



QUANTA
SERVICES

2022 ANNUAL REPORT



QUANTA 2022 ANNUAL REPORT

39 LIVES SAVED
TO DATE

/ WITH OUR +13,000 AUTOMATED
EXTERNAL DEFIBRILLATOR (AED)
UNITS DEPLOYED TO JOB SITES

+10%

/ YEAR-OVER-YEAR DECLINE
IN “STUFF THAT KILLS YOU”
(STKY) INCIDENTS

~50K

/ EMPLOYEES DURING
THE YEAR

~26K

/ PEOPLE TRAINED IN QUANTA
TRAINING FACILITIES IN 2022

~70K

/ OWNED AND LEASED
FLEET ASSETS

#285

/ ON 2022 FORTUNE 500 LIST

QUANTA is the power of people.

We build the expertise, partnerships
and culture of safety and diversity
needed to forge the infrastructure
solutions that **power modern life.**

CONTENTS

TABLE OF CONTENTS

02 Stockholder Letter

06 At a Glance

08 Sustainability

10 Energy Transition

11 Financial Tables

14 Company Information



FROM OUR CEO

MY FELLOW STOCKHOLDERS

Quanta delivered strong results throughout 2022 and ended the year with increased momentum, all of which are built off an industry-leading operational and financial platform designed to deliver safe project execution and profitable growth. Quanta continues to be driven by the dedication and operational excellence of our world-class employees and a culture of collaboration, and we believe our 2022 results demonstrate the benefit of our diversified and sustainable portfolio of solutions and the successful execution of key strategic initiatives that drive operational excellence and total cost solutions for our clients and ultimately the consumer.

Additionally, our portfolio of companies, diversity of service lines, geographic coverage, outstanding field leadership and deep, long-standing and collaborative relationships with our clients have allowed us to continue to deliver record earnings growth and total backlog as we navigated challenges presented by a global pandemic and ongoing macroeconomic uncertainty and supply chain constraints.

2022 Accomplishments

We accomplished a great deal in 2022, and our past success positions us well for the future. Some of our significant accomplishments are described below.

- We continued to develop our front-end solutions strategy, both organically and through acquisitions and strategic investments, which is focused on strengthening our design, engineering, permitting, environmental, logistics and program management capabilities. This strategy is designed to expand our solutions offerings and total addressable market, while providing our customers with greater certainty around cost, time to market and quality, ultimately benefitting consumers.
- We achieved record revenues, maintained margins and increased market share within our Electric Power

Infrastructure Solutions Segment despite project delays caused by ongoing supply chain challenges.

- We further expanded our emergency response capabilities and supported our customers' efforts to restore power to millions of people impacted by severe weather events. Our ability to quickly mobilize significant resources in times of need is unmatched in our industry.
- LUMA Energy, LLC (LUMA), our joint venture with ATCO, which manages Puerto Rico's more than 18,000-mile electric transmission and distribution system, continues to make significant progress in improving customer service, response times, customer communication and system reliability. Additionally, LUMA restored power to more than 90 percent of its customers in less than two weeks following Hurricane Fiona, a significant improvement in comparison to previous storm responses by the prior grid operator and comparable to, if not better than, restoration times following major hurricanes in the mainland United States. Though many years of challenges and work remain, we continue to believe this is a transformative opportunity for the people of Puerto Rico and remain committed to supporting LUMA's mission to provide reliable electricity while building a modern and sustainable transmission and distribution system.

- We increased our communications services revenues by approximately 30 percent, including through further development of wireless infrastructure solutions that expand our opportunities to capitalize on 5G network deployment and ongoing enhancement of 4G wireless networks.
- We continued to make meaningful progress on expanding the portfolio of services within our operating companies, which we believe creates a significant opportunity to reinforce our self-perform capabilities and improve operating efficiency and profitability. For example, we are leveraging our gas utility assets to perform certain aspects of underground electric power and telecom-related work.
- Quanta's Capacity Model™ was recognized by the National Safety Council as a finalist for its prestigious Green Cross for Safety Award, which recognizes outstanding projects and organizations working to support the National Safety Council's mission to save lives and prevent injuries, from the workplace to anyplace. The Capacity Model is a revolutionary concept because it is designed to not only create a work environment that prevents incidents, but also build in the capacity to fail safely.
- We continued to demonstrate our commitment to stockholder value and our confidence in Quanta's financial strength and growth opportunities by repurchasing approximately \$128 million of our common stock and increasing the per share amount of dividends paid during 2022 by 17 percent.
- And finally, we continue to increase our efforts and dedicate resources toward implementing sustainable business practices throughout the organization. We have made significant progress as set forth in the Quanta Services, Inc. 2021 Sustainability Report, which discusses the Company's accomplishments and includes our first comprehensive suite of consolidated sustainability metrics, including our Scope 1 and 2 emissions. The report also highlights the important positive impact Quanta has on society by helping to enable the transition to a reduced-carbon economy and other key technological developments.



Electric Power Infrastructure Solutions Segment – Utilities Remain Focused on Modernization and System Hardening

Demand remains robust for our solutions that support customer efforts to modernize and harden the electrical grid and prepare for the impact of increased electric vehicle penetration. This activity drove our Electric Power Infrastructure Solutions segment results and backlog strength during 2022, primarily through significant multi-year master services agreements and service line expansions with utility customers. Further, we continue to believe we are in the early stages of utilities undergrounding transmission and distribution lines to protect them from the effects of severe weather events and wildfires, with these initiatives active in all regions of the United States. Examples include electric transmission and distribution projects in high fire threat areas across the western United States, electric transmission projects in the northeastern United States, distribution circuits along the coast lines and electric transmission line projects for offshore wind generation. Many of these initiatives are part of large-scale, multi-year system modernization and hardening programs.

Renewable Infrastructure Solutions Segment – Tip of the Spear for Energy Transition

Our utility and renewable developer customers, which accounted for the majority of our 2022 revenues within the Renewable Infrastructure Solutions Segment, are leaders in the effort to reduce carbon emissions, increase electrification and lead the North American energy transition. They have aggressive plans to expand and modernize the electrical grid and grow renewable generation portfolios, and achieving these goals will require substantial incremental investment in transmission, substation and renewable generation facilities to produce and transport clean power and to ensure grid reliability due to the growth of intermittent power added to the system.

For example, in December 2022 we announced that Quanta was selected by Xcel Energy as its prime constructor to manage all construction activities for the Power Pathway high-voltage electric transmission project in Colorado. The approximately 610-mile high-voltage electric transmission line project is designed to increase the reliability of the state’s power grid and enable future renewable energy development in the state, including approximately 5,500 megawatts of new wind, solar and other resources that Xcel Energy plans to add through 2030.

While supply chain and regulatory hurdles created challenges for the renewable industry during 2022, there is significant demand for our solutions. A number of solar projects that were delayed in 2022 are beginning to move forward in 2023 and regulatory

hurdles are expected to continue to ease. Furthermore, the implementation of the Inflation Reduction Act (IRA), which is considered by many to be the country’s most ambitious legislative action ever taken to combat climate change, is expected to have a meaningful positive effect on a number of our end markets, which we expect to be additive to our strategy for at least the next decade.

Underground Utility and Infrastructure Solutions Segment – Consistent, High-Level Performance

Our Underground Utility and Infrastructure Solutions Segment consistently performed at a high level throughout 2022. Revenues grew meaningfully and margins improved significantly, after we navigated tough operating conditions caused by the global pandemic over the prior two years. Importantly, we continued to invest in our people and strategies during those challenging times and emerged as a stronger and better company, which is reflected in our solid 2022 results. We expect to continue our focus on growing our gas utility, pipeline integrity and industrial services businesses, consistent with our strategy of the last five years. These service lines are executing well and are driven primarily by regulated spend to modernize systems, reduce methane emissions, ensure environmental compliance and improve safety and reliability.

Looking to the coming years, we believe Quanta also has significant opportunities within this segment as customers are expected to increasingly pursue strategies to reduce their carbon footprint and transition their operations and assets toward “greener” business opportunities. The IRA

includes incentives designed to support certain of these energy-transition technologies that could encourage a broader set of current and potential traditional energy and industrial customers to accelerate such opportunities.

Proud of Our Past Success, But Focused on Future Sustainable and Profitable Growth

I want to thank and recognize our family of Quanta employees, whose hard work and commitment to excellence delivered another year of strong results and notable achievements. In February 2023,



“

We are focused on operating the business for the long term and expect to continue to distinguish ourselves through safe execution and best-in-class field leadership.”



Quanta’s management team had the privilege of ringing the Closing Bell at the New York Stock Exchange to commemorate our 25-year anniversary of trading on the prestigious exchange. Standing on that balcony and reflecting on what we have built over the last 25 years and where we are heading in the future was humbling, and I could not be prouder.

We are successfully executing on our strategic growth initiatives and continue to make meaningful progress on growing the portfolio of services we can deliver. We have built a solid platform that positions us well to capitalize on favorable long-term trends, particularly the transition toward a reduced-carbon economy and the adoption of new technologies. As a result, we are increasingly confident in our ability to meet or exceed our medium- and longer-term goals.

Quanta is anchored by our commitment to craft skill labor and our self-perform capabilities and is a portfolio of exceptional companies with geographic and service line diversity. We are focused on operating the business for the long term and expect to continue to distinguish ourselves through safe execution and best-in-class field leadership. We will pursue opportunities to enhance Quanta’s base business and leadership position in the industry and provide innovative solutions to our customers. We believe Quanta’s diversity, unique operating model and entrepreneurial mindset form the foundation that will allow us to continue to succeed and generate long-term value for all our stakeholders. In closing, we appreciate the ongoing support of our stockholders and your confidence in Quanta.



**EARL C. “DUKE”
AUSTIN, JR.**
President and
Chief Executive Officer

2022 AT A GLANCE

First Responders:

Unmatched Storm
Response Capabilities
and Resources

Once again, Quanta's employees were busy helping our customers keep the lights on by rebuilding the power grid in the wake of numerous severe weather events, including several major hurricanes, during 2022.



QUANTA'S STORM STATS

+9,700

Lineworkers and support
staff deployed

+800,000

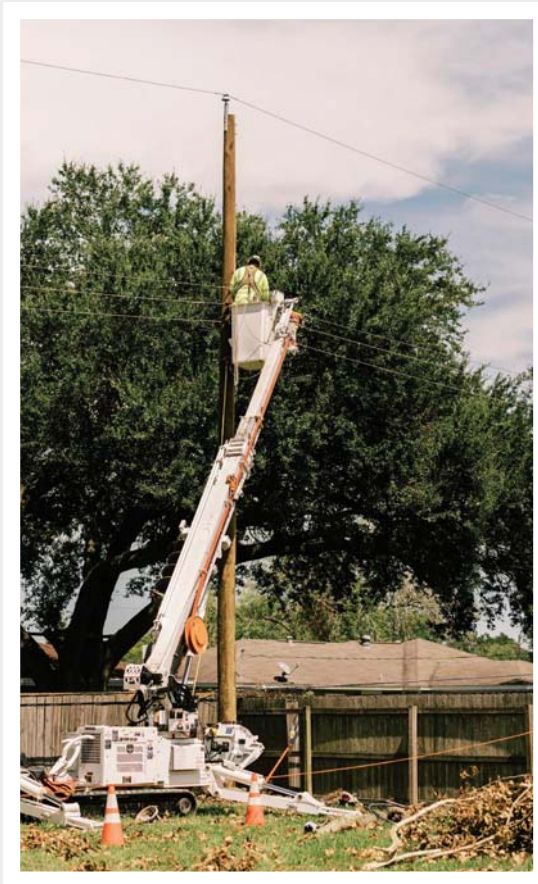
Man-hours spent restoring power

23

Quanta operating
companies utilized

+5.6M

End users' power restored
with support of Quanta



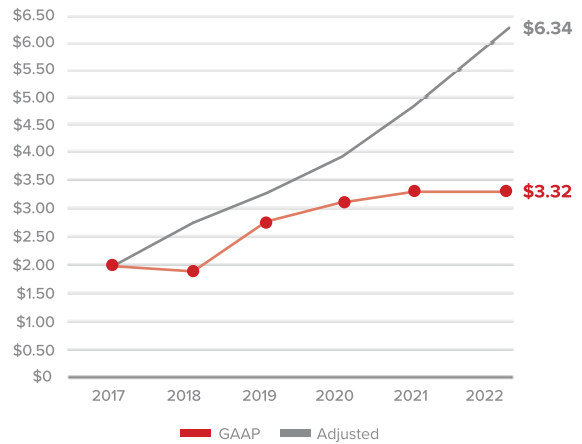
Revenues

(in billions) Year ended December 31.



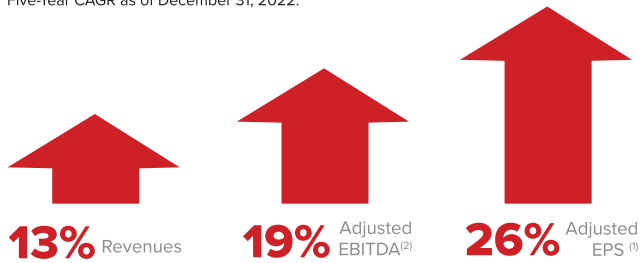
GAAP and Adjusted Diluted Earnings Per Share (1)

Year ended December 31.



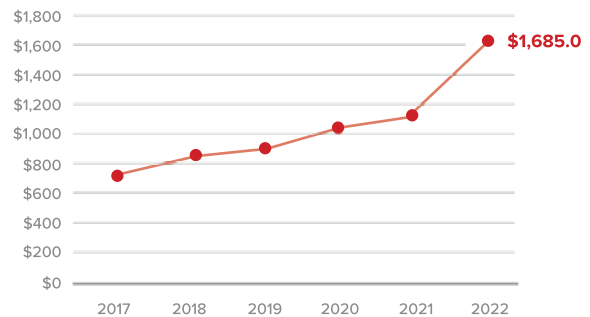
Profitable Growth

Five-Year CAGR as of December 31, 2022.



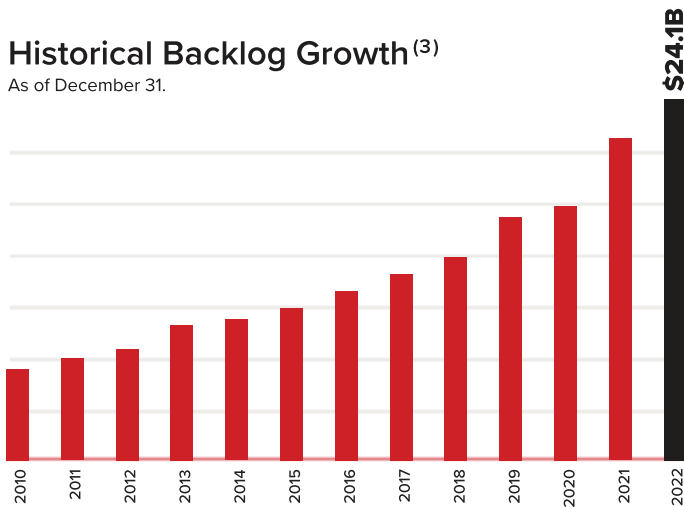
Adjusted EBITDA (2)

(in millions) Year ended December 31.



Historical Backlog Growth (3)

As of December 31.

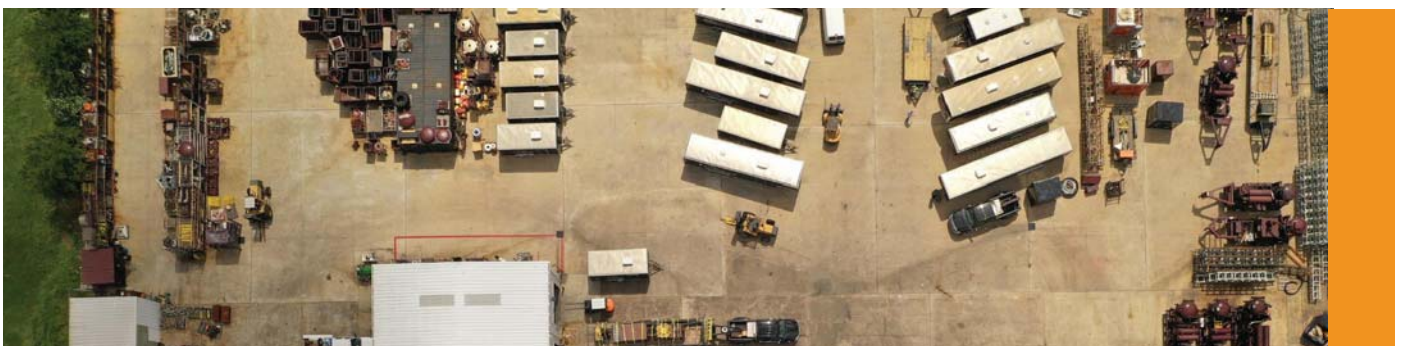


Liquidity (4)

As of December 31, 2022.

\$2.4B

- (1) A reconciliation of adjusted diluted earnings per share to diluted earnings per share attributable to common stock is set forth in the attached reconciliation tables.
- (2) A reconciliation of adjusted EBITDA to net income attributable to common stock is set forth in the attached reconciliation tables.
- (3) A reconciliation of backlog to remaining performance obligations is set forth in the attached reconciliation tables.
- (4) Liquidity includes cash and cash equivalents and availability under Quanta's senior credit facility.



SUSTAINABILITY

BUILDING MOMENTUM

At Quanta, enabling the energy transition is our business.

There is no overstating the size of the challenge before us. Our vision is to be at the heart of helping society meet its greatest challenges by building the infrastructure necessary to move toward a reduced-carbon economy, and the approximately 50,000 employees across Quanta are committed to furthering our mission.

Given our reach and resources, we feel a deep sense of responsibility to our stakeholders and the communities we serve to grow our positive impact on society and advance our sustainability strategy. We strive to grow our positive impact on society while reducing our footprint, investing in safety, diversifying our workforce, and operating ethically, responsibly, and sustainably.

Our Sustainability Strategy

Through our leading role in enabling the energy transition, our vision is to leave a measurable, sustainable legacy on people and our planet with a steadfast focus on our customers, employees and communities.



Our Vision

- ▶ **GROW OUR POSITIVE IMPACT**
Through our leading role in enabling the energy transition, we aim to increase our positive impact on society, leaving a sustainable legacy on people and our planet.
- ▶ **FOCUS ON SAFETY**
Our goal is to complete every project without incident or injury, which benefits our customers and the overall industry.
- ▶ **REDUCE OUR FOOTPRINT**
By investing in reduced-carbon options, we plan to be more efficient in our operations, even as our business grows.
- ▶ **EMBED SUSTAINABILITY**
Our sustainability strategy must be embedded in all aspects of our business.

Our Values

- ▶ **SUSTAINABILITY: IT'S WHO WE ARE**
Our efforts in enabling the energy transition define us. We believe good business decisions drive sustainability, and sustainability is good for business.
- ▶ **PEOPLE FIRST, ALWAYS**
We are committed to investing in our craft-skilled workforce to achieve our vision, benefiting our employees, customers and the overall industry.
- ▶ **CUSTOMER FOCUS**
We recognize our customers are expecting us to invest in solutions that reduce our footprint.
- ▶ **CULTURE OF INNOVATION**
It is not enough to have sustainability leaders at the top of our organization making decisions; rather, we recognize that leaders must be cultivated at all levels and in all geographies.

2022 SUSTAINABILITY HIGHLIGHTS



IMPACT

\$3.8B

Revenues from Renewable Energy Infrastructure Solutions Segment (+105% increase compared to 2021)

+15%

Increase in the number of students at NLC compared to 2021



PLANET

3rd

consecutive year of reduced fleet CO₂ intensity (g CO₂/\$ revenue)

Took delivery of first electric Chevrolet Silverado trucks



PEOPLE

Double-digit percentage decrease in “Stuff That Kills You” (STKY) rate compared to 2021

Continued meaningful increase in estimated total diverse vendor spend



PRINCIPLES

Established steering committees to further advance and increase oversight of sustainability initiatives and disclosure

20%

of target annual cash incentive and long-term equity incentive in 2022 executive compensation program linked to achieving sustainability goals



SUSTAINABILITY REPORT

Our annual sustainability report reflects activities and initiatives in our fiscal year 2021 and includes our first comprehensive suite of consolidated performance metrics with three years (2019 to 2021) of data across Impact, Environmental, Social and Governance categories.

FURTHER READING

RESILIENT, SUSTAINABLE & LEADING THE ENERGY TRANSITION



We believe our 2022 results reflect the success of our strategic initiatives and collaborative relationships with customers, as well as strong, sustainable and visible end-market drivers. Demand is strong for our infrastructure solutions that support customers' energy-transition objectives and that increase reliability, safety, efficiency and connectivity through modernization, which we believe will continue to provide multi-year growth opportunities.

Favorable Long-Term Trends

Quanta provides infrastructure solutions that support our customers' efforts to increase the reliability, safety, efficiency and connectivity of their networks. Additionally, our solutions facilitate policies and goals aimed at transitioning toward a connected and reduced-carbon economy through electrification, renewables integration and the adoption of new technologies such as electric vehicles and 5G wireless technology. As a result, we believe Quanta's business is levered to favorable and sustainable long-term trends. We believe these dynamics supplement existing multi-year investment programs targeting modernization of the power grid and increased reliability of power delivery.



An Energy Transition Leader

Moving toward a reduced-carbon economy is estimated by industry sources to require hundreds of billions of dollars of investment over the next several decades, a significant portion of which is expected to be invested in renewable energy generation, electric transmission and distribution systems, electric vehicle charging and other forms of clean power infrastructure. We believe Quanta has strong leadership positions across these service areas and expect that there are opportunities that will benefit the company for many years. In particular, we believe the addition of Blattner's renewable generation solutions to our existing electric power infrastructure solutions positions Quanta to be a leader in facilitating North America's energy transition.

Strong Financial Position

Quanta maintained a strong balance sheet and liquidity position throughout the year and generated solid cash flow. This has allowed us to invest in and support the growth of our operations and return capital to stockholders while also increasing liquidity. We believe our financial strength continues to position us to allocate future cash flow generation into value-creating opportunities, such as stock repurchases, acquisitions, strategic investments and dividends.

Portfolio-Driven Strategy

Our strategy over the past five years was designed to mitigate risks inherent in our business and prepare for unexpected events through diversification and by maintaining a strong financial profile. We have a diverse, high-quality customer base with low customer concentration, a broad and diverse geographic presence throughout North America and Australia and a diverse and expanding line of services. We believe continuing this strategy, along with favorable and resilient industry dynamics and strategic investments, will allow us to continue to serve all our stakeholders well.

RECONCILIATION OF NON-GAAP FINANCIAL MEASURES

Adjusted Diluted Earnings Per Share Attributable to Common Stock

(in millions, except per share information) For the Years Ended December 31 (Unaudited)

	2017	2018	2019	2020	2021	2022
NET INCOME ATTRIBUTABLE TO COMMON STOCK (AS DEFINED BY GAAP)	\$315	\$293	\$402	\$446	\$486	\$491
Adjustments:						
Acquisition and integration costs	10	17	25	20	47	47
Asset impairment charges	58	53	14	8	6	14
Impairments of non-integral unconsolidated affiliates	-	-	-	8	-	-
Severance and restructuring charges	-	1	-	7	-	-
Change in fair value of contingent consideration liabilities	(5)	(11)	13	1	7	4
Equity in earnings of non-integral unconsolidated affiliates	-	-	-	-	(2)	(20)
Unrealized loss from mark-to-market adjustment on investment	-	-	-	-	-	92
Gains on sales of investments	-	-	(13)	-	-	(22)
Income tax benefits associated with sale of equity investment	-	-	(8)	-	-	-
Bargain purchase gain	-	-	(3)	-	-	-
Write-off of deferred financing costs	-	-	-	2	4	-
Income tax impact of adjustments	(24)	(18)	(13)	(9)	(16)	(5)
Income of release of valuation allowance	-	-	-	(45)	-	-
Impact of income tax contingency releases	(7)	(8)	(6)	(8)	(7)	(4)
Impact of Tax Cut and Jobs Act	(70)	33	-	-	-	-
Impact of change in Canadian provincial statutory tax	-	-	(3)	-	-	-
Income tax impact primarily related to entity restructuring and recapitalization efforts	(18)	2	-	-	-	-
ADJUSTED NET INCOME ATTRIBUTABLE TO COMMON STOCK BEFORE CERTAIN NON-CASH ADJUSTMENTS ^(a)	259	362	408	430	525	597
Non-cash stock based compensation	47	52	52	91	88	106
Amortization of intangible assets	32	44	62	77	165	354
Amortization included in equity in earnings of integral unconsolidated affiliates	-	-	-	-	1	1
Income tax impact of non-cash adjustments	(29)	(25)	(30)	(44)	(66)	(120)
ADJUSTED NET INCOME ATTRIBUTABLE TO COMMON STOCK FOR ADJUSTED DILUTED EARNINGS PER SHARE	309	433	492	554	713	938
WEIGHTED AVERAGE SHARES						
Weighted average shares outstanding for diluted and adjusted diluted earnings per share	157	154	148	145	145	148
EARNINGS ATTRIBUTABLE TO COMMON STOCK						
Diluted earnings per share	\$2.00	\$1.90	\$2.73	\$3.07	\$3.34	\$3.32
Adjusted diluted earnings per share	\$1.97	\$2.81	\$3.33	\$3.82	\$4.91	\$6.34

The non-GAAP measure of adjusted diluted earnings per share is utilized by management and provided to investors because Quanta believes the exclusion of certain items from net income attributable to common stock and diluted earnings per share enables management and its investors to more effectively evaluate Quanta's operations period over period and to identify operating trends that might not be apparent when including the excluded items.

(a) The calculations of Adjusted Net Income Attributable to Common Stock and Adjusted Diluted Earnings Per Share in 2021 have been recast to conform to the presentation of such figures for the year ended December 31, 2022. Periods prior to the year ended December 31, 2021, have not been recast.

RECONCILIATION OF NON-GAAP FINANCIAL MEASURES

EBITDA and Adjusted EBITDA

(in millions) For the Years Ended December 31 (Unaudited)

	2017	2018	2019	2020	2021	2022
NET INCOME ATTRIBUTABLE TO COMMON STOCK (AS DEFINED BY GAAP)	\$315	\$293	\$402	\$446	\$486	\$491
Interest and other financing expenses	21	37	67	45	69	124
Interest income	(1)	(2)	-	(2)	(3)	(3)
Provision for income taxes	35	162	165	119	131	192
Depreciation expense	184	203	218	225	256	291
Amortization of intangible assets	32	44	62	77	165	354
Interest, income taxes, depreciation and amortization included in equity in earnings of integral unconsolidated affiliates	-	-	-	3	9	14
EBITDA	\$586	\$737	\$914	\$913	\$1,113	\$1,463
Non-cash stock-based compensation	46	52	52	92	88	106
Acquisition and integration costs	11	17	25	20	47	47
Equity in (earnings) losses of non-integral unconsolidated affiliates	-	-	-	-	(2)	(20)
Equity in (earnings) losses of unconsolidated affiliates	11	53	(77)	10	-	-
Unrealized loss from mark-to-market adjustment on investment	-	-	-	-	-	92
Gains on sales of investments	-	-	-	-	-	(22)
Asset impairment charges	60	53	14	8	6	14
Change in fair value of contingent consideration liabilities	(5)	(11)	13	1	7	4
Reduction of indemnification asset	-	-	4	-	-	-
Bargain purchase gain	-	-	(3)	-	-	-
Severance and restructuring charges	-	1	-	7	-	-
ADJUSTED EBITDA	\$709	\$902	\$942	\$1,051	\$1,259	\$1,684
Consolidated revenues	\$9,466	\$11,171	\$12,112	\$11,203	\$12,980	\$17,074
Adjusted EBITDA margin	7.5%	8.1%	7.8%	9.4%	9.7%	9.9%

The non-GAAP measures of EBITDA and adjusted EBITDA are utilized by management and provided to investors because Quanta believes the exclusion of certain items from net income attributable to common stock enables management and its investors to more effectively evaluate Quanta's operations period over period and to identify operating trends that might not be apparent when including the excluded items.

RECONCILIATION OF NON-GAAP FINANCIAL MEASURES

Remaining Performance Obligations and Backlog

(in millions) As of December 31 (Unaudited)

	2021		2022	
	12 Month	Total	12 Month	Total
ELECTRIC POWER INFRASTRUCTURE SOLUTIONS				
Remaining performance obligations	\$2,003	\$2,769	\$2,125	\$3,033
Estimated orders under MSAs and short-term, non-fixed price contracts	\$4,492	\$9,448	\$5,415	\$10,050
Backlog	\$6,495	\$12,217	\$7,540	\$13,083
RENEWABLE ENERGY INFRASTRUCTURE SOLUTIONS				
Remaining performance obligations	\$2,178	\$2,428	\$3,184	\$4,638
Estimated orders under MSAs and short-term, non-fixed price contracts	\$66	\$120	\$57	\$84
Backlog	\$2,244	\$2,548	\$3,241	\$4,722
UNDERGROUND UTILITY AND INFRASTRUCTURE SOLUTIONS				
Remaining performance obligations	\$638	\$698	\$1,039	\$1,130
Estimated orders under MSAs and short-term, non-fixed price contracts	\$1,935	\$3,811	\$1,974	\$5,159
Backlog	\$2,573	\$4,509	\$3,013	\$6,289
TOTAL				
Remaining performance obligations	\$4,819	\$5,895	\$6,348	\$8,801
Estimated orders under MSAs and short-term, non-fixed price contracts	\$6,493	\$13,379	\$7,446	\$15,293
Backlog	\$11,312	\$19,274	\$13,794	\$24,094

The non-GAAP measure of backlog is utilized by management and provided to investors because we believe this measure enables Quanta and its investors to more effectively forecast future capital needs and results and better identify future operating trends that may not otherwise be apparent, as well as providing a useful comparison to Quanta's competitors.

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UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 10-K

(Mark One)

- ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2022
- TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission File Number: 001-13831



Quanta Services, Inc.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

74-2851603

(I.R.S. Employer Identification No.)

2727 North Loop West
Houston, Texas 77008

(Address of principal executive offices, including zip code)

(713) 629-7600

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, \$0.00001 par value	PWR	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer Accelerated filer Non-accelerated filer Smaller reporting company Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements.

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b).

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

As of June 30, 2022 (the last business day of the registrant's most recently completed second fiscal quarter), the aggregate market value of the Common Stock of the registrant held by non-affiliates of the registrant, based on the last sale price of the Common Stock reported by the New York Stock Exchange on such date, was \$17.8 billion.

As of February 21, 2023, the number of outstanding shares of Common Stock of the registrant was 144,000,522.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's Definitive Proxy Statement for the 2023 Annual Meeting of Stockholders are incorporated by reference into Part III of this Form 10-K.

QUANTA SERVICES, INC.
ANNUAL REPORT ON FORM 10-K
For the Year Ended December 31, 2022
INDEX

	<u>Page Number</u>
PART I	
ITEM 1. Business	4
ITEM 1A. Risk Factors	15
ITEM 1B. Unresolved Staff Comments	37
ITEM 2. Properties	37
ITEM 3. Legal Proceedings	37
ITEM 4. Mine Safety Disclosures	38
PART II	
ITEM 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	39
ITEM 6. Selected Financial Data	41
ITEM 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations	42
ITEM 7A. Quantitative and Qualitative Disclosures About Market Risk	55
ITEM 8. Financial Statements and Supplementary Data	57
ITEM 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	114
ITEM 9A. Controls and Procedures	114
ITEM 9B. Other Information	114
ITEM 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections	115
PART III	
ITEM 10. Directors, Executive Officers and Corporate Governance	116
ITEM 11. Executive Compensation	116
ITEM 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters ...	116
ITEM 13. Certain Relationships and Related Transactions, and Director Independence	116
ITEM 14. Principal Accounting Fees and Services	116
PART IV	
ITEM 15. Exhibits and Financial Statement Schedules	117
ITEM 16. Form 10-K Summary	123
SIGNATURES	124

Cautionary Statement About Forward-Looking Statements and Information

This Annual Report on Form 10-K (Annual Report) of Quanta Services, Inc. (together with its subsidiaries, Quanta, we, us or our) includes forward-looking statements reflecting assumptions, expectations, projections, intentions or beliefs about future events that are intended to qualify for the “safe harbor” from liability established by the Private Securities Litigation Reform Act of 1995. You can identify these statements by the fact that they do not relate strictly to historical or current facts. They use words such as “anticipate,” “estimate,” “project,” “forecast,” “may,” “will,” “should,” “could,” “expect,” “believe,” “plan,” “intend” and other words of similar meaning. In particular, these include, but are not limited to, statements relating to the following:

- Projected revenues, net income, earnings per share, margins, cash flows, liquidity, weighted average shares outstanding, capital expenditures, interest rates and tax rates, as well as other projections of operating results and GAAP (as defined below) and non-GAAP financial results, including EBITDA, adjusted EBITDA and backlog;
- Expectations regarding our business or financial outlook;
- Expectations regarding opportunities, technological developments, competitive positioning, future economic and regulatory conditions and other trends in particular markets or industries, including with respect to our increased operations in the renewable energy market and the transition to a reduced-carbon economy;
- Expectations regarding our plans and strategies;
- The business plans or financial condition of our customers, including with respect to the transition to a reduced-carbon economy;
- The potential impact of commodity prices and production volumes on our business, financial condition, results of operations, cash flows and demand for our services;
- The potential benefits from, and future financial and operational performance of, acquired businesses and our investments, including Blattner Holding Company and its operating subsidiaries (collectively, Blattner) and our equity interest in LUMA (as defined below);
- Beliefs and assumptions about the collectability of receivables;
- The expected value of contracts or intended contracts with customers, as well as the expected timing, scope, services, term or results of any awarded or expected projects;
- The development of and opportunities with respect to future projects, including renewable energy projects and other projects designed to support transition to a reduced-carbon economy, electrical grid modernization, upgrade and hardening projects and larger transmission and pipeline projects;
- Expectations regarding the future availability and price of materials and equipment necessary for the performance of our business;
- The expected impact of global and domestic economic conditions on our business, financial condition, results of operations, cash flows and liquidity, including inflation, interest rates and recessionary economic conditions;
- The expected impact of changes and potential changes in climate and the physical and transition risks associated with climate change and the transition to a reduced-carbon economy;
- Future capital allocation initiatives, including the amount and timing of, and strategies with respect to, any future acquisitions, investments, cash dividends, repurchases of our equity or debt securities or repayments of other outstanding debt;
- The expected impact of existing or potential legislation or regulation, including the IRA (as defined below);
- Potential opportunities that may be indicated by bidding activity or similar discussions with customers;
- The future demand for, availability of and costs related to labor resources in the industries we serve;
- The expected recognition and realization of our remaining performance obligations or backlog;
- Expectations regarding the outcome of pending or threatened legal proceedings, as well as the collection of amounts awarded in legal proceedings;
- Expectations with respect to our ability to reduce our debt and maintain our current credit ratings; and
- Possible recovery of pending or contemplated insurance claims, change orders and claims asserted against customers or third parties.

These forward-looking statements are not guarantees of future performance; rather they 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 forward-looking statements and that any or all of our forward-looking statements may turn out to be inaccurate or incorrect. These statements can be affected by inaccurate assumptions and by known or unknown risks and uncertainties, including risks and uncertainties described elsewhere herein,

including in Item 1A. *Risk Factors* in this Annual Report and as may be detailed from time to time in our other public filings with the U.S. Securities and Exchange Commission (SEC).

All of our forward-looking statements, whether written or oral, are expressly qualified by these cautionary statements and any other cautionary statements that may accompany such forward-looking statements or that are otherwise included in this report. Although forward-looking statements reflect our good faith beliefs at the time they are made, reliance should not be placed on forward-looking statements because they involve known and unknown risks, uncertainties and other factors, which may cause our actual results, performance or achievements to differ materially from anticipated future results, performance or achievements expressed or implied by such forward-looking statements. In addition, we do not undertake and expressly disclaim any obligation to update or revise any forward-looking statements to reflect events or circumstances after the date of this report or otherwise.

PART I

ITEM 1. *Business*

OVERVIEW

Quanta Services, Inc. (together with its subsidiaries, “Quanta,” “we,” “us” or “our”) is a leading provider of comprehensive infrastructure solutions for the electric and gas utility, renewable energy, communications, pipeline and energy industries in the United States, Canada, Australia and select other international markets. We provide engineering, procurement, construction, upgrade and repair and maintenance services for infrastructure within each of these industries, including electric power transmission and distribution networks; substation facilities; wind and solar generation and transmission and battery storage facilities; communications and cable multi-system operator networks; gas utility systems; pipeline transmission systems and facilities; and downstream industrial facilities. Our operations are decentralized and labor-intensive, and we rely on craft skilled labor personnel and experienced operators to successfully manage our day-to-day business. We also have an experienced management team, both at the executive level and within our subsidiaries, which we refer to as operating companies. We operate a fleet of owned and leased trucks and trailers, support vehicles and specialty construction equipment, as well as various proprietary technologies that enhance our service offerings. We have a large and diverse customer base, including many of the leading companies in the utility, renewable energy, communications, industrial and energy delivery markets.

The performance of our business generally depends on our ability to obtain contracts with customers and to effectively deliver the services provided under those contracts. Our services are typically provided pursuant to master service agreements (MSAs), repair and maintenance contracts and fixed price and non-fixed price construction and engineering contracts. We offer comprehensive and diverse solutions on a broad geographic scale and have a solid base of long-standing customer relationships in each of the industries we serve. We believe our reputation for safety leadership, responsiveness and performance, geographic reach, comprehensive service offerings and financial strength have resulted in strong relationships with numerous customers, and we endeavor to develop and maintain strategic alliances and preferred service provider status with our customers.

We believe that our business strategies, along with our safety culture and financial resources, differentiate us from our competition and position us to benefit from future programmatic and capital spending by our customers. Our strategies include delivering a portfolio of infrastructure solutions to existing and potential customers, developing our technological and training capabilities, remaining committed to the safety of our employees, and maintaining an entrepreneurial culture throughout our organization. We believe executing on these strategies places us in the position to capitalize on opportunities and trends in the industries we serve and expand our operations to select new markets.

SEGMENTS

We report our results under three reportable segments: Electric Power Infrastructure Solutions, Renewable Energy Infrastructure Solutions and Underground Utility and Infrastructure Solutions. Our entrepreneurial business model allows multiple operating companies to serve the same or similar customers and to provide a range of services across end user markets. Our operating companies may perform joint projects for customers in multiple industries, deliver multiple types of services under a single customer contract or provide service offerings to various industries.

We operate primarily in the United States; however, we derived approximately 15.7%, 14.7% and 14.2% of our revenues from foreign operations, primarily in Canada and Australia, during the years ended December 31, 2022, 2021 and 2020.

Electric Power Infrastructure Solutions

Services

Our Electric Power Infrastructure Solutions segment provides comprehensive services for the electric power and communications markets. Services performed generally include:

- design, procurement, new construction, upgrade and repair and maintenance services for electric power transmission and distribution infrastructure, both overhead and underground, and substation facilities, along with other engineering and technical services, including services that support the implementation of upgrades by utilities to modernize and harden the electric power grid in order to ensure its safety and enhance reliability and to accommodate increased residential and commercial use of electric vehicles (EVs);
- emergency restoration services, including the repair of infrastructure damaged by fires and inclement weather;
- energized installation, maintenance and upgrade of electric power infrastructure utilizing unique bare hand and hot stick methods and our robotic arm techniques;
- installation of “smart grid” technologies on electric power networks;

- design and construction services to wireline and wireless communications companies, cable multi-system operators and other customers within the communications industry (including services in connection with 5G wireless deployment);
- design, installation, maintenance and repair services related to commercial and industrial wiring; and
- aviation services primarily for the utility industry, including the transportation of line workers, the setting of poles and towers, and the stringing of wires.

This segment also includes (i) the majority of the financial results of our advanced training facility and our postsecondary educational institution, which specializes in pre-apprenticeship training, apprenticeship training and specialized utility task training for electric workers, as well as training for the gas distribution and communications industries and (ii) our portion of earnings of our unconsolidated integral affiliates, which includes, among others, our 50% equity interest in LUMA Energy, LLC (LUMA), a joint venture that was selected to operate, maintain, and modernize the approximately 18,000-mile electric transmission and distribution system in Puerto Rico. For additional information about LUMA and our other unconsolidated integral affiliates, refer to Note 8 of the Notes to consolidated financial statements in Item 8. *Financial Statements and Supplementary Data*.

Business Environment

With respect to our electric power service offerings, utilities are continuing to invest significant capital in their electric power delivery systems, particularly transmission, substation and distribution infrastructure, through multi-year, multi-billion dollar grid modernization and reliability programs. We also expect demand for electricity in North America to continue to grow, including through electrification trends such as electric vehicle (EV) adoption, and believe that certain segments of the North American electric power grid are not adequate to efficiently supply this future demand. To accommodate this growth, we expect continued demand for new or expanded transmission, substation and distribution infrastructure to reliably transport power to meet demand driven by electrification and the modification and reengineering of existing infrastructure as existing coal and nuclear generation facilities are retired or shut down. In order to reliably and efficiently deliver power, including in response to federal reliability standards and in preparation for emerging technologies, such as EVs, utilities are also integrating smart grid technologies into distribution systems to improve grid management and create efficiencies. A number of utilities also continue to implement system upgrades and hardening programs in response to recurring severe weather events. For example, utilities along the Eastern and Gulf Coasts of the United States are executing storm hardening programs to make their systems more resilient to hurricanes and other severe weather events, and there are significant system resiliency initiatives underway in California and other regions in the western United States that are designed to prevent and manage the impact of wildfires. Utilities are also executing significant initiatives to underground critical infrastructure, including additional underground transmission and distribution initiatives by utilities in California, underground transmission projects in the northeast United States, underground distribution circuits along the U.S. coastlines and underground transmission lines for offshore wind generation projects.

