside the building, including the use of wells to source an underground heating and cooling system to optimize energy efficiency.

LEED® Platinum

The Blattner corporate headquarters was the second building in Minnesota to achieve the LEED® Platinum Certification. Platinum is the highest level of achievement under the U.S. Green Building Council's (USGBC) LEED program.

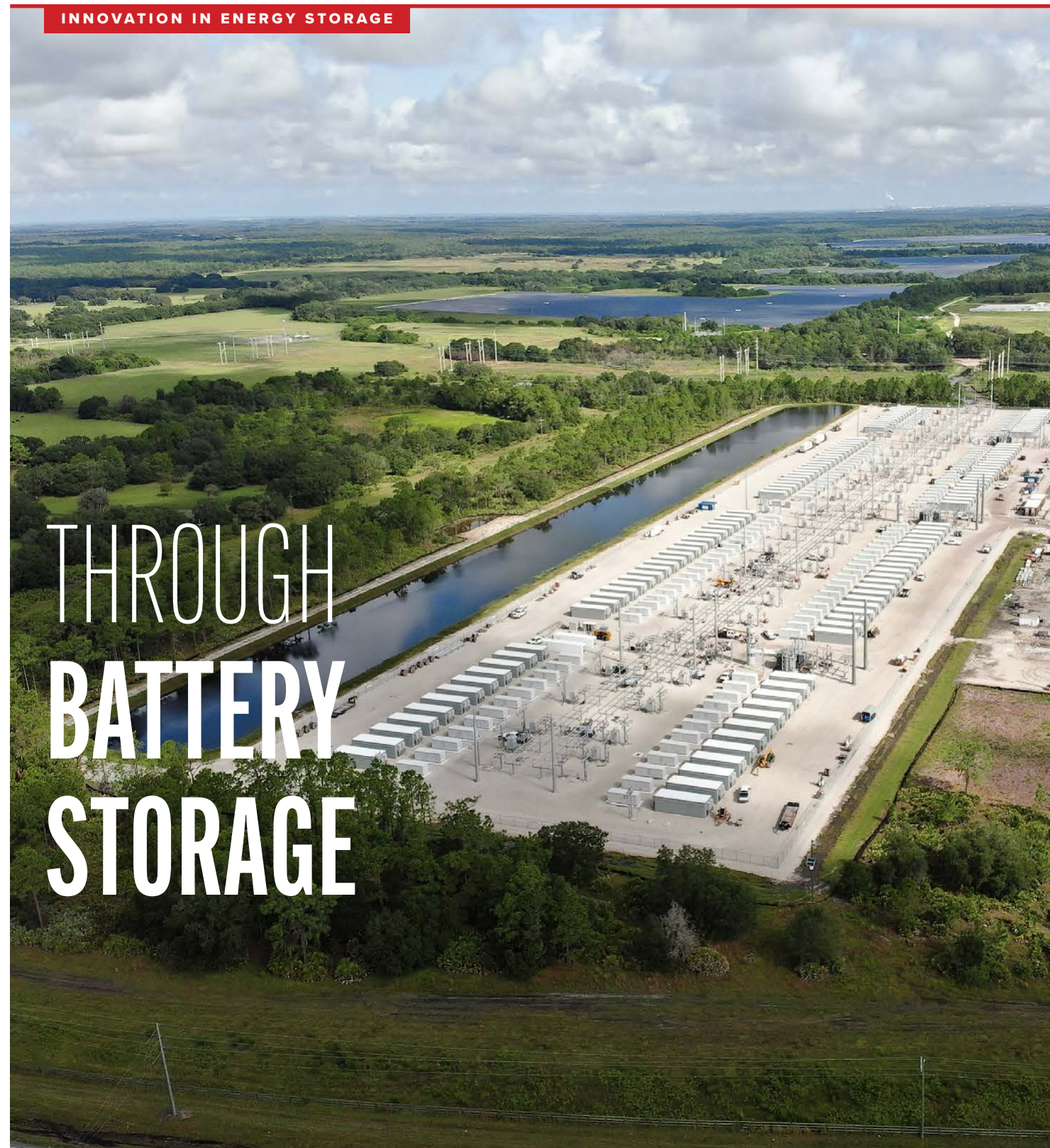


ENABLING THE ENERGY TRANSITION

Quanta companies are installing record numbers of battery storage systems, which will play a pivotal role in enabling power grids to function with more flexibility and resilience.

Quanta's Capabilities: Battery Storage

Quanta installs all civil, mechanical and electrical works, including the battery energy storage system (BESS) pad, drainage infrastructure, roads, foundations, conduits, grounding, structures, equipment, batteries and battery enclosures, control buildings, cabling and testing.



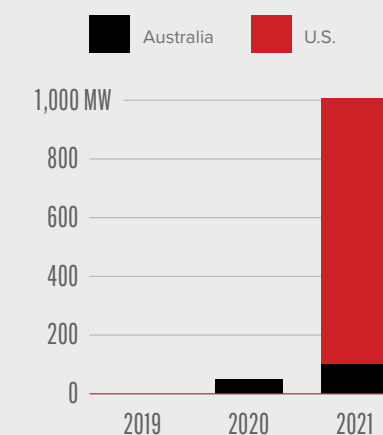
ENABLING THE BATTERY STORAGE MEGATREND

Quanta is poised to install record amounts of battery storage in the coming years, driven by declining costs in power storage.

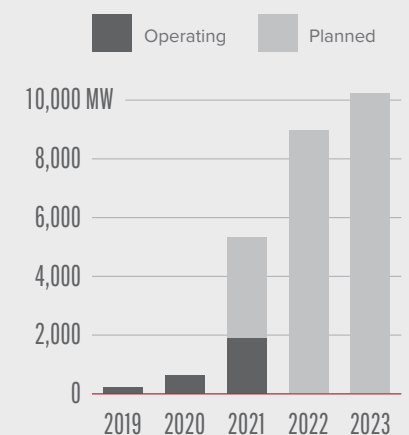
In 2020, the U.S. had less than one gigawatt (GW) of large battery installations, roughly only enough to power 350,000 homes for a handful of hours.

In 2021, Quanta installed over one GW of battery storage, with over 90% being in the U.S. The U.S. added six GW of large battery installations in 2021 and is on pace to add another nine GW in 2022, according to S&P Global Market Intelligence.¹ California is driving much of the U.S. battery market's expansion as it races to comply with a 2018 law that requires the decarbonization of its power grid by 2045. Other states also have storage mandates, including New York, Virginia and Nevada, according to the U.S. Energy Storage Association.² Put together, the U.S. market for stationary batteries is projected to grow from about one billion dollars in 2020 to \$14 billion by 2030.

QUANTA: COMPLETED BATTERY ENERGY STORAGE CENTER PROJECTS



INDUSTRY: U.S. UTILITY-SCALE ENERGY STORAGE PROJECTS BY STATUS¹



¹ spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/us-energy-storage-developers-plan-9-gw-in-2022-building-on-2021-breakthrough-68012433

² energystorage.org/resources/industry-resources/us-energy-storage-monitor/

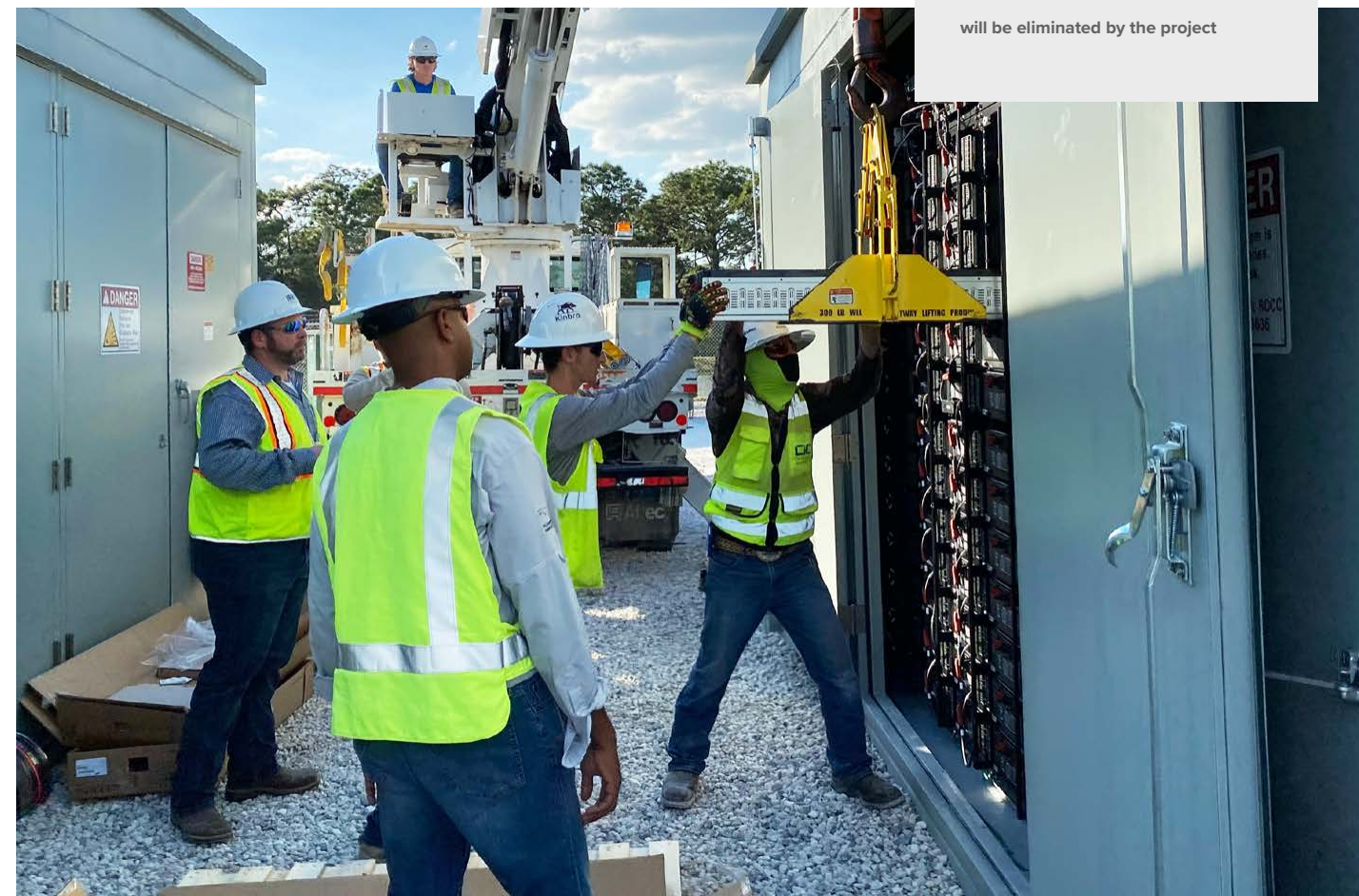
Manatee Battery Energy Storage Center: Constructing the World's Largest Solar Battery

A Quanta company was awarded the construction of the Manatee BESS center. The Manatee BESS and substation consists of 132 new battery line-ups, including battery containers, integrated inverter and pad-mount transformer skids, which are connected to a separate 230/34.5 kilovolt (kV) substation.

The 409 megawatt (MW) energy storage center will be the world's largest solar-powered battery. The Florida Power & Light (FPL) project includes an array of 54,133 individual battery modules on a site the size of three football fields. The battery complex comprises 132 container units, each weighing approximately 38 tons and roughly 36 feet long by 11 feet in height and width. The complex will hold approximately 400 battery modules, with each module equivalent to approximately 2,000 iPhone batteries.

Sunshine Gateway Battery Energy Storage Center

Furthermore, a Quanta company was awarded the construction of the FPL Sunshine Gateway BESS in August of 2020. The 30 MW battery storage facility consists of 10 new battery line-ups connected to an adjacent 230/34.5 kV substation. The battery storage system is fed by the FPL Sunshine Gateway Solar Energy Center, a 74.5 MW facility located on over 900 acres.



MANATEE BATTERY ENERGY STORAGE CENTER IMPACT

409 MW

capacity, roughly the same as the
capacity of every iPhone battery in
the U.S. combined

1 POWER PLANT

in Manatee County to be retired by
the battery project

1 MT CO₂

will be eliminated by the project



BATTERY STORAGE & RENEWABLES: CONTRIBUTING TO THE ELECTRICITY SUPPLY

When battery energy storage is co-located with or next to renewables, it can help integrate renewables more effectively into the energy landscape by:

- **Balancing Electricity Loads:** Battery storage can be filled when generation is high and power consumption is low, then dispensed when the demand is high.
- **“Firming” Renewables Generation:** Short-term storage can ensure that rapid changes in generation don't significantly affect the output of a power plant.
- **Providing Resilience:** Renewables and storage can provide backup power during an electrical disruption, keeping critical facilities operating to ensure continuous essential services, like communications.



Quanta Technology: Enabling Microgrid Integration Solutions

Quanta Technology has developed the PROMIS™ brand of portable energy storage, which is designed for frequent relocation and fast interconnection at a new site. Originally conceived as a clean replacement for emergency and portable diesel generators, the PROMIS™ platform increases the utilization factor of the energy storage system by introducing flexibility in capturing locational benefits of grid support or customer-specific applications. The PROMIS™ platform is equipped with an autonomous microgrid integrated technology and an on-board controller that provides optimization schemes and supervisory capabilities, giving the remote operator access to and integration with the dispatch center for overall grid coordination. PROMIS™ provides:

- **Outage Management & Maintenance Support:** Replaces traditional forms of backup generation units, like diesel generators, for supplying customers during service interruptions due to outages or maintenance
- **Peak Load & Demand Change Management:** Provides peak-shaving capabilities during periods of high demand or high electricity prices to relieve loading on utility assets and achieve global cost reduction
- **Voltage Control:** Mitigates and improves commonly experienced voltage issues to enhance customers' power quality on the distribution systems through corrective actions



DELIVERING CLEAN ENERGY

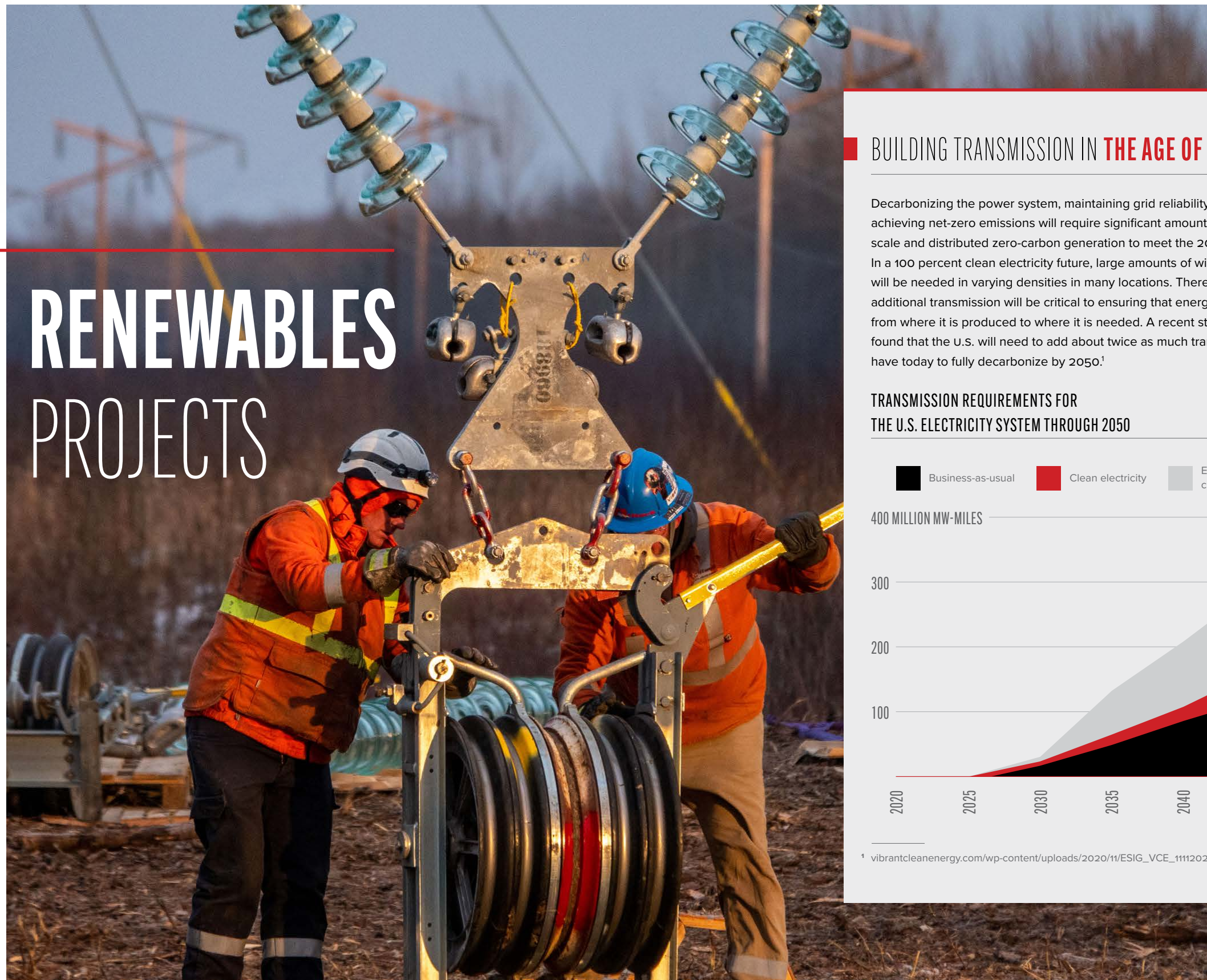
CONNECTING

Decarbonizing the electricity system, and ultimately achieving net-zero emissions, will require action on a transformative scale.

Connecting Rural Renewables to Urban Usage With Transmission

As the United States pushes to decarbonize, significant geographic pockets of wind and solar resources will be built primarily in remote areas with the strongest resource potential. However, to decarbonize the electricity system, a well-designed grid is required to deliver affordable, clean electricity where it is needed at any hour of the day or night. Transmission allows grid owners and operators to optimize high-quality generation resources without overbuilding.

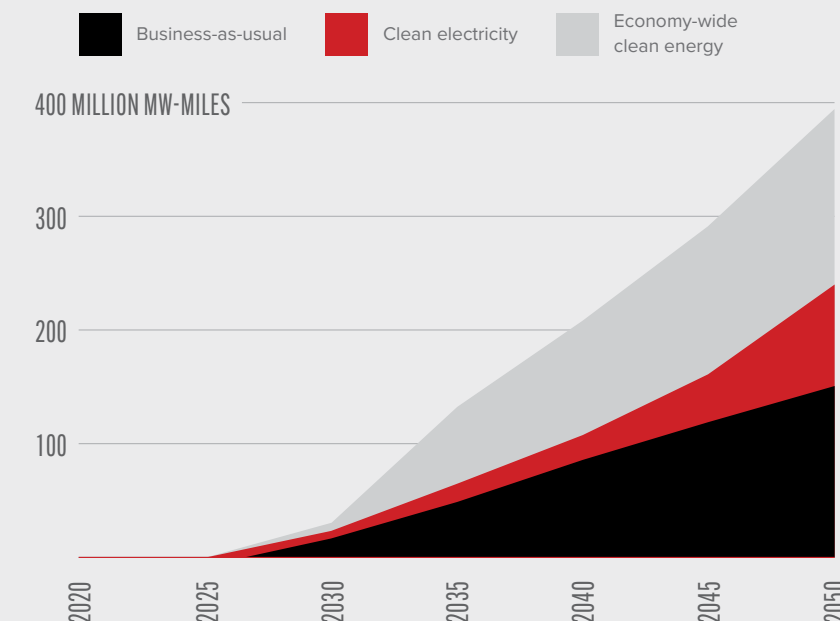
RENEWABLES PROJECTS



BUILDING TRANSMISSION IN THE AGE OF RENEWABLES

Decarbonizing the power system, maintaining grid reliability and ultimately achieving net-zero emissions will require significant amounts of additional utility-scale and distributed zero-carbon generation to meet the 2035 and 2050 goals. In a 100 percent clean electricity future, large amounts of wind, solar and storage will be needed in varying densities in many locations. Therefore, significant additional transmission will be critical to ensuring that energy can be delivered from where it is produced to where it is needed. A recent study by ZeroByFifty found that the U.S. will need to add about twice as much transmission as we have today to fully decarbonize by 2050.¹

TRANSMISSION REQUIREMENTS FOR THE U.S. ELECTRICITY SYSTEM THROUGH 2050



¹ vibrantcleanenergy.com/wp-content/uploads/2020/11/ESIG_VCE_1112020.pdf

BENEFITS OF TRANSMISSION LINES TO THE ECONOMY

America's economy, national security and even the health and safety of our citizens depend on the reliable delivery of electricity. Transmission lines provide real and measurable benefits to consumers, businesses and utilities, including:

- helping consumers access lower-cost electricity,
- reducing the need to build additional electricity generation to hold in reserve,
- facilitating robust electricity markets,
- providing economic development and jobs and
- helping generators and utilities comply with public policy requirements.