With respect to our communications service offerings, which are focused on the North American market, consumer and commercial demand for communication and data-intensive, high-bandwidth wireline and wireless services and applications are driving significant investment in infrastructure and the deployment of new technologies. In particular, communications providers remain in the early stages of developing new fifth generation wireless services (5G), which are intended to facilitate bandwidth-intensive services at high speeds for consumers and commercial applications. Additionally, recent legislative and regulatory initiatives, including the Rural Digital Opportunity Fund and the Infrastructure Investment and Jobs Act (IIJA), have dedicated billions of dollars of funding to support broadband service to underserved markets.

Renewable Energy Infrastructure Solutions

Services

Our Renewable Energy Infrastructure Solutions segment provides comprehensive infrastructure solutions to customers that are involved in the renewable energy industry. Services performed generally include:

- engineering, procurement, new construction, repowering and repair and maintenance services for renewable generation facilities, such as utility-scale wind, solar and hydropower generation facilities and battery storage facilities; and
- engineering and construction services for substations and switchyards, transmission and other electrical infrastructure needed to interconnect and transmit electricity from renewable energy generation and battery storage facilities.

Business Environment

With respect to these services, we believe the transition to a reduced-carbon economy, which is being driven by consumer and investor preferences, increasing electrification trends and declining leveled costs of renewable energy, will require sizeable long-term investment in renewable generation and related infrastructure, including meaningful repowering and modernization of existing assets. To that end, renewable energy developers are expected to continue to increase investments in wind and solar projects, as well as energy storage projects. Utilities have increased the percentage of renewable electricity bought through power purchase agreements (PPAs) with renewable energy developers, and we believe are in the early stages of investing directly in renewable generation facilities, which could expand significantly over time as they pursue clean energy strategies and emissions-reduction initiatives. Also, a growing number of corporate enterprises, particularly technology companies, are entering into PPAs with renewable energy developers to source renewable electricity to power their facilities and achieve their own carbon-reduction initiatives. Increased battery storage is also being developed to support increased renewable energy production by providing shorter-term storage of electricity from renewable energy generation, particularly from solar facilities, which helps to manage the amount and timing of intermittent power placed on the grid from renewable generation. These dynamics necessitate the development and construction of related infrastructure, including high-voltage electric transmission and substation infrastructure, that is necessary to interconnect and transmit electricity from new renewable energy generation facilities into the existing electric power grid and enhance grid reliability.

Additionally, we believe various legislative and policy objectives throughout North America support these industry and market trends. For example, the Inflation Reduction Act of 2022 (IRA) includes policy and related financial incentives designed to support and accelerate, along with providing certainty for, the United States' efforts to transition towards a reduced-carbon economy. We believe the IRA includes, among other things, favorable provisions targeting increases in utility-scale wind, solar and energy storage capacity and increased domestic manufacturing capacity and availability of products and components for these projects, that could reduce supply chain risks in the future. While we believe demand for our renewable infrastructure services will grow as a result of the IRA, the requirements associated with this legislation are complex, and the timing of the expected growth depends in part on the speed at which our customers determine how to proceed and the speed at which the incentives under the IRA are implemented.

Underground Utility and Infrastructure Solutions

Services

Our Underground Utility and Infrastructure Solutions segment provides comprehensive infrastructure solutions to customers involved in the transportation, distribution, storage, development and processing of natural gas, oil and other products. Services performed generally include:

- design, engineering, procurement, new construction, upgrade and repair and maintenance services for natural gas systems for gas utility customers;
- pipeline protection, integrity testing, rehabilitation and replacement services;
- catalyst replacement services, high-pressure and critical-path turnaround services, instrumentation and electrical services, piping, fabrication and storage tank services for the midstream and downstream industrial energy markets;
- engineering and construction services for pipeline systems, storage systems and compressor and pump stations and the fabrication of pipeline support systems and related structures and facilities;
- trenching, directional boring and mechanized welding services related to the services described above; and
- engineering, construction and maintenance services for energy transition and carbon-reduction related projects, such as alternative fuel facilities, carbon capture systems and hydrogen facilities.

Business Environment

With respect to these services, we are focused on specialty services and industries that we believe are driven by regulated utility spending; regulation, replacement and rehabilitation of aging infrastructure; and safety and environmental initiatives, including gas utility services, pipeline integrity and transmission services and downstream industrial services. We believe this strategic decision provides a greater level of business sustainability and predictability and helps to offset the cyclicity of larger pipeline projects described below. Natural gas utilities have implemented multi-decade modernization programs to replace aging cast iron, bare steel and plastic system infrastructure with modern materials for safety, reliability and environmental purposes, and regulatory measures have increased the frequency and stringency of pipeline integrity testing requirements that require our customers to test, inspect, repair, maintain and replace pipeline infrastructure to ensure that it operates in a safe, reliable and environmentally conscious manner. Further, permitting challenges associated with construction of new pipelines can make existing pipeline infrastructure more valuable, motivating owners to extend the useful life of existing pipeline assets through integrity initiatives. Additionally, with respect to our downstream industrial services, including our high-pressure and

critical-path turnaround services, as well as our capabilities with respect to instrumentation and electrical services, piping, fabrication and storage tanks services, and other industrial services, we believe that processing facilities located along the U.S. Gulf Coast region should have certain long-term strategic advantages due to their proximity to competitively priced and abundant hydrocarbon resources.

Our revenues related to larger pipeline services have fluctuated in recent years. For example, revenues associated with larger U.S. pipeline projects have declined significantly as the pipeline and related infrastructure development necessary to support U.S. shale formations has largely been completed in the near term and as a result of a more challenging permitting and regulatory environment, whereas revenues associated with larger pipeline projects in Canada increased in 2022. Despite these fluctuations and cyclicity, we continue to selectively pursue larger pipeline project opportunities to the extent they satisfy our margin and risk profiles.

We also believe that customers in this segment are implementing strategies to reduce carbon emissions produced from their operations, which are providing incremental opportunities for our services, including developing infrastructure for blending hydrogen into natural gas flow and for customers' carbon capture projects, which could include building or repurposing pipeline infrastructure. Furthermore, the favorable characteristics of natural gas could also position North America as a leading competitor in the global LNG export market, which could provide additional opportunities for our pipeline service offerings.

GENERAL

Recent Acquisitions

In January 2023, we acquired three businesses located in the United States including: a business that provides services related to high-voltage transmission lines, overhead and underground distribution, emergency restoration and industrial and commercial wiring and lighting; a business that procures parts, assembles kits for sale, manages logistics and installs solar tracking equipment for utility and development customers; and a business that provides solutions to our concrete construction services. The consideration for these transactions consisted of approximately \$465.0 million paid in cash on the dates of the acquisitions and approximately 1.0 million shares of Quanta common stock, which had a fair value of \$123.5 million as of the dates of the acquisitions. The final amount of consideration for these acquisitions remains subject to certain post-closing adjustments, including with respect to net working capital. The results of these acquired businesses will be included in our consolidated financial statements beginning on the acquisition dates. The results of the business that designs, supplies and installs solar tracking technology and installs and assembles solar panel systems will be primarily included in the Renewable Energy Infrastructure Solutions segment and the results of the other two businesses will be primarily included in the Electric Power Infrastructure Solutions segment.

We believe potential acquisition and investment opportunities exist in our industries and adjacent industries, primarily due to the highly fragmented and evolving nature of those industries and inability of many companies to expand due to capital or liquidity constraints. While the attractiveness of certain acquisition targets may be diminished in the short term by inflationary pressure, increased interest rates and market volatility, we continue to evaluate opportunities that are expected to, among other things, broaden our customer base, expand our geographic area of operations and grow and diversify our portfolio of services.

Customer Relationships

We have a large and diverse customer base, including many of the leading companies in the industries we serve, and we have developed strong strategic alliances with numerous customers and strive to develop and maintain our status as a preferred solutions provider to our customers. For the year ended December 31, 2022, our largest customer accounted for 9% of our

consolidated revenues and our ten largest customers accounted for 36% of our consolidated revenues. Representative customers include:

- American Electric Power Company, Inc.
- ATCO Electric
- Berkshire Hathaway, Inc.
- CenterPoint Energy, Inc.
- Clearway Renew LLC
- Comcast Corporation
- Con Edison Development, Inc.
- Duke Energy Corporation
- Edison International
- Entergy Corporation
- Evergy Inc.
- Exelon Corporation
- FirstEnergy Corp.
- Invenergy LLC
- Lower Colorado River Authority
- National Grid plc
- NextEra Energy, Inc.
- Pattern Energy
- PG&E Corporation
- Puget Sound Energy, Inc.
- Sempra Energy
- The Southern Company
- TC Energy Corporation
- Trans Mountain Corporation
- Valero Energy Corporation
- Verizon Communications Inc.
- Wataynikaneyap Power
- Xcel Energy Inc.

Our customers include utilities, renewable energy developers, communications, industrial and energy delivery companies, as well as governmental entities. We have estimated revenues by customer type as a percentage of total revenues below. Such estimates are based on management judgment and assumptions and are provided to show perceived trends in our customer types and should be considered directional in nature.

	<u>2022</u>	<u>2021</u>	<u>2020</u>
Utility	67 %	74 %	72 %
Industrial	9 %	10 %	13 %
Energy Delivery	7 %	5 %	6 %
Renewable Energy Developers	7 %	2 %	1 %
Communications	6 %	5 %	4 %
Other	4 %	4 %	4 %
Total revenues	<u>100 %</u>	<u>100 %</u>	<u>100 %</u>

The customer types set forth in the table above are described in further detail as follows:

- Utility - Customers that are electric and gas utility companies;
- Industrial - Customers that own and/or operate downstream refinery, chemical and industrial facilities, as well as other commercial or manufacturing facilities;
- Energy Delivery - Customers that own and/or operate pipelines for the delivery of hydrocarbons;
- Renewable Energy Developers – Customers that develop, own and/or operate renewable energy solutions other than electric and gas utility companies;
- Communications - Customers that own and/or operate assets supporting delivery of data, communications and digital services; and
- Other - Customers that are not accurately described by the categories set forth above.

We believe utility, renewable energy, communications and industrial customers provide us with growth opportunities due to their programmatic and long-term capital programs and/or the longer term trends and transitions associated with these industries. Our opportunities associated with energy delivery customers are driven by capital programs for energy delivery and industrial customers, as well as pipeline project activity, which was materially impacted by uncertainties and challenges in the energy market and overall economy during the global pandemic but began to recover in 2022.

We are a preferred service provider for many of our customers, which generally means we have met minimum standards for a specific category of service, maintained a high level of performance and agreed to certain payment terms and negotiated rates. We strive to maintain our preferred status as we believe it provides us an advantage in the award of future work for the

applicable customer. Furthermore, many of our strategic relationships with customers take the form of strategic alliance or long-term maintenance agreements, which typically extend for an initial term and may include renewal options to extend the initial term. Strategic alliance agreements also generally state an intention to work together over a period of time and/or on specific types of projects, and many provide us with preferential bidding procedures.

Although we have an integrated marketing and business development strategy, management at each of our operating companies is responsible for developing and maintaining successful long-term relationships with customers. Our operating company management teams build upon existing customer relationships to secure additional projects and increase revenues. Many of these customer relationships are long-standing and are maintained through a partnering approach with centralized account management, which includes project evaluation and consulting, quality performance, performance measurement and direct customer contact. Additionally, operating company management focuses on pursuing growth opportunities with prospective customers. We also encourage operating company management to cross-sell services of our other operating companies to their customers and coordinate with our other operating companies to pursue projects, especially those that are larger and more complex. We believe our ability to provide services that cover a broad spectrum of our customers' needs and requirements is a significant differentiator. Our corporate-level business development and regional management groups support these activities by promoting and marketing our services for existing and prospective large national accounts, as well as projects that are capable of utilizing services from multiple operating companies.

Competition and Market Demand

The industries and geographic markets in which we operate are highly competitive, and several of our competitors are large companies that have significant financial, technical and marketing resources. In addition, there are relatively few barriers to entry into some of the industries in which we operate and, as a result, organizations that have adequate financial resources and access to technical expertise may become a competitor. Furthermore, companies that we engage as subcontractors, including pursuant to certain regulatory and customer requirements, may develop the expertise necessary to compete with us with respect to the award of prime contracts from our customers.

A significant portion of our revenues is currently derived from unit price or fixed price agreements, and price is often an important factor in the award of such agreements. Accordingly, we could be underbid by our competitors. However, customers often consider other factors in choosing a service provider, including technical expertise and experience, safety ratings, financial and operational resources, geographic presence, industry reputation and dependability, which we expect to benefit larger service providers such as us. In addition, competition may lessen as industry resources, such as labor supplies, approach capacity. There can be no assurance, however, that our competitors will not develop the expertise, experience and resources to provide services that are superior in both price and quality to our services, or that we will be able to maintain or enhance our competitive position. We also face competition from the in-house service organizations of our existing or prospective customers, which employ personnel who perform some of the same types of services we provide. Although these companies currently outsource a significant portion of these services, there can be no assurance that they will continue to do so in the future or that they will not acquire additional in-house capabilities.

For further information regarding the effects of competition on our business and trends in market demand affecting our business, see *Risks Related to Operating Our Business* and *Risks Related to Our Industries* in Item 1A. *Risk Factors* of this Annual Report and *Results of Operations* in Item 7. *Management's Discussion and Analysis of Financial Condition* of this Annual Report.

Material Resources

Equipment

We depend on the availability of a wide range of equipment to perform our services and operate a fleet of owned and leased trucks and trailers, as well as support vehicles and specialty construction and support equipment, such as bucket trucks, digger derricks, sidebooms, dozers, backhoes, excavators, trenchers, generators, boring machines, cranes, robotic arms, wire pullers, tensioners and helicopters. As of December 31, 2022, the total size of the fleet was approximately 68,000 units. A number of factors that we may not be able to predict or control could result in increased costs for, or delays in delivery of, this equipment, including supply chain and other logistical challenges, as well as global trade relationships and other general market and political conditions that could impact production, delivery or pricing of such equipment (e.g., inflation, recessionary economic conditions). Additionally, our ability to efficiently allocate equipment, including our vehicle fleet, across our operating companies may impact our ability to perform services and the profitability of our operations. As such, we have invested, and continue to invest, significant resources and management attention to the utilization of our equipment.

Project Materials

We and our customers depend on the availability of certain materials for construction, upgrade and repair and maintenance of their infrastructure, including, among other things, steel, copper, aluminum, and components for renewable

energy projects (e.g., solar panels, wind turbine blades). While our customers are typically responsible for supplying most or all of the materials required for the services we perform on their projects, pursuant to certain of our contracts, including contracts for our comprehensive engineering, procurement and construction (EPC) services, we are required to procure all or part of the materials needed for a project. We continue to expand our EPC services, and consequently our responsibility for procuring materials is expected to increase. As a result, we monitor supply chain and other logistical challenges impacting our industries with respect to these materials, and a number of factors that we and our customers may not be able to predict or control could result in increased costs for, or delays in delivery or lack of availability of, these materials, including, among other things, the continued impact of supply chain and other logistical challenges, inflationary pressure, changes in global trade relationships (e.g., tariffs, sourcing restrictions) and other general market and political conditions (e.g., rising interest rates). Increased costs and delays can impact project construction schedules and the performance of our services. For example, we believe some participants in the renewable energy market are experiencing supply chain challenges, resulting in delays and shortages of, and increased costs for, materials necessary for the construction of certain renewable energy projects in the near term, including as a result of sourcing restrictions related to solar panels manufactured in China and the Department of Commerce investigation described in *Regulation* below. While we believe many of our renewable energy customers are generally better equipped to manage near-term supply chain disruptions than their smaller competitors, these challenges have delayed and may continue to delay certain of our customers' ongoing projects and have impacted their near-term project schedules, which in turn impacted the timing of our renewable energy services during 2022.

For further information regarding the risks associated with availability of equipment and materials, see *Risks Related to Operating Our Business* in Item 1A. *Risk Factors* of this Annual Report.

Seasonality and Cyclicity

Typically, our revenues and results of operations can be subject to seasonal and other variations. These variations are influenced by, among other things, weather, customer spending patterns, bidding seasons, receipt of required regulatory approvals, permits and rights of way, project timing and schedules, and holidays. Our revenues are generally lowest in the first quarter of the year because cold, snowy or wet conditions can create challenging working environments that are more costly for our customers or cause delays on projects. In addition, infrastructure projects often do not begin in a meaningful way until our customers finalize their capital budgets, which typically occurs during the first quarter. Second quarter revenues are typically higher than those in the first quarter, as some projects begin, but continued cold and wet weather can often impact productivity. Third quarter revenues are typically the highest of the year, as a greater number of projects are underway and operating conditions, including weather, are normally more accommodating. Generally, revenues during the fourth quarter are lower than the third quarter but higher than the second quarter, as many projects are completed and customers often seek to spend their capital budgets before year end. However, the holiday season and inclement weather can sometimes cause delays during the fourth quarter, reducing revenues and increasing costs. These seasonal impacts are typical for our U.S. operations, but seasonality for our international operations may differ.

Regulation

Compliance with numerous regulations has a material effect on our operations. Our operations are subject to various federal, state, local and international laws and regulations, including:

- licensing, permitting and inspection requirements applicable to contractors and engineers;
- regulations relating to worker safety (e.g., Occupational Safety and Health Administration regulations) and environmental protection;
- permitting and inspection requirements applicable to construction projects;
- wage and hour regulations (e.g., Fair Labor Standards Act) and regulations associated with our collective bargaining agreements and unionized workforce;
- regulations relating to sourcing and transportation of equipment and materials, including licensing and permitting requirements;
- regulations regarding engagement of suppliers and subcontractors that meet diversity-ownership or disadvantaged-business requirements;
- regulations relating to aviation activities;
- building and electrical codes;
- applicable U.S. and non-U.S. anti-corruption regulations;
- immigration regulations applicable to U.S. and cross-border employment; and
- special bidding, procurement and other requirements on government projects.

We believe that we are in compliance with all material licensing and regulatory requirements that are necessary to conduct our operations. Our failure to comply with applicable regulations could result in substantial fines or revocation of certain of our operating licenses, as well as give rise to termination or cancellation rights under our contracts or disqualify us from future bidding opportunities. We are also subject to numerous federal, state, local and international environmental laws and regulations governing our operations, including the handling, transportation and disposal of non-hazardous and hazardous substances and wastes, as well as emissions and other discharges into the environment, including discharges to air, surface water, groundwater and soil. We also are subject to laws and regulations that impose liability and cleanup responsibility for releases of hazardous substances into the environment. Under certain of these laws and regulations, liability can be imposed for cleanup of previously owned or operated properties or currently owned properties at which hazardous substances or wastes were discharged or disposed of by a former owner or operator, regardless of whether we directly caused the contamination or violated any law at the time of discharge or disposal. The presence of contamination from such substances or wastes could also interfere with ongoing operations or adversely affect our ability to sell or lease the property or use it as collateral for financing. In addition, we could be held liable for significant penalties and damages under certain environmental laws and regulations or be subject to revocation of certain licenses or permits, which could materially and adversely affect our business, results of operations and cash flows. Our contracts with customers may also impose liability on us for environmental issues that arise through the performance of our services. As a result, from time to time, we may incur costs and obligations for correcting environmental noncompliance matters and for remediation at or relating to certain of our properties. We believe that we are in substantial compliance with our environmental obligations and that any such obligations will not have a material adverse effect on our business or financial performance.

The overall regulatory environment also creates both challenges and opportunities for our business. In recent years, certain of our projects and certain customer spending in our industries have been negatively impacted by regulatory and permitting delays, as well as private legal challenges related to regulatory requirements, particularly with respect to large transmission and pipeline projects. Any tariffs, duties, taxes, assessments, or other limitations on the availability or sourcing of materials or components for our customers' projects can also increase costs for customers and create variability of project timing. For example, during 2022, the U.S. Department of Commerce's investigation into an antidumping and countervailing duties circumvention claim on solar cells and panels supplied from Malaysia, Vietnam, Thailand and Cambodia caused disruption in the solar panel supply chain and created uncertainty regarding the timing of development and/or financing of certain renewable energy projects. While the executive order issued by the Biden Administration exempting imported solar panels from these countries for 24 months has mitigated some of the uncertainty and impact in the near term and should provide time to allow U.S. solar project developers to adjust their solar panel supply chain, we continue to see some disruption in the production and sourcing of these materials. Conversely, we believe that there are also several existing, pending or proposed legislative or regulatory actions that may alleviate certain regulatory and permitting issues and positively impact long-term demand, particularly in connection with electric power infrastructure and renewable energy spending. For example, regulatory changes affecting siting and right-of-way processes could potentially accelerate construction for transmission projects, and state and federal reliability standards are creating incentives for both electrical and pipeline system investment and maintenance. Additionally, certain new legislation, such as the IRA and the IIJA, as well as other policy and economic incentives and overall public sentiment, are expected to support and encourage renewable projects that can potentially increase demand for our services over the long term. For further information regarding the effects of regulation on our business, see *Risks Related to Operating Our Business* and *Risks Related Regulation and Compliance* in Item 1A. *Risk Factors* of this Annual Report.

Human Capital Resources

We believe our employees are our most important assets, and we focus significant attention and resources on attracting, developing and retaining talented and experienced individuals. We believe our industry-leading training and safety programs are a strength and competitive differentiator with not only our current and potential employees, but with our customers, which have high safety standards and are increasing the amount of their outsourced infrastructure services. Our operations are decentralized and labor-intensive, and we rely on craft skilled labor personnel and experienced operators to successfully manage our day-to-day business, as well as corporate management and professional personnel to coordinate and help execute our business strategies, allocate capital and coordinate equipment usage, and facilitate certain centralized administrative services.

Employee Profile

As of December 31, 2022, we had approximately 47,300 employees, consisting of approximately 9,000 salaried employees, including, among others, executive officers, professional and administrative staff, project managers and engineers, job superintendents and field personnel, and approximately 38,300 hourly employees, the number of which fluctuates depending upon the number and size of the projects that are ongoing and planned at any particular time. Additionally, approximately 34% of our employees as of December 31, 2022 were covered by collective bargaining agreements, which require the payment of specified wages, the observance of certain workplace rules and the payment of certain amounts to multiemployer pension plans and employee benefit trusts. These collective bargaining agreements have varying terms and expiration dates, and the majority contain provisions that prohibit work stoppages or strikes, even during specified negotiation

periods relating to agreement renewals, and provide for binding arbitration dispute resolution in the event of prolonged disagreement. As of December 31, 2022, we had approximately 40,100 U.S. employees and approximately 7,200 non-U.S. employees, with the majority of our non-U.S. employees based in Canada.

Employee Health and Safety

Performance of our services requires the use of heavy equipment and exposure to inherently hazardous conditions. In response to these inherent hazards and as part of our commitment to the safety of our employees, customers and third parties, our corporate and operating company management personnel have established safety programs, policies and procedures and ongoing training requirements for our employees and have also developed and implemented critical safety equipment and innovations. For example, on our project sites we have implemented emergency response plans, personal voltage detectors, first aid training and automated external defibrillators, which have helped save the lives of our employees and bystanders. We have also continued to invest significant resources in our safety programs and training facilities, including the Quanta Advanced Training Center, located in Texas, and our safety monitoring tools, including fleet management software. Our operating companies also develop and share best practices for safety policies and practices, and we have an established program for onboarding newly acquired companies and working with them to augment their existing safety practices as necessary. We are also subject to, and must comply with, extensive regulations relating to worker health and safety, including the regulations of the Occupational Safety and Health Administration.

Employee Recruiting, Development and Training

Our success depends on our ability to attract, develop and retain highly qualified employees, including craft skilled labor, engineers, architects, designers, management and professional and administrative employees.

Craft Skilled Labor. We continue to address the longer-term need for additional labor resources in our markets, as our customers continue to seek additional specialized labor resources to address an aging utility workforce and longer-term labor availability issues, increasing pressure to reduce costs and improve reliability, and increasing duration and complexity of their capital programs. We believe these trends will continue, possibly to such a degree that demand for labor resources will outpace supply. Furthermore, the increased demand for our services based on favorable dynamics in certain of our industries can create shortages of qualified labor. In order to take advantage of available opportunities and successfully implement our long-term strategy, we must be able to employ, train and retain the necessary skilled personnel. As a result, we are taking proactive steps to develop our workforce, including through strategic relationships with universities, the military and unions and the expansion and development of our training facilities and postsecondary educational institution. For example, we own and operate Northwest Lineman College, a postsecondary educational institution that provides training programs for the electric power infrastructure, communications and underground utility and infrastructure industries and specializes in pre-apprenticeship training, apprenticeship training and specialized utility task training for electric workers. We also continue to invest in our education and training capabilities at the Quanta Advanced Training Center and other dedicated training facilities, which provide programs for, among other things, beginning linemen, energized electric power services, telecommunications services, industrial services, lead and cable splicing, directional drilling, gas distribution services and pipeline integrity training. These training facilities allow us to provide classroom and on-the-job training programs and allow us to train employees in a controlled environment without the challenges of limited structure access and other constraints.

Additionally, we have entered into strategic relationships with universities, the military and unions in order to attract potential employees and develop our workforce. For example, our operating companies performing more sophisticated and technical jobs utilize, when applicable, training programs provided by the International Brotherhood of Electrical Workers/National Electrical Contractors Associations (IBEW/NECA) Apprenticeship Program, training programs sponsored by the four trade unions administered by the Pipe Line Contractors Association (PLCA), apprenticeship training programs sponsored by the Canadian Union of Skilled Workers (CUSW) or our equivalent programs. Certain of our operating companies have also established apprenticeship training programs approved by the U.S. Department of Labor that prescribe equivalent training requirements for employees who are not otherwise subject to the requirements of the IBEW/NECA Apprenticeship Program. In addition, the Laborers International Union of North America, the International Brotherhood of Teamsters, the United Association of Plumbers and Pipefitters and the International Union of Operating Engineers have training programs specifically designed for developing and improving the skills of their members who work in the pipeline construction industry. Our operating companies also share best practices for training and educational programs. Although we believe these and other initiatives will help address workforce needs, meeting our customers' demand for labor resources could prove challenging. For additional information on the risks associated with labor resources in our industries, see *Risks Related to Operating Our Business* in Item 1A. *Risk Factors* of this Annual Report.

Management and Professional Personnel. Due to our decentralized operating structure, significant decision-making authority resides with our operating company management, and our corporate management and professional and administrative personnel are relied upon to allocate capital and communicate, coordinate and help execute our business strategies. We are focused on our ability to attract and retain qualified employees for these important positions, as we rely on them to successfully

manage our decentralized operations and grow and expand our business. We have also implemented enterprise-wide talent development and succession planning programs designed to identify and develop future and/or replacement candidates for key positions. For example, we have developed and administer a succession program with respect to our executive officers and senior operating company personnel, which is reviewed and/or overseen by our Board of Directors.

Compensation and Benefits

Our compensation programs are generally designed to align employee compensation with market practices and our performance, as well as provide the proper incentives to attract, retain and motivate employees. With respect to our executive officers, operating company management, other senior leadership and corporate employees, compensation programs consist of both fixed and variable components. The fixed portion is generally set based on consideration of various market factors, with variable compensation designed to reward employees based on company financial and operational performance. We also grant stock-based compensation broadly throughout our organization, including to management and key operations personnel at the majority of our operating companies, which we believe is a key component of our compensation programs that helps to align incentives throughout our decentralized organization. We also enter into employment agreements with our executive officers and certain other key personnel.

We also provide additional benefits to our employees. For example, we provide health, welfare and benefit plans for most employees who are not covered by collective bargaining agreements, and we maintain a 401(k) plan pursuant to which eligible U.S. employees who are not provided retirement benefits through a collective bargaining agreement may make contributions through payroll deductions and to which we make certain matching contributions.

Ethics and Compliance

All of our employees are subject to Quanta's Code of Conduct, which 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.

Climate Change-Related Impacts

Our management considers climate-related risks and opportunities in connection with its long-term strategic planning and enterprise risk management process, which are overseen by our Board of Directors. While the overall impact on our operations continues to evolve, various aspects of climate change, as well as market and societal concerns about the future impact of climate change, have resulted and are expected to continue to result in operational opportunities and challenges. These opportunities and challenges arise from the physical risks associated with changes in climate, as well as technological advances, market developments and additional regulatory and compliance costs.

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, droughts, 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. However, an increase in certain of these events, such as hurricanes, tropical storms, wildfires, blizzards and ice storms, also creates opportunities for us to perform a greater amount of emergency restoration services and, as described above, can increase 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). The timing and impact of these events is difficult to predict and can vary from period to period. For example, we recognized significantly more emergency restoration services revenues attributable to these events during 2020 and 2021, as compared to 2022. Additionally, changes in climate could result in more accommodating weather patterns for greater periods of time in certain areas, which may enable us to increase our productivity in those areas.

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. 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 of insurance carriers are willing to make available to us under such policies.

Climate change has also caused, and is expected to continue to cause, changes in the markets in which we operate. For example, in support of the transition to a reduced-carbon economy, utility customers are transitioning toward more sustainable sources of power generation, such as renewables (e.g., 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 (e.g., EVs), 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, as well as our portfolio of electric power infrastructure services.

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 reduced-carbon 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 of this and other reasons, we have decreased our strategic focus on these service offerings. Furthermore, a potential for longer-term decline in demand for fossil fuels or refined products as a result of climate change concerns and/or regulation could further negatively impact these projects or negatively impact demand for our midstream and industrial services operations. However, we believe there are climate change-related opportunities for certain services in this segment, as described above. We also believe the timeline for the transition to a reduced-carbon economy will be extended and will need to be supported by certain legacy energy resources, including natural gas as a transition fuel, and therefore have strategically focused on expanding our natural gas utility services in recent years.

Lastly, 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 with them 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. Additionally, the SEC has proposed new rules relating to the disclosure of a range of climate-related risks. We are currently assessing this proposed rule but at this time we cannot predict the costs of implementation or any potential adverse impacts resulting from the rule. To the extent this rule is finalized as proposed, we or our customers could incur increased costs related to the assessment and disclosure of climate-related risks. In addition, enhanced climate disclosure requirements could accelerate the trend of certain stakeholders and lenders restricting or seeking more stringent conditions with respect to their investments in certain carbon intensive sectors, which could further impact our customers and demand for our services.

For additional information regarding the risks and opportunities described above, see *Risks Related to Operating Our Business* in Item 1A. *Risk Factors* of this Annual Report.

Risk Management and Insurance

We maintain insurance coverage from third-party insurers as part of our overall risk management strategy and because some of our contracts require us to maintain specific insurance coverage limits. We are insured for, among other things, employer's liability, workers' compensation, auto liability, aviation and general liability claims. Deductibles for the employer's liability and workers' compensation programs are \$5.0 million per occurrence, and deductibles for the auto liability and general liability programs are \$15.0 million per occurrence. We also maintain employee health care benefit plans for most employees not subject to collective bargaining agreements, of which the primary plan is subject to a deductible of \$0.8 million per claimant per year. We manage and maintain a portion of our casualty risk indirectly through our wholly-owned captive insurance company, which reimburses claims up to the amount of the applicable deductible of our third-party insurance programs, as well as with respect to certain other amounts, and issue letters of credit to secure our obligations in connection with our casualty insurance programs. For additional information regarding our insurance and the risks associated with insurance coverage, see Note 16 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* and *Risks Related to Operating Our Business* in Item 1A. *Risk Factors* of this Annual Report.

Website Access and Other Information

Our website address is www.quantaservices.com. Interested parties may obtain free electronic copies of our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and any amendments to these reports through our website under the heading *Investor Relations / SEC Filings* or through the website of the Securities and Exchange Commission (the SEC) at www.sec.gov. These reports are available on our website as soon as reasonably practicable after we

electronically file them with, or furnish them to, the SEC. We will also make available to any stockholder, without charge, copies of our Annual Report on Form 10-K as filed with the SEC. For copies of this or any other Quanta publication, stockholders may submit a request in writing to Quanta Services, Inc., Attn: Corporate Secretary, 2727 North Loop West, Houston, Texas 77008, or by phone at (713) 629-7600.

Investors and others should note that we announce material financial information and make other public disclosures of information regarding Quanta through SEC filings, press releases, public conference calls, and our website. We also utilize social media to communicate this information, and it is possible that the information we post on social media could be deemed material. Accordingly, we encourage investors, the media and others interested in our company to follow Quanta, and review the information we post, on the social media channels listed on our website in the *Investors Relations / Social Media* section.

This Annual Report, our website and our social media channels contain information provided by other sources that we believe is reliable. We cannot provide assurance that the information obtained from other sources is accurate or complete. No information on our website or our social media channels is incorporated by reference herein.

ITEM 1A. Risk Factors

Our business is subject to a variety of risks and uncertainties, including, but not limited to, the material risks and uncertainties described below. The matters described below are not the only risks and uncertainties facing our company, and risks and uncertainties not known to us or not described below also may impair our business operations. If any of the following risks actually occur, our business, financial condition, results of operations and cash flows can be negatively affected, the value of securities we have issued could be adversely affected, resulting in stockholders and purchasers losing part or all of their investment, and we may not be able to achieve our strategic initiatives or expectations. This Annual Report also includes statements reflecting assumptions, expectations, projections, intentions or beliefs about future events that are intended as “forward-looking statements” under the Private Securities Litigation Reform Act of 1995 and should be read in conjunction with the section entitled *Cautionary Statement About Forward-Looking Statements and Information*.

Summary Risk Factors

The following is a summary of some of the material risks and uncertainties that could materially adversely affect our business, financial condition and results of operations. You should read this summary together with the more detailed description of each risk factor contained below.

Risks Related to Operating Our Business

- Our operating results may vary significantly from quarter to quarter.
- A variety of issues could affect the timing or profitability of our projects, and could result in, among other things, project termination or payment of liquidated damages.
- Our business is subject to operational hazards (e.g., wildfires, explosions) that can result in significant liabilities, and we may not be insured against all potential liabilities.
- Unavailability or cancellation of third-party insurance would increase our risk exposure and disrupt our operations, and our estimates of losses under our insurance programs could prove inaccurate.
- Our business and operating results are subject to physical risks associated with climate change.
- Our business is labor-intensive, and we may be unable to attract and retain qualified employees or we may incur significant costs if we are unable to efficiently manage our workforce.
- A loss of business from certain significant customers could have a material effect on our business.
- We may fail to adequately recover on contract change orders or claims against customers.
- Changes in estimates related to revenues and costs under customer contracts could result in a reduction or elimination of revenues or profits and the recognition of losses.
- We are subject to lawsuits, claims and other legal proceedings, as well as project surety claims.
- We may be unsuccessful in generating internal growth.
- Many of our contracts may be canceled or suspended on short notice or may not be renewed or replaced.
- The nature of our business exposes us to warranty, engineering and other related claims.
- We can incur liabilities or suffer negative financial or reputational impacts due to health and safety matters.
- Disruptions or failure to adequately protect our information technology systems could materially affect our business or result in harm to our reputation.
- A deterioration of our reputation or brands could have an adverse impact on our business.
- Our financial results are based on estimates and assumptions that may differ from actual results.
- Our inability to successfully execute our acquisition strategy may adversely impact our growth.
- Our decentralized management infrastructure could negatively impact our business.
- The loss of, or our inability to attract, key personnel could disrupt our business.

- Our investments, including our joint ventures, expose us to risks and may result in conflicts of interest.
- We are subject us to credit and investment risk with respect to our customers and projects.
- Risks associated with operating in international markets and U.S. territories could harm our business and prospects.
- Our business is subject to the availability of suppliers, subcontractors and equipment manufacturers.
- A lack of availability or an increase in the price of fuel, materials or equipment could adversely affect our business or our customers.
- Increasing scrutiny and expectations with respect to corporate sustainability practices may impose additional costs on us or expose us to reputational or other risks.

Risks Related to Our Industries

- Negative macroeconomic conditions and industry-specific economic and market conditions can adversely impact our business.
- Our revenues and profitability can be negatively impacted if customers encounter financial difficulties or disputes arise with our customers.
- Our business is highly competitive and competitive pressures could negatively impact our business.
- Technological advancements and other market conditions could negatively affect our business.

Risks Related to Regulation and Compliance

- Regulatory requirements applicable to our business and potential changes related to those requirements may adversely affect our business.
- Our unionized workforce and related obligations may adversely affect our operations.
- We could be adversely affected by failure to comply with laws applicable to our foreign activities.
- Changes in tax laws could adversely affect our financial results.
- Our failure to comply with environmental laws and regulations could result in significant liabilities and costs.
- Certain specific regulatory requirements are applicable to us and certain of our subsidiaries, which could materially impact our business.
- Governmental opportunities could subject us to increased regulation and costs and may pose additional risks relating to funding and compliance.
- Immigration laws, including inability to verify employment and restrictions on movement, could adversely impact our business.

Risk Related to Financing Our Business

- We may not have access to sufficient funding to finance desired growth and operations.
- We have a significant amount of debt that can negatively impact our business.
- We may not have sufficient cash flow to service our debt.
- Our variable rate indebtedness subjects us to interest rate risk.
- We may be unable to compete for projects if we cannot obtain surety bonds, letters of credit or bank guarantees.
- A downgrade in our debt rating could restrict our ability to access capital markets.

Risks Related to Our Common Stock

- Our sale or issuance of additional common stock or other equity securities could be dilutive to each stockholder's ownership interest or affect the market price of our common stock.
- There can be no assurance that we will declare or pay future dividends on our common stock.
- Certain provisions of our governing documents could make an acquisition of Quanta more difficult.

Risks Related to Operating Our Business

Our operating results may vary significantly from quarter to quarter.

Our business can be highly cyclical and is subject to seasonality and other factors that can result in significantly different operating results from quarter to quarter, and therefore our results in any particular quarter may not be indicative of future results. Our quarterly results have been and may in the future be materially and/or adversely affected by, among other things:

- the timing and volume of work we perform and our performance with respect to ongoing projects and services, including as a result of fluctuations in the amount of work customers assign to us under our agreements, including MSAs, delays and reductions in scope of projects, and project and agreement terminations, expirations or cancellations;
- increases in project costs that result from, among other things, natural disasters and emergencies, adverse weather conditions or events, legal challenges, permitting, regulatory or environmental processes, or inaccurate project cost estimates;

- variations in the size, scope, costs and margins of ongoing projects, as well as the mix of our customers, contracts and business;
- fluctuations in economic, political, financial, industry and market conditions on a regional, national or global basis, including as a result of, among other things, inflationary pressure that impacts our costs associated with labor, equipment and materials; increased interest rates; default or threat of default by the U.S. federal government with respect to its debt obligations; U.S. government shutdowns; natural disasters and other emergencies (e.g., wildfires, weather-related events, pandemics); deterioration of global or specific trade relationships; or geopolitical conflicts and political unrest;
- pricing pressures as a result of competition;
- changes in the budgetary spending patterns or strategic plans of customers or governmental entities;
- supply chain and other logistical difficulties, as well as sourcing restrictions on materials necessary for the services we provide;
- liabilities and costs incurred in our operations that are not covered by, or that are in excess of, our third-party insurance or indemnification rights, including significant liabilities that arise from the inherently hazardous conditions of our operations (e.g., explosions, fires) and the operations of our subcontractors, and which could be exacerbated by the geographies in which we operate;
- disputes with customers or delays and payment risk relating to billing and payment under our contracts and change orders, including customers affected by the volatility of commodity prices or production or that have filed for bankruptcy protection;
- the resolution of, or unexpected or increased costs associated with, pending or threatened legal proceedings, indemnity obligations, multiemployer pension plan obligations (e.g., withdrawal liability) or other claims;
- restructuring, severance and other costs associated with, among other things, winding down certain operations and exiting markets;
- estimates and assumptions in determining our financial results, remaining performance obligations and backlog, including the timing and significance of impairments of long-lived assets, equity or other investments, receivables, goodwill or other intangible assets;
- significant fluctuations in foreign currency rates;
- the recognition of tax impacts related to changes in tax laws or uncertain tax positions; and
- the timing and magnitude of costs we incur to support our operations or growth internally or through acquisitions.

A variety of issues could affect the timing or profitability of our projects, which may result in additional costs to us, reductions or delays in revenues, the payment of liquidated damages or project termination.

Our business is dependent in part upon projects that can be cyclical in nature and are subject to risks of delay or cancellation. The timing of or failure to obtain contracts, delays in awards of, start dates for or completion of projects and the cancellations of projects can result in significant periodic fluctuations in our business, financial condition, results of operations and cash flows. Many of our projects involve challenging engineering, permitting, procurement and construction phases that occur over extended time periods, sometimes several years, and we have encountered and may in the future encounter project delays, additional costs or project performance issues as a result of, among other things:

- inability to meet project schedule requirements or achieve guaranteed performance or quality standards for a project, which can result in increased costs, through rework, replacement or otherwise, or the payment of liquidated damages to the customer or contract termination;
- failure to accurately estimate project costs or accurately establish the scope of our services;
- failure to make judgments in accordance with applicable professional standards (e.g., engineering standards);
- unforeseen circumstances or project modifications not included in our cost estimates or covered by our contract for which we cannot obtain adequate compensation, including concealed or unknown environmental, geological or geographical site conditions and technical problems such as design or engineering issues;
- changes in laws or permitting and regulatory requirements during the course of our work;
- delays in the delivery or management of design or engineering information, equipment or materials;

- our or a customer's failure to manage a project, including the inability to timely obtain permits or rights of way or meet other permitting, regulatory or environmental requirements or conditions;
- schedule changes;
- natural disasters or emergencies, including wildfires and earthquakes, as well as significant weather events (e.g., hurricanes, tropical storms, tornadoes, floods, droughts, blizzards and extreme temperatures) and adverse or unseasonable weather conditions (e.g., prolonged rainfall or snowfall, early thaw in Canada and the northern United States);
- difficult terrain and site conditions where delivery of materials and availability of labor are impacted or where there is exposure to harsh and hazardous conditions;
- protests and other public activism, legal challenges or other political activity or opposition to a project;
- other factors such as terrorism, military action, public health crises (e.g., the pandemic associated with the novel coronavirus that began in 2019 (COVID-19)) and delays attributable to U.S. government shutdowns or any related under-staffing of government departments or agencies;
- changes in the cost, availability or quality of equipment, commodities, materials, consumables or labor; and
- delay or failure to perform by suppliers, subcontractors or other third parties, or our failure to coordinate performance of such parties, as approximately 20% of our work is subcontracted to other service providers.

Many of these difficulties and delays are beyond our control and can negatively impact our ability to complete the project in accordance with the required delivery schedule or achieve our anticipated margin on the project. Delays and additional costs associated with delays may be substantial and not recoverable from third parties, and in some cases, we may be required to compensate the customer for such delays, including in circumstances where we have guaranteed project completion or performance by a scheduled date and incur liquidated damages if we do not meet such schedule.

We also generate a significant portion of our revenues under fixed price contracts, including contracts for projects where we provide EPC services (e.g., large transmission and pipeline projects, facility and terminal projects), and we have strategically expanded these service offerings in recent years, including with respect to renewable energy projects through our acquisition of Blattner. These contracts often involve complex pricing, scope of services and other bid preparation components that require challenging estimates and assumptions on the part of our personnel, which increases the risk that costs incurred on such projects can vary, sometimes substantially, from our original estimates.

Performance difficulties can result in project cancellation by a customer and damage to our reputation or relationship with a customer, which can adversely affect our ability to secure new contracts. As a result, additional costs or penalties, a reduction in our productivity or efficiency or a project termination in any given period can have a material adverse effect on our business, financial condition, results of operations and cash flows.

Our business is subject to operational hazards, including, among others, wildfires and explosions, that can result in significant liabilities and that may be exacerbated by certain geographies and locations where we perform services, and we may not be insured against all potential liabilities.

Due to the nature of services we provide and the conditions in which we and our customers operate, our business is subject to operational hazards and accidents that can result in significant liabilities. These operational hazards include, among other things, electricity, fires, explosions, leaks, collisions, mechanical failures, and damage from severe weather conditions and natural disasters. Furthermore, certain of our customers operate energy- and communications-related infrastructure assets in locations and environments that increase the likelihood and/or severity of these operational hazards, including as a result of changes in climate and other factors in recent years.

In particular, we perform a significant amount of services, including operational, consulting and other services, for customers that operate electrical power, natural gas, communications and other infrastructure assets in the western United States, Australia and other locations that have recently experienced, and have a higher risk of, wildfires. For example, certain of Quanta's operating companies perform inspection, consulting, construction, repair and maintenance and other services for customers that operate electric power, natural gas, communications and other infrastructure in California and other areas in the western United States, including inspection of, and construction, upgrade, repair and maintenance and other services relating to the electrical power and natural gas transmission and distribution infrastructure operated by them. These customers include PG&E Corporation and its primary operating subsidiary, Pacific Gas and Electric Company (together, PG&E), Southern California Edison Company (SCE) and San Diego Gas and Electric Company, as well as their affiliates, and other utilities and customers in California and other western states. PG&E, SCE and certain other customers have been determined to be or are potentially responsible for catastrophic wildfire events that have occurred in recent years. In connection with certain of these events, some of Quanta's operating companies have received document hold requests and subpoenas, and in connection with

one of these events, as described further in Note 16 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report, two of Quanta's operating companies have received tenders of defense and demands for preservation of documents. Additionally, certain of these wildfire events remain under investigation and additional claims or legal proceedings involving Quanta and its operating companies related to these events may be brought in the future.

We also often perform services in locations that are densely populated and that have higher value property and assets, such as California and metropolitan areas, which can increase the impact of any of these hazards or other accidents. For example, one of our larger operating companies specializes in underground gas and electric distribution and transmission services and operates in metropolitan areas throughout the northeastern United States, including New York City, New York, and we assumed certain contingent liabilities related to a natural gas explosion in connection with our acquisition of this business in 2019, which are described further in Note 16 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report. Additionally, we operate a significant number of helicopters in the performance of our services, including the transportation of line workers, the setting of poles, the stringing of wires and wildfire control and prevention, among other activities, including in locations that have a higher risk of wildfires and in densely populated areas. Our operation of helicopters is subject to various risks, such as crashes, collisions, fires, adverse weather conditions or mechanical failures.

Events arising from operational hazards and accidents have resulted in significant liabilities to us in the past and may expose us to significant claims and liabilities in the future. These claims and liabilities can arise through indemnification obligations to customers, our negligence or otherwise, and such claims and liabilities can arise even if our operations are not the cause of the harm. Our exposure to liability can also extend for years after we complete our services, and potential claims and liabilities arising from significant accidents and events can take years and significant legal costs to resolve.

Potential liabilities include, among other things, claims associated with personal injury, including severe injury or loss of life, and destruction of or significant damage to property and equipment as well as harm to the environment, and other claims discussed above and can lead to suspension of operations, adverse effects to our safety record and reputation and/or material liabilities and legal costs. In addition, if any of these events or losses related thereto are alleged or found to be the result of our or our customer's activities or services, we could be subject to government enforcement actions, regulatory penalties, civil litigation and governmental actions, including investigations, citations, fines and suspension of operations. Insurance coverage may not be available to us or may be insufficient to cover the cost of any of these liabilities and legal costs, and our insurance costs may increase if we incur liabilities associated with operational hazards. If we are not fully insured or indemnified against such liabilities and legal costs or a counterparty fails to meet its indemnification obligations to us, it could materially and adversely affect our business, financial condition, results of operations and cash flows. Further, to the extent our reputation or safety record is adversely affected, demand for our services could decline or we may not be able to bid for certain work.

Unavailability or cancellation of third-party insurance coverage would increase our overall risk exposure, as well as disrupt our operations, and estimates of losses covered by our insurance policies could prove incorrect.

We maintain insurance coverage from third-party insurers as part of our overall risk management strategy and because some of our contracts require us to maintain specific insurance coverage limits. Such insurance is subject to deductibles and limits and may be canceled or may not cover all of our losses. We also manage and maintain a portion of our casualty risk through our wholly-owned captive insurance company, which insures all claims up to the amount of the applicable deductible of our third-party insurance programs, as well as with respect to certain other amounts, and issue letters of credit to secure our obligations in connection with our casualty insurance programs. Our insurance policies include various coverage requirements, including notice requirements, and coverage could be denied if we fail to comply with those requirements.

Additionally, our insurance coverages may not be sufficient or effective under all circumstances or against all claims and liabilities asserted against us, and if we are not fully insured against such claims and liabilities, it could expose us to significant liabilities and materially and adversely affect our business, financial condition, results of operations and cash flows. We also renew our insurance policies on an annual basis, and therefore deductibles and levels of coverage offered by third parties may change in future periods, and there is no assurance that any of our coverages will be renewed at their current levels or at all or that any future coverage will be available at reasonable and competitive rates. Our third-party insurers could also fail, cancel our coverage or otherwise be unable or unwilling to provide us with adequate insurance coverage for certain items, including wildfires, or we may elect not to obtain certain types or incremental levels of insurance based on the potential benefits considered relative to the cost of such insurance, or coverage may not be available at reasonable and competitive rates. For example, due to the increased occurrence and future risk of wildfires in California and other areas in the western United States, Australia and other locations, insurers have reduced coverage availability and increased the cost of insurance coverage for such events in recent years. As a result, Quanta's level of insurance coverage for wildfire events has decreased in recent years, and the current level of coverage may not be sufficient to cover potential losses in connection with these events. Furthermore, our third-party insurers could also decide to further reduce or exclude coverage for wildfires or other events in connection with

future insurance renewals. Adverse changes in our insurance coverage could increase our exposure to uninsured losses, which could have a negative effect on our business, financial condition, results of operations and cash flows or result in a disruption of our operations.

Losses under our insurance programs are accrued based upon our estimate of the ultimate liability for claims reported and an estimate of claims incurred but not reported, with assistance from third-party actuaries. These insurance liabilities are difficult to assess and estimate due to unknown factors, including the severity of an injury, the extent of damage, the determination of our liability in proportion to other parties and unreported incidents. If we experience claims or costs above our estimates, our business, financial condition, results of operations and cash flows could be materially and adversely affected.

Our business and operating results are subject to physical risks associated with climate change.

Changes in climate have caused, and are expected to continue to cause, among other things, increasing mean annual temperatures, rising sea levels and changes to patterns and the frequency and intensity of wildfires, hurricanes, floods, droughts, other storms and severe weather-related events and natural disasters. These changes have and could continue to significantly impact our future operating results and may have a long-term impact on our business, results of operation, financial condition and cash flows. 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. For example, catastrophic natural disasters can negatively impact projects we are working on, our office locations, portions of our equipment, or the locations and service regions of our customers. Accordingly, 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, and we expect that increasing physical climate-related impacts may result in further changes to the cost or availability of insurance in the future.

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, as discussed above, 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. 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, financial condition, results of operations and cash flows. 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.

Our business is labor-intensive, and we may be unable to attract and retain qualified employees or we may incur significant costs in the event we are unable to efficiently manage our workforce or the cost of labor increases.

Our ability to efficiently manage our business and achieve our strategic initiatives is limited by our ability to employ, train and retain the necessary skilled personnel, which is subject to a number of risks. The demand for labor resources has continued to increase in response to the increasing duration and complexity of customer capital budgets, the commencement of new, large-scale infrastructure projects, increased demand for infrastructure improvements and reliability and increased pressure to reduce costs. The pool of skilled workers in certain of our industries has also been reduced, and may be further reduced, due primarily to an aging utility workforce and longer-term labor availability issues, including with respect to experienced program managers and qualified journeyman linemen available for our Electric Power Infrastructure Solutions segment and experienced supervisors and foremen for our Underground Utility and Infrastructure Solutions segment. The cyclical nature of certain of the industries in which we operate can also create shortages of qualified labor during periods of high demand and production, and the amount of travel required for project management-level positions can impact the number of potential candidates that decide to enter our industries. A shortage in the supply of personnel creates competitive hiring markets that may result in increased labor expenses, and we have incurred, and expect to continue to incur, significant education and training expenses in order to recruit and train employees. The uncertainty of contract award timing and project delays can also present difficulties in managing our workforce size. Our inability to efficiently manage our workforce may require us to incur costs resulting from excess staff, reductions in staff, or redundancies that could have a material adverse impact on our business, financial condition, results of operations and cash flows.

Additionally, the recent inflationary pressure in the United States and our other markets has increased, and is expected to continue to increase, our labor costs. Under certain of our contracts, labor costs are passed through to customers, and the portion of our workforce that is represented by labor unions typically operates under multi-year collective bargaining agreements that provide some visibility into future labor costs. However, the costs related to a significant amount of our workforce are subject to market conditions, and therefore inflationary pressure could increase our labor costs with respect to those employees. Increased labor costs can also impact our customers' decision-making with respect to viability or timing of certain projects,

which could result in project delays or cancellations and in turn have a material adverse effect on our business, financial condition, results of operations or cash flows.

The loss of, or reduction in business from, certain significant customers could have a material adverse effect on our business.

A few customers have in the past and may in the future account for a significant portion of our revenues. For example, our ten largest customers accounted for 36% of our consolidated revenues for the year ended December 31, 2022. Although we have long-standing relationships with many of our significant customers, a significant customer may unilaterally reduce or discontinue business with us at any time or merge or be acquired by a company that decides to reduce or discontinue business with us. A significant customer may also file for bankruptcy protection or cease operations, which could also result in reduced or discontinued business with us. The loss of business from a significant customer could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Changes in estimates related to revenues and costs associated with our contracts with customers could result in a reduction or elimination of revenues, a reduction of profits or the recognition of losses.

For fixed price contracts and certain unit-price contracts, we recognize revenue as performance obligations are satisfied over time and earnings or losses recognized on individual contracts are based on estimates of contract revenues, costs and profitability, as discussed in further detail in Note 4 of the Notes to Consolidated Financial Statements included in Item 8. *Financial Statements and Supplementary Data* of this Annual Report. Changes in contract estimates are recognized on a cumulative catch-up basis in the period in which the revisions to the estimates are made, and contract losses are recognized in full when losses are determined to be probable and can be reasonably estimated. Variable consideration amounts, including performance incentives, early pay discounts and penalties, may also cause changes in contract estimates. In addition, we recognize amounts associated with change orders and/or claims as revenue when it is probable that the contract price will be adjusted and the amount of any such adjustment can be reasonably estimated, which can result in the recognition of costs prior to the recognition of the related revenue. For example, as of December 31, 2022, the amount recognized related to unapproved change orders and claims was \$549.3 million, which is discussed further in Note 4 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report. Actual amounts collected in connection with change orders and claims can differ from estimated amounts. Consequently, the timing for recognition of revenues and profit or loss and any subsequent changes in estimates is uncertain and could result in a reduction or an elimination of previously reported revenues or profits or the recognition of losses on the associated contract. Any such adjustments could be significant and could have a material adverse impact on our financial condition, results of operations and cash flows.

We may fail to adequately recover on contract change orders or claims brought by us against customers.

We have in the past brought, and may in the future bring, claims against our customers. These types of claims occur due to, among other things, delays caused by customers and third parties and changes in project scope, which can result in additional costs that may not be recovered until the claim is resolved. While we generally negotiate with the customer for additional compensation, we may be unable to obtain, through negotiation, arbitration, litigation or otherwise, adequate amounts to compensate us for the additional work or expenses incurred. Litigation or arbitration with respect to these matters is generally lengthy and costly, involves significant uncertainty as to timing and amount of any resolution, and can adversely affect our relationship with existing or potential customers. Furthermore, we can be required to invest significant working capital to fund cost overruns while the resolution of a claim is pending. Failure to obtain adequate and prompt compensation for these matters can result in a reduction of revenues and gross profit recognized in prior periods or the recognition of a loss. Any such reduction or loss can be substantial and can have a material adverse effect on our business, financial condition, results of operations and cash flows.

During the ordinary course of our business, we are subject to lawsuits, claims and other legal proceedings, as well as bonding claims and related reimbursement requirements.

We have in the past been, and may in the future be, named as a defendant in lawsuits, claims and other legal proceedings that arise in the ordinary course of our business. These actions seek, among other things, compensation for alleged personal injury (including claims for loss of life), workers' compensation, employment discrimination, sexual harassment, workplace misconduct, wage and hour claims and other employment-related damages, compensation for breach of contract, negligence or gross negligence or property damage, environmental liabilities, multiemployer pension plan withdrawal liabilities, punitive damages, consequential damages, and civil penalties or other losses or injunctive or declaratory relief, as well as interest and attorneys' fees associated with such claims. Furthermore, given our recent growth, we have become a more attractive target for lawsuits by various third parties. In addition, we generally indemnify our customers for claims related to the services we provide and actions we take under our contracts, and, in some instances, we are allocated risk through our contract terms for actions by our customers, subcontractors or other third parties. Because our services in certain instances can be integral to the

operation and performance of our customers' infrastructure, we have been and may become subject to lawsuits or claims for any failure of the systems that we work on or damages caused by accidents and events related to such systems, even if our services are not the cause of such failures and damages. We could also be subject to civil and criminal liabilities, which could be material. Insurance coverage may not be available or may be insufficient for these lawsuits, claims or legal proceedings. The outcome of any allegations, lawsuits, claims or legal proceedings, as well as any public reaction thereto, is inherently uncertain and could result in significant costs, damage to our brands or reputation and diversion of management's attention from our business. Payments of significant amounts, even if reserved, could materially and adversely affect our business, reputation, financial condition, results of operations and cash flows. In addition, many customers, particularly in connection with new construction, require us to post performance and payment bonds. These bonds provide a guarantee that we will perform under the terms of a contract and pay our subcontractors and vendors. If we fail to perform, the customer may demand that the surety make payments or provide services under the bond, and we must reimburse the surety for any expenses or outlays it incurs. As of December 31, 2022, the total amount of our outstanding performance bonds was estimated to be approximately \$4.5 billion. To the extent reimbursements are required, the amounts could be material and could adversely affect our consolidated business, financial condition, results of operations or cash flows.

We may be unsuccessful at generating internal growth, which could adversely affect our business.

Many of the factors affecting our ability to generate internal growth are beyond our control, and we cannot be certain that our strategies for achieving internal growth will be successful. Our ability to generate internal growth will be affected by, among other factors, our ability to profitably scale the services we currently offer, expand our overall service offerings and product solutions, attract new customers, increase the number of projects we perform for existing customers; hire and retain qualified employees and expand geographically within our current markets, as well as our ability to address regulatory, environmental and permitting requirements and economic or market conditions that affect us or our customers. Inability to successfully generate internal growth may adversely affect our financial condition, results of operations and cash flows.

Many of our contracts may be canceled or suspended on short notice or may not be renewed upon completion or expiration, and we may be unsuccessful in replacing our contracts, which could adversely affect our business.

Our customers have in the past and may in the future cancel, delay or reduce the number or size of projects available to us for a variety of reasons, including capital constraints or inability to meet regulatory requirements. Furthermore, many of our customers may cancel or suspend our contracts on short notice, typically 30 to 90 days, even if we are not in default under the contract. Certain of our customers assign work to us on a project-by-project basis under MSAs. Under these agreements, our customers generally have no obligation to assign a specific amount of work to us. Our financial condition, results of operations and cash flows can be negatively impacted if our customers cancel or suspend contracts having significant value, we fail to renew or replace a significant number of our existing contracts when they expire or are completed or the anticipated volume of work under an existing MSA is not assigned to us.

The nature of our business exposes us to potential liability for warranty, engineering and other related claims.

We typically provide contractual warranties for our services and materials, guaranteeing the work performed against, among other things, defects in workmanship, and we may agree to indemnify our customers for losses related to our services. The length of these warranty periods varies and can extend for several years, and certain projects can have longer warranty periods and include facility performance warranties that are broader than the warranties we generally provide. Warranties generally require us to re-perform the services and/or repair or replace the warranted item and any other facilities impacted thereby, at our sole expense, and we could also be responsible for other damages if we are not able to adequately satisfy our warranty obligations. In addition, we can be required under contractual arrangements with our customers to warrant any defects or failures in materials we provide. While we generally require materials suppliers to provide us warranties that are consistent with those we provide customers, if any of these suppliers default on their warranty obligations to us, we may incur costs to repair or replace the defective materials.

Furthermore, our business involves professional judgments regarding the planning, design, development, construction, operations and management of electric power, renewable generation, communications, underground utility and pipeline infrastructure. Because our projects are often technically complex, our failure to make judgments and recommendations in accordance with applicable professional standards, including engineering standards, could result in damages. A significantly adverse or catastrophic event at a project site or completed project resulting from the services we performed could result in significant professional or product liability, personal injury (including claims for loss of life) or property damage claims or other claims against us, as well as reputational harm. These liabilities could exceed our insurance limits or impact our ability to obtain third-party insurance in the future, and customers, subcontractors or suppliers who have agreed to indemnify us against any such liabilities or losses might refuse or be unable to pay us. As a result, warranty, engineering and other related claims could have a material adverse impact on our business, financial condition, results of operations and cash flows.

We can incur liabilities or suffer negative financial or reputational impacts relating to health and safety matters.

Our operations are inherently hazardous and subject to extensive laws and regulations relating to the maintenance of safe conditions in the workplace. While we have invested, and will continue to invest, substantial resources in our occupational health and safety programs, our industry involves a high degree of operational risk, and there can be no assurance that we will avoid significant liability exposure. Although we have taken precautions designed to mitigate this risk, we have suffered serious accidents, including fatalities, and we anticipate that our operations may result in additional serious accidents in the future. As a result of these events, we could be subject to substantial penalties, revocation of operating licenses, criminal prosecution or civil litigation, including claims for bodily injury or loss of life, that could result in substantial costs and liabilities. In addition, if our safety record were to substantially deteriorate or we were to suffer substantial penalties or criminal prosecution for violation of health and safety regulations, our customers could cancel our contracts and elect to procure future services from other providers. Unsafe work sites also have the potential to increase employee turnover, increase the costs of projects for our clients, and raise our operating costs. Any of the foregoing could have a material adverse impact on our business, financial condition, results of operations and cash flows.

Disruptions to our information technology systems or our failure to adequately protect critical data, sensitive information and technology systems could materially affect our business or result in harm to our reputation.

We rely on information technology systems to manage our operations and other business processes and to protect sensitive company information. We also collect and retain information about our customers, stockholders, vendors, employees and other parties, all of which expect that we will adequately protect such information. Breaches or disruptions of our information systems, or systems of key third parties and information technology vendors that we rely upon, can result from, among other things, cyber-attacks, theft, inadvertent exposure of sensitive information, acts of terrorism, war, storms or other natural phenomena, information technology solution failures or network disruptions, and any such cyber-attacks or breaches can go unnoticed for some period of time. For example, a cyber-attack on one of our vendors or vulnerabilities identified in proprietary or open-source code disclosed by vendors or federal agencies could potentially impact information technology systems relevant to our business and/or sensitive information that we retain. Furthermore, some of the energy infrastructure systems on which we work may be considered to be strategic targets, and therefore at greater risk of cyber-attacks or acts of terrorism than other targets. Additionally, an intrusion into the information systems of a business we acquire may also ultimately compromise our systems, and malicious third parties or insiders may attempt to fraudulently induce employees or customers into disclosing sensitive information such as user names, passwords or other information or otherwise compromise the security of our information systems.

While we have security measures and technology in place to protect our and our clients' confidential or proprietary company information, there can be no assurance that our efforts will prevent all threats to our computer systems. Additionally, the increased use of remote working arrangements by employees, vendors, and other third parties expands the possible attack surfaces, thereby increasing the risk of a data security compromise. We have addressed breaches and disruptions of our information systems, or systems of key third parties and information technology vendors that we rely upon, in the past, and we expect such events to continue to arise in the future. While to date we have not experienced any material impact as a result of cyber-attacks, the ultimate impact of future and similar events remains unknown, and we expect additional vulnerabilities may arise. Cyber-attacks can result in compromises of our payment systems, monetary losses, inability to access or operate our systems (e.g., ransomware), delays in processing transactions or reporting financial results, the disclosure or misappropriation of confidential, personal or proprietary company information (including for the purpose of transacting in our stock), or the release of customer, stockholder, vendor or employee information. An attack could also cause service disruptions to our internal systems or, in extreme circumstances, infiltration into, damage to or loss of control of our customers' energy infrastructure systems. Any such breach or disruption could subject us to significant liabilities, cause damage to our reputation or customer relationships, or result in regulatory investigations or other actions by governmental authorities, which could have a material adverse impact on our business, financial condition, results of operations and cash flows. Additionally, because the techniques used to obtain unauthorized access or sabotage information technology systems change frequently and are generally not identifiable until they are launched against a target, we may be unable to anticipate these techniques or to implement adequate preventative measures. As a result, we may be required to expend significant resources to protect against the threat of system disruptions and security breaches or to alleviate problems caused by these disruptions and breaches.

Any deterioration in the quality or reputation of our brands, which can be exacerbated by the effect of social media or significant media coverage, could have an adverse impact on our business.

Our brands and our reputation are among our most important assets, and our ability to attract and retain customers depends on brand recognition and reputation. Such dependence makes our business susceptible to reputational damage and to competition from other companies. A variety of events could result in damage to our reputation or brands, some of which are outside of our control, including:

- acts or omissions that adversely affect our business such as a crime, scandal, cyber-related incident, litigation or

other negative publicity;

- failure to successfully perform, or negative publicity related to, a high-profile project, including our joint venture in LUMA, which was selected for a 15-year operation and maintenance agreement to operate, maintain and modernize the approximately 18,000-mile electric transmission and distribution system in Puerto Rico;
- actual or potential involvement in a catastrophic fire, explosion or similar event; or
- actual or perceived responsibility for a serious accident or injury.

Intensifying media coverage, including the considerable expansion in the use of social media, has increased the volume and speed at which negative publicity arising from these events can be generated and spread, and we may be unable to timely respond to, correct any inaccuracies in, or adequately address negative perceptions arising from such media coverage. If the reputation or perceived quality of our brands decline or customers lose confidence in us, our business, financial condition, results of operations, or cash flows could be adversely affected.

Our financial results, financial condition and other financial and operational disclosures are based upon estimates and assumptions that may differ from actual results or future outcomes.

In preparing our consolidated financial statements and financial and operational disclosures, estimates and assumptions are used by management to report, among other things, assets, liabilities, revenues and expenses. These estimates and assumptions are necessary because certain information utilized is dependent on future events, cannot be calculated with a high degree of precision from available data or cannot be readily calculated based on generally accepted methodologies. In some cases, these estimates are particularly difficult to determine, and we must exercise significant judgment, and as a result actual results and future outcomes can differ materially from the estimates and assumptions that we use and have a material adverse effect on our financial condition, results of operations and cash flows. For example, our remaining performance obligations and backlog are difficult to determine with certainty. Customers often have no obligation under our contracts to assign or release work to us, and many contracts may be terminated on short notice. Cancellation or reduction in scope of a contract can significantly reduce the revenues and profit we recognize. Consequently, our estimates of remaining performance obligations and backlog may not be accurate, and we may not be able to realize our estimated remaining performance obligations and backlog. Our results of operations and financial condition can also be adversely affected by impairments to goodwill, other intangible assets, receivables, long-lived assets or investments, the fair value of which is dependent upon certain estimates and assumptions. In particular, equity investments are reviewed for impairment by assessing whether there has been a decline in the fair value of the investment below the carrying amount. Additionally, as described further in Note 2 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report, we record goodwill when we acquire a business, and goodwill must be tested at least annually for impairment. We have recorded impairments in the past, and any future impairments could have a material adverse effect on our financial condition and results of operations for the period in which the impairment is recognized.

Our inability to successfully execute our acquisition strategy may have an adverse impact on our growth.

Our business strategy includes expanding our presence in the industries we serve through strategic acquisitions of companies that complement or enhance our business. The number of acquisition targets that meet our criteria may be limited. We may also face competition for acquisition opportunities, and other potential acquirers may offer more favorable terms or have greater financial resources available for potential acquisitions. This competition may further limit our acquisition opportunities or raise the prices of acquisitions and make them less accretive, or possibly not accretive, to us. Furthermore, the increased antitrust scrutiny of potential acquisitions, including by the Federal Trade Commission (FTC) or Department of Justice under the Hart-Scott Rodino Act, the Sherman Act, the Clayton Act (each as amended) or other applicable laws, could impact the viability or timing of certain potential acquisitions. Failure to consummate future acquisitions could negatively affect our growth strategies.

Additionally, our past acquisitions have involved, and our future acquisitions may involve, significant cash expenditures and stock issuances, the incurrence or assumption of debt and other known and unknown liabilities and expose us to burdensome regulatory requirements. We may also discover previously unknown liabilities or, due to market conditions, be required pursuant to specific transaction terms to assume certain prior known liabilities associated with an acquired business, and we may have inadequate or no recourse under applicable indemnification provisions or representation and warranty insurance coverage (due to policy terms or lack of coverage at rates we believe are reasonable). As a result, past or future acquisitions may ultimately have a negative impact on our business, financial condition, results of operations and cash flows.

The success of our acquisition strategy also depends on our ability to successfully integrate the operations of the acquired businesses with our existing operations and realize the anticipated benefits from the acquired businesses, such as the expansion of our existing operations, elimination of redundant costs and capitalizing on cross-selling opportunities. Our ability to integrate and realize benefits can be negatively impacted by, among other things:

- failure of an acquired business to achieve the results we expect;
- diversion of our management’s attention from operational and other matters or other potential disruptions to our existing business;
- difficulties incorporating the operations and personnel, or inability to retain key personnel, of an acquired business;
- the complexities and difficulties associated with a decentralized management structure;
- additional financial reporting and accounting challenges associated with an acquired business;
- unanticipated events or liabilities associated with the operations of an acquired business;
- loss of business due to customer overlap or other factors; and
- risks and liabilities arising from the prior operations of an acquired business, such as performance, operational, safety, cybersecurity, environmental, workforce or other compliance or tax issues, some of which we may not have discovered or accurately estimated during our due diligence and may not be covered by indemnification obligations or insurance.

We cannot be sure that we will be able to successfully complete the integration process without substantial costs, delays, disruptions or other operational or financial problems. Failure to successfully integrate acquired businesses could adversely impact our business, financial condition, results of operations and cash flows.

Additionally, we also generally require that key management and former principals of the businesses we acquire agree to non-compete covenants in the purchase agreement or, as applicable, employment agreements. Enforceability of these non-competition agreements varies by jurisdiction and typically is dependent upon specific facts and circumstances, making it difficult to predict their enforceability. Additionally, the Federal Trade Commission has proposed rulemaking to, among other things, prohibit and make unenforceable any post-termination non-compete arrangement that restricts an employee or individual independent contractor, unless such arrangement was entered into in connection with an acquisition and meets certain conditions. If a member of the key management of the businesses we acquire leaves voluntarily or is terminated, we might be subject to increased competition if the restrictive covenants entered into by such person are not enforceable or have expired, which could materially and adversely affect our business, financial condition, results of operations and cash flows.

Our decentralized management structure could negatively impact our business.

We cannot be certain that our management structure will be adequate to support our operations as they expand. Our decentralized structure places significant control and decision-making powers in the hands of the management of our operating companies. This contributes to the risk that we may be slower or less able to identify or react to problems affecting key business matters than we would in a more centralized environment. The lack of timely access to information may also impact the quality of decision-making by management. For example, our ability to coordinate and utilize resources and capital, including our fleet of vehicles, equipment, labor resources and working capital, depends on effective communications and processes among our operating companies. Furthermore, our decentralized structure can increase the cost and complexity associated with implementation and management of information technology systems associated with critical functions (e.g., accounting and financial systems, human resources systems, fleet management systems).

As a result, the ability to internally communicate, coordinate and execute business strategies, plans and tactics may be negatively impacted by our increasing size and complexity. Our decentralized organization can also result in our operating companies assuming excessive risk without appropriate guidance from our centralized legal, accounting, safety, tax, treasury, insurance and other functions. Future growth could also impose significant additional responsibilities on members of our senior management, and we cannot be certain that we will be able to recruit, integrate and retain new senior-level managers and executives. To the extent that we are unable to manage our growth effectively or are unable to attract and retain additional qualified management, we may not be able to expand our operations or execute our business plan.

The loss of, or our inability to attract, key personnel could disrupt our business.

We depend on the continued efforts of our executive officers, senior corporate management and management of our operating companies, which includes leadership and key personnel of the businesses we acquire. Although we typically enter into employment agreements with our executive officers and other key employees for initial terms of one to three years and subsequent renewal options, we cannot be certain that any individual will continue in such capacity for any particular period of time. We also depend on our ability to attract key operational and professional personnel as we grow our business and in order to establish and maintain an effective succession planning process. A shortage of these employees for various reasons, including intense competition for skilled employees, labor shortages, increased labor costs and the preference of some candidates to work remotely, could jeopardize our ability to successfully manage our decentralized operations or our ability to grow and expand our business. As a result, the loss of key personnel, as well as our inability to attract, develop and retain

qualified employees that can succeed these key personnel, could negatively impact our ability to manage our business. Additionally, if the proposed FTC rulemaking regarding non-compete covenants discussed above is finalized, Quanta would be required to individually rescind any post-termination non-compete clauses in its employment and other service agreements with key management, other employees and individual independent contractors, which would increase the risk that key individuals, upon departure from Quanta, would compete with us despite any severance or other consideration paid or owed to any such individual.

Our investments, including our joint ventures, expose us to risks and may result in conflicts of interest that could adversely impact our business or result in reputational harm.

We have entered into strategic relationships, joint ventures and other investment arrangements with various partners, including customers and infrastructure investors, through which we have invested in infrastructure assets and businesses, and we expect this activity to continue in the future. Certain of these investments are described further in Note 8 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report. These types of investments expose us to increased risks, including poor performance by the infrastructure projects or businesses in which we have invested due to, among other things, difficult market or economic conditions or slowdowns (which may occur across one or more industries, sectors or geographies), changes to the supply or demand and fluctuations in the price of commodities, or fluctuations in the market price of the equity securities we hold in a company. That negative performance could result in lower investment returns, a decline in value or total loss of our investments or the possible sale of our investments at values below our initial projections, including at a loss, all of which could adversely affect our business, financial condition, results of operations and cash flows. For example, during 2022, we recorded a \$91.5 million impairment in connection with our investment in Starry Group Holdings, Inc. (Starry). Furthermore, our investments are often illiquid, as they are typically investments in private companies and/or subject to contractual restrictions that impose restrictions or lock-up periods affecting our ability to sell our interest, and as a result, we may not be able to exit an investment that is performing poorly, declining in value or resulting in reputational harm. Quanta may also be exposed to reputational harm based on poor or incomplete performance of our investments or an investment fund in which we participate, or based on the actions or conduct of the entities in which we are invested or our partners in such investments, all of which may be outside of our control. Any such reputational harm could adversely affect our ability to secure certain future projects or participate in future investment opportunities. Further, our relationship with a customer or investor that partners with us in a poorly performing investment could become impaired, which may negatively impact our ability to continue providing services to that customer.

Conflicts of interest may also exist or arise as a result of the structure of our investment arrangements. For example, in these structures, Quanta can be the contractor for construction of a project as well as an equity investor in an entity that owns, manages or operates the project or possibly the manager of investments in the project. In those instances, conflicts of interest can exist for such things as contractor pricing and the handling of contractor change orders and other claims. While certain of these conflicts of interest are governed by applicable laws and regulations and we have also taken certain actions that we believe minimize or address anticipated conflicts of interest, including through internal management practices and the terms of agreements governing the investment arrangement, failure to properly manage such conflicts of interest, or even the appearance of a potential conflict of interest, can expose us to liability or harm our relationships with investment partners, which could impact our business, financial condition, results of operations and cash flows or cause reputational harm to Quanta.

Additionally, the purpose of our joint ventures is typically to combine skills and resources to allow for the bidding and performance of particular projects, and the success on these projects can be adversely affected by the performance of our joint venture partners, over whom we may have little or no control. Differences in opinions or views between us and our joint venture partners may result in delayed decision-making or failure to agree on material issues that may adversely affect the business and operations of our joint ventures. We and our joint venture partners are also generally jointly and severally liable for all liabilities and obligations of a joint venture. If a joint venture partner fails to perform or is unable to satisfy required capital contributions or other obligations, including liabilities stemming from claims or lawsuits, we could be required to make additional investments, provide additional services or pay more than our proportionate share of a liability to make up for their shortfall. Further, if our partners experience cost overruns or project performance issues that we are unable to adequately address, the customer may terminate the project, which could result in legal liability to us, harm our reputation and reduce our profit or increase our loss on a project. As a result, the failure by a joint venture partner to successfully perform or comply with applicable laws, regulations or client requirements could negatively impact our business.

We extend credit to customers for purchases of our services and enter into other arrangements with certain of our customers, which subjects us to potential credit or investment risk.

We grant credit, generally without collateral, to our customers, which primarily include utilities, renewable energy developers, communications providers, industrial companies and energy delivery companies located primarily in the United States, Canada and Australia. In certain circumstances, we also allow our customers to defer payment until certain project milestones have been met or until a project is substantially completed, and customers typically withhold some portion of

amounts due to us as retainage until a project is complete. In addition, we have provided in the past and may provide in the future other forms of financing to our customers or make investments in our customers' projects. These payment arrangements subject us to potential credit risk related to changes in business and economic factors affecting our customers, and certain of our customers have experienced financial difficulties (including bankruptcy) in recent years, which has impacted our ability to collect amounts owed to us. If we are unable to collect amounts owed, or retain amounts paid to us, our cash flows are reduced, and we could experience losses. Business and economic factors resulting in financial difficulties (including bankruptcy) for our customers can also reduce the value of any financing or equity investment arrangements we have with our customers, thereby increasing the risk of loss in those circumstances. Losses experienced as a result of these credit and investment risks could materially and adversely affect our financial condition, results of operations and cash flows.

Risks associated with operating in international markets and U.S. territories could harm our business and prospects.

Our overall business, financial condition, results of operations and cash flows can be negatively impacted by our activities and operations outside the continental United States, including our international operations and operations in U.S. territories. Although these operations are presently conducted primarily in Canada and Australia, we also perform work in other foreign countries and U.S. territories. For the year ended December 31, 2022, we derived \$2.68 billion, or 15.7%, of our consolidated revenues from foreign operations, the substantial majority of which was related to Canada and Australia. Changes in economic conditions, including those resulting from wars and other conflicts, civil unrest, public health crises, such as the COVID-19 pandemic, acts of terrorism, or volatility in global markets, may adversely affect demand for our services and our customers' ability to pay for our services. In addition, at times we are paid for work outside the United States in currencies other than the U.S. dollar. Such payments are subject to fluctuating foreign currency exchange rates and may exceed our local currency needs, and, in certain instances, those amounts may be subject to temporary blocking, taxes or tariffs, and we may experience difficulties if we attempt to convert such amounts to U.S. dollars. Furthermore, to the extent the volume of services we provide internationally increases, our financial condition, results of operations and cash flows could be further exposed to the effects of fluctuating exchange rates.

There are numerous other risks associated with operating in international markets and U.S. territories, including, but not limited to, changes in applicable regulatory requirements; political, economic and social instability; expropriation or nationalization of our assets and operations; unfamiliar legal systems or business and labor practices; and complex U.S. and foreign tax regulations and other laws and international treaties. For example, as discussed in further detail in *Legal Proceedings* within Note 16 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report, the termination of a telecommunications project in Peru resulted in a \$79.2 million charge to earnings in the second quarter of 2019. Furthermore, we have incurred, and may incur in the future, significant costs or liabilities associated with an unsuccessful attempt to enter a new market and we have entered, and may in the future enter, a new market that ultimately proves to be unprofitable or has an otherwise adverse effect on our business. We may also incur significant costs and liabilities associated with winding down or exiting an existing market. For example, we incurred operating losses of \$74.0 million during the year ended December 30, 2020 in connection with the exit of our Latin American operations. These risks could restrict our ability to provide services to customers, operate our business in these locations profitably or fund our strategic objectives, which could negatively impact our overall business, financial condition, results of operations and cash flows.

Limitations on the availability of suppliers, subcontractors and equipment manufacturers that we depend on could adversely affect our business.

We rely on suppliers to obtain necessary materials and subcontractors to perform portions of our services, and our customers rely on suppliers for materials necessary for the construction, upgrade and repair and maintenance of their infrastructure. We also rely on equipment manufacturers to provide us with the equipment required to conduct our operations, including a significant number of specialty vehicles. Limitations on the availability of suppliers, subcontractors or equipment manufacturers could negatively impact our or our customers' operations, particularly in the event we rely on a single or small number of providers. The risk of a lack of available suppliers, subcontractors or equipment manufacturers can be heightened as a result of market, regulatory or economic conditions. For example, customers in certain states and Canada, in order to receive certain funding or for other reasons, may expect or compel us to engage a specified percentage of suppliers or subcontractors that meet diversity-ownership requirements, which can further limit our pool of available suppliers and subcontractors and limit our ability to secure contracts, maintain our services or grow in those areas. Availability of suppliers and manufacturers may also be limited by U.S. trade and other foreign policies that restrict business relationships with certain suppliers and manufacturers, including tariffs, duties, taxes, assessments or other limitations on the availability or sourcing of materials or components for our projects.

Additionally, successful completion of our contracts can depend on whether our subcontractors successfully fulfill their contractual obligations. If our subcontractors fail to perform their contractual obligations, fail to meet the expected completion dates or quality or safety standards or fail to comply with applicable laws, we may be required to incur additional costs or

provide additional services to mitigate such shortcomings. As a result, regulatory or other requirements that require us to outsource a percentage of services to subcontractors, whether they are businesses meeting diversity-ownership requirements or otherwise, also limit our ability to self-perform our services, thereby potentially increasing performance risk associated with our services. Furthermore, services subcontracted to other service providers generally yield lower margins, and therefore these regulatory requirements can impact our profitability and results of operations.

There are also increasing expectations in various jurisdictions that companies monitor the environmental and social performance of their value chain, including compliance with a variety of labor practices, as well as consider a wider range of potential environmental and social matters. Compliance can be costly, require us to establish or augment programs to diligence or monitor our suppliers, or potentially design supply chains to avoid certain regions altogether. Failure to comply with such regulations can result in fines, reputational damage, denial of import for materials for our projects, or otherwise adversely impact our business.

A lack of availability or an increase in the price of fuel, materials or equipment necessary for our business or our customers' projects could adversely affect our business.