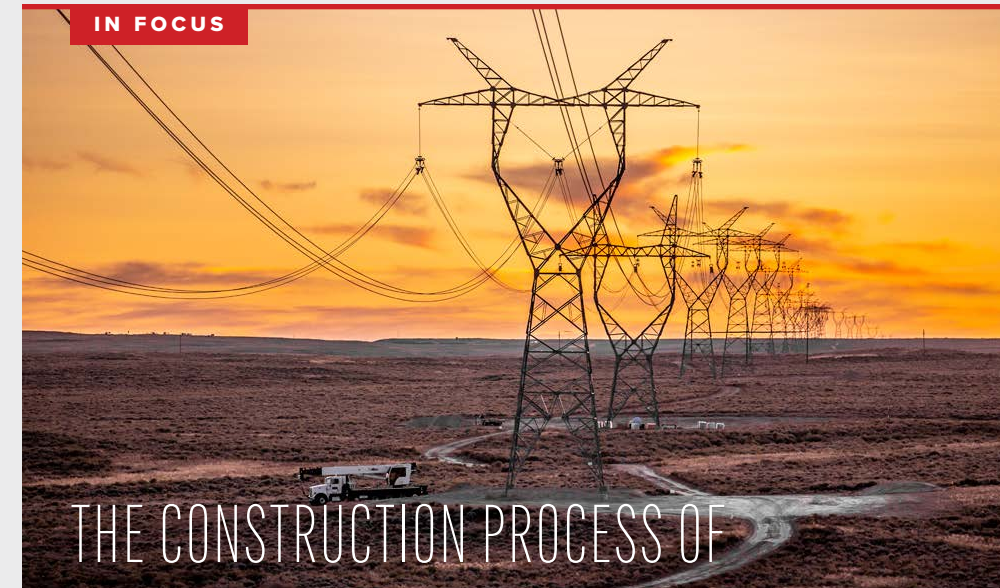
Constructing Transmission Lines in Central Texas

A Quanta Services construction company has constructed approximately 1,000 miles of 345 kilovolt (kV) transmission line for a variety of renewable energy projects in Central Texas.

Approximately 2,400 miles of electric transmission lines were ordered by the Public Utility Commission of Texas and awarded to ten Competitive Renewable Energy Zones (CREZ) transmission service providers. A Quanta company provided transmission construction services to five of those service providers, building approximately 1,000 miles of lines, the majority of which were 345 kV, with small portions of 138 kV throughout.



IN FOCUS



THE CONSTRUCTION PROCESS OF

BUILDING A TRANSMISSION LINE

The construction of a high-voltage transmission line is similar to highway construction. It moves forward in phases and involves moving along the corridor as construction progresses. The steps to construct a transmission line are:



01 Right of Way Clearing & Access Road Construction

This includes logging, mulching and clearing debris.

02 Geomatics & Surveys

Survey crews stake or flag locations for the towers using predetermined GPS coordinates.

03 Material Delivery

Materials are stored and sorted in material yards off-site and are delivered to the site as required.

04 Foundations & Anchors

Self-supporting towers require foundations for each leg.

Guyed-Y towers require one foundation and multiple anchors for the guy wires.

05 Tower Assembly

Steel towers are typically assembled on the ground or in a laydown yard near each tower site.

06 Tower Erection

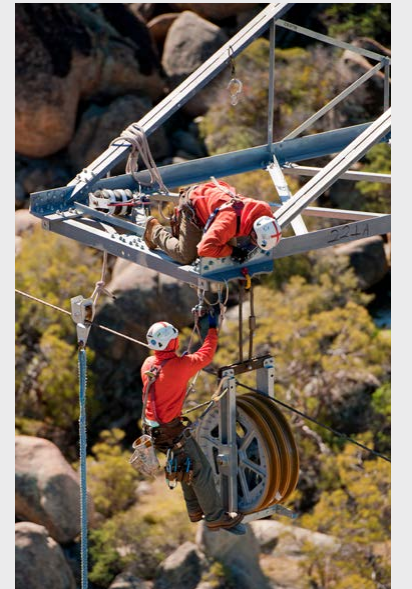
Towers are set into place with cranes or helicopters, either in one or multiple pieces, and then secured to the foundation.

07 Conductor Stringing

Stringing refers to hanging and fastening the conductor wire to the towers, which can be performed with cranes or helicopters.

08 Reclamation

After completing construction in an area, the sites are returned as close as possible to their original ground condition.



Partnering to Lower Transmission Losses and Produce a Modern Grid

Quanta companies are working with customers to upgrade existing transmission corridors to transmit more power. The conventional approach generally requires removing towers, poles, foundations and wires and replacing them with higher capacity and heavier conductors supported by taller structures placed on larger foundations.

These classic conductors, designed more than 100 years ago, are aluminum conductor steel reinforced (ACSR). The structural core enables relatively long spans, while the aluminum around the core provides the conductive electrical pathway. A modernized version of the classic ACSR is called aluminum conductor steel supported (ACSS) and can carry higher electrical loads. In addition, ACSS enables existing right-of-ways to be upgraded, which reduces the need for additional land disturbance. More recently, conductor designs have become commercially available that use carbon-fiber cores, which are about 50% stronger and 70% lighter than steel.

One of the most common types of conductors used by Quanta companies is the aluminum conductor composite core (ACCC) conductor. The lighter-weight composite core allows this design to utilize approximately 30% more conductive aluminum. The added aluminum content helps reduce electrical resistance and deliver more power efficiently without any weight or diameter penalty that would otherwise require the use of larger and taller structures with larger foundations that would substantially increase overall project costs.



Conventional ACSR conductor, left, and modern ACCC conductor, right.

Image by Dave Bryant under CC BY-SA 3.0



Aluminum Conductor Composite Core Benefits

Although the modern ACCC conductor is more expensive than conventional steel-reinforced conductors of similar diameter and weight, its benefits greatly outweigh its cost premium. For instance, on an existing pathway, the ACCC conductor can be used to double line capacity without the need to replace or modify existing structures. This saves time, money, reduces permitting challenges and decreases overall environmental impact. On a new line, these properties, combined with improved resistance to corrosion and cyclic load fatigue, reduce upfront capital and maintenance costs by enabling greater spans between fewer and shorter structures.

A notable feature of this design is that the carbon-fiber core does not stretch like steel when it heats up. This higher capacity and reduced thermal sag reduce the risk of sag-trip power outages, reduces fire risks, enables the re-routing of power when necessary and improves grid reliability.

The ACCC conductor's improved efficiency can reduce line losses by 25% to 40%, affording greater generation capacity and lower emissions per unit of electricity delivered.

GAINING EFFICIENCY, REDUCING EMISSIONS

Replacing two 120-mile-long 345 kV circuits of ACSR conductor with ACCC conductor can reduce line losses by 30% per year, saving over 300,000 megawatt hours (MWh) per year, based on historical operating conditions. This approach can reduce CO₂ emissions by approximately 200,000 metric tons per year, the equivalent of removing 34,000 cars from the road. Additionally, the avoided losses can free 34 MW of generation capacity, saving millions of gallons of clean filtered water per year. For reference, a typical thermal plant consumes between 10,000 to 60,000 gallons of clean filtered water per MWh.

MODERNIZING

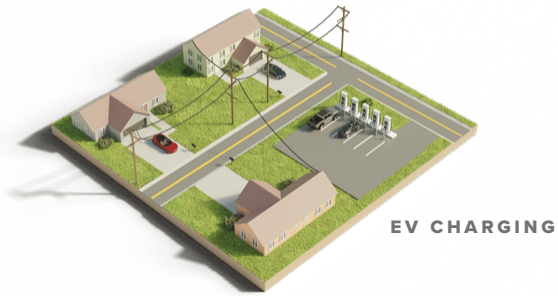
2 × 120 MILE

transmission lines

ELIMINATES

200,000 TONS PER ANNUM

of CO₂ emissions



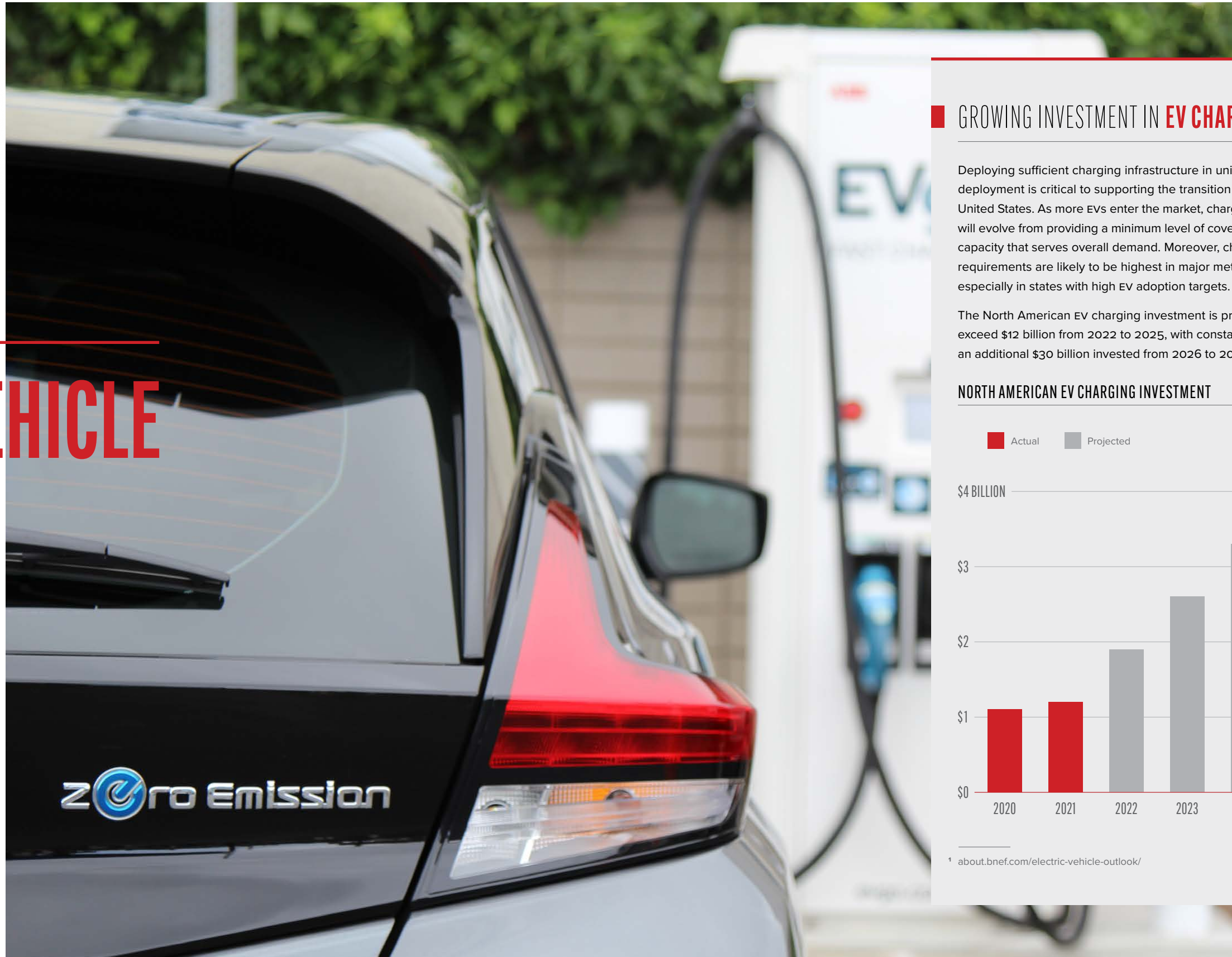
Quanta is performing electric vehicle charging infrastructure work with EV charger developers and utilities across the United States.

POWERING THE FUTURE

ELECTRIC VEHICLE CHARGING

BUILDING AMERICA'S
ESSENTIAL TWENTY-FIRST
CENTURY INFRASTRUCTURE

Quanta is providing planning, engineering and construction services to major electric vehicle (EV) charging companies that are working to provide charging solutions to a wide range of stakeholders, including business and commercial, fleet owners, automakers and government agencies. This includes working with several major vehicle manufacturers to help them expand their charging networks.

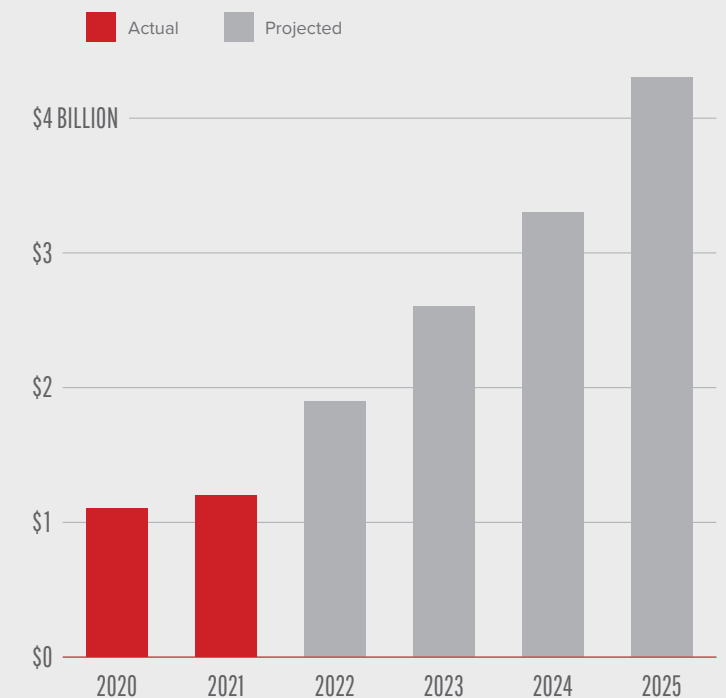


GROWING INVESTMENT IN EV CHARGING

Deploying sufficient charging infrastructure in unison with EV deployment is critical to supporting the transition to EVs in the United States. As more EVs enter the market, charging infrastructure will evolve from providing a minimum level of coverage to providing capacity that serves overall demand. Moreover, charger density requirements are likely to be highest in major metropolitan areas, especially in states with high EV adoption targets.

The North American EV charging investment is projected to exceed \$12 billion from 2022 to 2025, with constant growth and an additional \$30 billion invested from 2026 to 2030.¹

NORTH AMERICAN EV CHARGING INVESTMENT



¹ about.bnef.com/electric-vehicle-outlook/

Quanta's EV Charging Infrastructure Capabilities

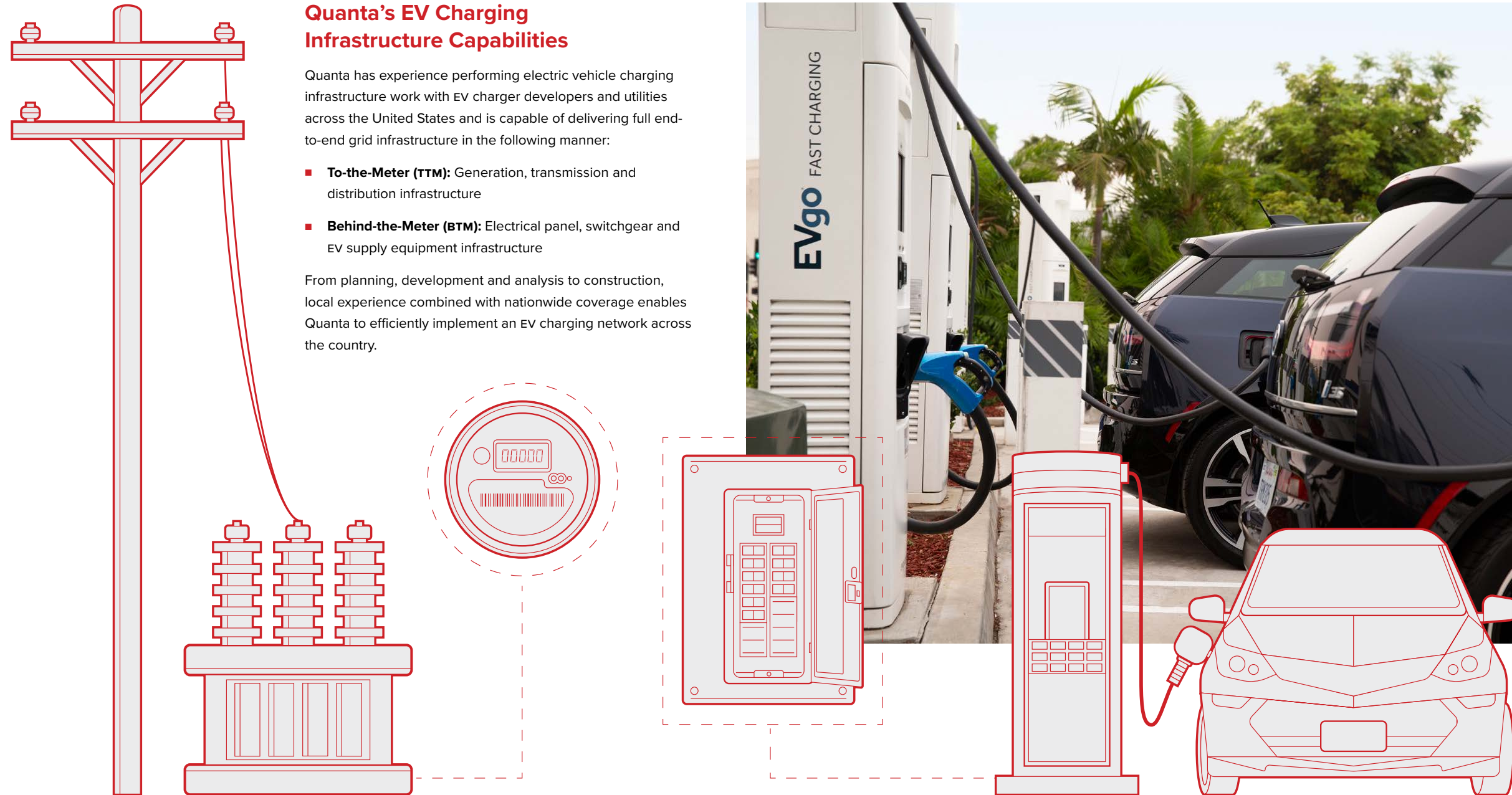
Quanta has experience performing electric vehicle charging infrastructure work with EV charger developers and utilities across the United States and is capable of delivering full end-to-end grid infrastructure in the following manner:

- **To-the-Meter (TTM):** Generation, transmission and distribution infrastructure
- **Behind-the-Meter (BTM):** Electrical panel, switchgear and EV supply equipment infrastructure

From planning, development and analysis to construction, local experience combined with nationwide coverage enables Quanta to efficiently implement an EV charging network across the country.