Pursuant to certain contracts, including fixed price and EPC contracts where we have assumed responsibility for procuring materials for a project, we are exposed to availability issues and price increases for materials that are utilized in connection with our operations, including, among other things, copper, steel and aluminum and specialized project components (e.g., transformers, solar panels). In addition, the timing of our customers' ongoing projects, as well as their capital budgets and decision-making with respect to the timing of the future projects, can be negatively impacted by a lack of availability or an increase in prices of these materials. Prices and availability could be materially impacted by, among other things, supply chain and other logistical challenges, global trade relationships (e.g., tariffs, duties, taxes, assessments, sourcing restrictions) and other general market and geopolitical conditions (e.g., inflation, market volatility, increased interest rates). The lack of availability of necessary materials could result in project delays, some of which could be attributable to us, and an increase in prices of materials could reduce our profitability on projects or negatively impact our customers, which could have an adverse effect on demand for our services or our business, financial condition, results of operations and cash flows.

For example, recent supply chain and logistical challenges resulting from the U.S. Department of Commerce's investigation into an antidumping and countervailing duties circumvention claim on solar cells and panels supplied from Malaysia, Vietnam, Thailand and Cambodia, as well as other sourcing restrictions, have caused disruption in the solar panel supply chain and created delays in the timing of development and/or financing of certain renewable energy projects. Additionally, supply chain and other logistical challenges have negatively impacted suppliers of certain equipment necessary for the performance of our business in the past and may impact us in the future. For example, based on, among other things, the significant worldwide shortage of semiconductors, vehicle manufacturers we rely upon experienced production delays with respect to new vehicles for our fleet (both on-road and specialty vehicles) and vehicle parts (e.g., tires) and certain of our vehicle delivery orders during 2022 were delayed and canceled. While these issues have largely been resolved with respect to our 2023 vehicle delivery orders, to the extent these production issues worsen or become longer-term in nature, our operations could be negatively impacted.

We are also exposed to increases in energy prices, particularly fuel prices for our large fleet of vehicles, which have fluctuated significantly since 2020 and could increase over the longer term due to market conditions or future regulatory, legislative and policy changes that result from, among other things, climate change initiatives. Furthermore, some of our fixed price contracts do not allow us to adjust our prices and certain of our other contracts, such as some long-term MSAs, allow for price adjustments within a certain range that may be insufficient for us to recover the full amount associated with increased fuel costs. As a result, increases in fuel costs could reduce our profitability with respect to such projects. Our ability to utilize certain existing vehicles within our fleet may also be limited by new emissions or other regulations, and, due to lack of production or availability, we may not be able to procure a sufficient number of vehicles meeting any such regulations. To the extent we are unable to utilize a significant portion of our existing fleet, we may be unable to perform services, which could have an adverse effect on our future financial condition, results of operations and cash flows. Additionally, to the extent we are required to transition our fleet to alternative sources of power, including EVs, and the availability of such vehicles is limited or fluctuates, we may be unable to efficiently plan for such transition, which could result in, among other things, the retirement of certain vehicles prior to the end of their useful life. The broader and longer-term implications of these challenges, which could accelerate based on the pace of the transition to a reduced-carbon economy or otherwise, remain highly uncertain and variable and could negatively impact our overall business, financial condition, results of operations and cash flows.

Increasing scrutiny and changing expectations from various stakeholders with respect to corporate sustainability practices may impose additional costs on us or expose us to reputational or other risks.

Investors and other stakeholders have focused increasingly on the environmental, social and governance (ESG) practices of companies, including practices with respect to human capital resources, emissions and environmental impact and political spending. Expectations and requirements of our investors, customers and other third parties evolve rapidly and are largely out

of our control, and our ESG-based initiatives and disclosures in response to such expectations and requirements may result in increased costs (including but not limited to increased costs related to compliance, stakeholder engagement, contracting and insurance), changes in demand for certain services, enhanced compliance or disclosure obligations, or other adverse impacts to our business, financial condition, or results of operations. While we have programs and initiatives in place related to our ESG practices, investors may decide to reallocate capital or to not commit capital as a result of their assessment of our practices. In addition, our customers may require that we implement certain additional ESG procedures or standards in order to continue to do business with us. A failure to comply with investor or customer expectations and standards, which are evolving, or if we are perceived not to have responded appropriately to the growing concern for ESG issues, regardless of whether there is a legal requirement to do so, could also cause reputational harm to our business and could have a material adverse effect on us. For example, if a portion of our operations are perceived to result in high greenhouse gas emissions, our reputation could suffer. In addition, organizations that provide ratings information to investors on ESG matters may assign unfavorable ratings to Quanta or our industries, which may lead to negative investor sentiment and the diversion of investment to other companies or industries, which could have a negative impact on our stock price and our costs of capital.

Moreover, while we may create and publish voluntary disclosures regarding ESG matters from time to time, many of the statements in those voluntary disclosures are based on hypothetical expectations and assumptions that may not be representative of current or actual risks or events or forecasts of expected risks or events, including the costs associated therewith. Such expectations and assumptions are necessarily uncertain and may be prone to error or subject to misinterpretation given the long timelines involved and the lack of an established single approach to identifying, measuring and reporting on many ESG matters. In addition, we expect there will likely be increasing levels of regulation, disclosure-related and otherwise, with respect to ESG matters. For example, the SEC has published proposed rules that would require companies to provide significantly expanded climate-related disclosures in their periodic reporting, which may require us to incur significant additional costs to comply, including the implementation of significant additional internal controls processes and procedures regarding matters that have not been subject to such controls in the past, and impose increased oversight obligations on our management and board of directors.

Risks Related to Our Industries

Negative macroeconomic conditions and industry-specific economic and market conditions can adversely impact our business.

Stagnant or declining economic conditions, including a prolonged economic downturn or recession, as well as significant events that have an impact on financial or capital markets, can adversely impact the demand for our services and result in the delay, reduction or cancellation of certain projects. Macroeconomic conditions, including inflation, slow growth or recession, changes to fiscal and monetary policy, and tighter credit and higher interest rates could materially adversely affect demand for our services and the availability and cost of the materials and equipment that we need to deliver our services or our customers need for their projects. During periods of elevated economic uncertainty, our customers may reduce or eliminate their spending on the services we provide. In addition, volatility in the debt or equity markets may impact our customers' access to capital and result in the reduction or elimination of spending on the services we provide. Our vendors, suppliers and subcontractors may also be, to varying degrees, adversely affected by these conditions. These conditions, which can develop rapidly, could adversely affect our revenues, results of operations, and liquidity.

A number of factors can also adversely affect the industries we serve, including, among other things, the economic impact and supply chain and other logistical issues, financing conditions, potential bankruptcies and global and U.S. trade relationships and other geopolitical conflicts and other events. A reduction in cash flow or the lack of availability of debt or equity financing for our customers could result in a reduction in our customers' spending for our services and also impact the ability of our customers to pay amounts owed to us, which could have a material adverse effect on our business, financial condition, results of operations and cash flows. Consolidation, competition, capital constraints or negative economic conditions in the electric power, energy or communications industries can also result in reduced spending by, or the loss of, one or more of our customers.

Services within our Underground Utility and Infrastructure Solutions segment are exposed to risks associated with the oil and gas industry. These risks, which are not subject to our control, include the volatility of commodity prices and production volumes, the development of and consumer demand for alternative energy sources, and legislative and regulatory actions, as well as public opinion, regarding the impact of fossil fuels on the climate and environment. Specifically, lower prices or production volumes, or perceived risk thereof, can result in decreased or delayed spending by our customers, including with respect to larger pipeline and industrial projects. For example, demand for our industrial services operations declined during 2020 and 2021 as customers reduced and deferred regularly scheduled maintenance due to lack of demand for refined products and economic uncertainty as a result of the COVID-19 pandemic. Furthermore, future restrictions imposed on oil and gas production activities, including as a result of concerns about the impact of climate change, could have a material adverse effect on the oil and gas industry as a whole. Certain of our operations within our Underground Utility and Infrastructure Solutions

segment could also experience reputational risks, such as how our values and practices regarding a low carbon transition are viewed by external and internal stakeholders, which could have a material adverse impact on our business, results of operations, financial condition and cash flows. If the profitability of our Underground Utility and Infrastructure Solutions segment were to decline, our overall financial position, results of operations and cash flows could also be adversely affected. A decline in prices, production or the development of resource plays can also negatively impact demand for certain electric power infrastructure services performed in energy-reliant markets, including Canada and Australia.

Our revenues and profitability can be negatively impacted if our customers encounter financial difficulties or file bankruptcy or disputes arise with our customers.

Our contracts often require us to satisfy or achieve certain milestones in order to receive payment, or in the case of cost-reimbursable contracts, provide support for billings in advance of payment. As a result, we can incur significant costs or perform significant amounts of work prior to receipt of payment. We face difficulties collecting payment and sometimes fail to receive payment for such costs in circumstances where our customers do not proceed to project completion, terminate or cancel a contract, default on their payment obligations, or dispute the adequacy of our billing support. We have in the past brought, and may in the future bring, claims against our customers related to the payment terms of our contracts, and any such claims may harm our relationships with our customers.

Slowing economic conditions in the industries we serve can also impair the financial condition of our customers and hinder their ability to pay us on a timely basis or at all. To the extent a customer files bankruptcy, payment of amounts owed can be delayed and certain payments we receive prior to the filing of the bankruptcy petition may be avoided and returned to the customer's bankruptcy estate. Furthermore, many of our customers for larger projects are project-specific entities that do not have significant assets other than their interests in the project and could be more likely to encounter financial difficulties relating to their businesses. We ultimately may be unable to collect amounts owed to us by customers experiencing financial difficulties or in bankruptcy, and accounts receivable from such customers may become uncollectible and ultimately have to be written off, which could have an adverse effect on our future financial condition, results of operations and cash flows.

Our business is highly competitive, and competitive pressures could negatively affect our business.

We cannot be certain that we will maintain or enhance our competitive position or maintain our current customer base. Our industries are served by numerous companies, from small, owner-operated private companies to large multi-national, public companies. Relatively few barriers prevent entry into some areas of our business, and as a result, any organization that has adequate financial resources and access to technical expertise may become one of our competitors. In addition, some of our competitors have significant financial, technical and marketing resources, and may have or develop expertise, experience and resources to provide services that are superior in both price and quality to our services. Certain of our competitors may also have lower overhead cost structures, and therefore may be able to provide services at lower rates than us. We also face competition from the in-house service organizations of our existing or prospective customers, which are capable of performing, or acquiring businesses that perform, some of the same types of services we provide. These customers may also face pressure or be compelled by regulatory or other requirements to self-perform an increasing amount of the services we currently perform for them, thereby reducing the services they outsource to us in the future.

We also subcontract approximately 20% of our services, including pursuant to customer and regulatory requirements, and certain of these subcontractors may develop into a competitor to us on prime contracts with our customers. Our subcontracting requirements have also increased in recent years, primarily as a result of these requirements, which not only increases the number of viable competitors but could also negatively impact our ability to self-perform projects.

Furthermore, a substantial portion of our revenues is directly or indirectly dependent upon obtaining new contracts, which is unpredictable and often involves complex and lengthy negotiations and bidding processes that are impacted by a wide variety of factors, including, among other things, price, governmental approvals, financing contingencies, commodity prices, environmental conditions, overall market and economic conditions, and a potential customer's perception of our ability to perform the work or the technological advantages held by our competitors. The competitive environment we operate in can also affect the timing of contract awards and the commencement or progress of work under awarded contracts. For example, based on rapidly changing competition and market dynamics, we have recently experienced, and may in the future experience, more competitive pricing for smaller scale projects. Additionally, changing competitive pressures present difficulties in matching workforce size with available contract awards. As a result of the factors described above, the competitive environment we operate in can have a material adverse effect on our business, financial condition, results of operations and cash flows.

Technological advancements and other market developments could negatively affect our business.

Technological advancements, market developments and other factors may increase our costs or alter our customers' existing operating models or the services they require, which could result in reduced demand for our services. For example, a reduction in demand for hydrocarbons or plastics or an increase in demand for renewable energy sources or otherwise could

negatively impact certain of our customers and reduce demand for certain of our services. Additionally, a transition to a decentralized electric power grid, which relies on more dispersed and smaller-scale renewable energy sources, could reduce the need for large infrastructure projects and significant maintenance and rehabilitation programs, thereby reducing demand for, or profitability of, our services. Our future success will depend, in part, on our ability to anticipate and adapt to these and other potential changes in a cost-effective manner and to offer services that meet customer demands and evolving industry standards. If we fail to do so or incur significant expenditures in adapting to such change, our businesses, financial condition, results of operations and cash flows could be materially and adversely affected.

Furthermore, we view our portfolio of energized services tools and techniques, as well as our other process and design technologies, as competitive strengths, which we believe differentiate our service offerings. If our intellectual property rights or work processes become obsolete, through technological advancements or otherwise, we may not be able to differentiate our service offerings and some of our competitors may be able to offer more attractive services to our customers, which could materially and adversely affect our business, financial condition, results of operations and cash flows.

Risks Related to Regulation and Compliance

Regulatory requirements applicable to our industries and changes in current and potential legislative and regulatory initiatives may adversely affect demand for our services.

Because the vast majority of our revenue is derived from a few industries, the federal, state, provincial and local regulations affecting those industries, including, among other things, environmental, safety, and permitting requirements and materials sourcing and transportation requirements, have a material effect on our business. These regulations are complex and subject to change both in substance and interpretation and often regulations across various industries can differ or conflict, all of which can negatively impact our or our customers' ability to efficiently operate. In recent years, customers in our industries have faced heightened regulatory requirements and increased regulatory enforcement, as well as private legal challenges related to regulatory requirements, which have resulted in delays, reductions in scope and cancellations of projects, in particular larger pipeline and transmission projects. Furthermore, certain regulatory requirements applicable to our customers are also required of us when we contract with such customers, and our inability to meet those requirements could also result in decreased demand for our services. Increased and changing regulatory requirements applicable to us and our customers have resulted in, among other things, project delays and decreased demand for our services in the past, and may do so in the future, which can adversely affect our business, financial condition, results of operations and cash flows.

For example, supply chain and logistical challenges resulting from the U.S. Department of Commerce's investigation into an antidumping and countervailing duties circumvention claim on solar cells and panels supplied from Malaysia, Vietnam, Thailand and Cambodia, as well as other sourcing restrictions, caused disruption in the solar panel supply chain during 2022 and adversely impacted the timing of development and/or financing of certain renewable energy projects, which in turn had a negative impact on the financial performance of our Renewable Energy Infrastructure Solutions segment. Furthermore, with respect to our contracts under which we are responsible for procuring all or a portion of the materials needed for projects, including our EPC contracts, we are often required to comply with complex sourcing and transportation regulations, which can involve cross-border movement of such materials. Changes to, or our failure to comply with, these regulatory requirements can result in project delays and additional project costs, which may be substantial and not recoverable from third parties, and in some cases, we may be required to compensate the customer for such delays, including in circumstances where we have guaranteed project completion or performance by a scheduled date and incur liquidated damages if we do not meet such schedule. Additionally, our failure to comply with these regulatory requirements could result in criminal or civil fines, penalties, forfeitures or other sanctions.

Regulatory requirements focused on concerns about climate-change related issues, including any new or changed requirements concerning the reduction, production or 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. Additionally, new regulations addressing greenhouse gas emissions from mobile sources could also significantly increase costs for our large fleet of vehicles, render portions of our fleet of vehicles obsolete or reduce the availability of vehicles we need to perform our services.

With respect to certain services within our Renewable Energy Infrastructure Solutions segment, current and potential legislative or regulatory initiatives may not be implemented or extended or result in incremental increased demand for our services, including legislation or regulation that mandates percentages of power to be generated from renewable sources, requires utilities to meet reliability standards, provides for existing or new production tax credits for renewable energy developers, or encourages installation of new electric power transmission and renewable energy generation facilities. While these actions and initiatives have positively impacted demand for our services in the past, it is not certain whether they will continue to do so in the future. For example, the interaction between the IRA and the IIJA could lead to additional complex requirements associated with, among other things, union labor or prevailing wages, domestic material production obligations, and affirmative action programs, which we and our customers must comply with in order to secure government funding for

projects completed thereunder. Our or our customers' failure to successfully navigate these requirements could negatively impact our ability to take advantage of the opportunities under such legislation, result in additional unintended costs associated with any projects completed under such legislation or result in liabilities or governmental penalties for noncompliance.

Our unionized workforce and related obligations may adversely affect our operations.

As of December 31, 2022, approximately 34% of our employees were covered by collective bargaining agreements and the number of our employees covered by collective bargaining agreements could increase in the future for a variety of reasons, including acquisitions, unionization of a non-union operating company, project requirements and changes in law. The current political and labor environment has also generally been more conducive to unionization attempts, and we have experienced an increase in unionization attempts at certain of our operating companies, some of which have been successful, and we expect such attempts to continue in the future. For a variety of reasons, our unionized workforce could adversely impact relationships with our customers and adversely affect our business, financial condition, results of operations and cash flows. Certain of our customers also require or prefer a non-union workforce, and they may reduce the amount of work assigned to us if our non-union labor crews become unionized. Additionally, although the majority of the collective bargaining agreements prohibit strikes and work stoppages, certain of our unionized employees have participated in strikes and work stoppages in the past and strikes or work stoppages could occur in the future. Our ability to complete future acquisitions also could be adversely affected because of our operating companies' union status, including because our union agreements may be incompatible with the union agreements of a business we want to acquire or because a business we want to acquire may not want to become affiliated with our operating companies that have employees covered by collective bargaining obligations.

Our collective bargaining agreements generally require us to participate with other companies in multiemployer pension plans. To the extent a plan is underfunded, we may be subject to substantial liabilities if we withdraw or are deemed to withdraw from the plan or the plan is terminated or experiences a mass withdrawal. For example, we have been involved in several litigation matters associated with our withdrawal from the Central States, Southeast and Southwest Areas Pension Plan, certain of which were settled in 2017. Further, special funding and operational rules are generally applicable to multiemployer plans that are classified as "endangered," "seriously endangered" or "critical" status based on multiple factors (including, for example, the plan's funded percentage, cash flow position and a projected minimum funding deficiency). Plans in these classifications must adopt remedial measures, which may require additional contributions from employers (e.g., a surcharge on benefit contributions) and/or modifications to retiree benefits. Certain plans to which we contribute or may contribute in the future have these funding statuses, and we may be obligated to contribute material amounts to these plans in the future, which could negatively impact our business, financial condition, results of operations and cash flows. For additional information on our contributions to, and the funding status of, these plans, see Note 15 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report.

We could be adversely affected by our failure to comply with the laws applicable to our foreign activities.

Applicable U.S. and non-U.S. anti-corruption laws, including but not limited to the U.S. Foreign Corrupt Practices Act (FCPA), prohibit us from, among other things, corruptly making payments to non-U.S. officials for the purpose of obtaining or retaining business. We pursue certain opportunities in countries that experience government corruption, and in certain circumstances, compliance with these laws may conflict with local customs and practices. Our policies mandate compliance with all applicable anti-corruption laws and our procedures and practices are designed to ensure that our employees and intermediaries comply with these laws. However, there can be no assurance that such policies, procedures and practices will protect us from liability under the FCPA or other similar laws for actions or inadvertences by our employees or intermediaries. Liability for such actions or inadvertences could result in severe criminal or civil fines, penalties, forfeitures, disgorgements or other sanctions, which in turn could have a material adverse effect on our reputation, business, financial condition, results of operations, and cash flows. In addition, detecting, investigating and resolving actual or alleged violations can be expensive and consume significant time and attention of our senior management, in-country management, and other personnel.

Changes in tax laws could adversely affect our financial results.

We are subject to extensive tax liabilities imposed by multiple jurisdictions, including income taxes, indirect taxes (excise/duty, sales/use, gross receipts, and value-added taxes), payroll taxes, franchise taxes, withholding taxes, and ad valorem taxes. New tax laws, treaties and regulations and changes in existing tax laws, treaties and regulations are continuously being enacted or proposed, all of which can result in significant changes to the tax rate on our earnings and have a material impact on our earnings and cash flows from operations. Since future changes to federal and state tax legislation and regulations are unknown, we cannot predict the ultimate impact such changes may have on our business. In addition, significant judgment is required in determining our worldwide provision for income taxes. In the ordinary course of our business, there are many transactions and calculations where the ultimate tax determination is uncertain. We are regularly under audit by tax authorities, and our tax estimates and tax positions could be materially affected by many factors, including the final outcome of tax audits and related litigation, the introduction of new tax accounting standards, legislation, regulations and related interpretations, our global mix

of earnings, our ability to realize deferred tax assets and changes in uncertain tax positions. A significant increase in our tax rate can have a material adverse effect on our profitability and liquidity.

Our failure to comply with environmental laws and regulations could result in significant liabilities and increased costs.

Our operations are subject to various environmental laws and regulations, including those dealing with the handling and disposal of waste products, PCBs, fuel storage, water quality and air quality. These laws and regulations are complex and subject to change. We perform work in many different types of underground environments. If the field location maps supplied to us are not accurate, or if objects are present in the soil that are not indicated on the field location maps, our underground work could strike objects in the soil, some of which may contain pollutants. These objects may also rupture, resulting in the discharge of pollutants. In such circumstances, we may be liable for fines and damages, and we may be unable to obtain reimbursement from any parties providing the incorrect information. We also perform work, including directional drilling, in and around environmentally sensitive areas such as rivers, lakes and wetlands. Due to the inconsistent nature of the terrain and water bodies, it is possible that such work may cause the release of subsurface materials that contain contaminants in excess of amounts permitted by law, potentially exposing us to remediation costs and fines. Additionally, we own and lease facilities that contain above- and below-ground fuel storage tanks, which could leak and cause us to be responsible for remediation costs and fines. The obligations, liabilities, fines and costs associated with these and other events can be material and could have a material adverse impact on our business, financial condition, results of operations and cash flows. In some cases, environmental laws also ascribe liability without respect to contribution to the contamination in question or the lawfulness of disposal at the time it occurred. Moreover, new or changed laws and regulations, changes in interpretation of laws and regulations or the stricter enforcement of existing laws and regulations, as well as the discovery of previously unknown contamination or leaks or the imposition of new clean-up requirements, could require us to incur significant costs or become the basis for new or increased liabilities. For example, a recent change to the definitions of waters of the United States by the EPA has expanded the coverage of the Clean Water Act, which is expected to impact construction around certain waterways. In certain instances, we have obtained indemnification and other rights from third parties (including predecessors or lessors) for such obligations and liabilities; however, these indemnities may not cover all of our costs and indemnitors may not pay amounts owed to us. Further, in connection with an acquisition, we cannot be certain that we identify all potential environmental liabilities relating to any acquired business when we are negotiating an indemnification right.

Certain regulatory requirements applicable to us and certain of our subsidiaries could materially impact our business.

We are subject to various specific regulatory regimes and requirements that could result in significant compliance costs and liabilities. As a public company, we are subject to various corporate governance and financial reporting requirements, including requirements for management to report on our internal controls over financial reporting and for our independent registered public accounting firm to express an opinion on the operating effectiveness of our internal control over financial reporting. Our internal control over financial reporting was effective as of December 31, 2022; however, there can be no assurance that our internal control over financial reporting will be determined to be effective in future years. Failure to maintain effective internal controls, including the identification and remediation of significant internal control deficiencies in acquired businesses (both prior acquisitions and future acquisitions), could result in a decrease in the market value of our publicly traded securities, a reduced ability to obtain debt and equity financing, a loss of customers, fines or penalties, and/or additional expenditures to meet the requirements or remedy any deficiencies.

Additionally, one of our subsidiaries has registered as an investment adviser with the SEC under the U.S. Investment Advisers Act of 1940, as amended (the Advisers Act), which imposes substantive and material restrictions and requirements on the operations of this subsidiary, including certain fiduciary duties that apply to its relationships with its advisory clients. The SEC has broad administrative powers to institute proceedings and impose sanctions for violations of the Advisers Act, ranging from fines and censures to termination of an adviser's registration. This subsidiary is also subject to periodic SEC examinations and other requirements, including, among other things, maintaining an effective compliance program, recordkeeping and reporting requirements, disclosure requirements and complying with anti-fraud prohibitions. The failure of our subsidiary to comply with the requirements of the Advisers Act could result in fines, suspensions of individual employees or other sanctions against our subsidiary that could have a material adverse effect on us. Even if an investigation or proceeding does not result in a fine or sanction or if a fine or sanction imposed against our subsidiary or its employees were small in monetary amount, the adverse publicity relating to an investigation, proceeding or imposition of these fines or sanctions could harm our reputation and have a material adverse effect on us.

Furthermore, our wholly-owned captive insurance company is a registered insurance company with the Texas Department of Insurance, and therefore is subject to various rules and regulations and required to meet certain capital requirements, which can result in additional use of our resources.

We also collect and retain information about our customers, stockholders, vendors and employees. Legislation and regulatory requirements, as well as contractual commitments, affect how we must store, use, transfer and process the confidential information of our customers, stockholders, vendors and employees. These laws, as well as other new or changing

legislative, regulatory or contractual requirements concerning data privacy and protection, could require us to expend significant additional compliance costs, and any failure to comply with such requirements can result in significant liability or harm to our reputation.

Opportunities within the government arena could subject us to increased regulation and costs and may pose additional risks relating to future funding and compliance.

Most government contracts are awarded through a regulated competitive bidding process, which can often include more cumbersome compliance requirements and be more time consuming than the bidding process for non-governmental projects. For example, the Biden Administration recently proposed revisions to the Federal Acquisition Regulation which, if adopted, would require major federal suppliers to monitor and disclose certain climate-related information and, for certain suppliers, to adopt climate-related targets subject to the methodology of the Science Based Targets Initiative. This could require us to incur substantial costs, subject us to increased liability for our climate-related disclosures, and influence our climate and business strategy in ways other than we might prefer. Additionally, involvement with government contracts could require a significant amount of costs to be incurred before any revenues are realized. We are also subject to numerous procurement rules and other public sector regulations when we contract with certain governmental agencies, any deemed violation of which could lead to fines or penalties or a loss of business. Government agencies routinely audit and investigate government contractors and may review a contractor's performance under its contracts, cost structure and compliance with applicable laws, regulations and standards. If a government agency determines that costs were improperly allocated to specific contracts, such costs will not be reimbursed or a refund of previously reimbursed costs may be required. If a government agency alleges or proves improper activity, civil and criminal penalties could be imposed and serious reputational harm could result. Many government contracts must be appropriated each year, and without re-appropriation we would not realize all of the potential revenues from any awarded contracts. Additionally, U.S. government shutdowns or any related under-staffing of the government departments or agencies that interact with our business could result in program cancellations, disruptions and/or stop work orders, could limit the government's ability to effectively progress programs and make timely payments, and could limit our ability to perform on our existing U.S. government contracts and successfully compete for new work.

Immigration laws, including our inability to verify employment eligibility and restrictions on movement of our foreign employees, could adversely affect our business or reputation.

We employ a significant number of employees, and while we utilize processes to assist in verifying the employment eligibility of potential new employees so that we maintain compliance with applicable laws, it is possible some of our employees may be unauthorized workers. In addition, we utilize certain non-immigrant visas to allow us to temporarily transfer certain of our foreign employees to the United States, and we utilize foreign immigration laws to allow certain of our employees to temporarily transfer to foreign countries. The employment of unauthorized workers or failure to comply with the requirements of these non-immigrant visas could subject us to fines, penalties and other costs, as well as result in adverse publicity that negatively impacts our reputation and brand and may make it more difficult to hire and retain qualified employees. Furthermore, to the extent we are subject to penalties or delays that prevent the future transfer of our foreign employees to the United States, we may incur additional costs to hire and train new employees. For example, as a result of the COVID-19 pandemic, we have experienced delays and restrictions due to immigration processes that have prevented certain foreign workers from entering and working in the United States and Canada. Immigration laws have also been an area of considerable political focus in recent years, and, from time-to-time, the U.S. government considers or implements changes to federal immigration laws, regulations or enforcement programs. Changes in immigration or work authorization laws may increase our obligations for compliance and oversight, which could subject us to additional costs and potential liability and make our hiring and employee transfer processes more cumbersome, or reduce the availability of potential employees.

Risks Related to Financing Our Business

We may not have access in the future to sufficient funding to finance desired growth and operations.

If we cannot secure future funds or financing on acceptable terms or generate sufficient cash flow, we may be unable to support our future operations or growth strategy. The timing of our funding needs and the size of our operations and strategic initiatives that require capital cannot be readily predicted and may be substantial. For example, during 2021 we incurred approximately \$2.30 billion of debt to complete our acquisition of Blattner. We also rely on financing companies to fund the leasing of certain of our equipment, and credit market conditions may restrict access to capital for the leasing of additional equipment. A lack of available capital to fund the leasing of equipment could negatively impact our future operations.

The credit agreement for our senior credit facility and the indenture for our senior notes contain certain restrictions, including financial covenants and other restrictions on our ability to borrow amounts under the credit agreement and limitations on our ability to incur additional debt or conduct certain types of preferred equity financings. Our ability to increase the current commitments under our senior credit facility is also dependent upon additional commitments from our lenders. Furthermore, if we seek additional debt or equity financings, we cannot be certain they will be available to us on acceptable terms or at all, as

banks are often restrictive in their lending practices, and our ability to access capital markets for financing could be limited by, among other things, our existing capital structure, our credit ratings, the state of the economy, the health of our industries, and the liquidity of the capital markets. If we are unable to borrow under our senior credit facility or secure other financing or if our lenders become unable or unwilling to fund their commitments to us, we may not be able to access the capital needed to fund our growth and operations, which could have a material adverse impact on our business, financial condition, results of operations and cash flows. For additional information on the terms of our senior credit facility, senior notes and commercial paper facility, please read Note 10 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report.

Additionally, the market price of our common stock has fluctuated significantly in the past, and may fluctuate significantly in the future, in response to various factors, including events beyond our control, which could impact our ability to utilize capital markets to obtain funds. A variety of events may cause the market price of our common stock to fluctuate significantly, including overall market conditions or volatility, actual or perceived negative financial results or other unfavorable information relating to us or our market peers.

We have a significant amount of debt, and our significant indebtedness could adversely affect our business, financial condition and results of operations and our ability to meet our payment obligations under our other debt.

We have a significant amount of debt and debt service requirements. As of December 31, 2022, we had approximately \$3.69 billion of outstanding long-term debt, net of current maturities. We also had \$2.00 billion of aggregate undrawn borrowing capacity under our senior credit facility and commercial paper program as of December 31, 2022. This level of debt could have significant consequences on our future operations, including:

- making it more difficult for us to meet our payment and other obligations under our outstanding debt;
- resulting in an event of default if we fail to comply with the financial and other restrictive covenants contained in our debt agreements, which event of default could result in all of our debt becoming immediately due and payable;
- reducing the availability of our cash flows to fund working capital, capital expenditures, acquisitions or strategic investments, dividends and other general corporate purposes, and limiting our ability to obtain additional financing for these purposes;
- subjecting us to the risk of increasing interest expense on variable rate indebtedness, including borrowings under our senior credit facility and commercial paper program;
- limiting our flexibility in planning for, or reacting to, and increasing our vulnerability to changes in our business, the industries in which we operate and the general economy;
- limiting our ability to pursue business opportunities that become available to us; and
- placing us at a competitive disadvantage compared to our competitors that have less debt or are less leveraged.

Any of the above-listed factors could have an adverse effect on our business, financial condition and results of operations and our ability to meet our payment obligations on our existing indebtedness.

Servicing our debt requires a significant amount of cash, and we may not have sufficient cash flow from our operations to pay our indebtedness.

Our ability to generate cash in order to make scheduled payments on the principal of, to pay interest on or to refinance our indebtedness depends on our future performance, which is subject to economic, financial, competitive, legislative, regulatory and other factors beyond our control. In addition, our ability to borrow funds in the future to make payments on our debt will depend on the satisfaction of the covenants in our senior credit facility and our other financing and other agreements we may enter into in the future. Specifically, we will need to maintain certain financial ratios. Our business may not continue to generate sufficient cash flow from operations in the future and future borrowings may not be available to us under our senior credit facility and commercial paper facility or from other sources in an amount sufficient to service our indebtedness to make necessary capital expenditures or to fund our other liquidity needs. If we are unable to generate cash from our operations or through borrowings, we may be required to adopt one or more alternatives, such as selling assets, restructuring debt or obtaining additional equity capital on terms that may be onerous or highly dilutive. Our ability to make payments on our indebtedness or refinance our indebtedness will depend on factors including the state of the capital markets and our financial condition at such time, as well as the terms of our financing agreements. We may not be able to engage in any of these activities or engage in these activities on desirable terms, which could result in a default on our debt obligations.

Our variable rate indebtedness subjects us to interest rate risk.

Borrowings under our senior credit facility and commercial paper facility are at variable rates of interest and expose us to interest rate risk. Interest rates have increased significantly during 2022 and the beginning of 2023, and further increases are expected. As a result, our debt service obligations on the variable rate indebtedness have increased and are expected to continue to increase even if the amount we borrow remains the same, and our net income and cash flows, including cash available for servicing our indebtedness, will correspondingly decrease. Our weighted average interest rate on our credit facility for the year ended December 31, 2022 was 3.0%, as compared to 1.9% for the year ended December 31, 2021. The commercial paper notes were outstanding from September 2, 2022 through December 31, 2022, and the weighted average interest rate was 4.5%. The annual effect on our pretax earnings of a hypothetical 50 basis point increase or decrease in variable interest rates would be approximately \$5.8 million based on our December 31, 2022 balance of variable rate debt.

We may be unable to compete for projects if we are not able to obtain surety bonds, letters of credit or bank guarantees.

A portion of our business depends on our ability to provide surety bonds, letters of credit, bank guarantees or other financial assurances. Current or future market conditions, including losses incurred in the construction industry or as a result of large corporate bankruptcies, as well as changes in our sureties' assessment of our operating and financial risk, could cause our surety providers and lenders to decline to issue or renew, or substantially reduce the amount of, bid or performance bonds for our work and could increase our costs associated with collateral. These actions could be taken on short notice. If our surety providers or lenders were to limit or eliminate our access to bonding, letters of credit or guarantees, our alternatives would include seeking capacity from other sureties and lenders or finding more business that does not require bonds or that allows for other forms of collateral for project performance, such as cash. We may be unable to secure these alternatives in a timely manner, on acceptable terms, or at all, which could affect our ability to bid for or work on future projects requiring financial assurances.

Under standard terms in the surety market, sureties issue or continue bonds on a project-by-project basis and can decline to issue bonds at any time or require the posting of additional collateral as a condition to issuing or renewing bonds. If we were to experience an interruption or reduction in the availability of bonding capacity as a result of these or other reasons, we may be unable to compete for or work on certain projects that require bonding.

A downgrade in our debt rating could restrict our ability to access the capital markets.

The terms of our financings are, in part, dependent on the credit ratings assigned to our debt by independent credit rating agencies. We cannot provide assurance that our current credit rating will remain in effect for any given period of time or that it will not be lowered or withdrawn entirely by a rating agency. Factors that may impact our credit rating include, among other things, our debt levels and liquidity, capital structure, financial performance, planned asset purchases or sales, near- and long-term growth opportunities, customer base and market position, geographic diversity, regulatory environment, project performance and risk profile. A downgrade in our credit rating, particularly to non-investment grade levels, would prevent us from issuing commercial paper under our current commercial paper program and result in the conversion of all our outstanding borrowings under our commercial paper facility to revolving borrowings under our senior credit facility, which are subject to a higher interest rate. Additionally, a downgrade in our credit rating could limit our ability to access the debt capital markets or refinance our existing debt or cause us to refinance or issue debt with less favorable terms and conditions. An increase in the level of our indebtedness and related interest costs may increase our vulnerability to adverse general economic and industry conditions and may affect our ability to obtain additional financing, as well as have a material adverse effect on our business, financial condition, results of operations and cash flows.

Risks Related to Our Common Stock

Our sale or issuance of additional common stock or other equity-related securities could dilute each stockholder's ownership interest or adversely affect the market price of our common stock.

We often fund a significant portion of the consideration paid in connection with our acquisitions with the issuance of additional equity securities, including contingent consideration amounts payable if acquired businesses achieve certain performance objectives during specified post-acquisition periods. We also utilize stock-based compensation as a key component of our compensation program. We expect to issue additional equity securities in the future in connection with these and other practices. Our Restated Certificate of Incorporation provides that we may issue up to 600,000,000 shares of common stock, of which 142,930,598 shares were outstanding as of December 31, 2022. Any additional issuances of common stock would have the effect of diluting our earnings per share and our existing stockholders' individual ownership percentages and lead to volatility in the market price of our common stock. We cannot predict the effect that future issuances of our common stock or other equity-related securities would have on the market price of our common stock.

There can be no assurance that we will declare or pay future dividends on our common stock.

The declaration, amount and timing of future dividends are subject to capital availability and determinations by our Board of Directors that cash dividends are in the best interest of our stockholders and are in compliance with all respective laws and applicable agreements. Our ability to declare and pay dividends will depend upon, among other factors, our financial condition, results of operations, cash flows, current and anticipated expansion plans, requirements under Delaware law and other factors that our Board of Directors may deem relevant. A reduction in or elimination of our dividend payments could have a material negative effect on our stock price.

Certain provisions of our corporate governing documents could make an acquisition of our company more difficult.

The following provisions of our charter documents, as currently in effect, and Delaware law could discourage potential proposals to acquire us, delay or prevent a change in control of us or limit the price that investors may be willing to pay in the future for shares of our common stock:

- our certificate of incorporation permits our Board of Directors to issue “blank check” preferred stock and to adopt amendments to our bylaws;
- our bylaws contain restrictions regarding the right of stockholders to nominate directors and to submit proposals to be considered at stockholder meetings;
- our certificate of incorporation and bylaws restrict the right of stockholders to call a special meeting of stockholders and to act by written consent; and
- we are subject to provisions of Delaware law which restrict us from engaging in any of a broad range of business transactions with an “interested stockholder” for a period of three years following the date such stockholder became classified as an interested stockholder.

ITEM 1B. *Unresolved Staff Comments*

None.

ITEM 2. *Properties*

Facilities

We own and lease facilities throughout the United States, Canada, Australia and certain other foreign countries where we conduct business. These facilities are utilized for operations in all of our reportable segments and include offices, equipment yards, warehouses, storage, maintenance shops and training and educational facilities, including the training and educational facilities located at the Quanta Advanced Training Center in La Grange, Texas, and the campuses of Northwest Lineman College, our postsecondary educational institution, which are located in California, Florida, Idaho and Texas. As of December 31, 2022, we owned 86 of our facilities and certain real property and leased the remainder. Included in the owned facilities is real property and associated office buildings and facilities located in Houston, Texas that we purchased during 2021 and utilize as our corporate headquarters. We believe that our existing property and facilities are suitable and adequate for our current needs; however, we continue to evaluate real estate strategies to support our recent growth.

Equipment

We operate a fleet of owned and leased trucks and trailers, as well as support vehicles and specialty construction equipment, such as bucket trucks, digger derricks, sidebooms, dozers, backhoes, excavators, trenchers, generators, boring machines, cranes, robotic arms, wire pullers, tensioners and helicopters. As of December 31, 2022, the total size of our owned and leased fleet was approximately 68,000 units. Most of our fleet is serviced by our own mechanics who work at various maintenance sites and facilities. We believe that our equipment is generally well maintained and is suitable and adequate for our present operations.

ITEM 3. *Legal Proceedings*

We are from time to time party to various lawsuits, claims and other legal proceedings that arise in the ordinary course of business. These actions typically seek, among other things, compensation for alleged personal injury, breach of contract, negligence or gross negligence and/or property damage, environmental liabilities, wage and hour claims and other employment-related damages, punitive damages, consequential damages, civil penalties or other losses, or injunctive or declaratory relief, as

well as interest and attorneys' fees associated with such claims. With respect to all such lawsuits, claims and proceedings, we record a reserve when we believe it is probable that a loss has been incurred and the amount of loss can be reasonably estimated. In addition, we disclose matters for which management believes a material loss is at least reasonably possible. See Note 16 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report, which is incorporated by reference in this Item 3, for additional information regarding litigation, claims and other legal proceedings.

ITEM 4. *Mine Safety Disclosures*

Not applicable.

PART II

ITEM 5. *Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities*

Our common stock is listed on the New York Stock Exchange under the symbol “PWR.” On February 21, 2023, there were approximately 430 holders of record of our common stock. This number does not include stockholders for whom shares of our common stock are held in “nominee” or “street name.” See Note 13 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report for additional discussion of our equity securities.

Unregistered Sales of Securities

In January 2023, we completed three acquisitions in which a portion of the consideration consisted of the unregistered issuance of shares of our common stock. The aggregate consideration paid at closing in these acquisitions included 1,018,952 shares of our common stock, valued at \$123.5 million as of the acquisition dates.

The shares of common stock issued in these transactions were issued in reliance upon the exemption from registration provided by Section 4(a)(2) of the Securities Act of 1933, as amended, as the shares were issued to the owners of the businesses acquired in a privately negotiated transaction not involving any public offering or solicitation.

For additional information about these acquisitions, see Note 6 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report.

Issuer Purchases of Equity Securities During the Fourth Quarter of 2022

The following table contains information about our purchases of equity securities during the three months ended December 31, 2022.