Photo courtesy of EVgo



UTILITY ASSETS

TO THE METER (TTM)
INFRASTRUCTURE

METER

BEHIND THE METER (BTM)
INFRASTRUCTURE

ELECTRIC PANEL/SWITCHGEAR

CHARGER

ELECTRIC VEHICLE
SUPPLY EQUIPMENT (EVSE)

PLUG-IN ELECTRIC VEHICLE

Planning, Development & Analysis

- Full engineering, procurement and construction (EPC), project management and environmental planning and management capabilities
- Electrification load growth and grid impact assessment and analysis in utility service territory
- Site-specific grid interconnection studies

Engineering & Design

- Generation and review of structural, foundation and electrical designs and plans for charging station
- Utility-side distribution level and applicant design, downstream of the meter up to the charging station
- Creation of preliminary site plan from survey information and selected equipment

Construction & Installation

- EV charging make-ready infrastructure for design and construction, including the distribution network, transformer, meter and panel
- Handling, transport, assembly and installation of Level 2 and direct current (DC) fast charging connectors
- Utility interconnection and switchgear-level electrical support equipment installation and management
- Site trenching, conduit and cable installation

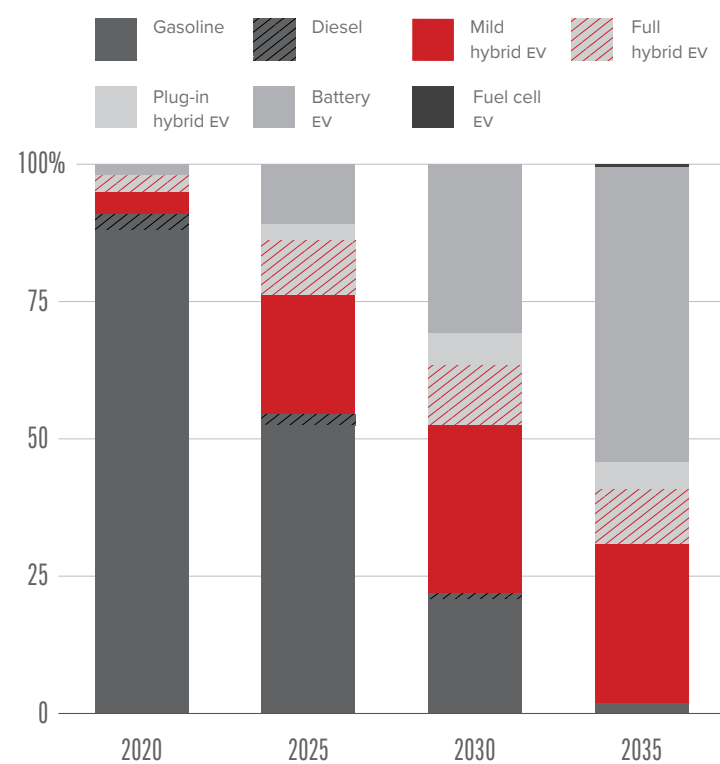
Building the Electrification of Mobility

The powertrain transition is shifting into overdrive. Rapidly declining battery costs, stricter government regulation and the introduction of new EV models will continue to be the primary drivers of the shift to EVs that could result in 50% of new car sales by 2030 being electric or hybrid.²

EV adoption is being driven by rapidly falling battery costs. Batteries are the most expensive component of EVs, accounting for 20% to 30% of the total cost. In recent years, the average cost of a nickel-rich battery pack fell below \$150 per kilowatt-hour (kWh) in 2020 for leading manufacturers. This rapidly declining price can largely be attributed to innovation in cell chemistry and pack assembly, greater production scale and improved manufacturing processes.

In order to meet the demand for power transportation electrification, grid network expansion and modernization is a necessity. Without this expansion, a consequence could be local bottlenecks during peak load times. For example, grid instability could occur when the residents of a neighborhood are all charging their cars simultaneously on a Friday night in preparation for the weekend.

U.S. PROJECTED MARKET SHARE



ENABLING ELECTRIFICATION OF Rideshare SERVICES IN CHICAGO, ILLINOIS

Quanta Technology supported utility planning efforts in the electrification of rideshare services in the City of Chicago. The economics of EVs for rideshare drivers is very compelling, provided that fast-charging infrastructure is available to minimize waiting times. The results of this project have enabled the local utility to optimize a plan for infrastructure improvements that will allow fast charging stations in locations that are beneficial to rideshare drivers. This project involved rigorous analysis of more than 100 million rideshare trips over six months, nearly 700 million miles traveled, contained in over 120 million lines of data.

RIDESHARING PATTERNS

Drop-offs and pick-ups for the city of Chicago. Bar magnitude indicates frequency, where a larger bar denotes a larger number of drop-offs or pick-ups at a single location.

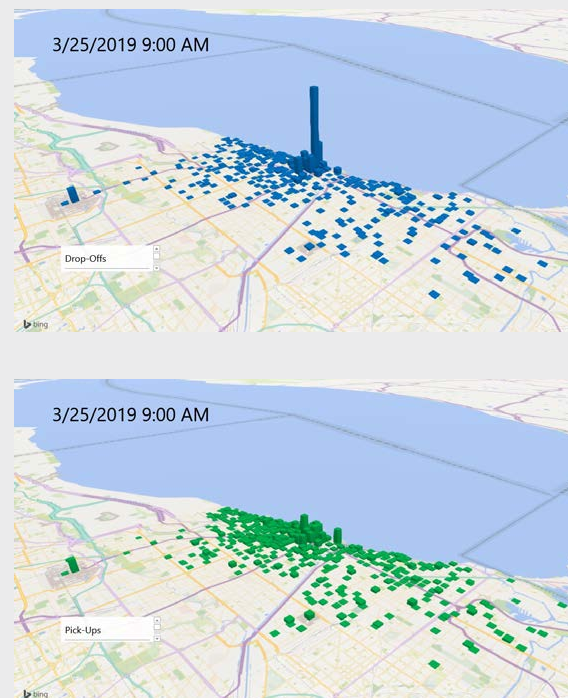
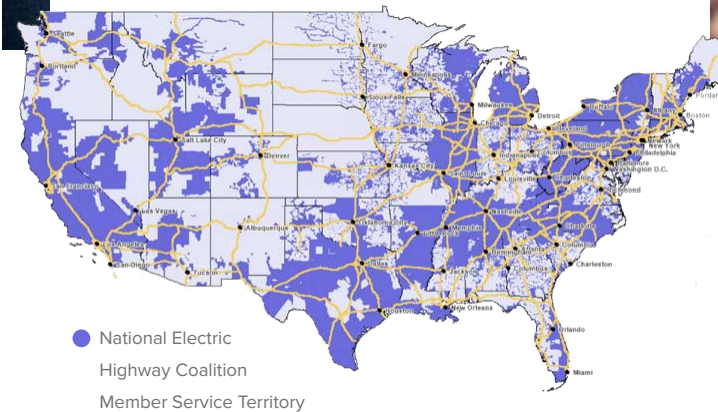


Photo courtesy of EVgo

NATIONAL ELECTRIC HIGHWAY COALITION



The National Electric Highway Coalition (NEHC) is a collaboration among electric companies that are committed to providing electric vehicle fast charging stations that will allow the public to drive EVs with confidence along major U.S. travel corridors by the end of 2023. The NEHC currently consists of more than 50 investor-owned electric companies, one electric cooperative and the Tennessee Valley Authority. Current coalition member companies collectively serve nearly 120 million U.S. electric customers across 47 states and the District of Columbia.

EV Charging Corridors Grow

To support the expected electric vehicle stock of 26 million in the United States in 2030, public and workplace charging will need to grow from approximately 216,000 chargers in 2020 to 2.4 million by 2030. This would also require 1.3 million workplace, 900,000 public Level 2 and 180,000 direct current fast chargers.¹ Quanta's efforts in building America's EV charging network come at a time when many electric companies are working together to help adopt EVs by expanding access to EV fast chargers in convenient locations.

For example, the Midwest EV Charging Corridor Coalition is an interstate EV fast charging network planned to stretch across 11 states in the nation's heartland. The Electric Highway Coalition was also formed recently—a partnership of 15 U.S. electric companies supporting the development of a seamless network of rapid EV charging stations to connect major highway systems. Members of this coalition now represent 29 states and the District of Columbia and serve more than 60 million customers. In addition, in early October of 2021, the Governors of Illinois, Indiana, Michigan, Minnesota and Wisconsin announced they signed a memorandum of understanding (MOU) to build a new Midwestern electric vehicle charging network. This initiative, called the Regional Electric Vehicle Midwest Coalition, will make EV charging even more accessible and convenient in the Midwest.

² web-assets.bcg.com/6c/5f/f6a715ff4b80b917eec574fa5c77/bcg-why-electric-cars-cant-come-fast-enough-apr-2021-r.pdf



ENABLING ADVANCED

Quanta companies are working with their customers to construct advanced biofuel facilities, such as renewable diesel and biogas, utilizing carbon circularity to turn organic matter into energy sources.

Reducing Emissions: Constructing a Renewable Diesel Refinery in Texas

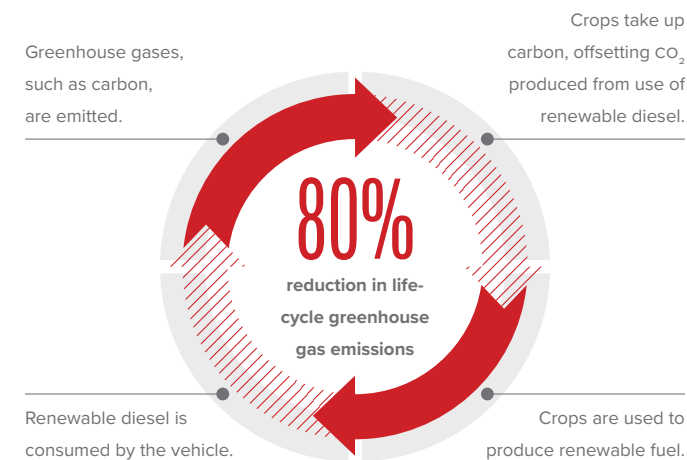
A Quanta company is providing development, engineering and pre-construction services for a renewable diesel refinery project in Port Arthur, Texas, that will produce 110 million gallons annually of ultra-low sulfur diesel, naphtha and liquefied petroleum gas (LPG).

This facility utilizes circular economy feedstocks, including used cooking oil, recycled animal fats and inedible corn oil, to produce low-carbon-intensity renewable diesel that reduces life-cycle greenhouse gas (GHG) emissions by up to 80% compared with traditional diesel fuel.



Circular Economy Solutions: Life-Cycle Greenhouse Gas Emissions of Renewable Diesel

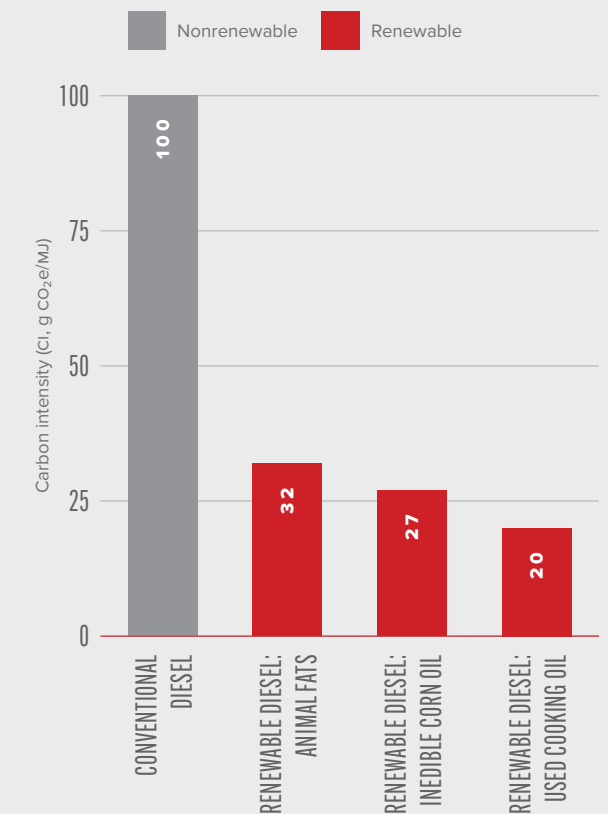
- Life-cycle greenhouse gas emissions of low-carbon fuels are expressed in carbon intensity (CI), which is measured in CO₂ per unit of energy (MJ) over the life cycle of the fuel.
- The CO₂ emitted from the combustion of renewable diesel is accounted for in the uptake of carbon by crops to grow new feedstock for renewable fuel production, thus closing the loop in the production of the circular fuel.
- In this manner, the CI of renewable diesel derived from animal fats, inedible corn oil and used cooking oil is up to 80% lower on a life-cycle basis than conventional gasoline and diesel.



RENEWABLE DIESEL AT A GLANCE

Renewable diesel is a clean-burning, drop-in fuel that is chemically identical to standard diesel and molecularly the same as petroleum-based diesel, meeting the American Society for Testing and Materials (ASTM) International's Standard Specification for Diesel Fuel Oils (D-975). Thus, renewable diesel is 100% compatible with existing infrastructure and engines, from light- to heavy-duty long-haul vehicles.

CARBON INTENSITY OF RENEWABLE DIESEL¹



¹ arb.ca.gov/our-work/programs/low-carbon-fuel-standard



Photo courtesy of Bioenergy Devco

“THIS IS A COW'S STOMACH ON A VERY LARGE SCALE...”

The same microbes in a cow's stomach process our organic material and turn it into renewable energy and a compost-like fertilizer.

SHAWN KRELOFF

Founder & Chief Executive Officer of Bioenergy Devco

Recycling Organic Waste to Renewable Natural Gas

A Quanta energy infrastructure solutions provider recently completed significant construction work on Maryland's largest food waste anaerobic digester. The scope of work included: insulating and sheathing the digesters, installing the gas holders on top of the digester, setting and installing the gas upgrading equipment, flair, thermal oxidizer and other similar construction work.

The facility is located adjacent to the Maryland Food Center Authority in Jessup, which is among the largest produce terminals on the East Coast of the United States. Bioenergy Devco's Maryland Organics Recycling Facility has the capacity to divert nearly 110,000 tons per year of food waste, creating approximately 310,000 Metric Million British Thermal Unit (MMBTU) per year of renewable natural gas (RNG). The process provides the same carbon sequestration impact as a forested area 82 times the size of New York's Central Park.

In two 1.8 million-gallon tanks, microorganisms break down organic matter, such as vegetable and fruit trimmings, from nearby food processors and distributors.

Through the process of anaerobic digestion, is the creation of biogas. The biogas is captured and upgraded to RNG, which is then distributed to the existing energy grid. Additionally, the generation of biogas does not create additional GHGs. The other marketable product is an organic soil amendment that enhances quality and returns valuable nutrients to the earth.

U.S. Biogas Potential

If fully realized, according to an assessment conducted with the U.S. Department of Agriculture (USDA), Environmental Protection Agency (EPA) and Department of Energy (DOE) as part of the Federal Biogas Opportunities Roadmap², new biogas systems in the U.S. could produce 103 TWh of electricity per year, which is the emissions equivalent of removing 117 million passenger vehicles from the road.

² americanbiogascouncil.org/wp-content/uploads/2019/05/ABC-Handout-2019apr-vP3.pdf

Anaerobic Digestion

Anaerobic digestion is a well-proven process in which organic materials are broken down naturally by microorganisms in the absence of oxygen. Microbes inside the tanks break down the material and release biogas, which is captured and collected for further processing into RNG.

Organic Materials

- Source-separated organics
- Packaged food
- Produced processing culls
- Food processing residuals
- Fats, oils and grease
- Animal manures

Anaerobic Digestion Facility

- Organics are fermented in large cylindrical tanks.
- Organics diversion from landfills, incinerators and land application
- Cost-effective and sustainable

Renewable Energy

- Renewable electricity
- Cogeneration and combined heat and power
- Renewable natural gas into pipeline
- Compressed RNG for fleet vehicles
- Green hydrogen

Organic Soil Amendment

- Nutrient-rich compost
- Dewatered, dried, pelletized, nutrient-stripped digestate

At Quanta, we recognize that the long-term health of our business depends on a sustainable natural environment. There is growing pressure on and competition for environmental resources, such as land, biodiversity, water and air.

LEADING WITH POLICY

MINIMIZING ENVIRONMENTAL IMPACTS



PROTECTING & PRESERVING SENSITIVE ECOSYSTEMS

Quanta companies lay temporary vehicle access matting to preserve access during wetter conditions and protect the land from rutting.

Climate change amplifies the sensitivities of our natural systems. Our approach to environmental stewardship is twofold — we aim to minimize the environmental impacts of our activities and work in partnership with others to contribute to a resilient environment.

Our projects and operations are designed to have minimal impact on the environment. We also invest in programs that promote environmental stewardship, conservation, habitat remediation and environmental education, working closely with local and Indigenous communities and other stakeholders to promote environmental values and priorities that are important to us all.



Environmental Management System

Quanta operating companies implement Quanta's Environmental Management System (EMS), which is designed to meet the company's requirements and ensure regulatory and permit compliance. The goal of the EMS, which is compliant with the International Organization for Standardization (ISO) and the American Petroleum Institute (API) Safety and Environmental Management System Model, is to anticipate, prevent, manage and mitigate environmental risks and conditions that could adversely affect the environment. The Quanta team proactively assesses the environmental aspects and risks of its leased and owned facilities and performs site visits to evaluate necessary environmental regulations and recommendations.

Projects conducted by Quanta operating companies are expected to adhere to Quanta's EMS or the client's environmental requirements, whichever are more stringent. Operating companies integrate this system into the design and construction of projects to balance the protection of water, land, air and sensitive species with business requirements. Measures include environmental and cultural assessments to identify sensitive areas, reducing project footprints, implementing alternative work practices and using preexisting right-of-ways where possible.

RESTORING NATURAL LANDSCAPES

Quanta is dedicated to preserving and fostering diverse ecosystems during and after project construction. For example, a Quanta company is installing about 275,000 bifacial solar panels to help provide clean energy to 15,000 homes. Upon completion, pollinators, including native shrubs and grasses will be planted beneath the solar panels to help restore the natural landscape.

Protecting and responsibly managing natural resources are critical to the quality of life in the areas we serve, the environment in which we live and the continued success of our company and its operating companies.

IN FOCUS

STRONG POLICIES



For those reasons, Quanta is committed to conducting our business with care and respect for the environment. To fulfill our commitment to the environment, Quanta utilizes the following principles through the development and implementation of our Environmental Compliance Awareness Program (ECAP) for our operations:

01 Compliance

We identify applicable environmental laws and regulations and implement programs, policies and procedures to assure compliance.

02 Prevention

We employ systems and procedures designed to minimize activities and conditions that pose a threat to the environment. We strive to prevent unauthorized releases to the atmosphere, land and water, and to safely treat and dispose of waste.

03 Continuous Improvement

We continually review our programs, policies, procedures and behaviors to identify areas in which we can improve our adherence to these principles and our commitment to the protection of the environment.

04 Communication

We communicate our commitment to protecting the environment to our employees, contractors, customers and external stakeholders.

PROTECTING WHAT MATTERS

WATER CONSERVATION & BIODIVERSITY MANAGEMENT

At Quanta we are committed to preserving biodiversity and protecting water resources in all geographies, contributing to the Sustainable Development Goals (SDGs).

There is growing pressure on and competition for environmental resources, such as land, biodiversity, water and air.

A report¹ published by the Intergovernmental Panel on Biodiversity and Ecosystem Services in May 2019 found that nature is declining globally at rates unprecedented in human history. It also warned that about one million animal and plant species are threatened with extinction, many within decades. In addition, biodiversity loss is ranked as the third most severe global risk over the coming ten years by World Economic Forum in their 2022 Global Risks Report.

Quanta's approach to water and biodiversity management is twofold — we aim to minimize the environmental impacts from our activities and work in partnership with others to contribute to a resilient environment. To achieve these targets, we identify and implement on-ground improvement projects, investigate technologies to monitor and reduce potential environmental impacts and collaborate with others to share information and promote collective action.

¹ eaere.org/policy/ecosystems-biodiversity/ipbes-2019-global-assessment-report-on-biodiversity-and-ecosystem-services/

LOOKING AHEAD

In collaboration with others, we plan to improve our terrestrial biodiversity outcomes by investigating a framework to evaluate and verify the benefits of our actions.

Our businesses have plans and processes that reflect local biodiversity risks and regulatory requirements. At a group level, we are developing a framework to evaluate and verify the benefits of our actions in collaboration with others. This is being designed to allow us to better monitor, avoid, reduce and offset biodiversity impacts of our activities in a coordinated way.



Contributing to Biodiversity & Water Management

We recognize that we have a broader role to play in contributing to environmental resilience. By working with strategic partners and communities, we invest in voluntary projects that contribute to conserving areas of biological significance.

Our businesses participate in projects that can provide multiple benefits, such as improving water quality and increasing biodiversity while at the same time benefiting local communities.



Installing Nesting Platforms in Ashwaubenon, Wisconsin

A Quanta company and its utility partner recently installed five nesting poles at the north end of the 80-acre Ashwaubomay Park in Ashwaubenon, Wisconsin. Each pole contains three nesting platforms installed at different angles to mirror the offset tree branches herons and egrets prefer. Both herons and egrets return to Wisconsin in the spring to breed and raise their young before departing for their warmer winter homes in the fall. The Quanta company donated the lumber for the nesting platforms and the labor and equipment to install the platforms.

“We’re thrilled to add these nesting platforms to Ashwaubomay Park to help further increase avian use and wildlife habitat in the Fox Cities area,” said Rex Mehlberg, director of Parks, Recreation & Forestry for the village of Ashwaubenon. “We’ve seen great blue herons and great egrets in the area and hope that this will entice them to raise their young here.”



Protecting Native Avian Populations

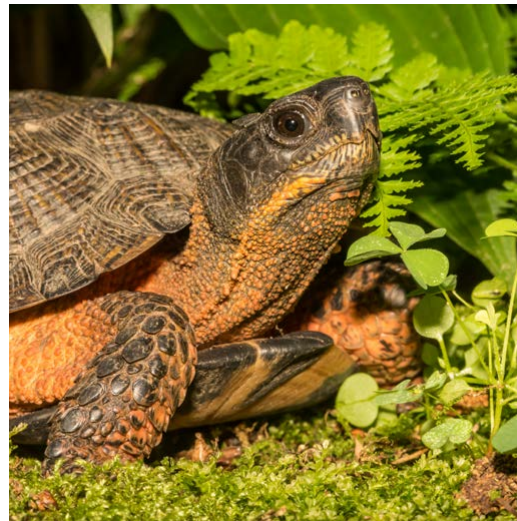
A Quanta company used a light-duty helicopter to install more than 1,800 bird diverters on the wires of five transmission lines in Columbia, Dane, Sauk, Waupaca and Waushara counties. The bird diverters help keep birds safe while also ensuring the reliability of the transmission system.

Bird mortality caused by overhead electrical transmission and distribution lines has been an increasing concern for conservationists and environmental management authorities. There are two main problems associated with birds and power lines: electrocution on distribution power lines and collision with the wires.

The diverters increase the visibility of the wires and help protect birds from contacting the transmission lines while in flight. Most diverters are installed over or adjacent to wetlands and bodies of water to help protect larger, heavy-bodied species that do not maneuver easily, such as geese, swans, pelicans, cranes and other waterfowl.

Protecting Local Wildlife

A Quanta company installs fences around each substation for security, safety and to avoid animal intrusions for the Wataynikaneyap Power Transmission Project in Northwestern Ontario, Canada. Fences also have a wire mesh layer installed below ground level to prevent animals from burrowing under the fence into the substation.



Preserving Endangered Species

A Quanta Services crew was working on-site when they spotted a turtle on a temporary constructed road. The crew stopped, photographed the turtle and safely moved it out of harm’s way. The crew reported the turtle to environmental staff, and from the photograph provided, the species was identified as an endangered adult Wood Turtle.



Bird on Board

Quanta company employees saved a bird when they found it nesting in the man-basket.

Collaboration to Support Ecosystem Well-Being

Crews from a Quanta company, along with their utility partner, receive annual environmental awareness training. Prior to working on a project, all crew members receive site-specific environmental training that focuses on specific environmental conditions and permit requirements for each project. In addition, Quanta crews are encouraged to report environmental “good catches,” which include protecting wildlife found to enter the work area.



Restoring Native Habitats

Staff from a Quanta Services company routinely install environmental signage on transmission line right-of-ways to help crews identify environmental features in the field. The signage is employed to mark wetland boundaries, waterway locations, invasive plants, sensitive species locations and no-access areas. The Quanta company routinely installs biodegradable erosion control and restoration materials and incorporates native and pollinator-friendly species into restoration seed mixes.

Wildflowers are native to where they grow, meaning they’re conditioned to thrive there. They require less water and fertilizer, are less prone to disease and are more tolerant to pests. They also provide critical habitat for pollinators, beneficial insects and wildlife, which is important for ecosystem function and pollination. Wildflowers can improve soil health, prevent erosion, improve water quality, increase yields and enhance forage conditions for livestock.

Partnering to Upgrade & Maintain Water Infrastructure

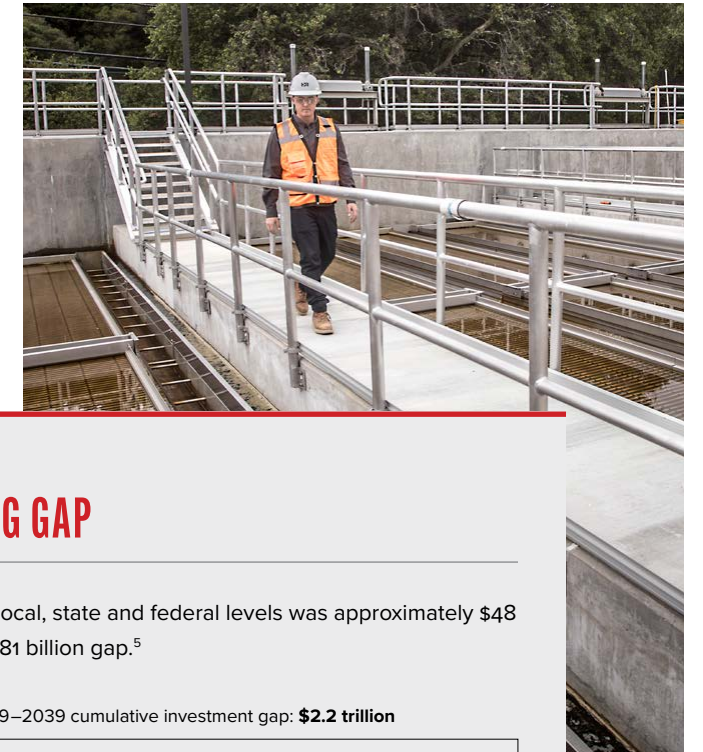
Large portions of U.S. water and wastewater systems were built over a century ago. As pipes, plants and pumps reach the end of their expected lifespan, they need to be upgraded, replaced or fortified. In addition, many systems are not equipped to meet the new demands they face today with growing populations, increased treatment requirements and the impacts of climate change.

Quanta companies partner to construct, maintain and upgrade drinking water, wastewater and stormwater services through a network of treatment plants, pumps and storage facilities. Examples of water infrastructure projects recently completed by Quanta companies include:

- **Montevina Water Treatment Plant, California:** A Quanta company provided progressive design-build project delivery to design, permit, construct, startup, test and operate improvements to convert from a 30-million-gallon-per-day direct filtration facility to an equivalent-sized membrane filtration primary treatment facility to consistently produce high-quality drinking water at new and more stringent regulatory requirements (see photos, center and right).
- **Replacement Well Pumps, New Jersey:** A Quanta company was involved in designing, permitting, constructing and commissioning replacement wells in time for heavy summer demands. A submersible pump solution was installed instead of vertical turbine pumps to increase the efficiency and reduce overall energy demands of the system.
- **Sewer Improvement Project, Orange County, California:** The project involved rehabilitation, installation, replacement and upsizing of existing sewer alignments through replacement of distinct sewer segments as a result of the capacity analysis performed under the Sewer Master Plan.

America's Aging Water Infrastructure

Every day, more than 50,000 drinking water systems distribute 39 billion gallons of potable water—drinking water—to U.S. homes, industries and other businesses.² In general, investment in new



water infrastructure surged both after World War II and with the federal construction grants program that followed the passage of the Clean Water Act in 1972. Drinking water and wastewater pipes, pumps and other components last between 15 and 100 years, depending on the component type, material and other conditions.

Between 2012 and 2018, the rate of water main breaks increased by 27%, reaching an estimated 250,000 to 300,000 per year.³ This is equivalent to a water main break every two minutes. As these systems age, leaks increase. Drinking water systems currently lose at least six billion gallons of treated water per day, or 2.1 trillion gallons per year.⁴

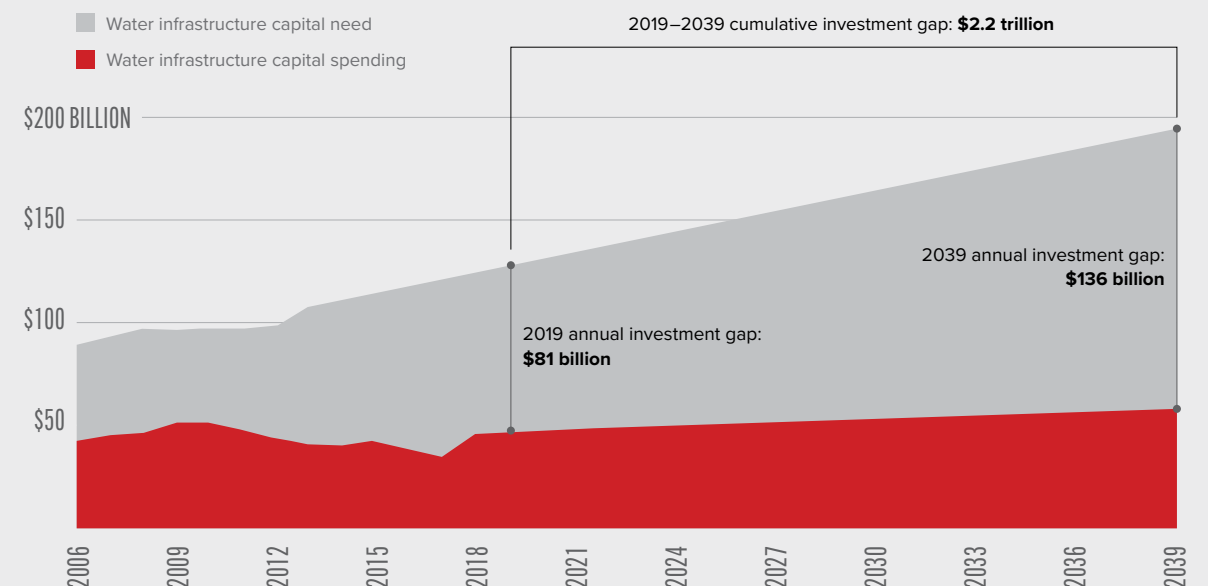
There is a growing need for capital investment in the distribution lines, conveyance systems, treatment plants and storage tanks that keep U.S. water systems working. Investment in these systems, however, has not kept pace with the need.

³ digitalcommons.usu.edu/cgi/viewcontent.cgi?article=1173&context=mae_facpub

⁴ cnt.org/sites/default/files/publications/CNT_CaseforFixingtheLeaks.pdf

WATER INFRASTRUCTURE CAPITAL SPENDING GAP

In 2019, the total capital spending on water infrastructure at the local, state and federal levels was approximately \$48 billion, while investment needs totaled \$129 billion, creating an \$81 billion gap.⁵



⁵ uswateralliance.org/sites/uswateralliance.org/files/publications/The%20Economic%20Benefits%20of%20Investing%20in%20Water%20Infrastructure_final.pdf

² pubs.usgs.gov/circ/1441/circ1441.pdf



Conserving & Reusing Water

Quanta companies apply many approaches to conserving water and preventing erosion. In addition to the project examples below, smart irrigation technology is also used at some Quanta facilities to ensure that landscaping irrigation is limited or eliminated when the weather provides adequate rainfall for facilities. Examples include:

- Pumping and use of construction vault water or stormwater infiltrations (when determined clean) to use as fugitive dust suppressant along right-of-ways

- Reuse of water used for flood holes by drill crews. This reduces the need to construct dewatering infrastructure and minimizes the need to source additional water.
- Equipment handling and washing facilities that utilize 100% recycled water and a process that ensures bacterial organisms are contained in the sump systems, eliminating the need for transport to a contaminated material disposal site. The system circulates water through the entire sump system, introducing oxygen to the water, thereby removing bacterial organisms which can produce unwanted odors. The operating company that implemented this system recycled over 185,000 gallons of water in 2021.



- Installation of water diversion berms to direct water from erosion of vegetation
- Re-installation of topsoil and hydro-seeding to assist with quick re-growth upon project completion
- Restoration of hillsides and repairing of water diversion swales and culverts
- Use of a high-efficiency wash-bay facility (see photo, above) to eliminate the transport of invasive disease to different sites. This unique and efficient equipment wash bay includes undercarriage sprayers that reduce the time for washing an excavator from six hours to 40 minutes. The design of the wash bay traps dirt and sediments in a pit, allowing for the water to be captured and recycled throughout the system.

- Not fueling within 100 meters of any water course and installing biodegradable oil in heavy equipment working on or near environmentally sensitive areas

Quanta's aviation group provides a central organization to manage, coordinate and serve all Quanta aviation operations.

IN FOCUS

QUANTA AVIATION:

INCREASING PROJECT SPEED & EFFICIENCY WITH REDUCED ECOSYSTEM IMPACTS

The group provides oversight and standardizes work procedures, controls, operations and scheduling for all internal and external helicopter operations to achieve the highest level of safety and compliance. Core capabilities include:

- data collection,
- detailed aerial inspection,
- fire contracts,
- aerial transmission line construction support and
- medium heavy-lift support.

Focus on Safety

Quanta Aviation has implemented standard operating procedures for core tasks and competencies, pilot tracking and investment in auditing third-party service providers. In addition, Quanta Aviation has worked closely with organizations such as Helicopter Aviation International (HAI), the Utilities Powerline and Construction Committee (UPAC) and the Federal Aviation Administration to gain industry clarity on current Class B/D compliance requirements.



Conserving Biodiversity, Reducing GHG Emissions

A Quanta Aviation company recently partnered with another Quanta services company to complete the Corbett to Sugar Quarry 500 kilovolt transmission project. This project involved 69 miles of tri-bundle 1272 ACSR, 500 kV new construction and 289 steel H-frame towers.

The Quanta Aviation company was on-site for 35 consecutive weeks, performing tasks including hanging blocks, clipping in, pulling lead lines, monitoring pulls, hanging insulator strings and installing bird diverters.

Importantly, the tasks the crew completed during this time frame saved 12,000 to 15,000 man-hours, significantly reducing the GHG emissions footprint of the entire project. Unique to this project was the construction of 15 miles through canal waterways. The utilization of aircraft helped significantly reduce the need for heavy-duty trucks, thus conserving the biodiversity of a sensitive ecosystem.

FOSTERING SUSTAINABILITY

WASTE MANAGEMENT,
SUPPLY CHAIN &

CIRCULAR ECONOMY SOLUTIONS

A sustainable future requires more than emissions reduction. We are also working across our value chain to create a circular economy and reduce our water use and waste generation. A responsible, resilient supply chain is critical to our business success and supports our ability to transition from a linear economy to a circular economy.

We look forward to partnering with customers to reduce their greenhouse gas (GHG) emissions while continuing to reduce the environmental impact of our services and waste on communities. This work aligns with Quanta's core values and directly benefits our business outcomes, including business continuity, worker retention and customer satisfaction.



CIRCULAR SOLUTIONS: PROMOTING RECYCLING

Throughout our corporate and operating company locations around North America, we encourage and provide facilities for recycling efforts, both inside properties and on job sites. As a result, many operating companies have implemented recycling programs for used batteries, paper, aluminum, cardboard, plastics, bulbs, used oil, paint cans, hard hats and safety vests.

Quanta has developed an ongoing collaboration with multiple utilities to take down, sort, tag and recycle electrical infrastructure equipment. This program removes, reclaims and recycles old utility poles, along with various pieces of infrastructure equipment. As a circular economy solution, scrap pipe is used to make pad-mount transformer supports, reusing the pipe and saving money for the customer.

Recycling Electronics

In 2021, Quanta recycled more than 4,000 pounds of electronics in an environmentally safe and secure manner in accordance with the R2 (Responsible Recycling) certification, which is recognized by the U.S. Environmental Protection Agency (EPA). This represents a greater than 200% increase in electronic material recycled compared to 2020.

SUPPLY CHAIN SUSTAINABILITY

Quanta companies partner with suppliers to find new ways of increasing supply chain resiliency and reducing their environmental footprints.

Quanta companies have been a member of the Electric Utility Industry Sustainable Supply Chain Alliance since 2012, a collective formed to help reduce the environmental impact of the electric utility industry's supply chain. Alliance members evaluate and share best practices digitally and can access the results of a supplier sustainability self-assessment tool. The results of the self-assessments are reviewed to gauge supplier performance against industry peers and monitor suppliers to ensure the completion of the survey. Through supplier engagement, we believe in building foundations that can drive positive outcomes for people and ecosystems in our supply chain.



Waste Management: Our Approach

Because most of our work is on customer-owned and operated property and equipment, operating companies typically coordinate with customers to ensure waste handling, storage and disposal methods that meet their own expectations. Handling of excess material and refuse management at each site is based on the following core principles:

- Abiding by project and jurisdiction requirements (local laws, regulations and codes)
- Minimizing excess metals and construction waste generation to the extent possible
- Leveraging regional recycling facilities and programs where available

Supporting the Circular Economy

Quanta is looking beyond the current take-make-waste model and joining circular economy partners in a new way of doing business. In addition to helping our customers achieve their own circular economy and sustainability goals by reducing their overall carbon footprints, we are committed to doing our part to reduce the consumption of finite resources and design waste and pollution out of the system. We are collaborating with our clients because we know that to achieve a circular economy, we must be more dependent on each other.

WASTE MANAGEMENT PREFERRED PRACTICES

Quanta has developed a Waste Management Preferred Practices guide to provide a template for creating project-specific waste management plans for operating companies for efficient, effective and compliant waste management during construction and operations. This guide is intended to complement local rules, regulations and guidelines related to waste management.

01 Waste Segregation

To properly dispose of waste, it should first be properly segregated:

- Do not mix waste streams, and only place waste in the designated container.
- Ensure containers and waste storage areas are clearly labeled. Waste storage areas should be determined in the pre-construction planning process.
- Waste materials should be properly stored and handled to minimize the potential for a spill.
- Identify and appropriately manage special and universal wastes (e.g., batteries, electronics, bulbs, spent solvents and chemicals, oil, aerosols).
- Observe all record keeping and reporting requirements.

02 Recycling

- Wastes should be reused or recycled whenever applicable, as required by applicable regulation.
- If recycling opportunities are identified, bins of sufficient size should be lined and labeled for use.

03 Storage Requirements

- Operating companies should ensure project-related wastes are stored and maintained in an organized fashion to encourage proper disposal, minimize risks to employees, prevent blowing trash and discourage wildlife attraction.
- All storage containers or bins should be clearly labeled with any required hazard communication labels, and the containers and any secondary containment should comply with any applicable statutory or regulatory requirements.

04 Personal Protective Equipment

For each site waste management plan, site personnel should determine an applicable personal protective equipment (PPE) matrix that may include gloves, hand protection, eye and face protection and other necessary PPE when handling waste.

05 Documentation

Whether it's a local utility bill for general waste, a waste manifest for hazardous waste or a receipt for tires that shows the number of tires returned to the vendor, waste has paperwork that must be managed.

OUR COMMITMENT

TO PRINCIPLES

Since our founding in 1997, our commitment to sustainable governance principles have been priorities for Quanta.

We have a robust ethics and compliance program consistent with our values around human rights, business ethics, labor, health and safety practices and environmental responsibility.

IN THIS SECTION

- 138 Board of Directors
- 144 How We Manage Climate Risks
- 150 Human Rights
- 154 Policies & Programs

Quanta is committed to the highest levels of ethics, integrity and reliability. A strong governance framework, starting with the Quanta Board of Directors and its committees, supports the sustainability efforts described in this report.

STRATEGY FOR SUCCESS

BOARD OF DIRECTORS

The Board's Role in Strategy

The Board recognizes the importance of ensuring that the Company's overall business strategy is designed to create long-term, sustainable value for stockholders and benefit all of Quanta's stakeholders. While the formulation and implementation of Quanta's strategy is primarily the responsibility of management, the Board plays an active oversight role. This is carried out primarily through regular reviews and discussions with management, including both broad-based presentations and more in-depth analyses and discussions of specific focus areas and evolving business, industry, societal, operating and economic conditions. Directors have full and free access to Quanta's management and Company information, and, as necessary and appropriate, directors may consult with independent legal, financial, accounting and other advisors.

Periodically, the Board undertakes a robust qualitative and quantitative review of management's five-year strategic plan, which includes both financial and operational performance goals and the strategic initiatives designed to support those goals.

The Board also annually reexamines the strategic plan, reviewing management's progress on its initiatives and revised financial projections based on, among other things, prior period financial results and recent acquisition activity. The Board and management discuss and consider market trends and opportunities, the Company's competitive positioning, recent regulatory and legal changes and emerging technologies and challenges in the industries Quanta serves.

Furthermore, on an ongoing basis, the Board evaluates specific business decisions in light of the strategic plan, including proposed acquisitions or investments and capital allocation decisions. The Board's oversight of risk management also enhances the directors' understanding of the risks associated with the Company's strategy and the Board's ability to provide guidance to and oversight of management in executing the strategic plan.