Period	Total Number of Shares Purchased ⁽¹⁾⁽²⁾	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs ⁽¹⁾	Maximum Number (or Approximate Dollar Value) of Shares that may yet be Purchased Under the Plans or Programs ⁽¹⁾
October 1 - 31, 2022				
Open Market Stock Repurchases ⁽¹⁾	79,444	\$ 131.56	79,444	\$ 346,024,544
Tax Withholding ⁽²⁾	8,073	\$ 129.81	—	
November 1 - 30, 2022				
Open Market Stock Repurchases ⁽¹⁾	6,875	\$ 138.39	6,875	\$ 345,073,142
Tax Withholding ⁽²⁾	18,438	\$ 141.91	—	
December 1 - 31, 2022				
Open Market Stock Repurchases ⁽¹⁾	—	\$ —	—	\$ 345,073,142
Tax Withholding ⁽²⁾	4,697	\$ 148.10	—	
As of December 31, 2022	117,527		86,319	\$ 345,073,142

(1) Includes shares repurchased as of the trade date of such repurchases. On August 6, 2020, we issued a press release announcing that our Board of Directors approved a stock repurchase program that authorizes us to purchase, from time to time through June 30, 2023, up to \$500 million of our outstanding common stock. Repurchases under this program can be made in open market and privately negotiated transactions, at our discretion, based on market and business conditions, applicable contractual and legal requirements and other factors. The program does not obligate us to acquire any specific amount of common stock and may be modified or terminated by our Board of Directors at any time at its sole discretion and without notice.

(2) Includes shares purchased from employees to satisfy tax withholding obligations in connection with the vesting of restricted stock unit and performance stock unit awards or the settlement of previously vested but deferred restricted stock unit and performance stock unit awards.

Dividends

We have declared a quarterly dividend during each quarter beginning in the fourth quarter of 2018, and we currently expect that comparable cash dividends will continue to be paid for the foreseeable future. The declaration, payment and amount of future cash dividends will be at the discretion of our Board of Directors after taking into account various factors, including our financial condition, results of operations, cash flows from operations, current and anticipated capital requirements and expansion plans, income tax laws then in effect and the requirements of Delaware law. In addition, as discussed in Note 10 in Item 8. *Financial Statements and Supplementary Data* of this Annual Report, the credit agreement for our senior credit facility restricts the payment of cash dividends unless certain conditions are met.

Performance Graph

The following Performance Graph and related information shall not be deemed "soliciting material" or to be "filed" with the Securities and Exchange Commission, nor shall such information be incorporated by reference into any future filing under the Securities Act of 1933 or Securities Exchange Act of 1934, each as amended, except to the extent that we specifically incorporate it by reference into such filing.

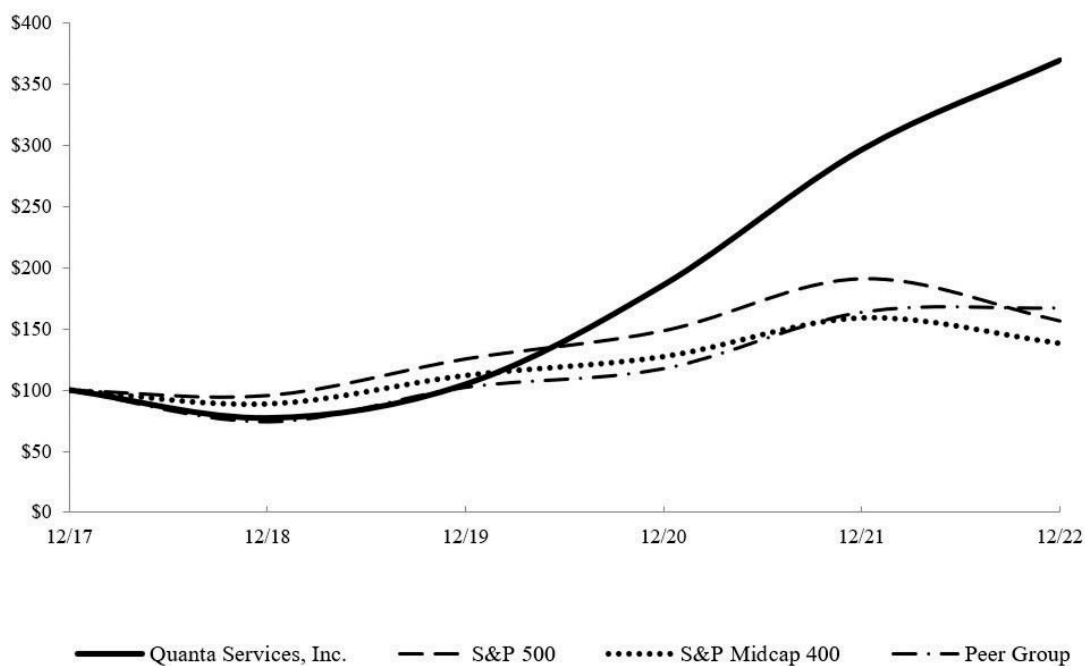
The following graph compares, for the period from December 31, 2017 to December 31, 2022, the cumulative stockholder return on our common stock with the cumulative total return of the S&P 500 Index (the S&P 500), the S&P MidCap 400 Index (the S&P Mid-Cap 400) and a peer group selected by our management that includes public companies within our industries. The companies in the peer group were selected to represent a broad group of publicly held corporations with operations similar to ours, and includes AECOM, Dycom Industries, Inc., EMCOR Group Inc., Fluor Corporation, Jacobs Solutions Inc., KBR, Inc., MasTec, Inc., MYR Group Inc. and Primoris Services Corporation.

The graph below assumes an investment of \$100 (with reinvestment of all dividends) in our common stock, the S&P 500, the S&P MidCap 400 and the peer group on December 31, 2017 and tracks their relative performance through December 31, 2022. The returns of each company in the peer group are weighted based on the market capitalization of that company at the

beginning of the measurement period. The stock price performance reflected in the following graph is not necessarily indicative of future stock price performance.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN

Among Quanta Services, Inc., the S&P 500, the S&P MidCap 400 and the Peer Group



	December 31,					
	2017	2018	2019	2020	2021	2022
Quanta Services, Inc.	\$ 100.00	\$ 77.06	\$ 104.68	\$ 186.07	\$ 296.77	\$ 369.87
S&P 500.....	\$ 100.00	\$ 95.62	\$ 125.72	\$ 148.85	\$ 191.58	\$ 156.89
S&P MidCap 400.....	\$ 100.00	\$ 88.92	\$ 112.21	\$ 127.54	\$ 159.12	\$ 138.34
Peer Group.....	\$ 100.00	\$ 74.17	\$ 102.51	\$ 117.75	\$ 164.02	\$ 167.44

ITEM 6. Reserved

ITEM 7. *Management's Discussion and Analysis of Financial Condition and Results of Operations*

General

The following discussion and analysis of the financial condition and results of operations of Quanta Services, Inc. (together with its subsidiaries, Quanta, we, us or our) should be read in conjunction with our consolidated financial statements and related notes in Item 8. *Financial Statements and Supplementary Data* of this Annual Report. The discussion below contains forward-looking statements that are based upon our current expectations and are subject to uncertainty and changes in circumstances. Actual results may differ materially from these expectations due to inaccurate assumptions and known or unknown risks and uncertainties, including those identified in *Cautionary Statement About Forward-Looking Statements and Information* above and in Item 1A. *Risk Factors* of this Annual Report.

The discussion summarizing the significant factors which affected the results of operations and financial condition for the year ended December 31, 2021, including the changes in results of operations between the years ended December 31, 2021 and 2020, can be found in Part II, Item 7. *Management's Discussion and Analysis of Financial Condition and Results of Operations* of our Annual Report on Form 10-K for the year ended December 31, 2021, which was filed with the SEC on February 25, 2022.

Overview

Overall, our 2022 results reflect increased demand for our services, as revenue and operating income increased in all our segments as compared to 2021.

With respect to our Electric Power Infrastructure Services segment, utilities are continuing to invest significant capital in their electric power delivery systems through multi-year grid modernization and reliability programs, as well as with respect to system upgrades and hardening programs in response to recurring severe weather events. We have also experienced high demand for new and expanded transmission, substation and distribution infrastructure needed to reliably transport power.

With respect to our Renewable Energy Infrastructure Solutions segment, the transition to a reduced-carbon economy is continuing to drive demand for renewable generation and related infrastructure (e.g., high-voltage electric transmission and substation infrastructure), as well as interconnection services necessary to connect and transmit renewable-generated electricity to existing electric power delivery systems. Our acquisition of Blattner in the fourth quarter of 2021 had a significant incremental impact on our ability to perform these services during 2022. Despite these positive longer-term trends, certain of our customers experienced supply chain challenges during 2022 that resulted in delays and shortages of, and increased costs for, materials necessary for certain projects, particularly sourcing restrictions related to solar panels necessary for the utility scale solar industry.

With respect to our Underground Utility and Infrastructure Solutions segment, in 2022 we continued to experience strong demand for our services focused on utility spending, in particular our gas distribution services to natural gas utilities that are implementing modernization programs, and our downstream industrial services, as these customers continued to move forward with certain maintenance and capital spending that was deferred during the course of the COVID-19 pandemic. Our revenues with respect to larger pipeline services have also fluctuated in recent years, and we had a significant increase in larger pipeline projects in Canada in 2022 as compared to 2021.

Increased revenues and operating income across all our segments during 2022 generated \$1.1 billion of cash provided by operating activities, a 94.1% increase relative to 2021, which allowed us to execute our business plan, repurchase \$128 million of common stock and pay \$41 million of dividends. Available commitments under our senior credit facility and cash and cash equivalents as of December 31, 2022 was \$2.4 billion.

We expect the strong demand for our services will continue. Our remaining performance obligations and backlog as of December 31, 2022 of \$8.8 billion and \$24.1 billion increased 49.3%, and 25.0%, respectively, relative to 2021. For a reconciliation of backlog to remaining performance obligations, the most comparable financial measure prepared in conformity with generally accepted accounting principles in the United States (GAAP), see *Non-GAAP Financial Measures* below.

For additional information regarding our overall business environment, see *Overview* in Part I, Item 1. *Business* of this Annual Report.

Significant Factors Impacting Results

Our revenues, profit, margins and other results of operations can be influenced by a variety of factors in any given period, including those described in Item 1. *Business* and Item 1A. *Risk Factors* of this Annual Report, and those factors have caused fluctuations in our results in the past and are expected to cause fluctuations in our results in the future. Additional information with respect to certain of those factors is provided below.

Seasonality. Typically, our revenues are lowest in the first quarter of the year because cold, snowy or wet conditions can create challenging working environments that are more costly for our customers or cause delays on projects. In addition, infrastructure projects often do not begin in a meaningful way until our customers finalize their capital budgets, which typically occurs during the first quarter. Second quarter revenues are typically higher than those in the first quarter, as some projects begin, but continued cold and wet weather can often impact productivity. Third quarter revenues are typically the highest of the year, as a greater number of projects are underway and operating conditions, including weather, are normally more accommodating. Generally, revenues during the fourth quarter are lower than the third quarter but higher than the second quarter, as many projects are completed and customers often seek to spend their capital budgets before year end. However, the holiday season and inclement weather can sometimes cause delays during the fourth quarter, reducing revenues and increasing costs. These seasonal impacts are typical for our U.S. operations, but seasonality for our international operations may differ. For example, revenues for certain projects in Canada are typically higher in the first quarter because projects are often accelerated in order to complete work while the ground is frozen and prior to the break up, or seasonal thaw, as productivity is adversely affected by wet ground conditions during warmer months.

Weather, natural disasters and emergencies. The results of our business in a given period can be impacted by adverse weather conditions, severe weather events, natural disasters or other emergencies, which include, among other things, heavy or prolonged snowfall or rainfall, hurricanes, tropical storms, tornadoes, floods, blizzards, extreme temperatures, wildfires, post-wildfire floods and debris flows, pandemics and earthquakes. These conditions and events can negatively impact our financial results due to, among other things, the termination, deferral or delay of projects, reduced productivity and exposure to significant liabilities. However, severe weather events can also increase our emergency restoration services, which typically yield higher margins due in part to higher equipment utilization and absorption of fixed costs.

Demand for services. We perform the majority of our services under existing contracts, including MSAs and similar agreements pursuant to which our customers are not committed to specific volumes of our services. Therefore our volume of business can be positively or negatively affected by fluctuations in the amount of work our customers assign us in a given period, which may vary by geographic region. Examples of items that may cause demand for our services to fluctuate materially from quarter to quarter include: the financial condition of our customers, their capital spending and their access to capital; acceleration of any projects or programs by customers (e.g., modernization or hardening programs); economic and political conditions on a regional, national or global scale, including availability of renewable energy tax credits; interest rates; governmental regulations affecting the sourcing and costs of materials and equipment; other changes in U.S. and global trade relationships; and project deferrals and cancellations.

Revenue mix and impact on margins. The mix of revenues based on the types of services we provide in a given period will impact margins, as certain industries and services provide higher-margin opportunities. Our larger or more complex projects typically include, among others, transmission projects with higher voltage capacities; pipeline projects with larger-diameter throughput capacities; large-scale renewable generation projects; and projects with increased engineering, design or construction complexities, more difficult terrain or geographical requirements, or longer distance requirements. These projects typically yield opportunities for higher margins than our recurring services under MSAs described above, as we assume a greater degree of performance risk and there is greater utilization of our resources for longer construction timeframes. However, larger projects are subject to additional risk of regulatory delay and cyclicity. Project schedules also fluctuate, particularly in connection with larger, more complex or longer-term projects, which can affect the amount of work performed in a given period. Furthermore, smaller or less complex projects typically have a greater number of companies competing for them, and competitors at times may more aggressively pursue available work. A greater percentage of smaller scale or less complex work also could negatively impact margins due to the inefficiency of transitioning between a greater number of smaller projects versus continuous production on fewer larger projects. As a result, at times we may choose to maintain a portion of our workforce and equipment in an underutilized capacity to ensure we are strategically positioned to deliver on larger projects when they move forward.

Project variability and performance. Margins for a single project may fluctuate period to period due to changes in the volume or type of work performed, the pricing structure under the project contract or job productivity. Additionally, our productivity and performance on a project can vary period to period based on a number of factors, including unexpected project difficulties or site conditions (including in connection with difficult geographic characteristics); project location, including locations with challenging operating conditions; whether the work is on an open or encumbered right of way; inclement weather or severe weather events; environmental restrictions or regulatory delays; protests, other political activity or legal challenges related to a project; the performance of third parties; and the impact of the COVID-19 pandemic. Moreover, we currently generate a significant portion of our revenues under fixed price contracts, and fixed price contracts are more common in connection with our larger and more complex projects that typically involve greater performance risk. Under these contracts, we assume risks related to project estimates and execution, and project revenues can vary, sometimes substantially, from our original projections due to a variety of factors, including the additional complexity, timing uncertainty or extended bidding, regulatory and permitting processes associated with these projects. These variations can result in a reduction in expected profit,

the incurrence of losses on a project or the issuance of change orders and/or assertion of contract claims against customers. See *Revenue Recognition - Contract Estimates and Changes in Estimates* in Note 4 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* in Part II of the 2022 Annual Report.

Subcontract work and provision of materials. Work that is subcontracted to other service providers generally yields lower margins, and therefore an increase in subcontract work in a given period can decrease operating margins. In recent years, we have subcontracted approximately 20% of our work to other service providers. Our customers are usually responsible for supplying the materials for their projects. However, under some contracts, including contracts for projects where we provide EPC services, we agree to procure all or part of the required materials. Margins may be lower on projects where we furnish a significant amount of materials, as our markup on materials is generally lower than our markup on labor costs, and in a given period an increase in the percentage of work with greater materials procurement requirements may decrease our overall margins, including in some cases our assuming price risk. Furthermore, as described further in Item 1. *Business*, fluctuations in the price or availability of materials, equipment and consumables that we or our customers utilize could impact costs to complete projects.

Results of Operations

Consolidated Results

The following table sets forth selected statements of operations data, such data as a percentage of revenues for the years indicated, as well as the dollar and percentage change from the prior year (dollars in thousands). The results of acquired businesses have been included in the following results of operations since their respective acquisition dates.

	Year Ended December 31,				Change	
	2022		2021		\$	%
Revenues	\$ 17,073,903	100.0 %	\$ 12,980,213	100.0 %	\$ 4,093,690	31.5 %
Cost of services (including related depreciation)	14,544,748	85.2	11,026,954	85.0	3,517,794	31.9 %
Gross profit	2,529,155	14.8	1,953,259	15.0	575,896	29.5 %
Equity in earnings of integral unconsolidated affiliates	52,466	0.3	44,061	0.3	8,405	19.1 %
Selling, general and administrative expenses	(1,336,711)	(7.8)	(1,155,956)	(8.9)	(180,755)	15.6 %
Amortization of intangible assets	(353,973)	(2.1)	(165,366)	(1.2)	(188,607)	114.1 %
Asset impairment charges	(14,457)	(0.1)	(5,743)	—	(8,714)	151.7 %
Change in fair value of contingent consideration liabilities	(4,422)	—	(6,734)	(0.1)	2,312	(34.3)%
Operating income	872,058	5.1	663,521	5.1	208,537	31.4 %
Interest and other financing expenses	(124,363)	(0.7)	(68,899)	(0.5)	(55,464)	80.5 %
Interest income	2,606	—	3,194	—	(588)	(18.4)%
Other (expense) income, net	(46,415)	(0.3)	25,085	0.2	(71,500)	*
Income before income taxes	703,886	4.1	622,901	4.8	80,985	13.0 %
Provision for income taxes	192,243	1.1	130,918	1.0	61,325	46.8 %
Net income	511,643	3.0	491,983	3.8	19,660	4.0 %
Less: Net income attributable to non-controlling interests	20,454	0.1	6,027	0.1	14,427	239.4 %
Net income attributable to common stock	\$ 491,189	2.9 %	\$ 485,956	3.7 %	\$ 5,233	1.1 %

* The percentage change is not meaningful.

Revenues. Revenues increased due to a \$1.95 billion increase in revenues from our Renewable Energy Infrastructure Solutions segment, a \$1.32 billion increase in revenues from our Electric Power Infrastructure Solutions segment, and a \$824.4 million increase in revenues from our Underground Utility and Infrastructure Solutions segment. See *Segment Results* below for additional information and discussion related to segment revenues.

Cost of services. Costs of services primarily includes wages, benefits, subcontractor costs, materials, equipment, and other direct and indirect costs, including related depreciation. The increase in cost of services generally correlates to the increase in revenues.

Equity in earnings of integral unconsolidated affiliates. The increase was primarily driven by our LUMA joint venture. For additional information, see Note 8 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report.

Selling, general and administrative expenses. The increase was primarily attributable to a \$149.7 million increase in expenses associated with acquired businesses. Also contributing to the increase were the following items to support business growth: a \$32.8 million increase in compensation expense, primarily associated with increased salaries and non-cash stock compensation expense; a \$25.2 million increase in travel and related expenses; and a \$7.7 million increase in rent and information technology expenses. Partially offsetting these increases was a \$23.6 million decrease in expense related to deferred compensation liabilities. The fair market value changes in deferred compensation liabilities were largely offset by changes in the fair value of corporate-owned life insurance (COLI) assets associated with the deferred compensation plan, which are included in “Other (expense) income, net” as discussed below. Also partially offsetting these increases was a specific provision for credit loss of \$31.7 million recorded in 2021.

Amortization of intangible assets. The increase was primarily related to \$196.3 million of incremental amortization of intangible assets associated with recently acquired businesses, driven by the acquisition of Blattner, partially offset by reduced amortization expense associated with older acquired intangible assets, as certain of these assets became fully amortized.

Asset impairment charges. The increase was primarily due to \$11.7 million of asset impairment charges related to a software implementation project at an acquired company, which commenced prior to our acquisition and was discontinued in the fourth quarter of 2022.

Change in fair value of contingent consideration liabilities. Contingent consideration liabilities are payable in the event prescribed performance objectives are achieved by certain acquired businesses during designated post-acquisition periods. Future changes in fair value are expected to be recorded periodically until the contingent consideration liabilities are settled. For additional information regarding these liabilities, see Note 6 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report.

Operating income. Operating income for the Electric Power Infrastructure Solutions, Renewable Energy Infrastructure Solutions and Underground Utility and Infrastructure Solutions segments increased \$93.4 million, \$122.4 million and \$167.4 million, respectively. These increases were partially offset by an increase in Corporate and Non-Allocated Costs of \$174.6 million, which includes amortization expense. Results for each of our business segments and Corporate and Non-Allocated Costs are discussed in the Segment Results section below.

EBITDA and adjusted EBITDA. EBITDA increased 31.5%, or \$350.9 million, to \$1.46 billion as compared to \$1.11 billion for the year ended December 31, 2021, and adjusted EBITDA increased 33.8%, or \$425.8 million, to \$1.68 billion as compared to \$1.26 billion for the year ended December 31, 2021. For a reconciliation of EBITDA and adjusted EBITDA to net income attributable to common stock, the most comparable GAAP financial measure, see *Non-GAAP Financial Measures* below.

Interest and other financing expenses. Approximately two-thirds of the increase resulted from higher debt outstanding during 2022 as compared to 2021. Our long-term debt increased significantly at the end of 2021 in connection with our acquisition of Blattner. The remaining increase was primarily driven by higher interest rates impacting our variable rate debt.

Interest income. Interest income decreased during the year ended December 31, 2022 primarily due to interest received during the year ended December 31, 2021 related to a settlement with a customer.

Other (expense) income, net. The net other expense for the year ended December 31, 2022 was primarily the result of an unrealized loss of \$91.5 million resulting from the remeasurement of the fair value of our investment in a publicly traded broadband technology provider, Starry Group Holdings, Inc. (Starry), based on the market price of Starry’s common stock as of December 31, 2022. Also included in other (expense) income, net was a \$13.8 million mark-to-market loss in 2022 compared to a \$8.6 million mark-to-market gain in 2021 associated with our deferred compensation plan. This amount was largely offset by corresponding changes in the fair market value of the liabilities associated with our deferred compensation plan, which are recorded in selling, general, and administrative expenses, as discussed above. Partially offsetting these increases in expenses

were a \$25.9 million gain on the sale of an investment in a non-integral unconsolidated affiliate recognized in the fourth quarter of 2022, of which \$10.4 million was attributable to a non-controlling interest as noted below, and an \$18.2 million increase in equity in earnings of non-integral affiliates.

Provision for income taxes. The effective tax rates for the years ended December 31, 2022 and 2021 were 27.3% and 21.0%. The higher effective tax rate is primarily attributable to the recognition of a \$22.7 million valuation allowance resulting from the unrealized loss on our investment in Starry described above, and a year over year increase in tax expense of \$9.9 million driven by mark-to-market accounting on corporate-owned life insurance products associated with our deferred compensation plan. If the Starry losses become realized for tax purposes, we could release a portion of the valuation allowance by the amount Starry losses offset certain capital gains. For additional information regarding our provision for income taxes, see Note 12 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report.

Net income attributable to non-controlling interests. The increase in net income attributable to non-controlling interests is primarily related to the \$10.4 million gain on sale of the investment in a non-integral equity unconsolidated affiliate. See Note 8 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report.

Comprehensive income. See Statements of Comprehensive Income in Item 8. *Financial Statements and Supplementary Data* of this Annual Report. Comprehensive income decreased by \$63.1 million in 2022 as compared to 2021, primarily due to higher foreign currency translation adjustments losses and the aforementioned increase in net income attributable to non-controlling interests, partly offset by higher net income. The predominant functional currencies for our operations outside the U.S. are Canadian and Australian dollars. The \$66.8 million increase in foreign currency translation loss in the year ended December 31, 2022 primarily resulted from the strengthening of the U.S. dollar against both the Canadian and Australian dollars as of December 31, 2022 when compared to December 31, 2021.

Segment Results

We report our results under three reportable segments: Electric Power Infrastructure Solutions, Renewable Energy Infrastructure Solutions and Underground Utility and Infrastructure Solutions. Reportable segment information, including revenues and operating income by type of work, is gathered from each of our operating companies. Classification of our operating company revenues by type of work for segment reporting purposes can at times require judgment on the part of management. Our operating companies may perform joint projects for customers in multiple industries, deliver multiple types of services under a single customer contract or provide service offerings to various industries. For example, we perform joint trenching projects to install distribution lines for electric power and natural gas customers. Integrated operations and common administrative support for operating companies require that certain allocations be made to determine segment profitability, including allocations of corporate shared and indirect operating costs, as well as general and administrative costs. Certain corporate costs are not allocated, including corporate facility costs; non-allocated corporate salaries, benefits and incentive compensation; acquisition and integration costs; non-cash stock-based compensation; amortization related to intangible assets; asset impairments related to goodwill and intangible assets; and change in fair value of contingent consideration liabilities.

The following table sets forth segment revenues, segment operating income (loss) and operating margins for the periods indicated, as well as the dollar and percentage change from the prior period (dollars in thousands):

	Year Ended December 31,				Change	
	2022		2021		\$	%
Revenues:						
Electric Power Infrastructure Solutions	\$ 8,940,276	52.4 %	\$ 7,624,240	58.7 %	\$ 1,316,036	17.3 %
Renewable Energy Infrastructure Solutions ..	3,778,560	22.1	1,825,259	14.1	1,953,301	107.0 %
Underground Utility and Infrastructure Solutions	4,355,067	25.5	3,530,714	27.2	824,353	23.3 %
Consolidated revenues	<u>\$17,073,903</u>	<u>100.0 %</u>	<u>\$12,980,213</u>	<u>100.0 %</u>	<u>\$ 4,093,690</u>	<u>31.5 %</u>
Operating income (loss):						
Electric Power Infrastructure Solutions	\$ 958,798	10.7 %	\$ 865,409	11.4 %	\$ 93,389	10.8 %
Renewable Energy Infrastructure Solutions ..	304,308	8.1 %	181,908	10.0 %	122,400	67.3 %
Underground Utility and Infrastructure Solutions	317,543	7.3 %	150,147	4.3 %	167,396	111.5 %
Corporate and Non-Allocated Costs	(708,591)	(4.2)%	(533,943)	(4.1)%	(174,648)	32.7 %
Consolidated operating income	<u>\$ 872,058</u>	<u>5.1 %</u>	<u>\$ 663,521</u>	<u>5.1 %</u>	<u>\$ 208,537</u>	<u>31.4 %</u>

Electric Power Infrastructure Solutions Segment Results

Revenues. The increase in revenues for the year ended December 31, 2022 was primarily due to increased spending by our utility customers on grid modernization and hardening, resulting in increased demand for our electric power services, as well as approximately \$280 million in revenues attributable to acquired businesses. This increase was partially offset by approximately \$145 million in lower emergency restoration services revenues and foreign exchange impacts of approximately \$23 million.

Operating Income. Operating income increased for the year ended December 31, 2022 primarily due to the increase in revenues explained above. Operating margin decreased during the year ended December 31, 2022 from lower equipment utilization and fixed cost absorption and less favorable results associated with inefficiencies attributable to supply chain disruptions impacting certain operations, and elevated consumable costs. Lower emergency restoration services revenues, which generally deliver higher margin, also contributed to the decrease in operating margin, as well as less favorable results associated with variability across our portfolio of projects. The decrease in operating margin was partially offset by improved performance on various communication projects in 2022, and the absence of losses associated with certain communication projects in 2021 from various production issues, poor subcontractor performance, challenging site conditions, permitting delays, increased completion costs and adverse weather impacts. Equity in earnings from LUMA and other integral unconsolidated affiliates increased \$8.4 million in 2022 as compared to the year ended December 31, 2021.

Renewable Energy Infrastructure Solutions Segment Results

Revenues. The increase in revenues for the year ended December 31, 2022 was primarily due to approximately \$1.51 billion in revenues attributable to acquired businesses, primarily Blattner, which was acquired in October 2021. The remaining

increase in revenues was primarily due to increased customer demand for renewable transmission and interconnection construction services. These increases were partially offset by foreign exchange impacts of approximately \$25 million.

Operating Income. The increase in operating income was primarily due to the increase in revenues associated with the acquisition of Blattner. The decrease in operating margin was attributable to lower margins on a large renewable transmission project in Canada, a change in the mix of work due to acquisitions, primarily Blattner, project delays and operating inefficiencies due to regulatory and supply chain challenges in the utility scale solar industry and less favorable results associated with normal variability in overall project timing. Partially offsetting these decreases, operating margin improved relative to 2021 as a result of a large renewable transmission project in the United States. Operating income for the renewable segment also included \$11.7 million of asset impairment charges related to a software implementation project at an acquired company, which commenced prior to our acquisition and was discontinued in the fourth quarter of 2022. Additionally, there were favorable close-outs of certain projects during the year ended December 31, 2021 as compared to the year ended December 31, 2022.

Underground Utility and Infrastructure Solutions Segment Results

Revenues. The increase in revenues for the year ended December 31, 2022 was primarily due to increased revenues associated with higher demand from our gas utility and industrial customers, which began to move forward with certain deferred maintenance and capital spending during the year ended December 31, 2022, as well as an increase in revenues associated with large pipeline projects in Canada and Australia and approximately \$40 million in revenues attributable to acquired businesses. These increases were partially offset by foreign exchange impacts of approximately \$62 million.

Operating Income. The increase in operating income and operating margin for the year ended December 31, 2022 was primarily due to the increase in revenues, which contributed to higher levels of fixed cost absorption. Also contributing to the increase were improved performance across the segment from better project execution and resource utilization, particularly with respect to our industrial services operations and large pipeline services in Canada, and more favorable results associated with normal variability in overall project timing and project mix. Additionally, our performance in this segment was impacted less by the COVID-19 pandemic and challenges in the overall energy market during the year ended December 31, 2022 as compared to the year ended December 31, 2021. Also contributing to the increase in 2022 compared to 2021 was the recognition of a specific provision for credit loss of \$31.7 million recorded in 2021.

Corporate and Non-Allocated Costs

The increase in corporate and non-allocated costs during the year ended December 31, 2022 was primarily due to a \$188.6 million increase in intangible asset amortization, largely associated with the acquisition of Blattner, and an increase in compensation expense along with general and administrative expenses resulting from the growth of the business. These increases were partially offset by a \$23.0 million decrease in expense related to deferred compensation liabilities due to market fluctuations.

Non-GAAP Financial Measures

EBITDA and Adjusted EBITDA

EBITDA and adjusted EBITDA, financial measures not recognized under GAAP, when used in connection with net income attributable to common stock, are intended to provide useful information to investors and analysts as they evaluate our performance. EBITDA is defined as earnings before interest and other financing expenses, taxes, depreciation and amortization, and adjusted EBITDA is defined as EBITDA adjusted for certain other items as described below. These measures should not be considered as an alternative to net income attributable to common stock or other financial measures of performance that are derived in accordance with GAAP. Management believes that the exclusion of these items from net income attributable to common stock enables Quanta and its investors to more effectively evaluate our operations period over period and to identify operating trends that might not be apparent when including the excluded items.

As to certain of the items below, (i) non-cash stock-based compensation expense varies from period to period due to acquisition activity, changes in the estimated fair value of performance-based awards, forfeiture rates, accelerated vesting and amounts granted; (ii) acquisition and integration costs vary from period to period depending on the level of our acquisition activity; (iii) equity in (earnings) losses of non-integral unconsolidated affiliates varies from period to period depending on the activity and financial performance of such affiliates, the operations of which are not operationally integral to us; (iv) unrealized mark-to-market adjustments on our investment in a publicly traded company vary from period to period based on fluctuations in the market price of such company's common stock; (v) gains and losses on the sale of investments vary from period to period depending on activity; (vi) asset impairment charges vary from period to period depending on economic and other factors; and (vii) change in fair value of contingent consideration liabilities varies from period to period depending on the performance in

post-acquisition periods of certain acquired businesses and the effect of present value accretion on fair value calculations. Because EBITDA and adjusted EBITDA, as defined, exclude some, but not all, items that affect net income attributable to common stock, such measures may not be comparable to similarly titled measures of other companies. The most comparable GAAP financial measure, net income attributable to common stock, and information reconciling the GAAP and non-GAAP financial measures, are included below. The following table shows dollars in thousands.

	Year Ended	
	December 31,	
	2022	2021
Net income attributable to common stock (GAAP as reported)	\$ 491,189	\$ 485,956
Interest and other financing expenses	124,363	68,899
Interest income	(2,606)	(3,194)
Provision for income taxes	192,243	130,918
Depreciation expense	290,647	255,529
Amortization of intangible assets	353,973	165,366
Interest, income taxes, depreciation and amortization included in equity in earnings of integral unconsolidated affiliates	14,274	9,728
EBITDA	1,464,083	1,113,202
Non-cash stock-based compensation	105,600	88,259
Acquisition and integration costs ⁽¹⁾	47,431	47,368
Equity in earnings of non-integral unconsolidated affiliates	(20,333)	(2,121)
Unrealized loss from mark-to-market adjustment on investment ⁽²⁾	91,500	—
Gains on sales of investments ⁽³⁾	(22,222)	—
Asset impairment charges ⁽⁴⁾	14,457	5,743
Change in fair value of contingent consideration liabilities	4,422	6,734
Adjusted EBITDA	\$ 1,684,938	\$ 1,259,185

⁽¹⁾ The amounts for the years ended December 31, 2022 and 2021 include, among other things, \$35.9 million and \$10.0 million of expenses that are associated with change of control payments as a result of the acquisition of Blattner.

⁽²⁾ The amount for the year ended December 31, 2022 is an unrealized loss from a decrease in fair value of our investment in Starry, as further described in Note 8 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report.

⁽³⁾ The amount for the year ended December 31, 2022 is a gain as a result of the sale of a non-integral equity method investment further described in Note 8 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report, and a non-marketable equity security interest in a technology company.

⁽⁴⁾ The amount for the year ended December 31, 2022 primarily relates to an impairment of a software implementation project, which was discontinued during the fourth quarter of 2022.

Remaining Performance Obligations and Backlog

A performance obligation is a promise in a contract with a customer to transfer a distinct good or service. Our remaining performance obligations represent management's estimate of consolidated revenues that are expected to be realized from the remaining portion of firm orders under fixed price contracts not yet completed or for which work has not yet begun, which includes estimated revenues attributable to consolidated joint ventures and variable interest entities, revenues from funded and unfunded portions of government contracts to the extent they are reasonably expected to be realized, and revenues from change orders and claims to the extent management believes they will be earned and are probable of collection.

We have also historically disclosed our backlog, a measure commonly used in our industry but not recognized under GAAP. We believe this measure enables management to more effectively forecast our future capital needs and results and better identify future operating trends that may not otherwise be apparent. We believe this measure is also useful for investors in forecasting our future results and comparing us to our competitors. Our remaining performance obligations are a component of backlog, which also includes estimated orders under MSAs, including estimated renewals, and non-fixed price contracts expected to be completed within one year. Our methodology for determining backlog may not be comparable to the methodologies used by other companies.

As of December 31, 2022 and 2021, MSAs accounted for 52% and 55% of our estimated 12-month backlog and 65% and 67% of our total backlog. Generally, our customers are not contractually committed to specific volumes of services under our MSAs, and most of our contracts can be terminated on short notice even if we are not in default. We determine the estimated backlog for these MSAs using recurring historical trends, factoring in seasonal demand and projected customer needs based upon ongoing communications. In addition, many of our MSAs are subject to renewal, and these potential renewals are considered in determining estimated backlog. As a result, estimates for remaining performance obligations and backlog are subject to change based on, among other things, project accelerations; project cancellations or delays, including but not limited to those caused by commercial issues, regulatory requirements, natural disasters, emergencies (including the COVID-19 pandemic) and adverse weather conditions; and final acceptance of change orders by customers. These factors can cause revenues to be realized in periods and at levels that are different than originally projected.

The following table reconciles total remaining performance obligations to our backlog (a non-GAAP financial measure) by reportable segment, along with estimates of amounts expected to be realized within 12 months (in thousands):

	December 31, 2022		December 31, 2021	
	12 Month	Total	12 Month	Total
Electric Power Infrastructure Solutions				
Remaining performance obligations	\$ 2,124,820	\$ 3,033,472	\$ 2,002,862	\$ 2,769,106
Estimated orders under MSAs and short-term, non-fixed price contracts	5,415,427	10,049,435	4,492,038	9,447,765
Backlog	<u>\$ 7,540,247</u>	<u>\$ 13,082,907</u>	<u>\$ 6,494,900</u>	<u>\$ 12,216,871</u>
Renewable Energy Infrastructure Solutions				
Remaining performance obligations	\$ 3,183,568	\$ 4,638,115	\$ 2,178,846	\$ 2,428,408
Estimated orders under MSAs and short-term, non-fixed price contracts	57,555	84,094	65,618	120,237
Backlog	<u>\$ 3,241,123</u>	<u>\$ 4,722,209</u>	<u>\$ 2,244,464</u>	<u>\$ 2,548,645</u>
Underground Utility and Infrastructure Solutions				
Remaining performance obligations	\$ 1,038,543	\$ 1,129,837	\$ 637,843	\$ 697,881
Estimated orders under MSAs and short-term, non-fixed price contracts	1,973,982	5,158,814	1,934,826	3,810,829
Backlog	<u>\$ 3,012,525</u>	<u>\$ 6,288,651</u>	<u>\$ 2,572,669</u>	<u>\$ 4,508,710</u>
Total				
Remaining performance obligations	\$ 6,346,931	\$ 8,801,424	\$ 4,819,551	\$ 5,895,395
Estimated orders under MSAs and short-term, non-fixed price contracts	7,446,964	15,292,343	6,492,482	13,378,831
Backlog	<u>\$ 13,793,895</u>	<u>\$ 24,093,767</u>	<u>\$ 11,312,033</u>	<u>\$ 19,274,226</u>

The increase in remaining performance obligations from December 31, 2021 to December 31, 2022 was attributable to multiple new project awards, while the increase in backlog was attributable to these new awards and extensions and increases in expected volumes under MSAs.

Liquidity and Capital Resources

Management monitors financial markets and national and global economic conditions for factors that may affect our liquidity and capital resources. As set forth below, we have various short-term and long-term cash requirements and capital allocation priorities, and we intend to fund these requirements primarily with cash flow from operating activities, as well as debt financing as needed.

Cash Requirements and Capital Allocation

Cash Requirements. The following table summarizes, as of December 31, 2022, our cash requirements from contractual obligations that are due within the twelve months subsequent to December 31, 2022 and thereafter, excluding certain amounts discussed below (in thousands):

	<u>Due in 2023</u>	<u>Due Thereafter</u>	<u>Total</u>
Long-term debt, including current portion - principal	\$ 21,028	\$ 3,648,201	\$ 3,669,229
Long-term debt - cash interest ⁽¹⁾	60,978	582,493	643,471
Operating lease obligations ⁽²⁾	80,899	184,242	265,141
Operating lease obligations that have not yet commenced ⁽³⁾	834	6,635	7,469
Finance lease obligations ⁽²⁾	1,517	2,111	3,628
Lease financing transactions ⁽⁴⁾	15,034	68,557	83,591
Short-term lease obligations	22,264	—	22,264
Equipment purchase commitments ⁽⁵⁾	172,313	—	172,313
Capital commitment related to investments in unconsolidated affiliates	607	10,495	11,102
Total cash requirements from contractual obligations	<u>\$ 375,474</u>	<u>\$ 4,502,734</u>	<u>\$ 4,878,208</u>

- (1) Amounts represent cash interest and other financing expenses associated primarily with our senior notes. Interest payments related to our senior credit facility and notes issued under our commercial paper program are not included due to their variable interest rates, and as it relates to the commercial paper program, the short-term nature of the borrowings. With respect to this variable rate debt, assuming the principal amount outstanding and interest rate in effect as of December 31, 2022 remained the same, the annual cash interest expense would be approximately \$65.0 million, payable until October 8, 2026, the maturity date of our senior credit facility.
- (2) Amounts represent undiscounted operating and finance lease obligations as of December 31, 2022. The corresponding amounts recorded on our December 31, 2022 consolidated balance sheet represent the present value of these amounts.
- (3) Amounts represent undiscounted operating lease obligations that have not commenced as of December 31, 2022. The operating lease obligations will be recorded on our consolidated balance sheet beginning on the commencement date of each lease.
- (4) Amounts represent lease financing transactions as further described in Note 11 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report.
- (5) Amounts represent capital committed for the expansion of our vehicle fleet. Although we have committed to the purchase of these vehicles/equipment at the time of their delivery, we expect that these orders will be assigned to third-party leasing companies and made available to us under certain of our master equipment lease agreements.

Contingent Obligations. We have various contingent obligations that could require the use of cash or impact the collection of cash in future periods; however, we are unable to accurately predict the timing and estimate the amount of such contingent obligations as of December 31, 2022. These contingent obligations generally include, among other things:

- contingent consideration liabilities, which are described further in Note 6 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report;
- undistributed earnings of foreign subsidiaries and unrecognized tax benefits, which are described further in Note 12 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report;
- collective bargaining agreements and multiemployer pension plan liabilities, as well as liabilities related to our deferred compensation and other employee benefit plans, which are described further in Notes 15 and 16 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report; and
- obligations relating to our joint ventures, lawsuits and other legal proceedings, uncollectible accounts receivable, insurance liabilities, obligations relating to letters of credit, bonds and parent guarantees, obligations relating to employment agreements, indemnities and assumed liabilities, and residual value guarantees, which are described further in Notes 4, 10, 11 and 16 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report.

Capital Allocation. Our capital deployment priorities that require the use of cash include: (i) working capital to fund ongoing operating needs, (ii) capital expenditures to meet anticipated demand for our services, (iii) acquisitions and investments

to facilitate the long-term growth and sustainability of our business, and (iv) return of capital to stockholders, including through the payment of dividends and repurchases of our outstanding common stock. Our industry is capital intensive, and we expect substantial capital expenditures and commitments for equipment purchases and equipment lease and rental arrangements to be needed into the foreseeable future in order to meet anticipated demand for our services. We expect capital expenditures for property and equipment purchases for the year ended December 31, 2023 to be approximately \$400 million. We also expect to continue to allocate significant capital to strategic acquisitions and investments, as well as to pay dividends and to repurchase our outstanding common stock and/or debt securities. In January of 2023, we completed the acquisition of three businesses in which a portion of the consideration consisted of \$465.0 million in cash funded with a combination of cash and cash equivalents and borrowings from our commercial paper program. For additional information regarding these acquisitions, refer to Note 6 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report.