KEY STRATEGIC INITIATIVES

In connection with management's current five-year strategic plan, the Board and management discuss, among other things, key strategic initiatives, set forth below:

- The Company's commitment to its workforce, including with respect to safety, training, and operational excellence of its craft skilled labor and the attraction, development and retention of exception employees in a diverse and inclusive environment
- The Company's continued growth of its base business operations and continued differentiation of the solutions it provides to its customers
- The Company's expectations and strategies with respect to margin performance and, if necessary, improvement in each operating segment
- The Company's growth opportunities with existing and potential customers and in existing and adjacent markets where craft skilled labor is critical to providing cost-certain solutions
- The Company's capital allocation initiatives and considerations, including expected investment and acquisition activity and planned strategic operating initiatives for each segment
- The Company's commitment to maintaining its entrepreneurial culture through its decentralized management structure while also ensuring appropriate corporate oversight

Quanta’s Board of Directors

Quanta’s Board of Directors is comprised of nine independent directors, along with Quanta’s Chief Executive Officer (CEO).

Independence

Independence is determined within the meaning of the New York Stock Exchange (NYSE) listing standards and Quanta’s Corporate Governance Guidelines.

Independent Chairman

Quanta has had an independent, non-executive Chairman of the Board since 2013. David M. McClanahan, former President and CEO of CenterPoint Energy, Inc., currently serves as Chairman of the Board.

Annual Election of All Directors

Each director on Quanta’s Board is elected annually by stockholders.

Majority Voting Standard

Directors are elected by a majority of the votes cast with respect to such director in uncontested elections.

Overboarding Policy

Members of the Board must be willing to devote sufficient time to carrying out their duties and responsibilities effectively and should be committed to serving for an extended period. As such, a Board member should not serve on more than four public company boards, and a Board member that is a Chief Executive Officer, or equivalent position, with another public company should not serve on more than three public company boards.

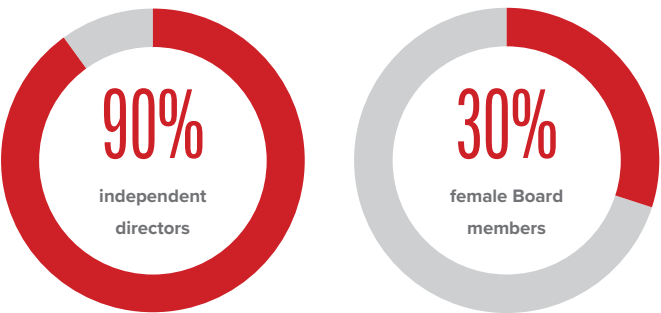
Retirement Age

Board members will not be nominated for election if the election would occur after their seventy-fifth birthday; however, the full Board may make exceptions in special circumstances.

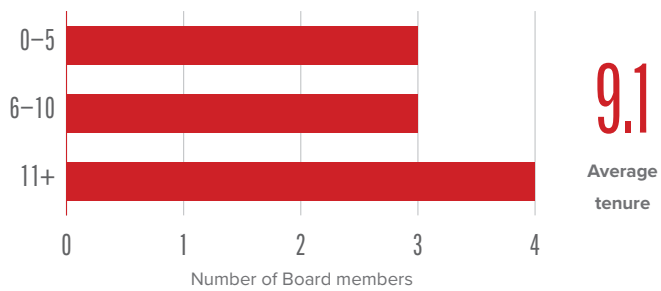
Stock Ownership Guidelines

We maintain meaningful stock ownership guidelines that align our directors’ long-term interests with our stockholders and discourage excessive risk-taking.

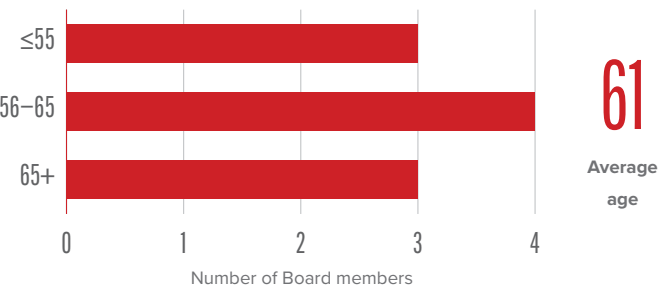
Board by the Numbers



BALANCED TENURE (YEARS)¹



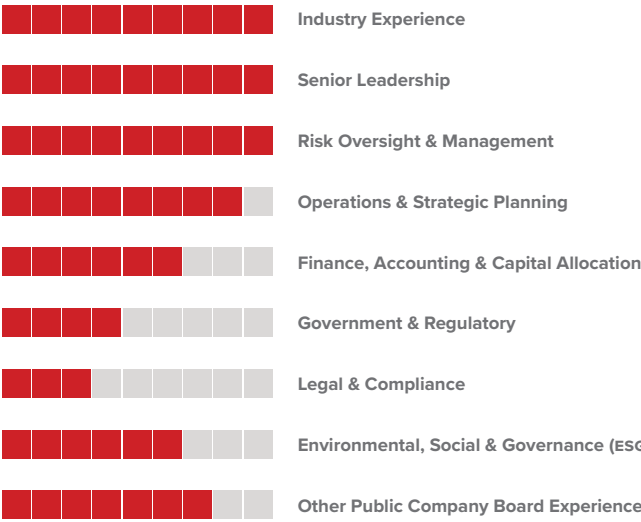
AGE¹



¹ As of 2022 Annual Meeting of Stockholders

BOARD QUALIFICATIONS, SKILLS & EXPERIENCE

As reflected in Quanta’s 2022 proxy statement, with respect to continuing directors elected at the 2022 Annual Meeting of Shareholders



Board Diversity

The Board values diversity in its broadest sense. With that goal in mind, and pursuant to our Corporate Governance Guidelines, the Board endeavors to have a group of directors representing:

- diverse experiences at policy-making levels of organizations that are relevant to Quanta’s activities and operations, which may come from business, government, education, technology and non-profit organizations;
- diversity of tenure, which ensures a proper balance between Board refreshment and director continuity and
- diverse backgrounds and attributes, including with respect to gender, ethnicity and geography.

The Board has further committed to identifying and appointing a group of diverse directors by adopting a formal policy within our Corporate Governance Guidelines, which requires that the initial pool of qualified candidates identified in connection with a new independent director search must include women and candidates from traditionally underrepresented ethnic and racial groups.

In alignment with these principles, the Board has taken deliberate steps to identify and appoint qualified, diverse candidates meeting the aforementioned characteristics, including in connection with its recently completed director candidate searches. Through these candidate searches, the Board has identified and appointed three directors with diverse attributes, and the Board remains committed to continuing to identify and consider diverse director candidates in future director searches.

Gender Diversity



HOLLI C. LADHANI

Member of Governance & Nominating Committee and Investment Committee



MARGARET B. SHANNON

Member of Governance & Nominating Committee and Investment Committee



MARTHA B. WYRSCH

Chairman of Governance & Nominating Committee and Member of Compensation Committee

Race & Ethnic Diversity



DOYLE N. BENEBY

Chairman of Compensation Committee and Member of Investment Committee

Oversight of Risk Management Process

The Board oversees an enterprise-wide approach to risk management, designed to support the achievement of long-term organizational objectives and enhance stockholder value. The annual enterprise risk management assessment, managed by Quanta's Chief Executive Officer, General Counsel, Chief Financial Officer and Chief Compliance Officer, provides visibility to the Board about the identification, assessment, monitoring and management of critical risks and management's risk mitigation strategies.

In this process, risk is assessed throughout the business, including operational, industry, financial and reputational risks, legal and regulatory risks and data and systems security risks. The involvement of the full Board in setting Quanta's business strategy, both short-term and long-term, is a key part of its understanding of Quanta's risks, what steps management is taking to manage those risks, how those risks may evolve in response to changes in strategy or business environment and what constitutes an appropriate level of risk for Quanta.

Full Board

The full Board, in addition to its ultimate oversight responsibility for the risk management process, focuses on developing and reviewing the Company's CEO succession plan, as well as succession planning and talent development for other key management positions. The Board also reviews and evaluates certain key strategic risks, such as, among other things, customer business model developments, technological changes, structural or organizational risk, certain uninsurable risks and risks pertaining to capital allocation decisions. Additionally, as part of its focus on key strategic risks, the Board regularly considers the significant opportunities and challenges associated with climate change,

including technological advances, market developments and additional regulatory and compliance costs that arise in response to climate change.

The full Board also focuses on oversight of the Company's human capital management, which is a key strategic risk of the Company. Specifically, the Board conducts an annual review of management's enterprise-wide talent development initiatives designed to maintain a workforce that meets the Company's future needs as well as a quarterly review, with additional updates as necessary, of Company safety performance and key employee safety matters.

Audit Committee

The Audit Committee focuses on risks relating to the Company's financial reporting and accounting policies, independent registered public accounting firm, internal controls and internal audit function, and compliance with legal and regulatory requirements. The Audit Committee also concentrates on risks related to information technology security programs, including cybersecurity. Senior management reports periodically to the committee and the Board on significant information security matters.

Compensation Committee

The Compensation Committee focuses on risks relating to Quanta's compensation policies and programs to determine whether they encourage excessive risk-taking and whether they are aligned with Quanta's risk management profile. The Compensation Committee also evaluates compensation policies and practices and strives to create incentives designed to mitigate such risks.

Governance & Nominating Committee

The Governance & Nominating Committee focuses on risks relating to Quanta's corporate governance, Board membership and structure and management succession planning. These risks also



include corporate responsibility and sustainability matters, including environmental issues, social issues and practices and policies relating to the support of business, charitable, educational and trade organizations and political activity. The Governance & Nominating Committee also periodically reviews Quanta's risk management process and reports its findings to the Board.

Investment Committee

The Investment Committee focuses on risks associated with prospective acquisitions, dispositions, investments and certain significant capital expenditures.

EXECUTIVE COMPENSATION
TIED TO SUSTAINABILITY

With respect to Quanta's 2021 executive compensation program, 20% of target annual cash incentives were tied to the achievement of safety performance goals and 20% of performance-based long-term equity incentives were tied to the achievement of sustainability-based goals, including metrics related to both enhanced driver safety and reduction in vehicle idle time of the Company's vehicle fleet. These performance goals align with an enterprise-wide commitment to safety, training and sustainability, as well as customer expectations.

Advisory Vote on Executive Compensation

Quanta conducts an annual Say-on-Pay vote and received approximately 94% approval of its 2021 executive compensation program at the 2022 annual meeting of stockholders.

BOARD EVALUATION PROCESS

Evaluations

Each director participates in evaluations of the Board and applicable committees on an unattributed basis.

One-on-One Discussions

One-on-one discussions are held between the Chairman of the Board and each director to elicit further feedback.

Consideration

Evaluations of the Board and committees are considered by the full Board and each committee.

Updated Policies

Policies and practices are updated as appropriate in response to feedback included in evaluations.

Additional Feedback

Throughout the remainder of the year, directors provide additional feedback outside of the evaluation process.

Periodic Review

The Governance & Nominating Committee periodically reviews the process to ensure proper feedback is solicited.

HOW WE MANAGE

We have leveraged the framework developed by the Task Force on Climate-related Financial Disclosures (TCFD), which is emerging as the preferred approach for reporting on climate risk management.

Task Force on Climate-related Financial Disclosures Framework

We have leveraged the framework developed by the TCFD¹ to communicate our approach to climate governance, strategy, risk management and metrics and targets.

In terms of governance and strategy, we follow an integrated approach to addressing climate change, with multiple teams in Quanta responsible for managing climate-related activities, initiatives and policies.

We describe our overall risk management processes in this section and our 2022 Proxy Statement. Our climate-related risks and opportunities are discussed within this report; in the Business and Risk Factors section of our 2021 Annual Report on Form 10-K and in our most recent CDP Climate Change survey.

Regarding metrics and goals, we have published our Scope 1 and 2 greenhouse gas (GHG) emissions in this report and plan to analyze our ability to determine and publish our Scope 3 emissions and climate goals in



future reports. We have not yet completed a formal climate-related scenario analysis in line with TCFD guidelines.

A more detailed mapping of our climate disclosures aligned with the TCFD, Global Reporting Initiative (GRI) standards for sustainability reporting, UN Sustainable Development Goals (SDGs) and Sustainability Accounting Standards Board (SASB) framework is included in the appendix on page 158.

Managing & Mitigating Climate Change Risk

Climate change risks and associated mitigation strategies are identified, analyzed and communicated as part of our risk management programs and processes. Our corporate risk management function defines and oversees the

consistent application of Quanta's risk management process in coordination with our operating companies' risk management functions and teams. This risk management process helps us identify and evaluate strategic, financial, operational and regulatory risks, assess threats and controls, plan mitigation strategies and monitor for changing conditions.

Operating companies and corporate support functions report risks and associated mitigation strategies to the corporate management personnel that oversee the risk management program. The Chief Compliance Officer regularly reports on enterprise-level risks and mitigation strategies to senior executive leadership, operating company leadership, corporate support function leads and our Board of Directors.

TCFD FRAMEWORK



- GOVERNANCE**
The organization's governance around climate-related risks and opportunities
- STRATEGY**
The actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy and financial planning
- RISK MANAGEMENT**
The processes used by the organization to identify, assess and manage climate-related risks
- METRICS & TARGETS**
The metrics and targets used to assess and manage relevant climate-related risks and opportunities

¹ fsb-tcfid.org

Board Oversight of Climate Risks & Opportunities

Quanta's Board of Directors understands and regularly discusses the importance of risks and opportunities associated with climate change, as well as the significance of climate change-related issues to our employees, customers, investors and other stakeholders.

The Board recognizes that although climate change poses a challenge to broader society, it also creates significant new business opportunities for Quanta. The Board recognizes the importance of ensuring that the Company's overall business strategy is designed to create long-term, sustainable value for stockholders and to balance the risks and opportunities associated with climate change.

While the formulation and implementation of Quanta's strategy is primarily the responsibility of management, the Board plays an active oversight role, carried out through regular reviews and discussions with management. These discussions include broad-based presentations and in-depth analyses of specific focus areas and evolving business, industry, societal, operating and economic conditions.



Periodically, the Board undertakes a robust qualitative and quantitative review of management's five-year strategic plan, including financial and operational performance goals and the strategic initiatives designed to support those goals. In connection with this strategic plan, the Board and management discuss market trends, the Company's competitive positioning, recent regulatory and legal changes and emerging technologies in the industries Quanta serves, all of which could be impacted by challenges and opportunities presented by climate change.

Furthermore, on an ongoing basis, the Board evaluates specific business decisions in light of the strategic plan, including proposed acquisitions or investments and capital allocation decisions that can be impacted by climate change-related issues.

CLIMATE CHANGE RISK OVERSIGHT

The Board oversees an enterprise-wide approach to risk management, including risks related to sustainability and the impact of climate change, which is designed to support the achievement of long-term organizational objectives and enhance stakeholder value. The annual enterprise risk management assessment, managed by Quanta's Chief Executive Officer, General Counsel, Chief Financial Officer and Chief Compliance Officer, provides visibility to the Board about the identification, assessment, monitoring and management of critical risks and management's risk mitigation strategies.

In this process, risks are assessed throughout the business. These include operational, industry, financial and reputational risks and legal and regulatory risks, all of which can be impacted by climate change-related issues. The involvement of the full Board in setting Quanta's business strategy, both short-term and long-term, is a key part of its understanding of Quanta's risks and how those risks may evolve in response to changes in strategy or business environment, as well as what constitutes an appropriate level of risk for Quanta.

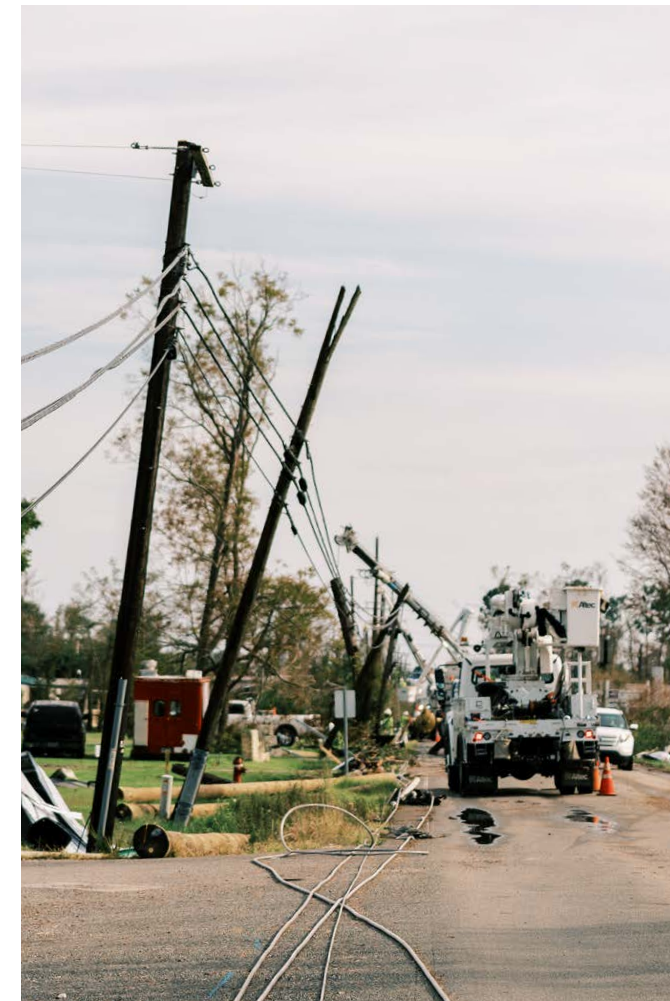
Assessment of Climate Change Risks & Opportunities

For purposes of this report, climate change risks and opportunities were examined through three separate lenses: physical, transition and regulatory or compliance risks and opportunities with unique causes, controls and recovery measures examined within the broader climate risk categories. These risks and opportunities are described below and summarized in the table "Climate Change Risks & Opportunities" on page 149.

Physical Risks

Changes in climate have caused, and are expected to continue to cause, among other things, increasing temperatures, rising sea levels and changes to patterns and intensity of wildfires, hurricanes, floods, severe storms, severe weather-related events and natural disasters. Our operating results can be significantly influenced by the climates in which we operate and severe weather events, and these changes have and could continue to impact our future operating results. A greater amount of rainfall, snow, ice or other less accommodating weather conditions, as well as an increase in severe weather events and natural disasters, could reduce our productivity and cause delays and cancellations of our ongoing projects. While we seek to mitigate our risks associated with climate change, we recognize that there are inherent climate-related risks regardless of how and where we conduct our operations. A natural disaster has the potential to disrupt our and our customers' businesses and may cause us to experience work stoppages, project delays, financial losses and additional costs to resume operations, including increased insurance costs or loss of coverage, legal liability and reputational losses. For example, hurricanes and tropical storms in the U.S. Gulf Coast region have impacted our ability to perform industrial services operations during certain periods.

Physical risks associated with climate change have also increased hazards associated with certain of our operations, which has increased the potential for liability and the costs associated with such operations. For example, severe drought and high winds in the western United States, Australia and other locations have significantly increased the risk of wildfires, exposing the contracting industry to increased liability risk in connection with our operations in those locations, as these events can potentially be started by the failure of electrical power and other infrastructure. Given the potentially significant liabilities associated with these events, to the extent we are deemed liable for a wildfire event, it could have a materially adverse impact on our business. Furthermore, these climate conditions have also increased costs for wildfire-related third-party insurance and reduced the amount insurance carriers are willing to make available to us under such policies.



Physical Opportunities

An increase in certain of these physical events, such as hurricanes, tropical storms, wildfires, hurricanes, floods, winter storms and other storms and severe weather-related events and natural disasters, creates opportunities for us to perform a greater amount of emergency restoration services and can increase customer spending on modernization, grid hardening and other infrastructure improvements, such as fire hardening programs in California and the western United States and storm hardening in coastal regions. For example, in 2021, several strong hurricanes and other severe weather events resulted in emergency restoration services revenues at levels comparable to 2020. Additionally, changes in climate could result in more accommodating weather patterns for greater periods in certain areas, which may enable us to increase our productivity in those areas.



Transition Risks

The increasing focus on climate change has impacted markets within our Underground Utility and Infrastructure Solutions segment. Certain services within this segment have experienced challenges associated with the transition toward a carbon-neutral economy. For example, concerns about the impact of certain large pipeline projects on the environment, among other things, have contributed to significant delays and cancellations of projects in recent years. Consequently, we have decreased our focus on these service offerings. Furthermore, a longer-term decline in demand for fossil fuels or refined products due to climate change concerns and regulations could negatively impact these projects or demand for our midstream and industrial services operations. Certain of our operations within our Underground Utility and Infrastructure Solutions segment could also result in reputational risks, such as how our values and practices regarding a low-carbon transition are viewed by external and internal stakeholders.