Significant Sources of Cash

We anticipate that our future cash flows from operating activities, cash and cash equivalents on hand, existing borrowing capacity under our senior credit facility and commercial paper program and ability to access capital markets for additional capital will provide sufficient funds to enable us to meet our cash requirements described above for the next twelve months and over the longer term.

Cash flow from operating activities is primarily influenced by demand for our services and operating margins but is also influenced by the timing of working capital needs associated with the various types of services that we provide. Our working capital needs may increase when we commence large volumes of work under circumstances where project costs are required to be paid before the associated receivables are billed and collected. Additionally, operating cash flows may be negatively impacted as a result of unpaid and delayed change orders and claims. Changes in project timing due to delays or accelerations and other economic, regulatory, market and political factors that may affect customer spending could also impact cash flow from operating activities. Further information with respect to our cash flow from operating activities is set forth below and in Note 18 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report.

Our available commitments under our senior credit facility and cash and cash equivalents as of December 31, 2022 were as follows (in thousands):

	<u>December 31, 2022</u>
Total capacity available for revolving loans, credit support for commercial paper program and letters of credit	\$ 2,640,000
Less:	
Borrowings of revolving loans	36,910
Commercial paper program notes outstanding ⁽¹⁾	373,000
Letters of credit outstanding	<u>227,836</u>
Available commitments for revolving loans, credit support for commercial paper program and letters of credit	2,002,254
Plus:	
Cash and cash equivalents ⁽²⁾	<u>428,505</u>
Total available commitments under senior credit facility and cash and cash equivalents	<u><u>\$ 2,430,759</u></u>

⁽¹⁾ Represents unsecured notes issued under our commercial paper program, which allows for the issuance of notes up to a maximum aggregate face amount of \$1.0 billion outstanding at any time. Available commitments for revolving loans under our senior credit facility must be maintained to provide credit support for notes issued under our commercial paper program, and therefore such notes effectively reduce the available borrowing capacity under our senior credit facility.

⁽²⁾ Further information with respect to our cash and cash equivalents is set forth in Note 17 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report.

We consider our investment policies related to cash and cash equivalents to be conservative, as we maintain a diverse portfolio of what we believe to be high-quality cash and cash equivalent investments with short-term maturities. Additionally, subject to the conditions specified in the credit agreement for our senior credit facility, we have the option to increase the capacity of our senior credit facility, in the form of an increase in the revolving commitments, term loans or a combination thereof, from time to time, upon receipt of additional commitments from new or existing lenders by up to an additional (i) \$400.0 million plus (ii) additional amounts so long as the Incremental Leverage Ratio Requirement (as defined in the credit

agreement) is satisfied at the time of such increase. The Incremental Leverage Ratio Requirement requires, among other things, after giving pro forma effect to such increase and the use of proceeds therefrom, compliance with the credit agreement's financial covenants as of the most recent fiscal quarter end for which financial statements were required to be delivered. Further information with respect to our debt obligations is set forth in Note 10 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report.

We may also seek to access the capital markets from time to time to raise additional capital, increase liquidity as necessary, refinance or extend the term of our existing indebtedness, fund acquisitions or otherwise fund our capital needs. While our financial strategy and consistent performance have allowed us to maintain investment grade ratings, our ability to access capital markets in the future depends on a number of factors, including our financial performance and financial position, our credit ratings, industry conditions, general economic conditions, our backlog, capital expenditure commitments, market conditions and market perceptions of us and our industry.

Sources and Uses of Cash, Cash Equivalents and Restricted Cash During the Years Ended December 31, 2022 and 2021

In summary, our cash flows for each period were as follows (in thousands):

	<u>Year Ended December 31,</u>	
	<u>2022</u>	<u>2021</u>
Net cash provided by operating activities	\$ 1,130,312	\$ 582,390
Net cash used in investing activities	(617,191)	(2,898,613)
Net cash (used in) provided by financing activities	(311,071)	2,360,877

Operating Activities

Net cash provided by operating activities of \$1.13 billion and \$582.4 million in 2022 and 2021 primarily reflected earnings adjusted for non-cash items and cash used by the main components of working capital: "Accounts and notes receivable," "Contract assets," "Accounts payable and accrued expenses," and "Contract liabilities."

Certain payments negatively impacted net cash provided by operating activities in both the years ended December 31, 2022 and 2021, including \$45.4 million and \$72.3 million related to certain change of control liabilities owed to employees of Blattner and payable in connection with our acquisition of Blattner; \$11.0 million and \$37.4 million of cash payments for other acquisition and integration costs; and \$54.4 million in each period for payments associated with deferred employer payroll taxes, which were due during the year ended December 31, 2020 but deferred pursuant to the Coronavirus Aid, Relief, and Economic Security Act (CARES Act). Partially offsetting these negative impacts in 2022 was the receipt of \$100.5 million pursuant to coverage under an insurance policy following a legal proceeding, as further described in *Legal Proceedings - Peru Project Dispute* in Note 16 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report.

As discussed above, cash flow from operating activities is primarily influenced by demand for our services and operating margins but is also influenced by working capital needs. Our working capital needs may increase when we commence large volumes of work under circumstances where project costs, primarily labor, equipment and subcontractors, are required to be paid before the associated receivables are billed and collected and when we incur costs for work that is the subject of unpaid change orders and claims. Accordingly, changes within working capital in accounts receivable, contract assets and contract liabilities are normally related and are typically affected on a collective basis by changes in revenue due to the timing and volume of work performed and variability in the timing of customer billings and payments. Additionally, working capital needs are generally higher during the summer and fall due to increased demand for our services when favorable weather conditions exist in many of our operating regions. Conversely, working capital assets are typically converted to cash during the winter. These seasonal trends can be offset by changes in project timing due to delays or accelerations and other economic factors that may affect customer spending, including market conditions or the impact of certain unforeseen events (e.g., regulatory and other actions that impact the supply chain for certain materials).

Days sales outstanding (DSO) represents the average number of days it takes revenues to be converted into cash, which management believes is an important metric for assessing liquidity. A decrease in DSO has a favorable impact on cash flow from operating activities, while an increase in DSO has a negative impact on cash flow from operating activities. DSO is calculated by using the sum of current accounts receivable, net of allowance (which includes retainage and unbilled balances), plus contract assets less contract liabilities, divided by average revenues per day during the quarter. DSO at December 31, 2022 was 75 days, which was lower than DSO of 80 days at December 31, 2021 and our five-year historical average DSO of 82 days. This decrease in DSO as compared to December 31, 2021 was primarily due to favorable billing positions on certain projects.

This decrease was partially offset by high working capital requirements primarily related to a large renewable transmission project in Canada and the timing of the associated billings.

Investing Activities

Net cash used in investing activities in 2022 included \$427.6 million of capital expenditures; \$195.1 million related to acquisitions, primarily related to a net working capital adjustment in connection with our acquisition of Blattner; and \$78.1 million of cash paid primarily for equity method investments and non-marketable securities. Partially offsetting these items were \$62.1 million of proceeds from the sale of property and equipment and \$20.6 million of cash received from sale of investments.

Net cash used in investing activities in 2021 included \$2.45 billion used for acquisitions, most of which relates to our acquisition of Blattner; \$385.9 million of capital expenditures; and \$139.0 million of cash paid for equity and other investments, which was primarily related to the acquisition of our initial minority interest in Starry. These items were partially offset by \$49.2 million of proceeds from the sale of property and equipment and \$29.1 million of cash received primarily from sale of investments.

Our industry is capital intensive, and we expect substantial capital expenditures and commitments for equipment purchases and equipment lease and rental arrangements to be needed for the foreseeable future in order to meet anticipated demand for our services. In addition, we expect to continue to pursue strategic acquisitions and investments, although we cannot predict the timing or amount of the cash needed for these initiatives. We also have various other capital commitments that are detailed in *Cash Requirements and Capital Allocation* above.

Financing Activities

Net cash used in financing activities in the year ended December 31, 2022 included \$127.8 million common stock repurchases; \$82.6 million payments to satisfy tax withholding obligations associated with stock-based compensation; \$41.1 million of dividends; \$23.4 million of net repayments under our senior credit facility and commercial paper program; \$15.7 million of net repayments of short-term debt; and \$9.7 million of distributions to non-controlling interests.

Net cash provided by financing activities in 2021 included \$1.49 billion of net proceeds from the issuance of the 0.950% senior notes due October 2024, the 2.350% senior notes due January 2032 and the 3.050% senior notes due October 2041, net of the original issue discount and underwriting discounts but not net of deferred financing costs paid or accrued by us. On October 13, 2021, we borrowed the full amount of a \$750.0 million term loan facility under our senior credit facility and used such amount, together with the net proceeds from our September 2021 offering of the senior notes and approximately \$50.9 million of revolving loans borrowed under our senior credit facility, to pay the cash consideration for the acquisition of Blattner. Total net borrowings under our senior credit facility during the year ended December 31, 2021 were \$1.05 billion, which included the \$750.0 million term loan facility. Deferred financing costs paid directly by us during the year ended December 31, 2021 were \$12.6 million, \$8.2 million of which related to the September 2021 issuance of such senior notes, the term loan and amendment of our senior credit facility and \$4.4 million of which related to the bridge facility commitment entered into, but ultimately not utilized, in connection with our acquisition of Blattner. Net cash provided by financing activities in 2021 also included \$11.4 million of net borrowings of short-term debt.

Net cash provided by financing activities in 2021 was partially offset by \$66.7 million of cash payments for common stock repurchases, \$65.0 million of cash payments to satisfy tax withholding obligations associated with stock-based compensation and \$34.0 million of cash payments for dividends and cash dividend equivalents.

We expect to continue to utilize cash for similar financing activities in the future, including repayments under our senior credit facility and commercial paper program, payment of cash dividends and repurchases of our common stock and/or debt securities.

Critical Accounting Estimates

The discussion and analysis of our financial condition and results of operations are based on our consolidated financial statements, which have been prepared in accordance with GAAP. The preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosures of contingent assets and liabilities known to exist as of the date the consolidated financial statements are published and the reported amounts of revenues and expenses recognized during the periods presented. We review all significant estimates affecting our consolidated financial statements on a recurring basis and record the effect of any necessary adjustments prior to their publication. Judgments and estimates are based on our beliefs and assumptions derived from information available at the time such judgments and estimates are made. Uncertainties with respect to such estimates and assumptions are inherent in the preparation of financial statements. There can be no assurance that actual results will not differ from those estimates.

Management has reviewed its development and selection of critical accounting estimates with the audit committee of our Board of Directors. Our accounting policies are primarily described in Note 2 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report and should be read in conjunction with the accounting policies identified below that we believe affect our more significant judgments and estimates used in the preparation of our consolidated financial statements.

Revenue Recognition - The estimation of contract revenues and costs, including changes in estimates; progress on construction projects; variable consideration; and collectability of accounts receivable, long-term accounts receivable, unbilled receivables, retainage and contract assets, including amounts related to unapproved change orders and claims in the process of being negotiated (refer to Note 4 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report).

Property and Equipment - The valuation methods and assumptions used in assessing impairment, useful life determination and the related timing of depreciation and the determination of asset groupings (also refer to Note 17 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report).

Goodwill - The valuation methods and assumptions used in assessing impairment, including determination of whether to perform a qualitative assessment on some or all of the reporting units, weighting of various methods of determining the fair value of each reporting unit, number of years of cash flows utilized before applying a terminal value, the weighted average cost of capital, transaction multiples, guideline public company multiples and five-year compounded annual growth rates.

Other Intangible Assets - The valuation methods and assumptions used in assessing the fair value of intangible assets as of the date a business is acquired, as well as any impairment, including determining the future revenues, discount rates and customer attrition rates (also refer to Note 6 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report).

Income Taxes - The identification and measurement of deferred tax assets and liabilities; the measurement of valuation allowances on deferred tax assets including estimates of future taxable income; estimates associated with tax liabilities in that tax laws and regulations are voluminous and often ambiguous; and benefits from uncertain tax positions (also refer to Note 12 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report).

Insurance - The estimation of liabilities and related recoveries (also refer to Note 16 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report).

Litigation Costs and Reserves and Loss Contingencies - The estimation of when a loss is probable or reasonably possible and whether any such loss is reasonably estimable or any range of possible loss is estimable, as well as uncertainties related to the outcome of litigation or other legal proceedings (also refer to Note 16 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report).

Acquisitions - The assumptions used to determine the fair value of consideration transferred and to allocate this consideration to assets acquired and liabilities assumed in connection with our acquisitions, including the estimated useful lives of other intangible assets subject to amortization and the fair value of contingent consideration liabilities (also refer to Note 6 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report).

Stock-based Compensation - The assumptions used to determine the grant date fair value and attainment percentages related to performance stock units (also refer to Note 14 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report).

ITEM 7A. Quantitative and Qualitative Disclosures About Market Risk

Our primary exposure to market risk relates to unfavorable changes with respect to interest rates and currency exchange rates. For a discussion about our concentration of credit risk; cash and cash equivalents; and investments in COLI assets, refer to Notes 6, 15, 16 and 17 of the Notes to consolidated financial statements in Item 8. *Financial Statements and Supplementary Data* for additional information.

Interest Rate Risk. We are exposed to interest rate risk with respect to our fixed-rate and variable-rate debt. Fluctuations in interest rates impact the fair value of fixed-rate debt and expose us to the risk that we may need to refinance debt at higher rates at each instrument's respective maturity date. Fluctuations in interest rates impact interest expense from our variable-rate debt. At December 31, 2022, 69% of our debt portfolio, on a gross basis, incurred interest at a fixed-rate and the remaining 31% of the portfolio incurred interest at a variable-rate.

As of December 31, 2022, our fixed-rate debt was \$2.57 billion, which consisted primarily of our senior notes outstanding. The fair value of Quanta's senior notes was \$2.00 billion at December 31, 2022. We estimate that a 10% change in the market price would cause a change in fair value of \$199.7 million.

As of December 31, 2022, our variable-rate debt consisted of \$786.9 million outstanding under our senior credit facility and \$373.0 million outstanding under our commercial paper program. The weighted average interest rate on our borrowings under our senior credit facility for the year ended December 31, 2022 was 3.0%, and the weighted average interest rate on borrowings under our commercial paper program, which we entered into during the second half of 2022, was 4.5%. Based on these borrowings outstanding as of December 31, 2022, we estimate that a 50 basis point increase or decrease in interest rates would impact interest expense by approximately \$5.8 million.

For additional information about our debt obligations, refer to Note 10 of the Notes to consolidated financial statements in Item 8. *Financial Statements and Supplementary Data*.

Foreign Currency Risk. We perform our services in some foreign countries, primarily Canada and Australia, and as a result, are exposed to changes in foreign currency exchange rates. Our reporting currency is the U.S. dollar. Our foreign entities typically use the local currency as their functional currency. Translation adjustments are deferred in accumulated other comprehensive income.

Some of our consolidated entities enter into transactions that are not denominated in their functional currency. This results in exposure to foreign currency risk for financial instruments, including, but not limited to, third-party and intercompany receivables and payables and intercompany loans.

Our policy is to maintain a balanced position in foreign currencies to minimize exchange gains and losses arising from changes in exchange rates. We maintain risk management control practices to monitor the foreign currency risk attributable to our intercompany and third-party outstanding foreign currency balances. These practices involve the centralization of our exposure to underlying currencies that are not subject to central bank and/or country specific restrictions. By centralizing most of our foreign currency exposure into one subsidiary, we are able to take advantage of natural offsets thereby reducing the overall impact of changes in foreign currency rates on our earnings.

Historically, we have not had significant exposure to foreign currency risk. Other (expense) income, net, in the consolidated statements of income in Item 8. *Financial Statements and Supplementary Data* reflects net foreign currency gains of \$0.7 million and \$5.1 million in the years ended December 31, 2022 and 2021.

ITEM 8. *Financial Statements and Supplementary Data*

INDEX TO QUANTA SERVICES, INC.'S CONSOLIDATED FINANCIAL STATEMENTS

	Page
Report of Management	58
Report of Independent Registered Public Accounting Firm (PCAOB ID 238)	59
Consolidated Balance Sheets	61
Consolidated Statements of Operations	62
Consolidated Statements of Comprehensive Income	63
Consolidated Statements of Cash Flows	64
Consolidated Statements of Equity	65
Notes to Consolidated Financial Statements	66

REPORT OF MANAGEMENT

Management's Report on Financial Information and Procedures

The accompanying financial statements of Quanta Services, Inc. and its subsidiaries were prepared by management. These financial statements were prepared in accordance with accounting principles generally accepted in the United States, applying certain estimates and judgments as required.

Our management, including our Chief Executive Officer and Chief Financial Officer, does not expect that our disclosure controls or our internal control over financial reporting will prevent or detect all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. The design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Further, because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, within the company have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty and that breakdowns can occur because of simple errors or mistakes. Controls can also be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the controls. The design of any system of controls is based in part on certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Over time, controls may become inadequate because of changes in conditions or deterioration in the degree of compliance with policies or procedures.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rule 13a-15(f) under the Securities Exchange Act of 1934. Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of our consolidated financial statements for external purposes in accordance with U.S. generally accepted accounting principles. Internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with U.S. generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the company's assets that could have a material effect on the financial statements.

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we have conducted an evaluation of the effectiveness of our internal control over financial reporting based upon the criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, our management has concluded that our internal control over financial reporting was effective as of December 31, 2022 to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external reporting purposes in accordance with U.S. generally accepted accounting principles.

Because of its inherent limitations, a system of internal control over financial reporting can provide only reasonable assurances and may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with policies and procedures may deteriorate.

The effectiveness of Quanta Services, Inc.'s internal control over financial reporting as of December 31, 2022 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in its report which appears herein.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Quanta Services, Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Quanta Services, Inc. and its subsidiaries (the “Company”) as of December 31, 2022 and 2021, and the related consolidated statements of operations, of comprehensive income, of equity and of cash flows for each of the three years in the period ended December 31, 2022, including the related notes (collectively referred to as the “consolidated financial statements”). We also have audited the Company’s internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company’s management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management’s Report on Internal Control Over Financial Reporting. Our responsibility is to express opinions on the Company’s consolidated financial statements and on the Company’s internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company’s assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Revenue Recognition - Determination of Total Estimated Contract Costs and Revenue Related to Estimated Change Orders and Claims for Contracts Recognized Over Time

As described in Note 4 to the consolidated financial statements, the Company recognizes certain revenue over time as it performs its obligations because there is a continuous transfer of control of the deliverable to the customer. Under unit-price contracts with more than an insignificant amount of partially completed units and fixed price contracts, the Company recognizes revenue as performance obligations are satisfied over time, with the percentage of completion generally measured as the percentage of costs incurred to total estimated costs for such performance obligation. During the year ended December 31, 2022, approximately 51.6% of the Company's revenues recognized were associated with this revenue recognition method. Contract costs include all direct materials, labor and subcontract costs and indirect costs related to contract performance, such as indirect labor, supplies, tools, repairs and depreciation costs. Actual revenues and project costs can vary, sometimes substantially, from previous estimates due to changes in a variety of factors, including unforeseen or changed circumstances not included in management's cost estimates or covered by the contracts. Changes in cost estimates on certain contracts may result in the issuance of change orders, which can be approved or unapproved by the customer, or the assertion of contract claims. Management determines the probability that costs associated with change orders and claims will be recovered based on, among other things, contractual entitlement, past practices with the customer, specific discussions or preliminary negotiations with the customer and verbal approvals by the customer. The Company recognizes amounts associated with change orders and claims as revenue if it is probable that the contract price will be adjusted and the amount of any such adjustment can be reasonably estimated. As of December 31, 2022, the Company had recognized revenues of \$549.3 million related to change orders and claims included as contract price adjustments that were in the process of being negotiated in the normal course of business.

The principal considerations for our determination that performing procedures relating to revenue recognition for contracts recognized over time is a critical audit matter are (i) the significant judgment by management when determining the total estimated contract costs and revenue related to estimated change orders and claims and (ii) the high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating audit evidence relating to management's estimate of the total estimated contract costs and revenue related to estimated change orders and claims.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the revenue recognition process, including controls related to the determination of total estimated contract costs and revenue related to estimated change orders and claims. These procedures also included, among others, for a sample of contracts, (i) testing management's process for determining the total estimated contract costs, which included evaluating the contracts and other documents that support those estimates, and testing the underlying contract costs; (ii) evaluating management's ability to reasonably estimate total contract costs by performing a comparison of the total estimated contract costs as compared with prior period estimates, including evaluating the timely identification of circumstances that may warrant a modification to the total estimated contract costs; (iii) testing management's process for determining the revenue related to estimated change orders and claims, which included evaluating management's assessment of whether it is probable that the contract price will be adjusted, and testing the amount of any such adjustment for the change order or claim; and (iv) evaluating management's methodologies and the consistency of management's methodologies over the lives of contracts.

/s/ PricewaterhouseCoopers LLP
Houston, Texas
February 23, 2023

We have served as the Company's auditor since 2002.

QUANTA SERVICES, INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS
(In thousands, except share information)

	December 31,	
	2022	2021
ASSETS		
Current Assets:		
Cash and cash equivalents	\$ 428,505	\$ 229,097
Accounts receivable, net	3,674,525	3,400,318
Contract assets	1,080,206	803,453
Inventories	103,265	84,659
Prepaid expenses and other current assets	249,569	215,050
Total current assets	5,536,070	4,732,577
Property and equipment, net	2,030,464	1,919,697
Operating lease right-of-use assets	229,691	240,605
Other assets, net	622,736	632,244
Other intangible assets, net	1,458,631	1,801,180
Goodwill	3,586,745	3,528,886
Total assets	\$ 13,464,337	\$ 12,855,189
LIABILITIES AND EQUITY		
Current Liabilities:		
Current maturities of long-term debt and short-term debt	\$ 37,495	\$ 29,166
Current portion of operating lease liabilities	74,052	78,251
Accounts payable and accrued expenses	2,153,129	2,254,671
Contract liabilities	1,141,518	802,872
Total current liabilities	3,406,194	3,164,960
Long-term debt, net of current maturities	3,692,432	3,724,474
Operating lease liabilities, net of current portion	171,512	170,427
Deferred income taxes	227,861	191,098
Insurance and other non-current liabilities	567,519	487,309
Total liabilities	8,065,518	7,738,268
Commitments and Contingencies		
Equity:		
Common stock, \$0.00001 par value, 600,000,000 shares authorized, 170,638,525 and 168,546,513 shares issued, and 142,930,598 and 142,633,934 shares outstanding	2	2
Additional paid-in capital	2,718,988	2,615,410
Retained earnings	4,163,212	3,714,843
Accumulated other comprehensive loss	(310,677)	(237,689)
Treasury stock, 27,707,927 and 25,912,579 common shares	(1,188,061)	(980,265)
Total stockholders' equity	5,383,464	5,112,301
Non-controlling interests	15,355	4,620
Total equity	5,398,819	5,116,921
Total liabilities and equity	\$ 13,464,337	\$ 12,855,189

The accompanying notes are an integral part of these consolidated financial statements.

QUANTA SERVICES, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except per share information)

	Year Ended December 31,		
	2022	2021	2020
Revenues	\$ 17,073,903	\$ 12,980,213	\$ 11,202,672
Cost of services	14,544,748	11,026,954	9,541,825
Gross profit	2,529,155	1,953,259	1,660,847
Equity in earnings of integral unconsolidated affiliates	52,466	44,061	11,303
Selling, general and administrative expenses	(1,336,711)	(1,155,956)	(975,074)
Amortization of intangible assets	(353,973)	(165,366)	(76,704)
Asset impairment charges	(14,457)	(5,743)	(8,282)
Change in fair value of contingent consideration liabilities	(4,422)	(6,734)	(719)
Operating income	872,058	663,521	611,371
Interest and other financing expenses	(124,363)	(68,899)	(45,013)
Interest income	2,606	3,194	2,449
Other (expense) income, net	(46,415)	25,085	2,539
Income before income taxes	703,886	622,901	571,346
Provision for income taxes	192,243	130,918	119,387
Net income	511,643	491,983	451,959
Less: Net income attributable to non-controlling interests	20,454	6,027	6,363
Net income attributable to common stock	<u>\$ 491,189</u>	<u>\$ 485,956</u>	<u>\$ 445,596</u>
Earnings per share attributable to common stock:			
Basic	<u>\$ 3.42</u>	<u>\$ 3.45</u>	<u>\$ 3.15</u>
Diluted	<u>\$ 3.32</u>	<u>\$ 3.34</u>	<u>\$ 3.07</u>
Shares used in computing earnings per share:			
Weighted average basic shares outstanding	<u>143,488</u>	<u>140,824</u>	<u>141,380</u>
Weighted average diluted shares outstanding	<u>147,992</u>	<u>145,373</u>	<u>145,247</u>

The accompanying notes are an integral part of these consolidated financial statements.

QUANTA SERVICES, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(In thousands)

	Year Ended December 31,		
	2022	2021	2020
Net income	\$ 511,643	\$ 491,983	\$ 451,959
Other comprehensive (loss) income, net of taxes:			
Foreign currency translation adjustment	(72,632)	(5,877)	11,439
Other (loss) income	(356)	1,185	(2,618)
Other comprehensive (loss) income, net of taxes	(72,988)	(4,692)	8,821
Comprehensive income	438,655	487,291	460,780
Less: Comprehensive income attributable to non-controlling interests	20,454	6,027	6,363
Total comprehensive income attributable to common stock	<u>\$ 418,201</u>	<u>\$ 481,264</u>	<u>\$ 454,417</u>

The accompanying notes are an integral part of these consolidated financial statements.

QUANTA SERVICES, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Year Ended December 31,		
	2022	2021	2020
Cash Flows from Operating Activities:			
Net income	\$ 511,643	\$ 491,983	\$ 451,959
Adjustments to reconcile net income to net cash provided by operating activities —			
Depreciation	290,647	255,529	225,256
Amortization of intangible assets	353,973	165,366	76,704
Asset impairment charges	14,457	5,743	8,282
Equity in (earnings) losses of unconsolidated affiliates, net of distributions	(19,238)	(28,682)	(1,309)
Unrealized loss from mark-to-market adjustment on investment	91,500	—	—
Gains on sales of investments	(32,572)	—	—
Impairment of non-marketable equity security	—	—	9,311
Amortization of discounts and deferred financing costs	12,712	8,405	5,126
Gain on sale of property and equipment	(14,803)	(9,116)	(3,056)
Increase in provision for credit losses	350	34,890	3,656
Deferred income tax expense (benefit)	42,053	26,071	(60,016)
Non-cash stock-based compensation	105,600	88,259	91,641
Foreign currency gain	(654)	(5,110)	(5,159)
Change in fair value of contingent consideration liabilities	4,422	6,734	719
Payments for contingent consideration liabilities recorded in earnings	(63)	—	(14,506)
Changes in assets and liabilities, net of non-cash transactions	(229,715)	(457,682)	327,369
Net cash provided by operating activities	<u>1,130,312</u>	<u>582,390</u>	<u>1,115,977</u>
Cash Flows from Investing Activities:			
Capital expenditures	(427,630)	(385,852)	(260,052)
Proceeds from sale of property and equipment	62,058	49,186	35,390
Proceeds from insurance settlements related to property and equipment	2,065	535	542
Cash paid for acquisitions, net of cash, cash equivalents and restricted cash acquired	(195,087)	(2,451,703)	(292,573)
Proceeds from disposition of businesses	—	—	18,785
Investments in unconsolidated affiliates and other	(78,084)	(139,021)	(14,856)
Proceeds from the sale or settlement of certain investments	20,639	29,109	13,963
Cash paid for intangible assets	(1,152)	(867)	(522)
Net cash used in investing activities	<u>(617,191)</u>	<u>(2,898,613)</u>	<u>(499,323)</u>
Cash Flows from Financing Activities:			
Borrowings under credit facility and commercial paper program	9,300,142	5,316,002	2,983,529
Payments under credit facility and commercial paper program	(9,323,507)	(4,265,478)	(4,187,645)
Proceeds from notes offerings	—	1,487,450	990,130
Payments on other long-term debt	(8,954)	(3,635)	(2,970)
Net (repayments) borrowings of short-term debt	(15,657)	11,391	(4,846)
Payments of financing costs	(452)	(12,568)	(11,089)
Payments for contingent consideration liabilities recorded at acquisition date	(1,514)	(263)	(61,483)
Distributions to non-controlling interests, net of contributions received	(9,719)	(6,357)	(5,404)
Payments related to tax withholding for stock-based compensation	(82,590)	(64,956)	(25,447)
Payments of dividends	(41,058)	(34,022)	(28,891)
Repurchase of common stock	(127,762)	(66,687)	(247,249)
Net cash (used in) provided by financing activities	<u>(311,071)</u>	<u>2,360,877</u>	<u>(601,365)</u>
Effect of foreign exchange rate changes on cash, cash equivalents and restricted cash	(723)	425	1,774
Net increase in cash, cash equivalents and restricted cash	201,327	45,079	17,063
Cash, cash equivalents and restricted cash, beginning of year	231,887	186,808	169,745
Cash, cash equivalents and restricted cash, end of year	<u>\$ 433,214</u>	<u>\$ 231,887</u>	<u>\$ 186,808</u>

The accompanying notes are an integral part of these consolidated financial statements.

QUANTA SERVICES, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF EQUITY
(In thousands, except share information)

	Common Stock		Exchangeable Shares		Additional		Accumulated			Total	Non-Controlling Interests	Total Equity
	Shares		Shares		Paid-In Capital		Other					
	Outstanding	Amount	Outstanding	Amount	Retained Earnings	Comprehensive Income (Loss)	Treasury Stock	Stockholders' Equity	Equity			
Balance at December 31, 2019	142,324,318	\$ 2	36,183	\$ —	\$ 2,024,610	\$ 2,854,271	\$ (241,818)	\$ (586,773)	\$ 4,050,292	\$ 3,539	\$ 4,053,831	
Credit loss cumulative effect adjustment	—	—	—	—	—	(3,841)	—	—	(3,841)	—	(3,841)	
Other comprehensive income	—	—	—	—	—	—	8,821	—	8,821	—	8,821	
Acquisitions	1,338,746	—	—	—	57,289	—	—	—	57,289	—	57,289	
Stock-based compensation activity	1,280,489	—	—	—	88,127	—	—	(21,095)	67,032	—	67,032	
Exchange of exchangeable shares	36,183	—	(36,183)	—	—	—	—	—	—	—	—	
Common stock repurchases	(6,679,545)	—	—	—	—	—	—	(249,949)	(249,949)	—	(249,949)	
Dividends declared (\$0.21 per share)	—	—	—	—	—	(30,543)	—	—	(30,543)	—	(30,543)	
Distributions to non-controlling interests	—	—	—	—	—	(516)	—	—	(516)	(5,404)	(5,404)	
Other	—	—	—	—	—	—	—	—	293	293	(223)	
Net income	—	—	—	—	—	445,596	—	—	445,596	6,363	451,959	
Balance at December 31, 2020	138,300,191	2	—	—	2,170,026	3,264,967	(232,997)	(857,817)	4,344,181	4,791	4,348,972	
Other comprehensive loss	—	—	—	—	—	—	(4,692)	—	(4,692)	—	(4,692)	
Acquisitions	3,514,048	—	—	—	362,344	—	—	—	362,344	—	362,344	
Stock-based compensation activity	1,540,259	—	—	—	83,040	—	—	(58,460)	24,580	—	24,580	
Common stock repurchases	(720,564)	—	—	—	—	—	—	(63,988)	(63,988)	—	(63,988)	
Dividends declared (\$0.25 per share)	—	—	—	—	—	(36,080)	—	—	(36,080)	—	(36,080)	
Distributions to non-controlling interests	—	—	—	—	—	—	—	—	—	(6,357)	(6,357)	
Other	—	—	—	—	—	—	—	—	—	159	159	
Net income	—	—	—	—	—	485,956	—	—	485,956	6,027	491,983	
Balance at December 31, 2021	142,633,934	2	—	—	2,615,410	3,714,843	(237,689)	(980,265)	5,112,301	4,620	5,116,921	
Other comprehensive loss	—	—	—	—	—	—	(72,988)	—	(72,988)	—	(72,988)	
Stock-based compensation activity	1,357,661	—	—	—	103,578	—	—	(80,049)	23,529	—	23,529	
Common stock repurchases	(1,060,997)	—	—	—	—	—	—	(127,747)	(127,747)	—	(127,747)	
Dividends declared (\$0.29 per share)	—	—	—	—	—	(42,820)	—	—	(42,820)	—	(42,820)	
Distributions to non-controlling interests	—	—	—	—	—	—	—	—	—	(9,946)	(9,946)	
Contributions from non-controlling interests	—	—	—	—	—	—	—	—	—	227	227	
Net income	—	—	—	—	—	491,189	—	—	491,189	20,454	511,643	
Balance at December 31, 2022	142,930,598	\$ 2	—	\$ —	\$ 2,718,988	\$ 4,163,212	\$ (310,677)	\$ (1,188,061)	\$ 5,383,464	\$ 15,355	\$ 5,398,819	

The accompanying notes are an integral part of these consolidated financial statements.

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

TABLE OF CONTENTS

	Page
1. Description of Business	67
2. Basis of Presentation and Accounting Policies	67
3. New Accounting Pronouncements	73
4. Revenue Recognition and Related Balance Sheet Accounts	73
5. Segment Information	78
6. Acquisitions	80
7. Goodwill and Other Intangible Assets	85
8. Investments in Affiliates and Other Entities	86
9. Per Share Information	88
10. Debt Obligations	89
11. Leases	92
12. Income Taxes	94
13. Equity	98
14. Stock-Based Compensation	99
15. Employee Benefit Plans	101
16. Commitments and Contingencies	104
17. Detail of Certain Accounts	111
18. Supplemental Cash Flow Information	112

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

1. DESCRIPTION OF BUSINESS:

Quanta Services, Inc. (together with its subsidiaries, Quanta) is a leading provider of comprehensive infrastructure solutions for the electric and gas utility, renewable energy, communications, pipeline and energy industries in the United States, Canada, Australia and select other international markets. We provide engineering, procurement, construction, upgrade and repair and maintenance services for infrastructure within each of these industries, including electric power transmission and distribution networks; substation facilities; wind and solar generation and transmission and battery storage facilities; communications and cable multi-system operator networks; gas utility systems; pipeline transmission systems and facilities; and downstream industrial facilities.

2. BASIS OF PRESENTATION AND ACCOUNTING POLICIES:

Principles of Consolidation

The consolidated financial statements of Quanta include the accounts of Quanta Services, Inc. and its wholly-owned subsidiaries, which are also referred to as its operating companies. The consolidated financial statements also include the accounts of certain of Quanta's investments in joint ventures, which are either consolidated or proportionately consolidated, as discussed in the following summary of accounting policies. Unless the context requires otherwise, references to Quanta include Quanta Services, Inc. and its consolidated subsidiaries.

Quanta holds interests in various joint venture entities that provide infrastructure-related services under specific customer contracts, either directly or through subcontracting relationships, and other equity investments in partially owned entities that own and operate certain infrastructure assets, including investments entered into through the partnership structure Quanta formed with certain infrastructure investors. Quanta has determined that certain of these joint ventures are variable interest entities (VIE). If the entity is determined to be a VIE, then management determines if Quanta is the primary beneficiary of the entity and whether or not consolidation of the VIE is required. The primary beneficiary consolidating the VIE must normally have both (i) the power to direct the activities that most significantly affect the VIE's economic performance and (ii) the obligation to absorb significant losses of, or the right to receive significant benefits from, the VIE. When Quanta is deemed to be the primary beneficiary, the VIE is consolidated and the equity interest in the VIE held by a third party is accounted for as a non-controlling interest. See Note 13 for additional information on non-controlling interests and Note 16 for additional information on joint venture liabilities.

Use of Estimates and Assumptions

The preparation of financial statements in conformity with GAAP requires the use of estimates and assumptions by management in determining the reported amounts of assets and liabilities, disclosures of contingent assets and liabilities known to exist as of the date the financial statements are published, and the reported amounts of revenues and expenses recognized during the periods presented. Quanta reviews all significant estimates affecting its consolidated financial statements on a recurring basis and records the effect of any necessary adjustments prior to their publication. Judgments and estimates are based on Quanta's beliefs and assumptions derived from information available at the time such judgments and estimates are made. Uncertainties with respect to such estimates and assumptions are inherent in the preparation of financial statements. Estimates are primarily used in Quanta's assessment of revenue recognition for construction contracts, including contractual change orders and claims; allowance for credit losses; valuation of inventory; useful lives of assets; fair value assumptions in analyzing goodwill, other intangibles and long-lived asset impairments; fair value assumptions in analyzing equity and other investment impairments; purchase price allocations; acquisition-related contingent consideration liabilities; multiemployer pension plan withdrawal liabilities; contingent liabilities associated with, among other things, legal proceedings and claims, parent guarantees and indemnity obligations; estimated insurance claims and recoveries; stock-based compensation; operating results of reportable segments; provision for income taxes; and uncertain tax positions.

Revenue Recognition

See Note 4 for Quanta's accounting policy related to revenue recognition and related balance sheet accounts.

Cash and Cash Equivalents

Quanta considers all highly liquid investments with an original maturity of three months or less at the time of purchase to be cash equivalents, which are carried at fair value. Quanta's cash equivalents are categorized as Level 1 assets, as all values are based on unadjusted quoted prices for identical assets in an active market.

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

Inventories

Inventories consist primarily of parts and supplies held for use in the ordinary course of business, which are valued at the lower of cost or net realizable value. Cost is determined by using either the first-in, first-out (FIFO) method or the average costing method. Inventories also include certain job specific materials not yet installed, which are valued using the specific identification method.

Property and Equipment

Property and equipment are stated at cost, and depreciation is computed using the straight-line method, net of estimated salvage values, over the estimated useful lives of the assets. Leasehold improvements are capitalized and amortized over the lesser of the life of the lease or the estimated useful life of the asset.

Expenditures for repairs and maintenance are charged to expense when incurred. Expenditures for major renewals and betterments, which extend the useful lives of existing equipment, are capitalized and depreciated over the remaining useful lives of the assets. Upon retirement or disposition of property and equipment, the cost and related accumulated depreciation are removed from the accounts and any resulting gain or loss is reflected in selling, general and administrative expenses.

Management reviews long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount may not be realizable. When an evaluation is required, the estimated future undiscounted cash flows associated with the asset group are compared to the asset group's carrying amount to determine if an impairment is necessary. The effect of any impairment involves expensing the difference between the fair value of the asset group and its carrying amount in the period incurred.

Goodwill

Goodwill represents the excess of cost over the fair market value of net tangible and identifiable intangible assets of acquired businesses and is stated at cost. Quanta has recorded goodwill in connection with certain of its historical acquisitions of businesses. Goodwill is required to be measured for impairment at the reporting unit level, which represents the operating segment level or one level below the operating segment level for which discrete financial information is available.

Goodwill is tested for impairment annually in the fourth quarter of the fiscal year, or more frequently if events or circumstances arise which indicate that the fair value of a reporting unit with goodwill is below its carrying amount. Quanta assesses qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value. Qualitative factors assessed for each reporting unit include, among other things, deterioration in macroeconomic conditions; declining financial performance; deterioration in the operational environment; an expectation of selling or disposing of a portion of a reporting unit; a significant change in market, management, business strategy or business climate; a loss of a significant customer; increased competition; a sustained decrease in share price; or a decrease in Quanta's market capitalization below book value.

If Quanta believes that, as a result of its qualitative assessment, it is more likely than not that the fair value of a reporting unit is less than its carrying amount, the quantitative impairment test is required. If the carrying amount of a reporting unit exceeds its fair value, an impairment loss is recorded to "Asset impairment charges" in the consolidated statements of operations.

Quanta generally determines the fair value of its reporting units using a weighted combination of the income approach (discounted cash flow method) and market multiple valuation techniques (market guideline transaction method and market guideline public company method).

Under the discounted cash flow method, Quanta determines fair value based on the estimated future cash flows for each reporting unit, discounted to present value using a risk-adjusted industry weighted average cost of capital, which reflects the overall level of inherent risk for each reporting unit and the rate of return an outside investor would expect to earn.

Under the market guideline transaction and market guideline public company methods, Quanta determines the estimated fair value for each of its reporting units by applying transaction multiples and public company multiples, respectively, to each reporting unit's historical and projected results. The transaction multiples are based on observed purchase transactions for similar businesses adjusted for size, volatility and risk. The public company multiples are based on peer group multiples adjusted for size, volatility and risk. For the market guideline public company method, Quanta adds a reasonable control premium, which is estimated as the premium that would be appropriate to convert the reporting unit value to a controlling interest basis.

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

Other Intangible Assets

Quanta's identifiable intangible assets include customer relationships; backlog; trade names; non-compete agreements; patented rights, developed technology, process certifications and other; and curriculum, all of which are subject to amortization, as well as an engineering license, which is not subject to amortization.

Definite-lived intangible assets are amortized based upon the estimated consumption of their economic benefits, or on a straight-line basis if the pattern of economic benefit cannot otherwise be reliably estimated. Quanta evaluates identifiable intangible assets with the associated long-lived asset group for impairment whenever impairment indicators are present. If the carrying amount of an identifiable intangible asset exceeds its fair value, an impairment loss is recorded to "Asset impairment charges" in the consolidated statements of operations.

Leases

Leases with terms longer than 12 months are recorded on the consolidated balance sheets as lease assets and lease liabilities. If at inception of a contract a lease is identified, Quanta recognizes a lease asset and corresponding liability based on the present value of the future minimum lease payments over the lease term as of the commencement date. Lease assets also include any initial direct costs incurred less any lease incentives received.

Finance leases are leases that meet any of the following criteria: the lease transfers ownership of the underlying asset at the end of the lease term; the lessee is reasonably certain to exercise an option to purchase the underlying asset; the lease term is for the major part of the remaining economic life of the underlying asset; the present value of the sum of the lease payments and any additional residual value guarantee by the lessee equals or exceeds substantially all of the fair value of the underlying asset; or the underlying asset is of such a specialized nature that it is expected to have no alternative use to the lessor at the end of the lease term. A lease that does not meet any of these criteria is considered an operating lease. After the commencement date, lease cost for an operating lease is recognized over the remaining lease term on a straight-line basis, while lease cost for a finance lease is based on the depreciation of the lease asset and interest on the lease liability. Lease expense for leases with an initial term of 12 months or less is recognized on a straight-line basis over the lease term.

The terms of Quanta's lease arrangements vary, and certain leases include one or more of the following: a renewal option, a cancellation option, a residual value guarantee, a purchase option or an escalation clause. An option to extend or terminate a lease is accounted for when assessing a lease term when it is reasonably certain that Quanta will exercise such option. Additionally, certain of Quanta's real estate and equipment arrangements contain both lease and non-lease components (e.g., maintenance services). Quanta made a policy election that allows an entity to not separate lease components from their associated non-lease components under arrangements with both components. Accordingly, Quanta accounts for both lease and non-lease components of such arrangements under the lease accounting guidance.

Determinations with respect to lease term, discount rate, variable lease cost and future minimum lease payments require the use of judgment based on the facts and circumstances related to each lease. Quanta considers various factors, including economic incentives, penalties, and business need, to determine the likelihood that a renewal option will be exercised. Unless a renewal option is reasonably certain to be exercised, which is typically at Quanta's sole discretion, the initial non-cancelable lease term is used. Quanta generally uses its incremental borrowing rates to determine the present value of future minimum lease payments.

Investments in Affiliates and Other

In the normal course of business, Quanta enters into various types of investment arrangements, each having unique terms and conditions. These investments may include equity interests held by Quanta in business entities, including general or limited partnerships, contractual joint ventures, or other forms of equity or profit participation. Quanta also enters into strategic partnerships with customers and infrastructure investors to provide fully integrated infrastructure solutions on certain projects, including planning and feasibility analyses, engineering, design, procurement, construction and project operation and maintenance. These projects include public-private partnerships and concessions, along with private infrastructure projects such as build, own, operate (and in some cases transfer) and build-to-suit arrangements. In cases where Quanta determines that it is not the primary beneficiary but has an undivided interest in the assets, liabilities, revenues and profits of an unincorporated VIE (e.g., a general partnership interest), such amounts are consolidated on a basis proportional to Quanta's ownership interest in the unincorporated entity.

Equity Method Investments

Investments in affiliated entities in which Quanta does not have a controlling financial interest, but over which Quanta has the ability to exercise significant influence, usually because Quanta holds a voting interest of between 20% and 50% in the affiliated entity, are accounted for using the equity method. Under the equity method of accounting, investments are stated initially at cost and are adjusted for subsequent additional investments and Quanta's proportionate share of profit or loss and

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

distributions. Certain of Quanta's equity method investments are equity interests in private equity funds. These underlying private equity funds are carried at fair value. Quanta's profit or loss is determined by its share of the change in fair value.

Quanta's equity method investments are reported in "Other assets, net" in the accompanying consolidated balance sheets. Quanta's share of net income or losses of these investments is reported as "Equity in earnings of integral unconsolidated affiliates" within operating income when the investee is integral to the operations of Quanta, and is reported as "Other income (expense), net" when the investee is not considered integral to the business.

Quanta recognizes impairments on equity method investments if there are sufficient indicators that the fair value of the investment is less than its carrying value and considered other-than-temporary. Any impairment losses related to integral unconsolidated affiliates are included in "Equity in earnings of integral unconsolidated affiliates," while any impairments related to non-integral unconsolidated affiliates are included in "Other (expense) income, net" in the accompanying consolidated statement of operations.

Marketable and Non-Marketable Equity Securities

Investments in entities over which Quanta does not have the ability to exercise significant influence are either considered marketable securities or non-marketable equity securities. The carrying value of Quanta's marketable and non-marketable equity securities is reported in "Other assets, net" in the accompanying consolidated balance sheets.

Marketable equity securities are equity securities with a readily determinable fair value (RDFV) that are measured and recorded at fair value on a recurring basis with changes in fair value, whether realized or unrealized, recorded in "Other (expense) income, net" in the accompanying consolidated statement of operations. Since the RDFV of marketable equity securities is determined utilizing quoted market prices, the level of input used for these fair value measurements is the highest level (Level 1).

Non-marketable equity securities are equity securities without a RDFV that are measured and recorded using a measurement alternative that measures the securities at cost minus impairment, if any, plus or minus observable price changes in orderly transactions for an identical or similar investment in the same company. Non-marketable equity securities are measured on a nonrecurring basis and recorded at fair value only if an impairment or observable price adjustment is recognized in the reporting period. Quanta recognizes impairments on non-marketable equity securities if there are sufficient indicators that the fair value of the investment is less than its carrying value.

Changes in fair value and any impairments of non-marketable equity securities are reported in "Other (expense) income, net" in the accompanying consolidated statements of operations.

Income Taxes

Quanta follows the liability method of accounting for income taxes. Under this method, deferred tax assets and liabilities are recorded based on future tax consequences of temporary differences between the financial reporting and tax bases of assets and liabilities and are measured using the enacted tax rates and laws that are expected to be in effect when the underlying assets or liabilities are recovered or settled.

Quanta regularly evaluates valuation allowances established for deferred tax assets for which future realization is uncertain, including in connection with changes in tax laws. The estimation of required valuation allowances includes estimates of future taxable income. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Quanta considers projected future taxable income and tax planning strategies in making this assessment. If actual future taxable income differs from these estimates, Quanta may not realize deferred tax assets to the extent estimated.

Quanta records reserves for income taxes related to certain tax positions when management considers it more likely than not that additional taxes may be due in excess of amounts reflected on income tax returns filed. When recording these reserves, Quanta assumes that taxing authorities have full knowledge of the position and all relevant facts. Quanta continually reviews exposure to additional tax obligations, and as further information is known or events occur, changes in tax reserves may be recorded. Quanta adjusts its tax contingencies accrual and income tax provision in the period in which matters are effectively settled with tax authorities at amounts different from Quanta's established accrual, when the statute of limitations expires for the relevant taxing authority to examine the tax position or when more information becomes available. To the extent interest and penalties may be assessed by taxing authorities on any underpayment of income tax, such amounts have been accrued and included in the provision for income taxes.

U.S. federal and state and foreign income tax laws and regulations are voluminous and often ambiguous. As such, Quanta is required to make many subjective assumptions and judgments regarding its tax positions that could materially affect amounts recognized in future consolidated balance sheets, statements of operations and statements of comprehensive income.

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

Deferred Financing Costs

Capitalized deferred financing costs related to Quanta's senior credit facility (other than deferred financing costs related to the term loan, which are recorded along with deferred financing costs related to the senior notes in a contra account to long-term debt) are included in "Other assets, net" in the accompanying consolidated balance sheets and are amortized to "Interest and other financing expenses" on a straight-line basis over the terms of the respective agreements giving rise to the costs, which Quanta believes approximates the effective interest rate method.

Earnings Per Share

Basic and diluted earnings per share attributable to common stock are computed using the weighted average number of shares of common stock outstanding during the applicable period. Diluted earnings per share attributable to common stock is computed using the weighted average number of shares of common stock outstanding during the period adjusted for all potentially dilutive common stock equivalents, except in cases where the effect of the common stock equivalents would be antidilutive.

Insurance

Quanta is insured for, among other things, employer's liability, workers' compensation, auto liability, aviation and general liability claims. Quanta manages and maintains a portion of its casualty risk indirectly through its wholly-owned captive insurance company, which insures all claims up to the amount of the applicable deductible of its third-party insurance programs, as well as with respect to certain other amounts. In connection with Quanta's casualty insurance programs, Quanta is required to issue letters of credit to secure its obligations. Quanta also maintains employee health care benefit plans for most employees not subject to collective bargaining agreements.

Losses under all of these insurance programs are accrued based upon Quanta's estimate of the ultimate liability for claims reported and an estimate of claims incurred but not reported, with assistance from third-party actuaries. These insurance liabilities are difficult to assess and estimate due to unknown factors, including the severity of an injury, the extent of damage, the determination of Quanta's liability in proportion to other parties and the number of incidents not reported. The accruals are based upon known facts and historical trends, and management believes such accruals are adequate.

Stock-Based Compensation

Restricted Stock Units to be Settled in Stock

Quanta recognizes compensation expense for restricted stock units (RSUs) to be settled in common stock based on the grant date fair value of the awards, which is the number of RSUs granted multiplied by the closing price of Quanta's common stock on the date of grant, net of estimated forfeitures. The resulting compensation expense for time-based RSU awards is recognized on a straight-line basis over the requisite service period, which is generally the vesting period, and the resulting compensation expense for performance-based RSU awards is recognized using the graded vesting method over the requisite service period. The non-cash stock compensation expense related to RSUs to be settled in common stock is included in "Selling, general and administrative expenses."

RSU awards to be settled in common stock are subject to forfeiture, restrictions on transfer and certain other conditions until vesting, which generally occurs in three equal annual installments following the date of grant or over a period of five to ten years following the date of grant. Holders of RSUs to be settled in common stock awarded under the Quanta Services, Inc. 2019 Omnibus Equity Incentive Plan (the 2019 Plan) are entitled to cash dividend equivalent payments in an amount equal to any cash dividend payable on account of the underlying Quanta common stock; however, payment of such amounts is not made until the RSUs vest, such that the dividend equivalent payments are subject to forfeiture.

Payments made by Quanta to satisfy employee tax withholding obligations associated with awards settled in common stock are classified as financing cash flows.

Performance Stock Units to be Settled in Stock

Quanta recognizes compensation expense for performance stock units (PSUs) to be settled in common stock based on the fair value of the awards, net of estimated forfeitures. The resulting compensation expense for PSU awards is recognized on a straight-line basis over the requisite service period, which is generally the vesting period. Non-cash stock compensation expense related to PSUs to be settled in common stock is included in "Selling, general and administrative expenses."

PSUs provide for the issuance of shares of common stock upon vesting, which occurs following a three-year performance period based on achievement of performance metrics established by the Compensation Committee of Quanta's Board of Directors, including financial and operational goals and Quanta's total shareholder return as compared to a predetermined group of peer companies. The final number of shares of common stock issuable upon vesting of PSUs can range from 0% to 200% of

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

the number of PSUs initially granted, depending on the level of achievement. Holders of PSUs are entitled to cash dividend equivalent payments in an amount equal to any cash dividend payable on account of the underlying Quanta common stock that ultimately vests; however, payment of such amounts is not made until the PSUs vest, such that the dividend equivalent payments are subject to forfeiture.

The grant date fair value of the PSUs is determined as follows: (i) for the portion of the awards based on company financial and operational performance metrics, by multiplying the number of units granted by the closing price of Quanta's common stock on the date of grant and (ii) for the portion of the awards based on relative total shareholder return compared to a defined peer group, by utilizing a Monte Carlo simulation valuation methodology. Quanta recognizes compensation expense for PSUs, net of estimated forfeitures, based on the forecasted achievement of the company financial and operational performance metrics and forecasted performance with respect to relative total shareholder return, multiplied by the fair value of the total number of shares of common stock that Quanta anticipates will be issued based on such achievement for the completed portion of the three-year period. The compensation expense related to outstanding PSUs can vary from period to period based on changes in forecasted achievement of established performance metrics, the total number of shares of common stock that Quanta anticipates will be issued upon vesting of such PSUs and changes in forfeiture estimates.

Payments made by Quanta to satisfy employee tax withholding obligations associated with awards settled in common stock are classified as financing cash flows.

Restricted Stock Units to be Settled in Cash

Certain RSUs granted by Quanta are settled solely in cash and are intended to provide plan participants with cash performance incentives that are substantially equivalent to the risks and rewards of stock ownership in Quanta. These cash-settled RSUs typically vest in three equal annual installments following the date of grant and are subject to forfeiture under certain conditions. For RSUs settled in cash, the holders receive for each vested RSU an amount in cash equal to the fair market value of one share of Quanta common stock on the settlement date, as specified in the applicable award agreement. Compensation expense associated with RSUs that are expected to or may settle in cash is recognized based on a remeasurement of the fair value of the award at the end of each reporting period and is included in "Selling, general and administrative expenses." Holders of RSUs to be settled in cash are entitled to cash dividend equivalent payments in an amount equal to any cash dividend that would be payable on a like-number of shares of Quanta common stock. However, payment of such amounts is not made until the RSUs vest, such that the dividend equivalents are subject to forfeiture.

Functional Currency and Translation of Financial Statements

The U.S. dollar is the functional currency for the majority of Quanta's operations, which are primarily located within the United States. The functional currency for Quanta's foreign operations, which are primarily located in Canada and Australia, is typically the currency of the country where the foreign operating company is located and transacts the majority of its activities, including billings, financing, payroll and other expenditures. When preparing its consolidated financial statements, Quanta translates the financial statements of its foreign operating companies from their functional currency into U.S. dollars. Statements of operations, comprehensive income and cash flows are translated at average monthly rates, while balance sheets are translated at month-end exchange rates. The translation of the balance sheet results in translation gains or losses that are included as a separate component of equity under "Accumulated other comprehensive income (loss)." Gains and losses arising from transactions not denominated in functional currencies are included within "Other (expense) income, net" in the accompanying consolidated statements of operations.

Fair Value Measurements

Quanta categorizes assets and liabilities, measured at fair value, into one of three different levels depending on the observability of the inputs employed in the measurement. Level 1 inputs are quoted prices for identical instruments in active markets. Level 2 inputs are quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations in which all significant inputs or significant value-drivers are observable. Level 3 inputs are model-derived valuations in which one or more significant inputs or significant value-drivers are unobservable. Fair value measurements are classified according to the lowest level input or value-driver that is significant to the valuation.

Inputs, valuation techniques to estimate the fair value and levels are disclosed within the notes to these consolidated financial statements.

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

3. NEW ACCOUNTING PRONOUNCEMENTS:

Recently Adopted Guidance

There were no new standards or Accounting Standard Updates (ASUs) adopted during the years ended December 31, 2022 and 2021 that had a significant impact on Quanta's consolidated financial statements.

New Accounting Pronouncement Not Yet Adopted

In October 2021, the Financial Accounting Standards Board (FASB) issued an update that requires an entity to recognize and measure contract assets and contract liabilities acquired in a business combination in accordance with FASB ASC 606 (Revenue from Contracts with Customers). At the acquisition date, an acquirer should account for the related contract revenue in accordance with FASB ASC 606. This update is effective for interim and annual periods beginning after December 15, 2022, with amendments generally applied prospectively. Quanta adopted this update effective January 1, 2023, and it has not had a material impact on Quanta's consolidated financial statements.

In June 2022, the FASB issued an update that clarifies the guidance in FASB ASC 820 (Fair Value Measurement) for equity securities subject to contractual sale restrictions. The update prohibits entities from taking into account contractual restrictions on the sale of equity securities when estimating fair value and introduces required disclosures for such transactions. This update is effective for interim and annual periods after December 15, 2023. Early adoption is permitted. This guidance will increase the fair market value of the consideration paid in equity securities in a business combination, and therefore it may increase the amount allocated to goodwill. Quanta will adopt this update by January 1, 2024, and it is not expected to have a material impact on Quanta's consolidated financial statements.

4. REVENUE RECOGNITION AND RELATED BALANCE SHEET ACCOUNTS:

Contracts

Quanta's services include the design, new construction, upgrade and repair and maintenance of infrastructure primarily in the utility, renewable energy, communications and pipeline and energy industries. These services are generally provided pursuant to master service agreements (MSAs), repair and maintenance contracts, and fixed price and non-fixed price construction contracts. These contracts are classified into three categories based on the methods by which transaction prices are determined and revenue is recognized: unit-price contracts, cost-plus contracts and fixed price contracts. Transaction prices for unit-price contracts are determined on a per unit basis, transaction prices for cost-plus contracts are determined by applying a profit margin to costs incurred on the contracts and transaction prices for fixed price contracts are determined on a lump-sum basis. All of Quanta's revenues are recognized from contracts with its customers. In addition to the considerations described below, revenue is not recognized unless collectability under the contract is considered probable, the contract has commercial substance and the contract has been approved. Additionally, the contract must contain payment terms, as well as the rights and commitments of both parties.

Performance Obligations

A performance obligation is a promise in a contract with a customer to transfer a distinct good or service. Most of Quanta's contracts are considered to have a single performance obligation whereby Quanta is required to integrate complex activities and equipment into a deliverable for a customer. For contracts with multiple performance obligations, Quanta allocates a portion of the total transaction price to each performance obligation using its best estimate of the standalone selling price of the distinct good or service associated with each performance obligation. Standalone selling price is estimated using the expected costs plus a margin.

As of December 31, 2022 and 2021, the aggregate transaction price allocated to unsatisfied or partially satisfied performance obligations was approximately \$8.80 billion and \$5.90 billion, with 72.1% and 81.8% expected to be recognized in the subsequent twelve months. These amounts represent management's estimates of the consolidated revenues that are expected to be realized from the remaining portion of firm orders under fixed price contracts not yet completed or for which work had not yet begun as of such dates. For purposes of calculating remaining performance obligations, Quanta includes all estimated revenues attributable to consolidated joint ventures and VIEs, revenues from funded and unfunded portions of government contracts to the extent they are reasonably expected to be realized and revenues from change orders and claims to the extent management believes additional contract revenues will be earned and are deemed probable of collection. Excluded from remaining performance obligations are potential orders under MSAs and non-fixed price contracts expected to be completed within one year.

Recognition of Revenue Upon Satisfaction of Performance Obligations

A transaction price is determined for each contract, and that amount is allocated to each performance obligation within the

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

contract and recognized as revenue when, or as, the performance obligation is satisfied. Quanta recognizes certain revenue over time as it performs its obligations because there is a continuous transfer of control of the deliverable to the customer. Under unit-price contracts with an insignificant amount of partially completed units, Quanta recognizes revenue as units are completed based on contractual pricing amounts. Under unit-price contracts with more than an insignificant amount of partially completed units and fixed price contracts, Quanta recognizes revenues as performance obligations are satisfied over time, with the percentage of completion generally measured as the percentage of costs incurred to total estimated costs for such performance obligation. Under cost-plus contracts, Quanta recognizes revenue on an input basis, as labor hours are incurred, materials are utilized and services are performed.

Under contracts where Quanta has a right to consideration in an amount that directly corresponds to the value of completed performance, Quanta recognizes revenue in such amount and does not include such performance as a remaining performance obligation. Also, contract consideration is not adjusted for a significant financing component if payment is expected to be collected less than one year from when the services are performed.

Contract costs include all direct materials, labor and subcontract costs and indirect costs related to contract performance, such as indirect labor, supplies, tools, repairs and depreciation costs. The majority of the materials associated with Quanta's work are owner-furnished, and therefore not included in contract revenues and costs. Additionally, Quanta may incur incremental costs to obtain certain contracts, such as selling and marketing costs, bid and proposal costs, sales commissions, and legal fees or initial set-up or mobilization costs, certain of which can be capitalized. There were no significant capitalized costs during the years ended December 31, 2022, 2021 and 2020.

Quanta provides limited warranties to customers for work performed under its contracts that typically extend for a limited duration following substantial completion of its work on a project. Such warranties are not sold separately and do not provide customers with a service other than the assurance of compliance with agreed-upon specifications. Accordingly, these types of warranties are not considered to be separate performance obligations, but any costs incurred by Quanta in connection with these warranties are included in contract costs. During the years ended December 31, 2022, 2021 and 2020, Quanta has not been subject to a significant number of material warranty claims in connection with its services.

Contract Estimates and Changes in Estimates

Actual revenues and project costs can vary, sometimes substantially, from previous estimates due to changes in a variety of factors, including unforeseen or changed circumstances not included in Quanta's cost estimates or covered by its contracts. Some of the factors that can result in positive changes in estimates on projects include successful execution through project risks, reduction of estimated project costs or increases of estimated revenues. Some of the factors that can result in negative changes in estimates include concealed or unknown site conditions; changes to or disputes with customers regarding the scope of services; changes in estimates related to the length of time to complete a performance obligation; changes or delays with respect to permitting and regulatory requirements and materials; changes in the cost of equipment, commodities, materials or skilled labor; unanticipated costs or claims due to delays or failure to perform by customers or third parties; customer failure to provide required materials or equipment; errors in engineering, specifications or designs; project modifications; adverse weather conditions, natural disasters, and other emergencies (including the COVID-19 pandemic); and performance and quality issues causing delay (including payment of liquidated damages) or requiring rework or replacement. These factors, along with other risks inherent in performing services under fixed price contracts, are routinely evaluated by management. Any changes in estimates could result in changes to profitability or losses associated with the related performance obligations. For example, estimated costs for a performance obligation may increase from an original estimate, and contractual provisions may not allow for adequate compensation or reimbursement for such additional costs. Changes in estimated revenues, costs and profit are recorded in the period they are determined to be probable and can be reasonably estimated. Contract losses are recognized in full when they are determined to be probable and can be reasonably estimated.

Additionally, changes in cost estimates on certain contracts may result in the issuance of change orders, which can be approved or unapproved by the customer, or the assertion of contract claims. Quanta determines the probability that costs associated with change orders and claims will be recovered based on, among other things, contractual entitlement, past practices with the customer, specific discussions or preliminary negotiations with the customer and verbal approvals by the customer. Quanta recognizes amounts associated with change orders and claims as revenue if it is probable that the contract price will be adjusted and the amount of any such adjustment can be reasonably estimated. Most of Quanta's change orders are for services that are not distinct from an existing contract and are accounted for as part of an existing contract on a cumulative catch-up basis. Quanta accounts for a change order as a separate contract if the additional goods or services are distinct from and increase the scope of the contract, and the price of the contract increases by an amount commensurate to Quanta's standalone selling price for the additional goods or services.

As of December 31, 2022 and 2021, Quanta had recognized revenues of \$549.3 million and \$367.8 million related to change orders and claims included as contract price adjustments primarily in "Contract assets" in the accompanying consolidated balance sheets. These change orders and claims were in the process of being negotiated in the normal course of

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

business and represent management's estimates of additional contract revenues that have been earned and are probable of collection.

The largest component of the revenues recognized related to change orders and claims as of December 31, 2022 and of the increase relative to December 31, 2021 is associated with a large renewable transmission project in Canada, on which decreased productivity and additional costs arose from delays, administrative requirements and labor issues due to the COVID-19 pandemic in 2021 and the first and second quarters of 2022, including incremental governmental requirements and worksite restrictions. Additionally a wildfire in the region and the remote location of the project exacerbated the operational challenges related to labor force and project efficiency. Due to these challenges, Quanta and the customer agreed on a revised timeline and plan for the project, which requires an additional winter season of work through the spring of 2024. The largest component of change orders and claims outstanding as of December 31, 2021 related primarily to an electric infrastructure project in Canada that has been completed in 2022. Quanta collected the majority of the amounts associated with the aforementioned change orders and claims from the electric infrastructure project during 2022.

Variable consideration amounts, including performance incentives, early pay discounts and penalties, may also cause changes in contract estimates. The amount of variable consideration is estimated based on the most likely amount that is deemed probable of realization. Contract consideration is adjusted for variable consideration when it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur once the uncertainty related to the variable consideration is resolved.

Changes in estimates can result in the recognition of revenue in a current period for performance obligations that were satisfied or partially satisfied in prior periods or the reversal of previously recognized revenue if the currently estimated revenue is less than the previous estimate. The impact of a change in contract estimate is measured as the difference between the revenue or gross profit recognized in the prior period as compared to the revenue or gross profit which would have been recognized had the revised estimate been used as the basis of recognition in the prior period. Changes in estimates can also result in contract losses, which are recognized in full when they are determined to be probable and can be reasonably estimated.

Revenues were positively impacted by 0.7%, 1.0% and 0.2% during the years ended December 31, 2022, 2021 and 2020 as a result of changes in estimates associated with performance obligations on fixed price contracts partially satisfied prior to December 31, 2021, 2020 and 2019.

Operating results for the year ended December 31, 2022 were impacted by less than 5% of gross profit as a result of aggregate changes in contract estimates related to projects that were in progress as of the corresponding prior year end. There were no material changes in estimates on any individual project.

Operating results for the year ended December 31, 2021, were favorably impacted by \$111.5 million or 5.7% of gross profit as a result of aggregate changes in contract estimates related to projects that were in progress as of the year ended December 31, 2020. The net favorable impacts resulted from net positive changes in estimates across a large number of projects, primarily as a result of favorable performance and successful mitigation of risks and contingencies as the projects progressed to completion.

Operating results for the year ended December 31, 2020 were impacted by less than 5% as a result of aggregate changes in contract estimates related to projects that were in progress as of the corresponding prior year end. However, certain individual projects were materially impacted by changes to estimated contract revenues and/or project costs during this period. During the year ended December 31, 2020, revenues and gross profit were favorably impacted by \$20.8 million as a result of successful execution through project risks and close-out activities on a large transmission project in the United States. Revenues and gross profit were also favorably impacted as a result of successful execution through project risks and close-out activities on certain larger pipeline projects in the United States. The favorable impact related to these larger pipeline projects was offset by increased costs on two larger pipeline projects in Canada that experienced severe weather conditions during the year ended December 31, 2020, both of which were substantially completed as of December 31, 2020. With respect to all of these large pipeline projects, the aggregate net negative impact on gross profit related to work performed in prior periods was \$10.0 million during the year ended December 31, 2020.

Additionally, during the year ended December 31, 2020, Quanta was in the process of exiting its Latin American operations. These operations had been adversely impacted by the COVID-19 pandemic, and as a result Quanta accelerated various contract terminations and other activities in order to expedite cessation of operations in the region, which resulted in changes in estimates on several projects and negatively impacted gross profit related to work performed in prior periods by \$35.5 million. As of December 31, 2020, substantially all of the projects in Latin America that were active at the beginning of 2020 had been completed.

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

Revenues by Category

The following tables present Quanta's revenue disaggregated by contract type and by geographic location, as determined by the job location (in thousands):

	Year Ended December 31,					
	2022		2021		2020	
By contract type:						
Fixed price contracts.....	\$ 7,282,537	42.7 %	\$ 4,849,038	37.4 %	\$ 4,380,539	39.1 %
Unit-price contracts.....	5,927,335	34.7 %	5,029,100	38.7 %	4,172,363	37.2 %
Cost-plus contracts.....	3,864,031	22.6 %	3,102,075	23.9 %	2,649,770	23.7 %
Total revenues.....	<u>\$ 17,073,903</u>	<u>100.0 %</u>	<u>\$ 12,980,213</u>	<u>100.0 %</u>	<u>\$ 11,202,672</u>	<u>100.0 %</u>

	Year Ended December 31,					
	2022		2021		2020	
By primary geographic location:						
United States.....	\$ 14,390,237	84.3 %	\$ 11,068,493	85.3 %	\$ 9,618,951	85.8 %
Canada.....	2,020,853	11.8 %	1,557,117	12.0 %	1,252,365	11.2 %
Australia.....	428,321	2.5 %	221,038	1.7 %	200,664	1.8 %
Others.....	234,492	1.4 %	133,565	1.0 %	130,692	1.2 %
Total revenues.....	<u>\$ 17,073,903</u>	<u>100.0 %</u>	<u>\$ 12,980,213</u>	<u>100.0 %</u>	<u>\$ 11,202,672</u>	<u>100.0 %</u>

As described above, under fixed price contracts, as well as unit-price contracts with more than an insignificant amount of partially completed units, revenue is recognized as performance obligations are satisfied over time, with the percentage completion generally measured as the percentage of costs incurred to total estimated costs for such performance obligation. Approximately 51.6%, 45.9% and 47.9% of Quanta's revenues recognized during the years ended December 31, 2022, 2021 and 2020 were associated with this revenue recognition method.

Contract Assets and Liabilities

With respect to Quanta's contracts, interim payments are typically received as work progresses in accordance with agreed-upon contractual terms, either at periodic intervals or upon achievement of contractual milestones. As a result, under fixed price contracts and unit-price contracts with more than an insignificant amount of partially completed units, the timing of revenue recognition and contract billings results in contract assets and contract liabilities. Contract assets represent revenues recognized in excess of amounts billed and are current assets that are transferred to accounts receivable when billed or the billing rights become unconditional. Contract assets are not considered a significant financing component as they are intended to protect the customer in the event Quanta does not perform on its obligations under the contract.

Conversely, contract liabilities represent billings in excess of revenues. These arise under certain contracts that allow for upfront payments from the customer or contain contractual billing milestones, which result in billings that exceed the amount of revenues recognized for certain periods. Contract liabilities are current liabilities and are not considered to have a significant financing component, as they are used to meet working capital requirements that are generally higher in the early stages of a contract and are intended to protect Quanta from the other party failing to meet its obligations under the contract. Contract assets and liabilities are recorded on a performance obligation basis at the end of each reporting period.

Contract assets and liabilities consisted of the following (in thousands):

	December 31, 2022	December 31, 2021	December 31, 2020
Contract assets.....	\$ 1,080,206	\$ 803,453	\$ 453,832
Contract liabilities.....	\$ 1,141,518	\$ 802,872	\$ 528,864

As referenced previously, contract assets and liabilities fluctuate period to period based on various factors, including, among others, changes in the number and size of projects in progress at period end; variability in billing and payment terms, such as up-front or advance billings, interim or milestone billings, or deferred billings; and unapproved change orders and contract claims recognized as revenues. The increase in contract assets from December 31, 2021 to December 31, 2022 was primarily due to unapproved change orders and claims related to the large renewable transmission project in Canada described above and increased working capital requirements, including the timing of billings. The increase in contract assets from

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

December 31, 2020 to December 31, 2021 was primarily due to increased working capital requirements related to progress and recognition of certain change orders and claims on the same two large transmission projects in Canada discussed above, as well as the timing of certain project billings. The increase in contract liabilities from December 31, 2021 to December 31, 2022 was primarily due to higher billings on a renewable transmission project resulting from project acceleration by the customer and on several solar and wind projects after receipt of full notices to proceed from the customers. The increase in contract liabilities from December 31, 2020 to December 31, 2021 was primarily due to the acquisition of Blattner Holding Company and its operating subsidiaries (collectively, Blattner), which had \$227.0 million of contract liabilities as of the date of acquisition.

During the years ended December 31, 2022, 2021 and 2020, Quanta recognized revenue of approximately \$695.1 million, \$433.3 million and \$491.5 million related to contract liabilities outstanding as of the end of the prior year.

Accounts Receivable, Allowance for Credit Losses and Concentrations of Credit Risk

Quanta determines its allowance for credit losses based on an estimate of expected credit losses for financial instruments, primarily accounts receivable and contract assets. The assessment of the allowance for credit losses involves certain judgments and estimates. Management estimates the allowance balance using relevant available information from internal and external sources relating to past events, current conditions and reasonable and supportable forecasts. Expected credit losses are estimated by evaluating trends in historical write-off experience and applying historical loss ratios to pools of financial assets with similar risk characteristics. Quanta has determined that it has one pool for the purpose of calculating its historical credit loss experience.

Quanta's historical loss ratio and its determination of its risk pool, which are used to calculate expected credit losses, may be adjusted for changes in customer credit concentrations within its portfolio of financial assets, its customers' ability to pay, and other considerations, such as economic and market changes, changes to regulatory or technological environments affecting customers and the consistency between current and forecasted economic conditions and historical economic conditions used to derive historical loss ratios. At the end of each quarter, management reassesses these and other relevant factors, including the impact of uncertainty and challenges in the overall economy and in Quanta's industries and markets, which currently include inflationary pressure, supply chain and other logistical challenges and increased interest rates.

Additional allowance for credit losses is established for financial asset balances with specific customers where collectability has been determined to be improbable based on customer specific facts and circumstances. Quanta considers accounts receivable delinquent after 30 days but does not generally consider such amounts delinquent in its credit loss analysis unless the accounts receivable are at least 120 days past due, unless there are specific considerations. In addition, management monitors the credit quality of its receivables by, among other things, obtaining credit ratings of significant customers, assessing economic and market conditions and evaluating material changes to a customer's business, cash flows and financial condition. Should anticipated recoveries relating to receivables fail to materialize, including anticipated recoveries relating to bankruptcies or other workout situations, Quanta could experience reduced cash flows and losses in excess of current allowances provided.

Accounts receivable are written-off against the allowance for credit losses if deemed uncollectible.

Activity in Quanta's allowance for credit losses consisted of the following (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Balance at beginning of year	\$ 49,749	\$ 16,546	\$ 9,398
Cumulative effect of adoption of new credit loss standard	—	—	5,067
Increase in provision for credit losses	350	34,890	3,656
Write-offs charged against the allowance net of recoveries of amounts previously written off	(34,455)	(1,687)	(1,575)
Balance at end of year	<u>\$ 15,644</u>	<u>\$ 49,749</u>	<u>\$ 16,546</u>

Provision for credit losses is included in "Selling, general and administrative expenses" in the consolidated statements of operations. During the year ended December 31, 2022, Quanta determined that \$31.7 million of receivables that were fully reserved in the year ended December 31, 2021 were uncollectible, and as such wrote off the receivables against their related allowances. The receivables were from Limetree Bay Refining, LLC, which filed for bankruptcy in July 2021, and its affiliate, customers within Quanta's Underground Utility and Infrastructure Solutions segment. Provisions for such receivables were recognized in the year ended December 31, 2021.

Quanta is subject to concentrations of credit risk related primarily to its receivable position with customers, which includes amounts related to billed and unbilled accounts receivable and contract assets for services Quanta has performed for customers. Quanta grants credit under normal payment terms, generally without collateral. One customer within the Renewable

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

Energy Infrastructure Solutions segment represented 13% and 11% of Quanta's consolidated receivable position as of December 31, 2022 and 2021. Another customer, primarily within the Electric Power Infrastructure Solutions and Renewable Energy Infrastructure Solutions segments, also represented 11% of Quanta's consolidated receivable position as of December 31, 2021. No customer represented 10% or more of Quanta's consolidated revenues for the years ended December 31, 2022, 2021 or 2020.

Certain contracts allow customers to withhold a small percentage of billings pursuant to retainage provisions, and such amounts are generally due upon completion of the contract and acceptance of the project by the customer. Based on Quanta's experience in recent years, the majority of these retainage balances are expected to be collected within one year. Retainage balances with expected settlement dates within one year of December 31, 2022 and 2021 were \$397.6 million and \$406.7 million, which are included in "Accounts receivable." Retainage balances as of December 31, 2022 and 2021 with expected settlement dates beyond one year were \$136.2 million and \$93.9 million and are included in "Other assets, net."

Quanta recognizes unbilled receivables for non-fixed price contracts within "Accounts receivable" in certain circumstances, such as when revenues have been earned and recorded but the amount cannot be billed under the terms of the contract until a later date or when amounts arise from routine lags in billing. These balances do not include revenues recognized for work performed under fixed-price contracts and unit-price contracts with more than an insignificant amount of partially completed units, as these amounts are recorded as "Contract assets." As of December 31, 2022, 2021 and 2020, unbilled receivables included in "Accounts receivable" were \$823.9 million, \$679.0 million and \$472.3 million. The increases in unbilled receivables were primarily due to significant increases in work and certain delays in billing related to certain large customers. Quanta also recognizes unearned revenues for non-fixed price contracts when cash is received prior to recognizing revenues for the related performance obligation. Unearned revenues, which are included in "Accounts payable and accrued expenses," were \$59.6 million, \$51.8 million and \$53.6 million as of December 31, 2022, 2021 and 2020.

5. SEGMENT INFORMATION:

Quanta reports its results under three reportable segments: Electric Power Infrastructure Solutions, Renewable Energy Infrastructure Solutions and Underground Utility and Infrastructure Solutions.

Electric Power Infrastructure Solutions. Quanta's Electric Power Infrastructure Solutions segment provides comprehensive services for the electric power and communications markets. Services include, but are not limited to, the design, procurement, new construction, upgrade and repair and maintenance services for electric power transmission and distribution infrastructure, both overhead and underground, and substation facilities, along with other engineering and technical services, including services that support the implementation of upgrades by utilities to modernize and harden the electric power grid in order to ensure its safety and enhance reliability and to accommodate increased residential and commercial use of electric vehicles. In addition, this segment provides emergency restoration services, including the repair of infrastructure damaged by fire and inclement weather and the installation of "smart grid" technologies on electric power networks. This segment also provides comprehensive design and construction solutions to wireline and wireless communications companies, cable multi-system operators and other customers within the communications industry, as well as other related services.

Renewable Energy Infrastructure Solutions. Quanta's Renewable Energy Infrastructure Solutions segment provides comprehensive infrastructure solutions to customers that are involved in the renewable energy industry. Services include, but are not limited to, engineering, procurement, new construction, repowering and repair and maintenance services for renewable generation facilities, such as utility-scale wind, solar and hydropower generation facilities and battery storage facilities, and engineering and construction services for transmission and other electrical infrastructure needed to interconnect and transmit electricity from renewable energy generation and battery storage facilities.

Underground Utility and Infrastructure Solutions. Quanta's Underground Utility and Infrastructure Solutions segment provides comprehensive infrastructure solutions to customers involved in the transportation, distribution, storage, development and processing of natural gas, oil and other products. Services include, but are not limited to design, engineering, procurement, new construction, upgrade and repair and maintenance services for natural gas systems for gas utility customers; and pipeline protection, integrity testing, rehabilitation and replacement services. Additionally, Quanta serves the midstream and downstream industrial energy markets through catalyst replacement services, high-pressure and critical-path turnaround services, instrumentation and electrical services, piping, fabrication and storage tank services.

Corporate and Non-allocated Costs include corporate facility costs; non-allocated corporate salaries, benefits and incentive compensation; acquisition and integration costs; non-cash stock-based compensation; amortization related to intangible assets; asset impairment related to goodwill and intangible assets; and change in fair value of contingent consideration liabilities.

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

Quanta's segment results are derived from the types of services provided across its operating companies in each of its end user markets. Quanta's entrepreneurial business model allows multiple operating companies to serve the same or similar customers and to provide a range of services across end user markets. Reportable segment information, including revenues and operating income by type of work, is gathered from each operating company. Classification of operating company revenues by type of work for segment reporting purposes can require judgment on the part of management. Quanta's operating companies may perform joint projects for customers in multiple industries, deliver multiple types of services under a single customer contract or provide service offerings to various industries. For example, Quanta performs joint trenching projects to install distribution lines for electric power and natural gas customers.

In addition, integrated operations and common administrative support for Quanta's operating companies require that certain allocations be made to determine segment profitability, including allocations of corporate shared and indirect operating costs as well as general and administrative costs.

The following table sets forth segment revenues and segment operating income (loss) for the years ended December 31, 2022, 2021 and 2020. The following table shows dollars in thousands:

	Year Ended December 31,		
	2022	2021	2020
Revenues:			
Electric Power Infrastructure Solutions.....	\$ 8,940,276	\$ 7,624,240	\$ 6,468,192
Renewable Energy Infrastructure Solutions	3,778,560	1,825,259	1,305,151
Underground Utility and Infrastructure Solutions.....	4,355,067	3,530,714	3,429,329
Consolidated revenues	<u>\$ 17,073,903</u>	<u>\$ 12,980,213</u>	<u>\$ 11,202,672</u>
Operating income (loss):			
Electric Power Infrastructure Solutions ⁽¹⁾⁽²⁾	\$ 958,798	\$ 865,409	\$ 648,405
Renewable Energy Infrastructure Solutions ⁽³⁾	304,308	181,908	177,920
Underground Utility and Infrastructure Solutions.....	317,543	150,147	170,074
Corporate and Non-Allocated Costs ⁽⁴⁾	(708,591)	(533,943)	(385,028)
Consolidated operating income.....	<u>\$ 872,058</u>	<u>\$ 663,521</u>	<u>\$ 611,371</u>

⁽¹⁾ Includes \$74.0 million of operating losses related to Latin American operations for the year ended December 31, 2020. See *Legal Proceedings — Peru Project Dispute* in Note 16 for additional information on this matter. As of December 31, 2020, Quanta had substantially completed the exit of its operations in Latin America.

⁽²⁾ Includes equity in earnings of integral unconsolidated affiliates of \$52.5 million, \$44.1 million and \$11.3 million for the years ended December 31, 2022, 2021 and 2020, primarily related to Quanta's equity interest in LUMA.

⁽³⁾ Additionally, Quanta recorded \$11.7 million of asset impairment charges related to a software implementation project at an acquired company, which commenced prior to Quanta's acquisition and was discontinued in the fourth quarter of 2022. The fair value of this software was zero at December 31, 2022.

⁽⁴⁾ Includes amortization expense of \$354.0 million, \$165.4 million and \$76.7 million and non-cash stock-based compensation of \$105.6 million, \$88.3 million and \$91.6 million for the years ended December 31, 2022, 2021 and 2020.