Transition Opportunities

Climate change has caused, and is expected to continue to cause, changes in the markets we operate in. For example, in support of the transition to a carbon-neutral economy, utility customers are transitioning toward more sustainable sources of power generation, such as renewables like wind and solar, coupled with battery storage technology, and are replacing aging, less efficient infrastructure. Concerns regarding climate change are also leading to the increased electrification of consumer goods, such as electric vehicles, which is expected to provide continued demand for new and expanded electric power infrastructure and reengineering of existing electric power infrastructure. We believe these market dynamics and technological advances provide significant opportunities for us, including increased demand for our renewable energy infrastructure services, which we have significantly expanded through our acquisition of Blattner and our portfolio of electric power infrastructure services.

Regulatory & Compliance Cost Risk

New legislation or regulation related to climate change could increase our costs. We maintain a large fleet of vehicles and construction machinery, and the costs associated therewith could significantly increase as a result of regulations related to GHG emissions from such sources or regulations that increase fuel prices. New regulations addressing GHG emissions from mobile sources could also significantly render portions of our fleet of vehicles obsolete or reduce the availability of vehicles we need to perform our services.

Additionally, with respect to certain services in our Underground Utility and Infrastructure Solutions segment, concerns about climate-related issues could potentially result in new legislation, regulation, regulatory actions or other requirements at the local, state or federal level, which could negatively affect customers and decrease demand for their services, result in increased costs associated with our operations or impact the prices we charge our customers. Any new requirements to reduce, or taxes on the production and consumption of, fossil fuels could negatively impact the hydrocarbon production volumes of our customers, which could in turn negatively impact demand for certain of our services. In addition, if a portion of our operations is perceived to result in high GHG emissions, our reputation could suffer.

Climate Change Risks & Opportunities

PHYSICAL, TRANSITION & REGULATORY RISKS²

EVENT	POTENTIAL BUSINESS IMPACT
Increased severity and/or frequency of extreme weather events such as hurricanes and floods	Increased capital costs from loss of or damage to facilities (office buildings, etc.) or equipment Increased costs associated with projects or delay in recognition of revenues as a result of delays in projects
Changes in precipitation patterns and extreme variability of weather patterns	Loss of productivity in extreme weather that could cause loss of revenues (absenteeism, reduced work hours, etc.)
Rising sea levels	Supply chain disruptions
New regulations related to GHG emissions	Increased insurance liability
Phase-in of more stringent building codes and lighting efficiency and appliance standards	Reduced demand for underground utility and infrastructure services
Fleet electrification	Increased costs based on demand for such vehicles or due to additional wait times associated with delivery of such vehicles
Regulatory changes associated with emissions from fleet	Increased costs
Reputational risk associated with certain operations	Reduced demand for our services from customers within these industries

PHYSICAL, TRANSITION & REGULATORY OPPORTUNITIES²

EVENT	POTENTIAL BUSINESS IMPACT
Increased severity and/or frequency of extreme weather events such as hurricanes and floods	Increased opportunities for revenues associated with emergency restoration services Increased customer spending on modernization, grid hardening and other infrastructure improvements (e.g., fire hardening programs in California and the western United States and storm hardening in coastal regions)
Electric vehicle (EV) adoption	Increased revenues associated with additional infrastructure necessary to support such vehicles Enhanced reputation and brand
Increased construction of low- to no-carbon emitting generation resources	Increased opportunities for revenues
Development and/or expansion of low-emission goods and services	Better competitive positioning to reflect changing customer preferences, resulting in new or increased revenues
New climate adaptation solutions	Increased market valuation through resilience planning
New energy and data platforms	Reduced operational costs
Smart city and microgrid platforms	Reduced exposure to fuel market pricing
Battery storage applications	Increased opportunities for revenues
Expansion of grid infrastructure demand	Increased opportunities for revenues
Hydrogen, renewable natural gas and biofuel platforms	Increased opportunities for revenues

² For additional information regarding the risks and opportunities associated with climate change, please review Item 1, Business, and Item 1A, Risk Factors, of Part I of our Annual Report on Form 10-K for the year ended December 31, 2021.

Respect for human rights and dignity is critical for our business. We uphold human rights and ensure integration into our business practices.

DIGNITY & RESPECT FOR ALL

HUMAN RIGHTS

Our Approach

Quanta is committed to ensuring that the people and communities supporting our business are treated with dignity and respect. We strive to ensure that our services are performed in a way that respects internationally recognized human rights. Our commitment to upholding the human rights of all people is captured in our Code of Conduct and Human Rights Policy.

Quanta is committed to respecting and promoting human rights for all its employees, affiliates and partners in accordance with the United Nations Guiding Principles on Business and Human Rights, the International Labor Organization's Declaration on Fundamental Principles and Rights at Work and the laws of the United States relating to human rights.

Quanta is committed to serving as a strong community partner, actively working to help ensure the communities we operate in are valued and respected and treated equitably and fairly. We also embrace environmental justice principles that ensure meaningful involvement of the communities we serve, regardless of race, color, national origin or income.



TAKING ACTION

Quanta joins many national and global businesses that commit to mitigating human rights issues through educating employees on how to identify and report possible human rights abuses like human trafficking.

We make contractual commitments with suppliers that encourage suppliers to adhere to the same principles contained in our Human Rights Policy.

Our executive leadership is responsible for business and human rights in Quanta. The Human Resources department is responsible for overall compliance and maintains records in compliance with applicable laws and regulations.

As part of our materiality assessment (see page 16), we have conducted interviews with relevant stakeholders to assess the relevancy of human rights risk exposures within our business and the level of awareness concerning the need to protect and act against human rights infringements.

Quanta regularly reviews its Human Rights Policy and updates its human rights risk profiles as part of its standardized business and human rights risk management approach.



Partnering With Habitat for Humanity

Our commitment to uphold human rights is illustrated by a Quanta company's support for Habitat for Humanity. Habitat for Humanity's mission is to create a world where everyone has a decent place to live, and to assist qualified individuals with building new homes. Volunteers from a Quanta company participated in two Habitat for Humanity builds in Chicago and Houston. Habitat for Humanity builds take place on a regular basis to strengthen communities by building safe, affordable housing. Volunteers work alongside Habitat construction experts and future Habitat homeowners, learn different skills and engage in team building.

PUTTING WORDS INTO ACTION: UNBOUND HOUSTON

Helping to Fight Human Trafficking

Quanta is providing support for Unbound Houston, which is part of a network of anti-human trafficking agencies working in communities in the United States and around the world. Unbound supports survivors and provides resources to our community to fight human trafficking in three primary ways: prevention and awareness, professional training and survivor advocacy.

Human trafficking is the fastest growing criminal industry in the world, with more than 40 million victims worldwide — and it's happening today, in our communities. Simply put, human trafficking is any time a person is forced, tricked or manipulated into providing labor or sexual service for someone else's financial gain, or any time a child is involved in a commercial sex act, whether or not there is someone directly forcing them to do so. With the support of Quanta, since Unbound Houston opened its doors to its Advocacy Center, 226 survivors have been served.

226 SURVIVORS SUPPORTED

by Unbound Houston, with the support of Quanta

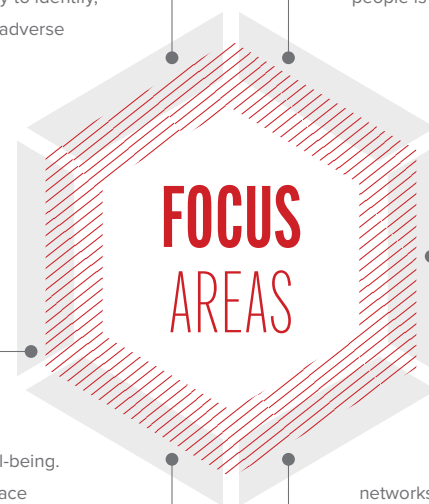


Our Risk Management System is applied to foster a systematic and standardized way to identify, prevent, mitigate and account for adverse impacts on human rights.

Our commitment to uphold the human rights of all people is captured in our Code of Conduct and Human Rights Policy.

Our ethics line is the primary grievance mechanism to report potential human rights infringements. Any such complaints are addressed through established processes.

Our top priority is to ensure our employees' safety, health and well-being. Flexible work options remain in place for employees who can work remotely, and we monitor the health of those required on site.



We remind employees about the Company's commitment to uphold and respect human rights and our Human Rights Policy.

We partner with communities and Indigenous peoples to identify and develop opportunities that strengthen community partnerships, support networks and foster constructive relationships. These efforts underpin our commitment to have a positive influence in the jurisdictions we operate in.

ETHICS & INTEGRITY

POLICIES & PROGRAMS

Quanta has comprehensive corporate governance policies and structures in place to foster accountability, and these reflect our underlying commitment to maintaining the highest standards of ethics and integrity. We develop and update these policies when we identify a need for employee clarification, the emergence of new laws or regulations or other external factors.



QUANTA'S CODE OF CONDUCT

Quanta's Code of Conduct highlights the importance of ethical behavior to our business and explains the standards of behavior expected of Company employees. The Code addresses compliance with applicable laws and Quanta's policies concerning, among other things, general business ethics, competition, anti-corruption and bribery, environmental protection, conflicts of interest, harassment and discrimination, data security and privacy and insider trading.

Quanta's Code of Conduct also informs employees and third parties about the resources and confidential reporting mechanisms available to detect, prevent and report unethical and illegal conduct, and our Chief Compliance Officer communicates directly with our Board of Directors about actual and alleged violations of the law or the Code of Conduct. Training with respect to Quanta's Code of Conduct and other policies and procedures is conducted as part of our comprehensive ethics and compliance training program.

A copy of the Code of Conduct is available on Quanta's Investor Relations website.

Anti-Corruption Policy

Quanta is committed to complying with all applicable anti-corruption and anti-bribery laws. This Policy includes guidance and requirements concerning, among other things, interactions with government officials; provision of gifts, entertainment and travel; due diligence on certain high-risk service providers and business partners and charitable and political contributions. Annual training on the Anti-Corruption Compliance Policy is conducted as part of the Company's comprehensive ethics and compliance training program.

Data Privacy & Protection Policy

Quanta's Data Privacy & Protection Policy explains Quanta's commitment to protect the personal information of its employees and other individuals and to comply with all applicable privacy, data protection and information security laws. This Policy provides guidelines and requirements concerning data collection, protection, use, distribution and deletion.

Human Rights Policy

Quanta's Human Rights Policy addresses our commitment to respecting and promoting human rights for all employees, affiliates and partners in accordance with the United Nations Guiding Principles on Business and Human Rights, the International Labor Organization's Declaration on Fundamental Principles and Rights at Work and the laws of the United States relating to human rights. This policy provides guidelines and requirements concerning diversity and inclusion, the use of forced labor and child labor, freedom of association, employee safety and the equitable treatment of employees and others.



Information Security Training Program

Training on cybersecurity and information usage is required for relevant employees annually, and additional training requirements are in place for certain specialized employees, including systems administrators and treasury operations personnel, among others. Additionally, targeted training measures are implemented periodically to ensure employees and Quanta's security systems are prepared for potential vulnerabilities, such as phishing campaigns and cyber attack crisis response simulations. Our information security training program is part of our comprehensive information security program.

Political Activity Policy

Quanta is committed to participating in the political process responsibly and in compliance with applicable laws and reporting requirements. The Governance & Nominating Committee of our Board of Directors is responsible for oversight of our governmental affairs program and practices. In addition, our Government Affairs and Legal Compliance & Ethics groups ensure that our political activities are aligned with our strategic direction and initiatives and in compliance with applicable laws and reporting requirements. This Policy provides the framework for how we make political contributions and engage in political activity. Additional information, including our Political Activity Policy, is available on Quanta's Investor Relations website.

Supplier Review Procedures

Quanta requires that certain high-risk suppliers, service providers and business partners undergo pre-engagement due diligence and training.

IN FOCUS

CYBERSECURITY:

SAFEGUARDING COMPANY SYSTEMS & PROTECTING COMPANY DATA



As information systems expand and are integrated into operations, the importance of safeguards for protecting against security breaches is increasing. As a result, protecting Quanta's information systems and our customers is a top priority.

Quanta's information technology (IT) leadership ensures that an appropriate level of governance, capabilities and controls are in place to protect our information systems and data. We take a multifaceted approach to protection and have the right architecture, technical safeguards, policies, processes and qualified resources to prevent, detect, respond to and recover from an adverse event.

Our policies and standards align with industry standards, such as the Center for Internet Security's Critical Security Controls, Independent System Operator (ISO) 27001 standards and the American Institute of Certified Public Accountants (AICPA) Trust Services Criteria for Security (TSC), and are the groundwork for the organizational strategy to cyber resilience. In concert with our policies and governance, we use various industry-leading tools and technology such as multifactor authentication, vulnerability management and penetration testing.

Quanta understands the importance of protecting information and has introduced appropriate physical, technical and administrative measures to safeguard data. Quanta has several oversight processes, including dedicated IT Cybersecurity and IT Compliance teams to regularly conduct internal compliance assessments against our key policies and standards on management's behalf. For third-party vendors, oversight processes are in place to thoroughly analyze key vendors as part of the selection and onboarding process.

Quanta's IT Cybersecurity team also has an incident response plan in place that is in line with industry-standard frameworks to ensure an effective response, which includes:

- analyzing to determine if any data has been breached, and depending upon the nature of the data, engaging compliance and legal stakeholders to determine whether it meets regulatory or legal reporting requirements and
- if needed, a defined process is in place as part of the incident response plan for notifying impacted customers as required by laws or contractual obligations.

APPENDIX

Quanta reports against multiple global sustainability-focused indexes to give investors and other key stakeholders a transparent account of our performance and progress. These standards provide criteria for us to report across a range of ESG topics and, taken together, provide a detailed, holistic view of our approach and achievements.

IN THIS SECTION

- 160** Sustainability Data Metrics
- 164** SASB Index
- 166** GRI Standards Content Index
- 174** TCFD Index
- 178** SDG Index



SUSTAINABILITY DATA METRICS

We have worked hard to measure Quanta’s sustainability efforts and impact, and we’re proud to detail for the first time, below, a consolidated set of ESG metrics for the last three years. In the future we look forward to adding additional metrics that are aligned with broader reporting standards and that demonstrate the wider impact we are having on society as the energy transition unfolds.

Impact on Society

	UNIT	2019	2020	2021
FINANCIAL CLIMATE CHANGE-RELATED REVENUES				
Renewable energy infrastructure solutions revenues¹	Million USD	\$775.0	\$1,305.2	\$1,825.3
Emergency restoration services revenues²	Million USD	\$189.7	\$442.3	\$450.6
RENEWABLES INFRASTRUCTURE				
Utility wind and solar power³	Installed capacity, MW	627	0	6,983
	Million metric tons CO₂e avoided	—	—	11.9
Utility battery storage⁴	Installed capacity, MW	0	50	1,009

Environmental (Planet)

	UNIT	2019	2020	2021
ENERGY CONSUMPTION				
DIRECT ENERGY CONSUMPTION (SCOPE 1), VEHICLE FUEL⁵				
Diesel fuel⁶	TJ	6,292	5,132	5,930
Gasoline⁶	TJ	3,100	2,896	3,216
Liquefied natural gas (LNG)⁶	TJ	73	78	83
Aviation fuel⁶	TJ	72	294	309
Total vehicle fleet energy consumption	TJ	9,537	8,400	9,538
FACILITY ENERGY USE				
Natural gas⁷	TJ	99.9	98.9	84.5
FACILITY-PURCHASED ELECTRICITY				
Indirect energy consumption (Scope 2), facility-purchased electricity	TJ	73.7	79.6	91.1
TOTAL ENERGY CONSUMPTION				
Scope 1 energy consumption	TJ	9,636.9	8,498.9	9,622.5
Scope 2 energy consumption	TJ	73.7	79.6	91.1
Scope 1 and 2 energy consumption, total	TJ	9,710.6	8,578.5	9,713.6

Environmental (Planet)

	UNIT	2019	2020	2021
GHG EMISSIONS				
VEHICLE FUEL				
Diesel fuel	Metric tons CO₂e	444,771	362,763	419,154
Gasoline	Metric tons CO₂e	198,588	185,540	206,031
Liquefied natural gas (LNG)	Metric tons CO₂e	2,953	3,184	3,356
Aviation fuel	Metric tons CO₂e	4,908	20,161	21,154
Total vehicle fleet emissions	Metric tons CO₂e	651,219	571,648	649,694
FACILITY ENERGY USE				
Natural gas	Metric tons CO₂e	5,081	5,014	4,300
FACILITY-PURCHASED ELECTRICITY				
Scope 2 CO₂ emissions, location-based	Metric tons CO₂e	9,505	9,277	9,969
Scope 2 CO₂ emissions, market-based	Metric tons CO₂e	9,503	9,267	9,953
TOTAL DIRECT & INDIRECT EMISSIONS				
Scope 1 emissions	Metric tons CO₂e	656,300	576,662	653,993
Scope 2 emissions, location-based	Metric tons CO₂e	9,505	9,277	9,969
Scope 1 and 2 emissions	Metric tons CO₂e	665,805	585,939	663,962
Offset emissions (Scope 1)	Metric tons CO₂e	—	552	1,547
ENERGY & EMISSIONS INTENSITY				
Scope 2 energy intensity	g CO₂e/MJ	129.0	116.5	109.4
Vehicle fleet emissions intensity	g CO₂e/USD revenue	54.2	49.5	48.5
Scope 1 CO₂ emissions intensity, total	g CO₂e/USD revenue	54.6	49.9	48.8
Scope 1 and 2 CO₂ emissions intensity, total	g CO₂e/USD revenue	55.4	50.7	49.6
OTHER TAILPIPE EMISSIONS				
Nitrogen oxides (NOx)⁸	Metric tons	1,613	1,334	1,501
Sulfur oxides (SOx)⁸	Metric tons	10.0	8.5	9.2
Particulate matter (PM10)⁸	Metric tons	124	103	117
Nitrogen oxides (NOx) emissions intensity	g NOx/USD revenue	133	117	114
Sulfur oxides (SOx) emissions intensity	g SOx/USD revenue	0.83	0.75	0.70
Particulate matter (PM10) emissions intensity	g PM10/USD revenue	10.3	9.1	8.9
VEHICLE FLEET				
TOTAL ALTERNATIVE VEHICLES, OWNED & LEASED⁹				
Electric		3	3	3
Liquefied natural gas (LNG) and compressed natural gas (CNG)		233	233	233
WATER				
Total water intake, Quanta facilities¹⁰	Thousand gallons	22,161	24,136	30,390

Social (People)

UNIT

2019

2020

2021

HEADCOUNT

HEADCOUNT BY REGION

U.S.	29,813	29,731	36,845
Canada	5,248	3,720	5,264
Australia	541	660	812
Rest of the world, total	4,706	1,686	782
Approximate total number of employees	40,308	35,797	43,703

DIVERSITY (U.S. ONLY)

Female employees as share of total workforce ¹¹	8%	9%	10%
Female employees in management and professional roles ¹¹	13%	14%	14%
Overall employee ethnic diversity ¹¹	34%	27%	32%
Ethnic diversity in management and professional roles ¹¹	23%	22%	24%
Diverse supplier spending ¹²	Million USD	—	\$678.6
		\$742.0	

TRAINING

NORTHWEST LINEMAN COLLEGE¹³

Veterans trained (campus career programs)	19%	20%	19%
Minority students trained (campus career programs)	26%	29%	31%
Female students trained (campus career programs)	0%	1%	1%
Total number of students trained, mobile training programs	6,529	5,553	6,570
Total number of students trained, apprenticeship programs	4,558	4,678	5,072
Total number of students trained, career training programs	2,000	2,249	2,666
Total number of students trained (campus and mobile training programs)	13,087	12,480	15,123

LAZY Q RANCH¹⁴

Total number of students trained	1,420	801	1,341
Total number of training days	17,356	12,453	19,658

STRONGHOLD UNIVERSITY^{14,15}

Total number of students trained	—	1,697	5,258
Total number of training days	—	2,122	6,573

SAFETY

“Stuff That Kills You” (STKY) actual rate ¹⁶	0.32	0.26	0.19
Total number of automated external defibrillators (AEDs) deployed to job sites	9,129	10,278	11,156
Total number of lives saved due to deployed automated external defibrillators (AEDs)	26	29	33
Total number of personal voltage detectors (PVDs) purchased for storm response activities	50	1,710	3,157

Governance (Principles)

UNIT

2019

2020

2021

BOARD DIVERSITY

Female	20%	20%	30%
Minority	10%	10%	10%

¹ Quanta's Renewable Energy Infrastructure Solutions segment provides comprehensive infrastructure solutions to customers involved in the renewable energy industry. Services include engineering, procurement, new construction, repowering, and repair and maintenance for generation facilities, such as utility-scale wind, solar and hydropower generation and battery storage facilities, as well as engineering and construction services for substations and switchyards, transmission and other electrical infrastructure needed to interconnect and transmit renewable energy generation and battery storage facilities. Revenues for 2021 include the contribution from Blattner Holding Company, beginning on October 13, 2021, the date of acquisition.

² Emergency restoration services, including the repair of infrastructure damaged by extreme weather events, including hurricanes, severe storms, snowstorms, tornadoes and wildfires

³ Data is for full year 2021. Completed projects only. CO₂ avoided calculations are estimates based on annual consumption and are for U.S. projects only. Source: cleanpower.org

⁴ Data is for full year 2021. Completed projects only

⁵ Includes a small amount of fuel used for generators at some facilities

⁶ Includes fuel card, bulk and other purchases at Quanta operating companies

⁷ Natural gas consumed on-site at Quanta-owned and -leased facilities

⁸ Based on vehicle fleet composition as of December 2021, including on-road, stationary combustion and off-road vehicles

⁹ Total does not include LPG/propane-powered forklifts

¹⁰ Consumption of water at Quanta-owned and -leased facilities

¹¹ 2019 representation data as of November 30, 2019. 2020 representation data as of November 30, 2020. 2021 representation data as of November 30, 2021. “Management and Professional Roles” refers to (1) Executives, Senior Officials and Managers, (2) First and Mid-Level Officials and Managers and (3) Professionals as per EEO-1 report filing. “Ethnic Diversity” refers to (1) Black or African American, (2) Native Hawaiian or Pacific Islander, (3) Asian, (4) American Indian or Alaska Native (5), Hispanic or Latino and (6) Two or More Races as per EEO-1 report filing. While we present male and female in this table, we acknowledge this is not fully encompassing of all gender identities.

¹² A diverse supplier is generally a business that is at least 51% owned and operated by an individual or group that is part of a traditionally underrepresented or underserved group.

¹³ Includes training of both Quanta and non-Quanta-based employees

¹⁴ Training of Quanta employees only

¹⁵ Stronghold University opened in May 2020. Length of courses range from six hours to four days with an average class size of 6.6.

¹⁶ “STKY actual events” are events that are considered life-threatening, life-altering or life-ending. STKY actual rate equals total number of STKY actual events, multiplied by 1,000,000, and divided by total work hours.

SASB INDEX

The Sustainability Accounting Standards Board (SASB) is an independent standards-setting organization that promotes disclosure of material sustainability information to meet investor needs. The table below references select indicators from the SASB standards for the Engineering & Construction Services industry.

ACCOUNTING METRIC	CATEGORY	CODE	DISCLOSURE OR LOCATION
ENVIRONMENTAL IMPACTS OF PROJECT DEVELOPMENT			
Number of incidents of non-compliance with environmental permits, standards and regulations	Quantitative	IF-EN-160A.1	Not disclosed. Quanta is reviewing the feasibility of capturing and reporting such data for future disclosure.
Discussion of processes to assess and manage environmental risks associated with project design, siting and construction	Discussion & Analysis	IF-EN-160A.2	Our Role in Society: How Quanta is Powering the Energy Transition, p. 6 Blattner Acquisition: Expanding Our Industry-Leading Energy Transition Platform, p. 24 Grid Restoration & Hardening: Responding to Natural Disasters & Extreme Weather Events, p. 30 LUMA Energy: Making Immediate Progress, p. 36 Intersection of People, Technology & Communities, p. 70 Enabling the Energy Transition Through Battery Storage, p. 100 Connecting Renewables Projects, p. 104 Electric Vehicle Charging: Building America's Essential Twenty-First Century Infrastructure, p. 110 Enabling Advanced Biofuels Production, p. 116 Minimizing Environmental Impacts, p. 120 Water Conservation & Biodiversity Management, p. 124 Waste Management, Supply Chain & Circular Economy Solutions, p. 132
STRUCTURAL INTEGRITY & SAFETY			
Amount of defect and safety related rework costs	Quantitative	IF-EN-250A.1	Not disclosed. Quanta is reviewing the feasibility of capturing and reporting such data for future disclosure.
Total amount of monetary losses as a result of legal proceedings associated with defect- and safety-related incidents	Quantitative	IF-EN-250A.2	Not disclosed. Quanta is reviewing the feasibility of capturing and reporting such data for future disclosure.
WORKFORCE HEALTH & SAFETY			
Total recordable incident rate (TRIR) and fatality rate for direct employees and contract employees	Quantitative	IF-EN-320A.1	For the 2021 performance year, the Company's consolidated TRIR was 0.98 and the consolidated LTIR was 0.26.

ACCOUNTING METRIC	CATEGORY	CODE	DISCLOSURE OR LOCATION
LIFE CYCLE IMPACTS OF BUILDINGS & INFRASTRUCTURE			
Number of commissioned projects certified to a third-party multi-attribute sustainability standard and active projects seeking such certification	Quantitative	IF-EN-410A.1	Quanta is reviewing the feasibility of capturing and reporting such data for future disclosure. Quanta does not determine if the work it performs will be certified to a third-party multi-attribute sustainability standard and may not be aware if a client or project owner is seeking such certification.
Discussion of process to incorporate operational-phase energy and water efficiency considerations into project planning and design	Discussion & Analysis	IF-EN-410A.2	Minimizing Environmental Impacts, p. 120 Water Conservation & Biodiversity Management, p. 124 Waste Management, Supply Chain & Circular Economy Solutions, p. 132
CLIMATE IMPACTS OF BUSINESS MIX			
Amount of backlog for hydrocarbon-related projects and renewable energy projects	Quantitative	IF-EN-410B.1	Amount of backlog for hydrocarbon-related projects at 12/31/21: 23% of total backlog (\$19.27 billion) Amount of backlog for renewable energy projects at 12/31/21: 13% of total backlog (\$19.27 billion)
Amount of backlog cancellations associated with hydrocarbon related projects	Quantitative	IF-EN-410B.2	None or not material
Amount of backlog for non-energy projects associated with climate change mitigation	Quantitative	IF-EN-410B.3	Quanta performs a significant amount of services associated with system modernization, electrical grid hardening and renewable energy facilitation, as well as various other electrification initiatives that we believe have a favorable impact on climate change mitigation. Amount of backlog for Electric Power Infrastructure Solutions projects at 12/31/21: 63% of total backlog (\$19.27 billion)
BUSINESS ETHICS			
Number of active projects and backlog in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index	Quantitative	IF-EN-510A.1	Active projects: 0 Backlog: \$0
Total amount of monetary losses as a result of legal proceedings associated with charges of bribery or corruption and anti-competitive practices	Quantitative	IF-EN-510A.2	Bribery or corruption losses: \$0 Anticompetitive practices losses: \$0
Description of policies and practices for prevention of bribery and corruption, and anti-competitive behavior in the project bidding processes	Discussion & Analysis	IF-EN-510A.3	Policies & Programs, p. 154
ACTIVITY METRICS			
Number of active projects	Quantitative	IF EN 000.A	~27,700
Number of commissioned projects	Quantitative	IF EN 000.B	~14,800
Total backlog	Quantitative	IF EN 000.C	\$19.27 billion

GRI STANDARDS CONTENT INDEX

We report against the Global Reporting Initiative (GRI) Standards, the most widely used framework for reporting on environmental, social and governance (ESG) issues. The report has been prepared with references to 2021, 2018 and 2016 GRI Standards (GRI 1: Foundation 2021).

DISCLOSURE		LOCATION
GRI 2: GENERAL DISCLOSURES 2021		
2-1	Organizational details	Quanta Services, Inc., a Delaware corporation
		2021 Annual Report on Form 10-K Cover page
2-2	Entities included in the organization’s sustainability reporting	2021 Annual Report on Form 10-K Exhibit 21.1 (Subsidiaries)
2-3	Reporting period, frequency and contact point	Fiscal Year 2021, annual, gforman@quantaservices.com
2-4	Restatements of information	Quanta has no restatements of information.
2-5	External assurance	Quanta does not have external assurance of its ESG metrics.
2-6	Activities, value chain and other business relationships	2021 Annual Report on Form 10-K Part I, Item 1, Business
2-7	Employees	2021 Annual Report on Form 10-K Part I, Item 1, Business, p. 9
2-8	Workers who are not employees	2021 Annual Report on Form 10-K Part I, Item 1, Business, p. 9
2-9	Governance structure and composition	Board of Directors
		Committees of the Board of Directors
		Corporate Governance Guidelines
		2022 Proxy Statement Corporate Governance
2-10	Nomination and selection of the highest governance body	2022 Proxy Statement Quanta Board of Directors
2-11	Chair of the highest governance body	Board of Directors
		2022 Proxy Statement Quanta Board of Directors
2-12	Role of the highest governance body in overseeing the management of impacts	2022 Proxy Statement Corporate Governance The Board’s Role in Risk Oversight
2-13	Delegation of responsibility for managing impacts	Board of Directors Governance and Nominating Committee Charter
		2022 Proxy Statement Corporate Governance Committees of the Board
2-14	Role of the highest governance body in sustainability reporting	Board of Directors Governance and Nominating Committee Charter
		2022 Proxy Statement Corporate Governance Committees of the Board
2-15	Conflicts of interest	Code of Conduct
		2022 Proxy Statement Certain Transactions Review of Related Party Transactions
		2022 Proxy Statement Corporate Governance Board Independence
		Audit Committee Charter
2-16	Communication of critical concerns	Code of Conduct
		Corporate Governance Guidelines

DISCLOSURE		LOCATION
GRI 2: GENERAL DISCLOSURES 2021, CONTINUED		
2-17	Collective knowledge of the highest governance body	2022 Proxy Statement Quanta Board of Directors
2-18	Evaluation of the performance of the highest governance body	2022 Proxy Statement Corporate Governance Board and Committee Evaluations
2-19	Remuneration policies	2022 Proxy Statement Compensation Discussion & Analysis
2-20	Process to determine remuneration	2022 Proxy Statement Compensation Discussion & Analysis
2-21	Annual total compensation ratio	2022 Proxy Statement Executive Compensation Chief Executive Officer Pay Ratio
2-22	Statement on sustainable development strategy	Progress on Our Contribution to Our Prioritized SDGs, p. 12 SDG Index, p. 178
2-23	Policy commitments	Code of Conduct
2-24	Embedding policy commitments	Code of Conduct
2-25	Processes to remediate negative impacts	Quanta does not report a process to remediate negative impacts.
2-26	Mechanisms for seeking advice and raising concerns	Code of Conduct
2-27	Compliance with laws and regulations	Code of Conduct
2-28	Membership associations	Quanta does not report membership associations.
2-29	Approach to stakeholder engagement	2022 Proxy Statement Corporate Governance Engagement and Communications with the Board
2-30	Collective bargaining agreements	2021 Annual Report on Form 10-K Part I, Item 1, Business, p. 9 2021 Annual Report on Form 10-K Part II, Item 8, Financial Statements and Supplemental Data, pp. 111–113
GRI 3: MATERIAL TOPICS 2021		
3-1	Process to determine material topics	Materiality, p. 16
3-2	List of material topics	Materiality, p. 16
3-3	Management of material topics	Materiality, p. 16
GRI 201: ECONOMIC PERFORMANCE 2016		
201-1	Direct economic value generated and distributed	2021 Annual Report on Form 10-K Part I, Item 1, Business
201-2	Financial implications and other risks and opportunities due to climate change	2021 Annual Report on Form 10-K Part I, Item 1, Business, p. 11 2021 Annual Report on Form 10-K Part I, Item 1A, Risk Factors 2021 Annual Report on Form 10-K Part II, Item 7, Management’s Discussion and Analysis of Financial Condition and Results of Operations, pp. 43–46
201-3	Defined benefit plan obligations and other retirement plans	2021 Annual Report on Form 10-K Part II, Item 8, Financial Statements and Supplemental Data, pp. 111–113
201-4	Financial assistance received from government	Quanta does not receive financial assistance from government.
GRI 202: MARKET PRESENCE 2016		
202-1	Ratios of standard entry level wage by gender compared to local minimum wage	Quanta does not report ratios of standard entry level wage by gender compared to local minimum wage.
202-2	Proportion of senior management hired from the local community	Quanta does not report proportion of senior management hired from the local community.

DISCLOSURE	LOCATION
GRI 203: INDIRECT ECONOMIC IMPACTS 2016	
203-1 Infrastructure investments and services supported	2021 Annual Report on Form 10-K Part I, Item 1, Business
203-2 Significant indirect economic impacts	Our Role in Society: How Quanta is Powering the Energy Transition, p. 6 Grid Restoration & Hardening: Responding to Natural Disasters & Extreme Weather Events, p. 30 Training & Education, p. 52 Intersection of People, Technology & Communities, p. 70 Serving & Strengthening Communities, p. 74 Employee Investment, p. 84
GRI 204: PROCUREMENT PRACTICES 2016	
204-1 Proportion of spending on local suppliers	Quanta does not report proportion of spending on local suppliers.
GRI 205: ANTI-CORRUPTION 2016	
205-1 Operations assessed for risks related to corruption	Policies & Programs, p. 154
205-2 Communication and training about anti-corruption policies and procedures	Policies & Programs, p. 154
205-3 Confirmed incidents of corruption and actions taken	Quanta investigates all allegations of fraud and corruption, and any substantiated allegations result in appropriate discipline and remedial action.
GRI 206: ANTI-COMPETITIVE BEHAVIOR 2016	
206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Quanta is not aware of any anti-competitive legal actions in which it has been identified as a participant in 2021.
GRI 207: TAX 2019	
207-1 Approach to tax	2021 Annual Report on Form 10-K Part II, Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations, pp. 43–44
207-2 Tax governance, control, and risk management	2022 Proxy Statement Corporate Governance The Board's Role in Risk Oversight
207-3 Stakeholder engagement and management of concerns related to tax	2022 Proxy Statement Corporate Governance Engagement and Communications with the Board
207-4 Country-by-country reporting	2021 Annual Report on Form 10-K Part II, Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations
GRI 301: MATERIALS 2016	
301-1 Materials used by weight or volume	Because Quanta performs specialty contractor work for customers, we do not report materials used by weight or volume.
301-2 Recycled input materials used	Because Quanta performs specialty contractor work for customers, we do not report recycled input materials used.
301-3 Reclaimed products and their packaging materials	Because Quanta performs specialty contractor work for customers, we do not report reclaimed products and their packaging materials.
GRI 302: ENERGY 2016	
302-1 Energy consumption within the organization	Our Carbon Footprint, p. 90 Sustainability Data Metrics, p. 160

DISCLOSURE	LOCATION
GRI 302: ENERGY 2016, CONTINUED	
302-2 Energy consumption outside of the organization	Quanta does not report on energy consumption outside of the organization.
302-3 Energy intensity	Our Carbon Footprint, p. 90 Sustainability Data Metrics, p. 160
302-4 Reduction of energy consumption	Our Carbon Footprint, p. 90 Sustainability Data Metrics, p. 160
302-5 Reductions in energy requirements of products and services	Our Carbon Footprint, p. 90 Sustainability Data Metrics, p. 160
GRI 303: WATER AND EFFLUENTS 2018	
303-1 Interactions with water as a shared resource	Water Conservation & Biodiversity Management, p. 124
303-2 Management of water discharge-related impacts	Water Conservation & Biodiversity Management, p. 124
303-3 Water withdrawal	Water Conservation & Biodiversity Management, p. 124 Sustainability Data Metrics, p. 160
303-4 Water discharge	Quanta does not report water discharge.
303-5 Water consumption	Water Conservation & Biodiversity Management, p. 124 Sustainability Data Metrics, p. 160
GRI 304: BIODIVERSITY 2016	
304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Quanta does not report operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.
304-2 Significant impacts of activities, products and services on biodiversity	Water Conservation & Biodiversity Management, p. 124
304-3 Habitats protected or restored	Quanta does not quantify habitats protected or restored.
304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations	Quanta does not quantify IUCN Red List species and national conservation list species with habitats in areas affected by operations.
GRI 305: EMISSIONS 2016	
305-1 Direct (Scope 1) GHG emissions	Our Carbon Footprint, p. 90 Sustainability Data Metrics, p. 160
305-2 Energy indirect (Scope 2) GHG emissions	Our Carbon Footprint, p. 90 Sustainability Data Metrics, p. 160
305-3 Other indirect (Scope 3) GHG emissions	Quanta does not yet report Scope 3 emissions.
305-4 GHG emissions intensity	Our Carbon Footprint, p. 90 Sustainability Data Metrics, p. 160
305-5 Reduction of GHG emissions	Our Carbon Footprint, p. 90 Sustainability Data Metrics, p. 160
305-6 Emissions of ozone-depleting substances (ODS)	Quanta does not report emissions of ODS.
305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	Our Carbon Footprint, p. 90 Sustainability Data Metrics, p. 160

DISCLOSURE	LOCATION
GRI 306: WASTE 2020	
306-1 Waste generation and significant waste-related impacts	Waste Management, Supply Chain & Circular Economy Solutions, p. 132
306-2 Management of significant waste-related impacts	Waste Management, Supply Chain & Circular Economy Solutions, p. 132
306-3 Waste generated	Quanta does not yet report waste generated.
306-4 Waste diverted from disposal	Quanta does not yet report waste diverted from disposal.
306-5 Waste directed to disposal	Quanta does not yet report waste directed to disposal.
GRI 308: SUPPLIER ENVIRONMENTAL ASSESSMENT 2016	
308-1 New suppliers that were screened using environmental criteria	How We Got Here: A Rich History, p. 18 Looking Ahead: A Note From Quanta’s Director of Sustainability, p. 21 Waste Management, Supply Chain & Circular Economy Solutions, p. 132
308-2 Negative environmental impacts in the supply chain and actions taken	Quanta does not report on negative environmental impacts in the supply chain and actions taken.
GRI 401: EMPLOYMENT 2016	
401-1 New employee hires and employee turnover	Quanta does not report on new employee hires and employee turnover.
401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	Quanta Benefits Programs
401-3 Parental leave	Quanta does not report parental leave data.
GRI 402: LABOR/MANAGEMENT RELATIONS 2016	
402-1 Minimum notice periods regarding operational changes	Quanta does not report minimum notice periods regarding operational changes.
GRI 403: OCCUPATIONAL HEALTH AND SAFETY 2018	
403-1 Occupational health and safety management system	A Culture of Safety, p. 44 Training & Education, p. 52 Sustainability Data Metrics, p. 160 SASB Index, p. 164
403-2 Hazard identification, risk assessment, and incident investigation	A Culture of Safety, p. 44 Training & Education, p. 52 Sustainability Data Metrics, p. 160 SASB Index, p. 164
403-3 Occupational health services	A Culture of Safety, p. 44 Training & Education, p. 52 Sustainability Data Metrics, p. 160 SASB Index, p. 164
403-4 Worker participation, consultation, and communication on occupational health and safety	A Culture of Safety, p. 44 Training & Education, p. 52 Sustainability Data Metrics, p. 160 SASB Index, p. 164

DISCLOSURE	LOCATION
GRI 403: OCCUPATIONAL HEALTH AND SAFETY 2018, CONTINUED	
403-5 Worker training on occupational health and safety	2021 Annual Report on Form 10-K Part I, Item 1, Business, pp. 9–11 A Culture of Safety, p. 44 Training & Education, p. 52 Sustainability Data Metrics, p. 160 SASB Index, p. 164
403-6 Promotion of worker health	2021 Annual Report on Form 10-K Part I, Item 1, Business, pp. 9–11 A Culture of Safety, p. 44 Training & Education, p. 52 Employee Investment, p. 84 Sustainability Data Metrics, p. 160 SASB Index, p. 164
403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	A Culture of Safety, p. 44 Training & Education, p. 52 Employee Investment, p. 84 Sustainability Data Metrics, p. 160 SASB Index, p. 164
403-8 Workers covered by an occupational health and safety management system	A Culture of Safety, p. 44 Training & Education, p. 52 Employee Investment, p. 84 Sustainability Data Metrics, p. 160 SASB Index, p. 164
403-9 Work-related injuries	A Culture of Safety, p. 44 Training & Education, p. 52 Employee Investment, p. 84 Sustainability Data Metrics, p. 160 SASB Index, p. 164
403-10 Work-related ill health	A Culture of Safety, p. 44 Training & Education, p. 52 Employee Investment, p. 84 Sustainability Data Metrics, p. 160 SASB Index, p. 164

DISCLOSURE	LOCATION
GRI 404: TRAINING AND EDUCATION 2016	
404-1 Average hours of training per year per employee	Training & Education, p. 52 Sustainability Data Metrics, p. 160
404-2 Programs for upgrading employee skills and transition assistance programs	2021 Annual Report on Form 10-K Part I, Item 1, Business, pp. 9–11
404-3 Percentage of employees receiving regular performance and career development reviews	Quanta does not report percentage of employees receiving regular performance and career development reviews.
GRI 405: DIVERSITY AND EQUAL OPPORTUNITY 2016	
405-1 Diversity of governance bodies and employees	Diversity, Equity & Inclusion, p. 60 Board of Directors, p. 138 Sustainability Data Metrics, p. 160
405-2 Ratio of basic salary and remuneration of women to men	Quanta does not report ratio of basic salary and remuneration of women to men.
GRI 406: NON-DISCRIMINATION 2016	
406-1 Incidents of discrimination and corrective actions taken	Quanta does not report incidents of discrimination and corrective actions taken.
GRI 407: FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING 2016	
407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	Human Rights, p. 150 Policies & Programs, p. 154
GRI 408: CHILD LABOR 2016	
408-1 Operations and suppliers at significant risk for incidents of child labor	Human Rights, p. 150 Policies & Programs, p. 154
GRI 409: FORCED OR COMPULSORY LABOR 2016	
409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	Human Rights, p. 150 Policies & Programs, p. 154
GRI 410: SECURITY PRACTICES 2016	
410-1 Security personnel trained in human rights policies or procedures	Quanta does not have security personnel trained in human rights policies or procedures.
GRI 411: RIGHTS OF INDIGENOUS PEOPLES 2016	
411-1 Incidents of violations involving rights of Indigenous peoples	Quanta is not aware of any incidents of violations involving rights of Indigenous peoples.
GRI 413: LOCAL COMMUNITIES 2016	
413-1 Operations with local community engagement, impact assessments, and development programs	Intersection of People, Technology & Communities, p. 70 Serving & Strengthening Communities, p. 74
413-2 Operations with significant actual and potential negative impacts on local communities	Quanta is not aware of operations with significant actual and potential negative impacts on local communities.

DISCLOSURE	LOCATION
GRI 414: SUPPLIER SOCIAL ASSESSMENT 2016	
414-1 New suppliers that were screened using social criteria	Diversity, Equity & Inclusion, p. 60 Sustainability Data Metrics, p. 160
414-2 Negative social impacts in the supply chain and actions taken	Quanta is not aware of negative social impacts in the supply chain.
GRI 415: PUBLIC POLICY 2016	
415-1 Political contributions	Investor Relations website Political Activity
GRI 416: CUSTOMER HEALTH AND SAFETY 2016	
416-1 Assessment of the health and safety impacts of product and service categories	A Culture of Safety, p. 44 Sustainability Data Metrics, p. 160 SASB Index, p. 164
416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	A Culture of Safety, p. 44 Sustainability Data Metrics, p. 160 SASB Index, p. 164
GRI 417: MARKETING AND LABELING 2016	
417-1 Requirements for product and service information and labeling	Quanta has no requirements for product and service information and labeling.
417-2 Incidents of non-compliance concerning product and service information and labeling	Quanta is not aware of any incidents of non-compliance concerning product and service information and labeling.
417-3 Incidents of non-compliance concerning marketing communications	Quanta is not aware of any incidents of non-compliance concerning marketing communications.
GRI 418: CUSTOMER PRIVACY 2016	
418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	Quanta is not aware of any substantiated complaints concerning breaches of customer privacy and losses of customer data.

TCFD INDEX

The Task Force on Climate-related Financial Disclosures (TCFD)¹ provides a framework of recommended disclosures for corporate reporting on climate-related risks and opportunities, categorized by Governance, Strategy, Risk Management and Metrics and Targets. This index references Quanta’s reporting against the voluntary guidelines of the TCFD. We plan to update our analysis on a yearly basis.

FOCUS AREA	DISCLOSURE	QUANTA'S RESPONSE
GOVERNANCE		
Disclose the organization’s governance around climate-related risks and opportunities.	Describe the board’s oversight of climate-related risks and opportunities.	Board of Directors, p. 138 How We Manage Climate Risks, p. 144 2022 Proxy Statement: The Board’s Role in Risk Oversight
	Describe management’s role in assessing and managing climate-related risks and opportunities.	Q&A With Quanta Senior Leaders, p. 14 Materiality, p. 16 Board of Directors, p. 138 How We Manage Climate Risks, p. 144 2022 Proxy Statement: The Board’s Role in Risk Oversight
STRATEGY		
Disclose the actual and potential impacts of climate-related risks and opportunities on the organization’s businesses, strategy and financial planning.	Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	Quanta Services CDP Climate Response 2022: Physical Risks: Changes in climate have caused, and are expected to continue to cause, among other things, increasing temperatures, rising sea levels and changes to patterns and intensity of wildfires, hurricanes, floods, winter storms and other storms and severe weather-related events and natural disasters. Our operating results can be significantly influenced by the climates in which we operate and severe weather events, and these changes have and could continue to significantly impact our future operating results. A greater amount of rainfall, snow, ice or other less accommodating weather conditions, as well as an increase in severe weather events and natural disasters, reduces our productivity and causes delays and cancellations of our ongoing projects. For example, hurricanes and tropical storms in the U.S. Gulf Coast region have impacted our ability to perform industrial services operations during certain periods. Physical risks associated with climate change have also increased hazards associated with certain of our operations, which in turn has increased the potential for liability and increased the costs associated with such operations. For example, severe drought and high wind speeds in the western United States, Australia and other locations have significantly increased the risk of wildfires, which in turn has exposed us and other contractors to increased risk of liability in connection with our operations in those locations, as these events can be started by failure of electrical power and other infrastructure on which we have performed services.

¹ fsb-tcfd.org

FOCUS AREA

DISCLOSURE

QUANTA'S RESPONSE

STRATEGY, CONTINUED

Given the potentially significant liabilities associated with these events, to the extent we are deemed liable for a wildfire event, it could have a material adverse impact on our business. Furthermore, these climate conditions have also resulted in increased costs for wildfire-related third-party insurance and reduced the amount insurance carriers are willing to make available to us under such policies.

Physical Opportunities: An increase in certain of these physical events such as hurricanes, tropical storms, wildfires, hurricanes, floods, winter storms and other storms as well as severe weather-related events and natural disasters creates opportunities for us to perform a greater amount of emergency restoration services. These events can also increase customer spending on modernization, grid hardening and other infrastructure improvements, such as fire hardening programs in California and the western United States and storm hardening in coastal regions. For example, during 2021, several strong hurricanes and other severe weather events resulted in emergency restoration services revenues at levels comparable to 2020, when record levels of hurricane activity in the United States resulted in record levels of emergency restoration services revenues for us. Additionally, changes in climate could result in more accommodating weather patterns for longer periods of time in certain areas, which may enable us to increase our productivity in those areas.

Transition Risks: The increasing focus on climate change has also impacted markets within our Underground Utility and Infrastructure Solutions segment. Certain services within this segment have experienced challenges, and could continue to experience challenges, related to a transition toward a carbon-neutral economy. For example, concerns about the impact of certain large pipeline projects on the environment, among other things, have contributed to significant delays and cancellations of certain projects in recent years, and as a result, we have decreased our focus on these service offerings. Furthermore, a longer-term decline in demand for fossil fuels or refined products as a result of climate change concerns and regulation could further negatively impact these projects or negatively impact demand for our midstream and industrial services operations.

Transition Opportunities: Climate change has also caused, and is expected to continue to cause, changes in the markets we operate in. For example, in support of the transition to a carbon-neutral economy, utility customers are transitioning toward more sustainable sources of power generation, such as renewables like wind and solar, coupled with battery storage technology, and are replacing aging, less efficient infrastructure. Concerns regarding climate change are also leading to the increased electrification of consumer goods, such as electric vehicles, which is expected to provide continued additional demand for new and expanded electric power infrastructure and reengineering of existing electric power infrastructure. We believe these market dynamics and technological advances provide significant opportunities for us, including increased demand for our renewable energy infrastructure services, which we have significantly expanded through our acquisition of Blattner, as well as our portfolio of electric power infrastructure services.





Regulatory & Compliance Cost Risk: New legislation or regulation related to climate change could increase our costs. Most significantly, we maintain a large fleet of vehicles and a significant amount of construction machinery, and the costs associated therewith could significantly increase as a result of regulations related to greenhouse gas emissions from such sources or regulations that result in an increase in fuel prices.




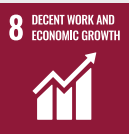

FOCUS AREA	DISCLOSURE	QUANTA'S RESPONSE
STRATEGY, CONTINUED	Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	How We Got Here: A Rich History, p. 18 Looking Ahead: A Note From Quanta's Director of Sustainability, p. 21 Our Carbon Footprint, p. 90 How We Manage Climate Risks, p. 144 2022 Proxy Statement: The Board's Role in Risk Oversight Quanta Services CDP Climate Response 2022
	Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	Quanta Services CDP Climate Response 2022
RISK MANAGEMENT	Disclose how the organization identifies, assesses and manages climate-related risks.	How We Manage Climate Risks, p. 144 2022 Proxy Statement: The Board's Role in Risk Oversight Quanta Services CDP Climate Response 2022
	Describe the organization's processes for managing climate-related risks.	How We Manage Climate Risks, p. 144 2022 Proxy Statement: The Board's Role in Risk Oversight Quanta Services CDP Climate Response 2022
	Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	How We Manage Climate Risks, p. 144 2022 Proxy Statement: The Board's Role in Risk Oversight Quanta Services CDP Climate Response 2022






FOCUS AREA	DISCLOSURE	QUANTA'S RESPONSE																									
METRICS & TARGETS																											
Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities.	Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	<p>Our Carbon Footprint, p. 90</p> <p>Quanta Services CDP Climate Response 2022</p>																									
	Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	<p>Our Carbon Footprint, p. 90</p> <p>Quanta Services CDP Climate Response 2022</p> <table><thead><tr><th></th><th>UNITS</th><th>2019</th><th>2020</th><th>2021</th></tr></thead><tbody><tr><td>Scope 1 Emissions</td><td>Metrics tons CO₂e</td><td>656,300</td><td>576,662</td><td>653,993</td></tr><tr><td>Scope 2 Emissions (Location-Based)</td><td>Metrics tons CO₂e</td><td>9,505</td><td>9,277</td><td>9,969</td></tr><tr><td>Scope 2 Emissions (Market-Based)</td><td>Metrics tons CO₂e</td><td>9,503</td><td>9,267</td><td>9,953</td></tr><tr><td>Scope 3 Emissions</td><td>Metrics tons CO₂e</td><td>—</td><td>—</td><td>—</td></tr></tbody></table>		UNITS	2019	2020	2021	Scope 1 Emissions	Metrics tons CO ₂ e	656,300	576,662	653,993	Scope 2 Emissions (Location-Based)	Metrics tons CO ₂ e	9,505	9,277	9,969	Scope 2 Emissions (Market-Based)	Metrics tons CO ₂ e	9,503	9,267	9,953	Scope 3 Emissions	Metrics tons CO ₂ e	—	—	—
	UNITS	2019	2020	2021																							
Scope 1 Emissions	Metrics tons CO ₂ e	656,300	576,662	653,993																							
Scope 2 Emissions (Location-Based)	Metrics tons CO ₂ e	9,505	9,277	9,969																							
Scope 2 Emissions (Market-Based)	Metrics tons CO ₂ e	9,503	9,267	9,953																							
Scope 3 Emissions	Metrics tons CO ₂ e	—	—	—																							
	Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	—																									




SDG INDEX

We recognize the importance of the United Nations (UN) 2030 Agenda for Sustainable Development. The UN Sustainable Development Goals (SDGs) call on governments, business and civil society organizations to take action to address the urgent problems facing our world today. We value the important role these goals play in equitable, inclusive, sustainable development. We’re proud to share how we’re contributing to each SDG. We invite our customers, suppliers and stakeholders to join us in our efforts to contribute toward the shared blueprint for peace and prosperity for people and the planet, now and into the future.

GOAL	DESCRIPTION	INFORMATION ON HOW WE ARE CONTRIBUTING
NO POVERTY		
	End poverty in all its forms everywhere.	<p>Grid Restoration & Hardening: Responding to Natural Disasters & Extreme Weather Events, p. 30</p> <p>LUMA Energy: Making Immediate Progress, p. 36</p> <p>Training & Education, p. 52</p> <p>Intersection of People, Technology & Communities, p. 70</p> <p>Serving & Strengthening Communities, p. 74</p> <p>Employee Investment, p. 84</p> <p>Connecting Renewables Projects, p. 104</p> <p>Human Rights, p. 150</p>
ZERO HUNGER		
	End hunger, achieve food security and improved nutrition and promote sustainable agriculture.	<p>LUMA Energy: Making Immediate Progress, p. 36</p> <p>Intersection of People, Technology & Communities, p. 70</p> <p>Water Conservation & Biodiversity Management, p. 124</p>
GOOD HEALTH & WELL-BEING		
	Ensure healthy lives and promote well-being for all at all ages.	<p>A Culture of Safety, p. 44</p> <p>Serving & Strengthening Communities, p. 74</p> <p>Employee Investment, p. 84</p>
QUALITY EDUCATION		
	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.	<p>Our Role in Society: How Quanta is Powering the Energy Transition, p. 6</p> <p>A Culture of Safety, p. 44</p> <p>Training & Education, p. 52</p> <p>Serving & Strengthening Communities, p. 74</p> <p>Employee Investment, p. 84</p>

GOAL	DESCRIPTION	INFORMATION ON HOW WE ARE CONTRIBUTING
GENDER EQUALITY		
	Achieve gender equality and empower all women and girls.	<p>Diversity, Equity & Inclusion, p. 60</p> <p>Human Rights, p. 150</p>
CLEAN WATER & SANITATION		
	Ensure availability and sustainable management of water and sanitation for all.	<p>Our Role in Society: How Quanta is Powering the Energy Transition, p. 6</p> <p>Grid Restoration & Hardening: Responding to Natural Disasters & Extreme Weather Events, p. 30</p> <p>Water Conservation & Biodiversity Management, p. 124</p>
AFFORDABLE & CLEAN ENERGY		
	Ensure access to affordable, reliable, sustainable and modern energy for all.	<p>Our Role in Society: How Quanta is Powering the Energy Transition, p. 6</p> <p>Blattner Acquisition: Expanding Our Industry-Leading Energy Transition Platform, p. 24</p> <p>Our Carbon Footprint, p. 90</p> <p>Enabling the Energy Transition Through Battery Storage, p. 100</p> <p>Connecting Renewables Projects, p. 104</p> <p>Electric Vehicle Charging: Building America's Essential Twenty-First Century Infrastructure, p. 110</p> <p>Enabling Advanced Biofuels Production, p. 116</p>
DECENT WORK & ECONOMIC GROWTH		
	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.	<p>Our Role in Society: How Quanta is Powering the Energy Transition, p. 6</p> <p>LUMA Energy: Making Immediate Progress, p. 36</p> <p>Training & Education, p. 52</p> <p>Serving & Strengthening Communities, p. 74</p> <p>Employee Investment, p. 84</p>
INDUSTRY, INNOVATION & INFRASTRUCTURE		
	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.	<p>Our Role in Society: How Quanta is Powering the Energy Transition, p. 6</p> <p>Blattner Acquisition: Expanding Our Industry-Leading Energy Transition Platform, p. 24</p> <p>Grid Restoration & Hardening: Responding to Natural Disasters & Extreme Weather Events, p. 30</p> <p>LUMA Energy: Making Immediate Progress, p. 36</p> <p>Intersection of People, Technology & Communities, p. 70</p> <p>Enabling the Energy Transition Through Battery Storage, p. 100</p> <p>Connecting Renewables Projects, p. 104</p> <p>Electric Vehicle Charging: Building America's Essential Twenty-First Century Infrastructure, p. 110</p> <p>Enabling Advanced Biofuels Production, p. 116</p>

GOAL	DESCRIPTION	INFORMATION ON HOW WE ARE CONTRIBUTING
REDUCED INEQUALITIES		
	Reduce inequality within and among countries.	<p>LUMA Energy: Making Immediate Progress, p. 36</p> <p>Diversity, Equity & Inclusion, p. 60</p> <p>Intersection of People, Technology & Communities, p. 70</p> <p>Serving & Strengthening Communities, p. 74</p> <p>Human Rights, p. 150</p>
SUSTAINABLE CITIES & COMMUNITIES		
	Make cities and human settlements inclusive, safe, resilient and sustainable.	<p>LUMA Energy: Making Immediate Progress, p. 36</p> <p>A Culture of Safety, p. 44</p> <p>Intersection of People, Technology & Communities, p. 70</p> <p>Enabling the Energy Transition Through Battery Storage, p. 100</p> <p>Connecting Renewables Projects, p. 104</p> <p>Electric Vehicle Charging: Building America's Essential Twenty-First Century Infrastructure, p. 110</p>
RESPONSIBLE CONSUMPTION & PRODUCTION		
	Ensure sustainable consumption and production patterns.	<p>Minimizing Environmental Impacts, p. 120</p> <p>Waste Management, Supply Chain & Circular Economy Solutions, p. 132</p>
CLIMATE ACTION		
	Take urgent action to combat climate change and its impacts.	<p>Our Role in Society: How Quanta is Powering the Energy Transition, p. 6</p> <p>Blattner Acquisition: Expanding Our Industry-Leading Energy Transition Platform, p. 24</p> <p>Grid Restoration & Hardening: Responding to Natural Disasters & Extreme Weather Events, p. 30</p> <p>LUMA Energy: Making Immediate Progress, p. 36</p> <p>Intersection of People, Technology & Communities, p. 70</p> <p>Enabling the Energy Transition Through Battery Storage, p. 100</p> <p>Connecting Renewables Projects, p. 104</p> <p>Electric Vehicle Charging: Building America's Essential Twenty-First Century Infrastructure, p. 110</p> <p>Enabling Advanced Biofuels Production, p. 116</p>
LIFE BELOW WATER		
	Conserve and sustainably use the oceans, seas and marine resources for sustainable development.	<p>Water Conservation & Biodiversity Management, p. 124</p>

GOAL	DESCRIPTION	INFORMATION ON HOW WE ARE CONTRIBUTING
LIFE ON LAND		
	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation and halt biodiversity loss.	<p>Minimizing Environmental Impacts, p. 120</p> <p>Water Conservation & Biodiversity Management, p. 124</p> <p>Waste Management, Supply Chain & Circular Economy Solutions, p. 132</p>
PEACE, JUSTICE & STRONG INSTITUTIONS		
	Promote just, peaceful and inclusive societies.	<p>Board of Directors, p. 138</p> <p>How We Manage Climate Risks, p. 144</p> <p>Human Rights, p. 150</p> <p>Policies & Programs, p. 154</p>
PARTNERSHIPS FOR THE GOALS		
	Strengthen the means of implementation and revitalize the global partnership for sustainable development.	<p>Our Role in Society: How Quanta is Powering the Energy Transition, p. 6</p> <p>Grid Restoration & Hardening: Responding to Natural Disasters & Extreme Weather Events, p. 30</p> <p>LUMA Energy: Making Immediate Progress, p. 36</p> <p>A Culture of Safety, p. 44</p> <p>Training & Education, p. 52</p> <p>Diversity, Equity & Inclusion, p. 60</p> <p>Intersection of People, Technology & Communities, p. 70</p> <p>Serving & Strengthening Communities, p. 74</p> <p>Enabling the Energy Transition Through Battery Storage, p. 100</p> <p>Connecting Renewables Projects, p. 104</p> <p>Electric Vehicle Charging: Building America's Essential Twenty-First Century Infrastructure, p. 110</p> <p>Enabling Advanced Biofuels Production, p. 116</p>

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