Separate measures of Quanta's assets and cash flows by reportable segment, including capital expenditures, are not produced or utilized by management to evaluate segment performance. Quanta's fixed assets, which are primarily held at the operating company level, include operating machinery, equipment and vehicles, office equipment, buildings and leasehold improvements, and are generally used on an interchangeable basis across its reportable segments. As such, for reporting

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

purposes, total depreciation expense is allocated each quarter among Quanta's reportable segments based on the ratio of each reportable segment's revenue contribution to consolidated revenues. The following table shows dollars in thousands:

	Year Ended December 31,		
	2022	2021	2020
Depreciation:			
Electric Power Infrastructure Solutions	\$ 149,151	\$ 141,093	\$ 112,663
Renewable Energy Infrastructure Solutions	40,535	14,020	9,185
Underground Utility and Infrastructure Solutions	83,117	83,720	85,981
Corporate and Non-Allocated Costs	17,844	16,696	17,427
Consolidated depreciation	\$ 290,647	\$ 255,529	\$ 225,256

Foreign Operations

During 2022, 2021, and 2020, Quanta derived \$2.68 billion, \$1.91 billion and \$1.58 billion of its revenues from foreign operations. Of Quanta's foreign revenues, 75%, 81% and 79% were earned in Canada during the years ended December 31, 2022, 2021 and 2020. In addition, Quanta held property and equipment, net of \$298.0 million and \$338.1 million in foreign countries, primarily Canada, as of December 31, 2022 and 2021.

6. ACQUISITIONS:

The results of operations of acquired businesses have been included in Quanta's consolidated financial statements since their respective acquisition dates.

In July 2022, Quanta acquired a business located in the United States that provides construction contracting services to utilities, specializing in trenching and underground pipeline and electrical conduit installation. Consideration for this acquisition included \$22.0 million paid or payable in cash (subject to certain adjustments). Additionally, the former owners of this business are eligible to receive a potential payment of contingent consideration to the extent the acquired business achieves certain financial performance targets over a five-year period. The results of the acquired business are included in the Electric Power Infrastructure Solutions segment.

On October 13, 2021, Quanta completed the acquisition of Blattner, a large and leading utility-scale renewable energy infrastructure solutions provider that is located in and primarily operates in North America. Blattner provides comprehensive solutions to customers in the renewable energy industry, which generally include front-end engineering, procurement, project management and construction services for wind, solar and energy storage projects. Consideration for this acquisition included \$2.43 billion paid in cash and 3,326,955 shares of Quanta common stock, which had a fair value of \$345.4 million as of the date of the acquisition. Additionally, the former owners of Blattner are eligible to receive potential payment of up to \$300.0 million of contingent consideration, payable to the extent the acquired business achieves certain financial performance targets. The contingent consideration payment is calculated based on a cumulative three-year performance period ending on December 31, 2024. As of December 31, 2022, the fair value of the contingent consideration liability was \$134.5 million. Blattner's results are included in the Renewable Energy Infrastructure Solutions segment.

During the year ended December 31, 2021, Quanta also acquired the following businesses: three businesses located in the United States that provide electric power construction and related services; a communications services business located in the United States that performs data center connection services; a business located in the United States that designs, develops and holds a certification for the manufacture of personal protective breathing equipment and related monitoring devices primarily used in the refining and petrochemical industries, including in connection with catalyst services; a business that provides turnaround and catalyst change-out services to the refining and petrochemical industries primarily in the United States and Canada; a business located in Canada that provides front-end land services for infrastructure development projects in Canada and the United States; a business located in the United States that primarily provides horizontal directional drilling services; and a communications services business located in the United States. The aggregate consideration for these acquisitions was \$328.2 million paid or payable in cash and 187,093 shares of Quanta common stock, which had an aggregate fair value of \$16.9 million as of the applicable acquisition dates. The results of the manufacturing business and the turnaround and catalyst change-out business are primarily included in the Underground Utility and Infrastructure Solutions segment and the results of the remaining businesses are primarily included in the Electric Power Infrastructure Solutions segment.

During the year ended December 31, 2020, Quanta acquired a contractor located in the United States that provides electric power distribution, transmission and substation maintenance and construction, directional boring and emergency restoration

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

services; a professional engineering business located in the United States that provides infrastructure engineering and design services to electric utilities, gas utilities and communications services companies, as well as permitting and utility locating services; a business located in the United States that provides aviation services primarily for the utility industry; an electric power infrastructure business located in the United States that primarily provides underground conduit services; a business located in the United States that specializes in the deployment of short- and long-haul fiber optic cable and utilities; an industrial services business located in Canada that performs catalyst handling services, including changeover and shutdown maintenance, for customers in the refining and chemical industries; and a business located in the United States that provides heavy, civil, industrial and energy related services and specializes in the construction and maintenance of pipelines and metering stations. The aggregate consideration for these acquisitions was \$359.6 million paid in cash and 1,334,469 shares of Quanta common stock, which had a fair value of \$57.1 million as of the respective acquisition dates. Additionally, one of the acquisitions includes the potential payment of contingent consideration, payable if the acquired business achieves certain performance objectives over a five-year post-acquisition period. The results of the industrial services business and the business specializing in construction and maintenance of pipelines and metering stations are primarily included in the Underground Utility and Infrastructure Solutions segment and the results of the remaining businesses are primarily included in the Electric Power Infrastructure Solutions segment.

Purchase Price Allocation

Purchase price allocations require significant use of estimates and are based on information that was available to management at the time these consolidated financial statements were prepared. Quanta uses a variety of information to estimate fair values, including quoted market prices, carrying amounts and valuation techniques such as discounted cash flows. When deemed appropriate, third-party appraisal firms are engaged to assist in fair value determination of fixed assets, intangible assets and certain other assets and liabilities.

Quanta is finalizing its purchase price allocations related to the business acquired during 2022, and further adjustments to the purchase price allocations may occur, with possible updates primarily related to tax estimates and the finalization of closing working capital adjustments. The following table summarizes the fair value of total consideration transferred or estimated to be transferred and the fair value of assets acquired and liabilities assumed as of their respective acquisition dates, inclusive of any purchase price adjustments as of December 31, 2022 for acquisitions completed in the years shown below (in thousands).

	Acquisitions Closed in the Year Ended December 31,		
	2022	2021	
		Blattner	All Others
Consideration:			
Cash paid or payable.....	\$ 21,990	\$ 2,434,877	\$ 328,155
Value of Quanta common stock issued.....	—	345,422	16,922
Contingent consideration.....	2,600	125,632	—
Fair value of total consideration transferred or estimated to be transferred.....	<u>\$ 24,590</u>	<u>\$ 2,905,931</u>	<u>\$ 345,077</u>
Cash and cash equivalents.....	\$ 101	\$ 171,950	\$ 9,911
Accounts receivable.....	1,755	411,835	63,033
Contract assets.....	—	13,622	8,322
Other current assets.....	72	57,803	6,262
Property and equipment.....	2,266	179,530	71,736
Other assets.....	—	191	230
Identifiable intangible assets.....	13,109	1,425,000	104,143
Current maturities of long-term debt and short-term debt.....	—	(2,304)	—
Accounts payable and accrued liabilities.....	(1,408)	(481,047)	(29,481)
Contract liabilities.....	(3,530)	(227,040)	(384)
Deferred tax liabilities, net.....	—	—	(2,424)
Other long-term liabilities.....	—	(7,764)	—
Total identifiable net assets.....	<u>12,365</u>	<u>1,541,776</u>	<u>231,348</u>
Goodwill.....	12,225	1,364,155	113,729
Fair value of net assets acquired.....	<u>\$ 24,590</u>	<u>\$ 2,905,931</u>	<u>\$ 345,077</u>

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

Goodwill included in the Renewable Energy Infrastructure Solutions Segment increased by \$64.9 million during the year ended December 31, 2022 as a result of certain post-closing consideration adjustments associated with Quanta's acquisition of Blattner. As of December 31, 2022, approximately \$12.2 million, \$1.49 billion, and \$72.6 million of goodwill is expected to be deductible for income tax purposes related to acquisitions completed in 2022, 2021 and 2020.

The following table summarizes the estimated fair values of identifiable intangible assets for the acquisitions completed in 2022 and 2021 as of the acquisition dates and the related weighted average amortization periods by type (in thousands, except for weighted average amortization periods, which are in years).

	Acquisitions Closed in the Year Ended December 31,					
	2022		2021			
	Estimated Fair Value	Weighted Average Amortization Period in Years	Blattner		All Others	
Estimated Fair Value			Weighted Average Amortization Period in Years	Estimated Fair Value	Weighted Average Amortization Period in Years	
Customer relationships	\$ 11,565	6.0	\$ 1,045,000	7.0	\$ 77,563	6.7
Backlog	557	0.5	130,000	0.7	6,431	1.2
Trade names	850	15.0	250,000	15.0	5,298	14.9
Non-compete agreements ...	137	5.0	—	N/A	5,823	5.0
Patented rights, developed technology, and process certifications	—	N/A	—	N/A	9,028	3.5
Total intangible assets subject to amortization ..	<u>\$ 13,109</u>	6.4	<u>\$ 1,425,000</u>	7.8	<u>\$ 104,143</u>	6.4

The fair value of customer relationships is estimated as of the date a business is acquired based on the value-in-use concept utilizing the income approach, specifically the multi-period excess earnings method. This method discounts to present value the projected cash flows attributable to the customer relationships, with consideration given to customer contract renewals and estimated customer attrition rates.

The significant estimates used by management in determining the fair values of customer relationship intangible assets include future revenues, discount rates and customer attrition rates. The following table includes the discount rates and customer attrition rates used to determine the fair value of customer relationship intangible assets for businesses acquired during the years ended December 31, 2022 and 2021 as of the respective acquisition dates:

	2022		2021
	Rate	Range	Weighted Average
Discount rates	22%	18% to 26%	18%
Customer attrition rates	20%	8% to 30%	10%

Quanta values backlog for acquired businesses as of the acquisition date based upon the contractual nature of the backlog, discounted to present value. The values of trade names and curriculum are estimated using the relief-from-royalty method of the income approach, which is based on the assumption that in lieu of ownership, a company would be willing to pay a royalty for use of the trade name or curriculum. The value of a non-compete agreement is estimated based on the difference between the present value of the prospective cash flows with the agreement in place and the present value of the prospective cash flows without the agreement in place. The level of inputs used for these identifiable intangible asset fair value measurements is Level

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

3.

Contingent Consideration

As described above, certain business acquisitions have contingent consideration liabilities associated with the transactions. The aggregate fair value of these outstanding contingent consideration liabilities and their classification in the accompanying consolidated balance sheets is as follows (in thousands):

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Accounts payable and accrued expenses	\$ 5,000	\$ 2,591
Insurance and other non-current liabilities	143,517	140,482
Total contingent consideration liabilities	<u>\$ 148,517</u>	<u>\$ 143,073</u>

Quanta's aggregate contingent consideration liabilities can change due to additional business acquisitions, settlement of outstanding liabilities, accretion in present value and changes in the estimated fair value of amounts and the performance of acquired businesses in post-acquisition periods. These changes are reflected in "Change in fair value of contingent consideration liabilities" in the accompanying consolidated statements of operations. The fair values of these liabilities were primarily determined using a Monte Carlo simulation valuation methodology based on probability-weighted performance projections and other inputs, including a weighted average cost of capital and an expected volatility factor for each acquisition. The expected volatility factors are based on historical asset volatility of selected guideline public companies. Performance projections are discounted using a risk-adjusted weighted average cost of capital which reflects the overall level of inherent risk of the business acquired. Depending on contingent consideration payment terms, the present values of the estimated payments are discounted based on a risk-free rate and/or Quanta's cost of debt. The weighted averages of these inputs are based on the fair value of the contingent consideration at the dates of the respective acquisitions. The fair value determinations incorporate significant inputs not observable in the market. Accordingly, the level of inputs used for these fair value measurements is Level 3. Significant changes in any of these assumptions could result in a significantly higher or lower potential liability.

The following table includes the volatility factors, weighted average costs of capital and discount rates used to determine the fair value of contingent consideration liabilities during the years ended December 31, 2022 and 2021:

	<u>2022</u>		<u>2021</u>	
	<u>Range</u>	<u>Weighted Average</u>	<u>Range</u>	<u>Weighted Average</u>
Volatility factors	35.0% to 50.0%	42.5%	50%	50%
Weighted average cost of capital	14.5% to 17.5%	16.0%	16.5% to 17.0%	16.8%
Discount rates	1.71% to 6.30%	4.5%	0.04% to 2.18%	1.4%

The majority of Quanta's outstanding contingent consideration liabilities are subject to a maximum payment amount, and the aggregate maximum payment amount of these liabilities totaled \$326.6 million as of December 31, 2022. During the years ended December 31, 2022, 2021 and 2020, Quanta settled certain contingent consideration liabilities with cash payments of \$1.6 million, \$0.3 million and \$76.0 million. Quanta also settled certain contingent consideration liabilities with the issuance of 4,277 shares of Quanta common stock during the year ended December 31, 2020.

Pro Forma Results of Operations

The following unaudited supplemental pro forma results of operations for Quanta, which incorporate the acquisitions completed in 2022, 2021 and 2020, have been provided for illustrative purposes only and may not be indicative of the actual results that would have been achieved by the combined companies for the periods presented or that may be achieved by the combined companies in the future (in thousands).

	<u>Year Ended December 31,</u>		
	<u>2022</u>	<u>2021</u>	<u>2020</u>
Revenues	\$ 17,083,551	\$ 15,527,934	\$ 14,082,275
Net income attributable to common stock	\$ 489,014	\$ 619,304	\$ 414,742

The pro forma combined results of operations for the years ended December 31, 2022 and 2021 were prepared by adjusting the historical results of Quanta to include the historical results of the business acquired in 2022 as if such acquisition had occurred January 1, 2021. The pro forma combined results of operations for the year ended December 31, 2021 and 2020 were prepared by adjusting the historical results of Quanta to include historical results of the businesses acquired in 2021 as if such acquisitions had occurred January 1, 2020. The pro forma combined results of operations for the year ended December 31,

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

2020 were prepared by adjusting the historical results of Quanta to include the historical results of the businesses acquired in 2020 as if such acquisitions occurred January 1, 2019.

These pro forma combined historical results were adjusted for the following: a reduction of interest and other financing expenses as a result of the repayment of outstanding indebtedness of the acquired businesses; an increase in interest and other financing expenses as a result of the cash consideration paid and debt incurred by Quanta for the purpose of financing the acquisition of Blattner; an increase in amortization expense due to the intangible assets recorded; elimination of inter-company sales; changes in depreciation expense to adjust acquired property and equipment to the acquisition date fair value and to conform with Quanta's accounting policies; an increase in the number of outstanding shares of Quanta common stock; and elimination of certain transaction costs incurred by Blattner and directly related to the acquisition of the business by Quanta. The pro forma combined results of operations do not include any adjustments to eliminate the impact of acquisition-related costs incurred by Quanta or any cost savings or other synergies that resulted or may result from the acquisitions.

Results of Operations

Revenues of \$15.5 million and income before income taxes of \$2.0 million, which includes \$1.4 million of amortization expense and \$0.6 million of acquisition-related costs, related to the acquisition completed in 2022 are included in Quanta's consolidated results of operations for the year ended December 31, 2022. Revenues of \$499.6 million and a loss before income taxes of \$71.6 million, which included \$80.3 million of amortization expense and \$41.5 million of acquisition-related costs, related to acquisitions completed in 2021 are included in Quanta's consolidated results of operations for the year ended December 31, 2021. Revenues of \$133.5 million and a loss before income taxes of \$1.3 million, which included \$6.4 million of amortization expense and \$17.5 million of acquisition-related costs, related to the acquisitions completed in 2020 are included in Quanta's consolidated results of operations for the year ended December 31, 2020.

Acquisitions Subsequent to Year-End

In January 2023, Quanta acquired three businesses located in the United States including: a business that provides services related to high-voltage transmission lines, overhead and underground distribution, emergency restoration and industrial and commercial wiring and lighting; a business that procures parts, assembles kits for sale, manages logistics and installs solar tracking equipment for utility and development customers; and a business that provides solutions to Quanta's concrete construction services. The consideration for these transactions consisted of approximately \$465.0 million paid in cash on the dates of the acquisitions and 1,018,952 shares of Quanta common stock, which had a fair value of \$123.5 million as of the dates of the acquisitions. The final amount of consideration for these acquisitions remains subject to certain post-closing adjustments, including with respect to net working capital. The results of the business that designs, supplies and installs solar tracking technology and installs and assembles solar panel systems will be primarily included in the Renewable Energy Infrastructure Solutions segment and the results of the other two businesses will be primarily included in the Electric Power Infrastructure Solutions segment. Quanta is in the process of performing procedures to determine the fair value of assets acquired and liabilities assumed related to these acquisitions.

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

7. GOODWILL AND OTHER INTANGIBLE ASSETS:

Goodwill

The changes in the carrying amount of goodwill of each of Quanta's reportable segments were as follows (in thousands):

	Electric Power Infrastructure Solutions Segment	Renewable Energy Infrastructure Solutions Segment	Underground Utility and Infrastructure Solutions Segment	Total
Balance at December 31, 2020:				
Goodwill	\$ 1,449,774	\$ —	\$ 768,868	\$ 2,218,642
Accumulated impairment	—	—	(97,628)	(97,628)
	<u>1,449,774</u>	<u>—</u>	<u>671,240</u>	<u>2,121,014</u>
Goodwill related to acquisitions completed in 2021 ⁽¹⁾ ..	100,121	1,299,280	12,066	1,411,467
Purchase price allocation adjustments	(1,791)	—	—	(1,791)
Foreign currency translation adjustments	1,226	—	(3,030)	(1,804)
Reorganization of reporting units ⁽¹⁾	(161,912)	161,912	—	—
Balance at December 31, 2021:				
Goodwill	1,387,418	1,461,192	777,136	3,625,746
Accumulated impairment	—	—	(96,860)	(96,860)
	<u>1,387,418</u>	<u>1,461,192</u>	<u>680,276</u>	<u>3,528,886</u>
Goodwill related to the acquisition completed in 2022 ..	12,225	—		12,225
Purchase price allocation adjustments	962	64,874	580	66,416
Foreign currency translation adjustments	(4,464)	(7,917)	(8,401)	(20,782)
Balance at December 31, 2022:				
Goodwill	1,396,141	1,518,149	768,516	3,682,806
Accumulated impairment	—	—	(96,061)	(96,061)
	<u>\$ 1,396,141</u>	<u>\$ 1,518,149</u>	<u>\$ 672,455</u>	<u>\$ 3,586,745</u>

⁽¹⁾ The Renewable Energy Infrastructure Solutions segment was added due to the acquisition of Blattner in the fourth quarter of 2021. In conjunction with this change, Quanta reorganized its reporting units.

In connection with the 2022 annual goodwill assessment, management performed a qualitative impairment assessment of Quanta's reporting units, which indicated that the fair value of its reporting units was greater than their carrying value including goodwill. Accordingly, a quantitative goodwill impairment test was not required, and no goodwill impairment was recognized in 2022. In connection with the 2021 annual goodwill assessment, management performed qualitative and quantitative impairment assessments of its reporting units, which indicated the fair value of its reporting units was greater than their carrying value including goodwill, and no goodwill impairment was recognized.

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

Other Intangible Assets

Quanta's identifiable intangible assets and the remaining weighted average amortization periods related to its intangible assets subject to amortization were as follows (in thousands except for weighted average amortization periods, which are in years):

	As of December 31, 2022				As of December 31, 2021		
	Remaining Weighted Average Amortization Period in Years	Intangible Assets	Accumulated Amortization	Intangible Assets, Net	Intangible Assets	Accumulated Amortization	Intangible Assets, Net
Customer relationships.....	5.5	\$ 1,741,679	\$ (600,841)	\$ 1,140,838	\$ 1,738,813	\$ (379,417)	\$ 1,359,396
Backlog.....	0.1	282,483	(282,397)	86	286,120	(192,140)	93,980
Trade names.....	13.5	355,855	(63,190)	292,665	357,103	(41,642)	315,461
Non-compete agreements.....	3.1	52,356	(44,570)	7,786	54,022	(41,409)	12,613
Patented rights, developed technology, process certifications and other.....	2.1	32,969	(26,281)	6,688	31,520	(23,458)	8,062
Curriculum.....	5.6	13,488	(5,920)	7,568	13,100	(4,432)	8,668
Total intangible assets subject to amortization.....	7.0	2,478,830	(1,023,199)	1,455,631	2,480,678	(682,498)	1,798,180
Engineering license.....		3,000	—	3,000	3,000	—	3,000
Total intangible assets.....		<u>\$2,481,830</u>	<u>\$(1,023,199)</u>	<u>\$1,458,631</u>	<u>\$2,483,678</u>	<u>\$ (682,498)</u>	<u>\$ 1,801,180</u>

Amortization expense for intangible assets was \$354.0 million, \$165.4 million and \$76.7 million for the years ended December 31, 2022, 2021 and 2020.

The estimated future aggregate amortization expense of intangible assets subject to amortization as of December 31, 2022 is set forth below (in thousands):

Year Ending December 31:

2023.....	\$	252,316
2024.....		239,640
2025.....		224,901
2026.....		218,568
2027.....		202,587
Thereafter.....		317,619
Total.....	<u>\$</u>	<u>1,455,631</u>

8. INVESTMENTS IN AFFILIATES AND OTHER ENTITIES:

The following table presents Quanta's equity investments by type (in thousands):

	December 31, 2022	December 31, 2021
Equity method investments - integral unconsolidated affiliates.....	\$ 101,251	\$ 67,820
Equity method investments - non-integral unconsolidated affiliates.....	55,833	33,372
Marketable equity securities.....	—	—
Non-marketable equity securities.....	54,134	130,233
Total investments.....	<u>\$ 211,218</u>	<u>\$ 231,425</u>

Equity Method Investments

Quanta's integral equity method investment balance includes Quanta's 50% interest in LUMA. During 2020, the LUMA joint venture was selected for a 15-year operation and maintenance agreement to operate, maintain and modernize the

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

approximately 18,000-mile electric transmission and distribution system in Puerto Rico. Under the operation and maintenance agreement, LUMA will be entitled to reimbursement of specific costs and expenses and receive a fixed annual management fee, with the opportunity to receive additional annual performance-based incentive fees. LUMA will not assume ownership of the electric transmission and distribution system assets or be responsible for operation of the associated power generation assets. The 15-year term under the operation and maintenance agreement is scheduled to begin upon satisfaction or waiver of several remaining conditions precedent, including the emergence from a Title III debt restructuring process of the utility that owns the electric transmission and distribution system, which have yet to occur. In June 2021, under the terms of an interim services agreement, LUMA took over operation and maintenance of the system from the utility, and during this interim period, LUMA receives a fixed annual management fee, payable in monthly installments, and is reimbursed for specific costs and expenses. In November 2022, LUMA, the utility and the administrator agreed to extend the interim services agreement until the utility's emergence from its Title III debt restructuring process.

Also included within the integral equity method investment balances described above is Quanta's 44% interest in an entity that provides right-of-way solutions, including site preparation and clearing, materials delivery and installation and management of permitting requirements and traffic control, which Quanta acquired in October 2021, and Quanta's 44% interest in an entity that provides design/build, construction management, power and gas utility engineering, subsurface utility engineering, structural engineering, highway and road design, program management and surveying services, which Quanta acquired in November 2022 for a purchase price of \$30.7 million.

As of December 31, 2022 and 2021, Quanta had receivables of \$96.9 million and \$60.2 million from its integral unconsolidated affiliates and payables of \$9.3 million and \$56.3 million to them. During the years ended December 31, 2022 and 2021, Quanta recognized revenues of \$154.7 million and \$74.1 million primarily for services provided to LUMA at cost. In addition, during the years ended December 31, 2022 and 2021, Quanta recognized costs of sales of \$134.5 million and \$116.2 million for services provided by other affiliates.

During the fourth quarter of 2022, Quanta entered into an agreement to sell one of its non-integral equity method investments for total consideration of \$58.4 million. The transaction was subject to certain customary closing conditions that were satisfied in early 2023. As a result, a \$25.9 million gain was recognized in the fourth quarter that was recorded as "Other (expense) income, net," of which \$10.4 million is attributable to a non-controlling interest.

Total equity in earnings from integral unconsolidated affiliates were \$52.5 million, \$44.1 million, and \$11.3 million for the years ended December 31, 2022, 2021 and 2020. Total equity in earnings from non-integral unconsolidated affiliates were earnings of \$20.3 million, earnings of \$2.1 million and a loss of \$10.0 million for the years ended December 31, 2022, 2021 and 2020. At December 31, 2022, retained earnings included \$47.0 million related to the undistributed earnings of unconsolidated affiliates.

The difference between Quanta's carrying value and the underlying equity in the net assets of its equity investments is assigned to the assets and liabilities of the investment, giving rise to a basis difference, which was \$37.8 million and \$11.5 million as of December 31, 2022 and 2021. The amortization of the basis difference included in "Equity in earnings of integral unconsolidated affiliates" in the accompanying consolidated statements of operations for the years ended December 31, 2022, 2021 and 2020, was \$1.9 million, \$0.5 million and zero.

Marketable and Non-Marketable Equity Securities

In March 2021, Quanta acquired a preferred non-controlling interest in a broadband technology provider for \$90.0 million. This investment was classified as a non-marketable equity security as of December 31, 2021. In March 2022, pursuant to the terms of an agreement and plan of merger with a special purpose acquisition company, the broadband technology provider became Starry Group Holdings, Inc. (Starry), a publicly traded company, and Quanta's preferred equity interest converted to a common equity interest, without preferential liquidation rights, in the publicly traded company. At that time, Quanta began classifying this investment as a marketable equity security rather than a non-marketable equity security. Additionally, in March 2022, Quanta acquired an additional common equity interest in Starry for \$1.5 million. As of December 31, 2022, the fair value of Starry's common stock was zero, which resulted in a \$91.5 million impairment recorded during 2022, and in February 2023, Starry filed for bankruptcy protection under Chapter 11 of the U.S. Bankruptcy Code, as amended.

In November 2022, Quanta acquired a 6% equity interest in an energy storage solution provider for \$25.0 million. The investment is considered a non-marketable equity security.

Investment in Real Property

During the year ended December 31, 2021, Quanta purchased, through its wholly-owned captive insurance company, certain real property, including associated buildings and facilities, which Quanta has utilized it as its corporate headquarters since September 2022. A portion of this property is currently leased to third-party lessees and is expected to continue to be

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

leased to third-party lessees for the foreseeable future. As a result, an investment in real estate is recognized at cost for the third-party leased portion of the property. Its carrying amount of \$27.5 million and \$23.3 million at December 31, 2022 and 2021 is included in “Other assets, net” in the accompanying consolidated balance sheets.

See Note 15 for information related to Quanta’s investments associated with its deferred compensation plan.

9. PER SHARE INFORMATION:

The amounts used to compute basic and diluted earnings per share attributable to common stock consisted of the following (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Amounts attributable to common stock:			
Net income attributable to common stock	\$ 491,189	\$ 485,956	\$ 445,596
Weighted average shares:			
Weighted average shares outstanding for basic earnings per share attributable to common stock	143,488	140,824	141,380
Effect of dilutive unvested non-participating stock-based awards	4,504	4,549	3,867
Weighted average shares outstanding for diluted earnings per share attributable to common stock	147,992	145,373	145,247

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

10. DEBT OBLIGATIONS:

Quanta's long-term debt obligations consisted of the following (in thousands):

	December 31,	
	2022	2021
0.950% Senior Notes due October 2024	\$ 500,000	\$ 500,000
2.900% Senior Notes due October 2030	1,000,000	1,000,000
2.350% Senior Notes due January 2032	500,000	500,000
3.050% Senior Notes due October 2041	500,000	500,000
Borrowings under senior credit facility	786,910	1,199,841
Borrowings under commercial paper program	373,000	—
Other long-term debt	92,907	64,800
Finance leases	3,542	2,546
Unamortized discount and financing costs	(26,432)	(29,295)
Total long-term debt obligations	3,729,927	3,737,892
Less — Current maturities of long-term debt	37,495	13,418
Total long-term debt obligations, net of current maturities	<u>\$ 3,692,432</u>	<u>\$ 3,724,474</u>

As of December 31, 2022, principal payments required to be made during the next five years are set forth in the table below. The payments required under finance leases and lease financing transactions are provided in Note 11.

2023	\$ 21,028
2024	\$ 539,436
2025	\$ 77,591
2026	\$ 1,029,829
2027	\$ 1,345

Short-term debt was zero and \$15.7 million at December 31, 2022 and 2021.

Senior Notes

On September 23, 2021, Quanta issued \$1.50 billion aggregate principal amount of senior notes consisting of: \$500.0 million aggregate principal amount of 0.950% senior notes due October 2024 (the 2024 notes); \$500.0 million aggregate principal amount of 2.350% senior notes due January 2032 (the 2032 notes); and \$500.0 million aggregate principal amount of 3.050% senior notes due October 2041 (the 2041 notes). The cumulative proceeds received from the public offering of the 2024 notes, the 2032 notes and the 2041 notes were \$1.48 billion, net of the original issue discount, underwriting discounts and deferred financing costs, which were used, along with drawings under Quanta's senior credit facility, as amended, to acquire Blattner. On September 22, 2020, Quanta issued \$1.00 billion aggregate principal amount of 2.900% senior notes due October 2030 (the 2030 notes, and together with the 2024 notes, the 2032 notes and the 2041 notes, collectively, the Senior Notes) and received proceeds of \$986.7 million from the offering, net of the original issue discount, underwriting discounts and deferred financing costs, and used such proceeds, together with cash on hand, to voluntarily prepay the \$1.21 billion of term loans then-outstanding under Quanta's credit agreement for its senior credit facility.

The interest amounts due on Quanta's senior notes on each payment date are set forth below (dollars in thousands):

Title of the Notes	Interest Amount	Payment Dates	Commencement Date
0.950% Senior Notes due October 2024	\$ 2,375	April 1 and October 1	April 1, 2022
2.900% Senior Notes due October 2030	\$ 14,500	April 1 and October 1	April 1, 2021
2.350% Senior Notes due January 2032	\$ 5,875	January 15 and July 15	July 15, 2022
3.050% Senior Notes due October 2041	\$ 7,625	April 1 and October 1	April 1, 2022

In each case as further specified by the terms of the senior notes and the indenture and supplemental indentures governing the senior notes (collectively, the indenture), Quanta may redeem all or a portion of (i) the 2024 notes at a price equal to 100% of the principal amount plus accrued and unpaid interest; (ii) the 2030 notes at any time prior to July 1, 2030 at a price equal to 100% of the principal amount plus a make-whole premium and accrued and unpaid interest, and at any time on or after July 1,

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

2030 at a price equal to 100% of the principal amount plus accrued and unpaid interest; (iii) the 2032 notes at any time prior to October 15, 2031 at a price equal to 100% of the principal amount plus a make-whole premium and accrued and unpaid interest, and at any time on or after October 15, 2031 at a price equal to 100% of the principal amount plus accrued and unpaid interest; and (iv) the 2041 notes at any time prior to April 1, 2041 at a price equal to 100% of the principal amount plus a make-whole premium and accrued and unpaid interest, and at any time on or after April 1, 2041 at a price equal to 100% of the principal amount plus accrued and unpaid interest.

Upon the occurrence of a Change of Control Triggering Event (as defined in the indenture), unless Quanta has exercised its right to redeem the applicable series of Senior Notes in full by giving irrevocable notice to the trustee, each holder of such Senior Notes will have the right to require Quanta to purchase all or a portion of such holder's Senior Notes of such series at a purchase price equal to 101% of the principal amount thereof plus accrued and unpaid interest.

The indenture contains covenants that, among other things, limit Quanta's ability to incur liens securing certain indebtedness, to engage in certain sale and leaseback transactions with respect to certain properties and to sell all or substantially all of Quanta's assets or merge or consolidate with or into other companies. The indenture also contains customary events of default.

The fair value of Quanta's Senior Notes was \$2.00 billion at December 31, 2022, compared to a carrying value of \$2.48 billion net of unamortized bond discount, underwriting discounts and deferred financing costs of \$23.8 million. The fair value of the Senior Notes is based on the quoted market prices for the same issue, and the senior notes are categorized as Level 1 liabilities.

Senior Credit Facility

The credit agreement for Quanta's senior credit facility (as amended, the credit agreement) provides for a \$750.0 million term loan facility and aggregate revolving commitments of \$2.64 billion, with a maturity date of October 8, 2026. Subject to the conditions specified in the credit agreement, Quanta has the option to increase the capacity of the credit facility, in the form of an increase in the revolving commitments, term loans or a combination thereof, from time to time, upon receipt of additional commitments from new or existing lenders by up to an additional (i) \$400.0 million plus (ii) additional amounts so long as the Incremental Leverage Ratio Requirement (as defined in the credit agreement) is satisfied at the time of such increase. The Incremental Leverage Ratio Requirement requires, among other things, after giving pro forma effect to such increase and the use of proceeds therefrom, compliance with the credit agreement's financial covenants as of the most recent fiscal quarter end for which financial statements were required to be delivered. Borrowings under the senior credit facility and the applicable interest rates were as follows (dollars in thousands):

	Year Ended December 31,		
	2022	2021	2020
Maximum amount outstanding	\$ 1,684,783	\$ 1,463,667	\$ 2,023,326
Average daily amount outstanding	\$ 1,250,493	\$ 591,114	\$ 1,091,091
Weighted-average interest rate	3.0 %	1.9 %	2.1 %

On August 23, 2022 Quanta entered into an amendment to the credit agreement, which among other things, permits proceeds of revolving loans to be used to provide credit support for Quanta's commercial paper program, as described further below; established Term Secured Overnight Financing Rate (Term SOFR) (as defined in the credit agreement) as the benchmark rate for the senior credit facility (including both the term loan facility and the revolving credit facility) in replacement of London Interbank Offered Rate (LIBOR) (as defined therein prior to giving effect to the amendment) as further described below, effective as of the date of the amendment; and revised certain other terms and provisions.

The credit agreement contains certain covenants, including, as of the end of any fiscal quarter of Quanta, (i) a maximum Consolidated Leverage Ratio (as defined in the credit agreement) of 3.5 to 1.0 (except that in connection with certain permitted acquisitions in excess of \$200.0 million, such ratio is 4.0 to 1.0 for the fiscal quarter in which the acquisition is completed and the four subsequent fiscal quarters) and (ii) a minimum Consolidated Interest Coverage Ratio (as defined in the credit agreement) of 3.0 to 1.0. As of December 31, 2022, Quanta was in compliance with all of the financial covenants under the credit agreement.

The Consolidated Leverage Ratio is the ratio of Quanta's total funded debt to Consolidated EBITDA (as defined in the credit agreement). For purposes of calculating the Consolidated Leverage Ratio, total funded debt is reduced by available cash and Cash Equivalents (as defined in the credit agreement) in excess of \$25.0 million. Consolidated Interest Coverage Ratio is the ratio of (i) Consolidated EBIT (as defined in the credit agreement) for the four fiscal quarters most recently ended to (ii) Consolidated Interest Expense (as defined in the credit agreement) for such period (excluding all interest expense attributable to capitalized loan costs and the amount of fees paid in connection with the issuance of letters of credit on behalf of

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

Quanta during such period).

The credit agreement also limits certain acquisitions, mergers and consolidations, indebtedness, asset sales and prepayments of indebtedness and, subject to certain exceptions, prohibits liens on Quanta's assets. These limits include a limit on surety-backed letters of credit issued separate from the senior credit facility, which are not to exceed \$300.0 million at any one time outstanding. The credit agreement allows cash payments for dividends and stock repurchases subject to compliance with the following requirements (including after giving effect to the dividend or stock repurchase): (i) no default or event of default under the credit agreement; (ii) continued compliance with the financial covenants in the credit agreement; and (iii) at least \$100.0 million of availability under the senior credit facility and/or cash and cash equivalents on hand.

The credit agreement provides for customary events of default and contains cross-default provisions with other debt instruments exceeding \$300.0 million in borrowings or availability. If an Event of Default (as defined in the credit agreement) occurs and is continuing, on the terms and subject to the conditions set forth in the credit agreement, the lenders may declare all amounts outstanding and accrued and unpaid interest immediately due and payable, require that Quanta provide cash collateral for all outstanding letter of credit obligations and terminate the commitments under the credit agreement.

Term Loan. As of December 31, 2022, Quanta had \$750.0 million outstanding under its term loan facility. The carrying amount of the term loan under Quanta's senior credit facility approximates fair value due to its variable interest rate.

The term loan requires quarterly principal payments on the first business day of each January, April, July and October, beginning in January 2023, in the amount of \$4.7 million per quarter in 2023 and 2024, \$9.4 million per quarter in 2025 and \$18.8 million per quarter in 2026. The aggregate remaining principal amount outstanding must be paid by the maturity date of the senior credit facility. Quanta may voluntarily prepay the term loan borrowings from time to time, in whole or in part, without premium or penalty.

Beginning August 23, 2022, amounts borrowed under the term loan facility bear interest, at Quanta's option, at a rate equal to either (a) the Term SOFR (as defined in the credit agreement) plus 1.000% to 1.625%, or (b) the Base Rate (as defined below) plus 0.000% to 0.625%, each as determined based on either Quanta's Consolidated Leverage Ratio (as described above) or Quanta's Debt Rating (as defined in the credit agreement), whichever is more favorable to Quanta. The Base Rate equals the highest of (i) the Federal Funds Rate (as defined in the credit agreement) plus 0.5%, (ii) Bank of America N.A.'s prime rate, (iii) the Term SOFR plus 1.00%, and (iv) 1.00% subject to applicable interest rate floors.

Prior to August 23, 2022, amounts borrowed under the term loan facility bore interest, at Quanta's option, at a rate equal to either (a) the LIBOR Rate (as defined in the credit agreement) plus 1.000% to 1.625%, or (b) the Base Rate (as defined below) plus 0.000% to 0.625%, each as determined based on either Quanta's Consolidated Leverage Ratio (as described above) or Quanta's Debt Rating (as described above), whichever was more favorable to Quanta. The Base Rate equaled the highest of (i) the Federal Funds Rate (as described above) plus 0.5%, (ii) Bank of America N.A.'s prime rate and (iii) the LIBOR Rate plus 1.00%.

Revolving Loans. As of December 31, 2022, Quanta had \$36.9 million of outstanding revolving loans under the senior credit facility. Of the total outstanding revolving loan borrowings, all \$36.9 million were denominated in Canadian dollars. The carrying amounts of the revolving borrowings under Quanta's senior credit facility approximate fair value, as all revolving borrowings have a short maturity.

As of December 31, 2022, Quanta also had \$227.8 million of letters of credit issued under the senior credit facility, of which \$128.5 million were denominated in U.S. dollars and \$99.3 million were denominated in currencies other than the U.S. dollar, primarily Australian and Canadian dollars. Additionally, available commitments for revolving loans under the senior credit facility must be maintained in order to provide credit support for notes issued under Quanta's commercial paper program, and therefore such notes effectively reduce the available borrowing capacity under the senior credit facility. As of December 31, 2022, \$2.00 billion remained available under the senior credit facility for new revolving loans, letters of credit and support of the commercial paper program in U.S. dollars and certain alternative currencies.

Beginning August 23, 2022, amounts borrowed in U.S. dollars under the revolving credit facility bear interest, at Quanta's option, at a rate equal to either (a) the Term SOFR plus 1.125% to 1.750%, or (b) the Base Rate plus 0.125% to 0.750%, each as determined based on either Quanta's Consolidated Leverage Ratio or its Debt Rating, whichever is more favorable to Quanta. Revolving loans borrowed in any currency other than U.S. dollars bear interest at a rate equal to the Alternative Currency Daily Rate or the Alternative Currency Term Rate (each as defined in the credit agreement), as applicable, plus 1.125% to 1.750%, as determined based on either Quanta's Consolidated Leverage Ratio or Quanta's Debt Rating, whichever is more favorable to Quanta. Additionally, standby or commercial letters of credit issued under the credit agreement are subject to a letter of credit fee of 1.125% to 1.750%; Performance Letters of Credit (as defined in the credit agreement) issued under the credit agreement in support of certain contractual obligations are subject to a letter of credit fee of 0.675% to 1.125%; and Quanta is subject to a commitment fee of 0.100% to 0.275% on any unused availability under the revolving credit facility, in each case as determined

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

based on either the Quanta's Consolidated Leverage Ratio or its Debt Rating, whichever is more favorable to Quanta.

Between October 8, 2021 and August 23, 2022, the interest rates were the same as above except that the benchmark rate utilized was LIBOR Rate rather than Term SOFR.

Prior to October 8, 2021, revolving loans borrowed in U.S. dollars bore interest, at Quanta's option, at a rate equal to either (i) the Eurocurrency Rate (as defined in the credit agreement) plus 1.125% to 2.000%, as determined based on Quanta's Consolidated Leverage Ratio, or (ii) the prior base rate (as described below) plus 0.125% to 1.000%, as determined based on Quanta's Consolidated Leverage Ratio. Revolving loans borrowed in any currency other than U.S. dollars bore interest at a rate equal to the Eurocurrency Rate plus 1.125% to 2.000%, as determined based on Quanta's Consolidated Leverage Ratio. Additionally, standby or commercial letters of credit issued under the credit agreement were subject to a letter of credit fee of 1.125% to 2.000%, based on Quanta's Consolidated Leverage Ratio, and Performance Letters of Credit (as described above) issued under the credit agreement in support of certain contractual obligations were subject to a letter of credit fee of 0.675% to 1.150%, based on Quanta's Consolidated Leverage Ratio. The prior calculation for base rate equaled the highest of (i) the Federal Funds Rate (as defined in the credit agreement) plus 0.5%, (ii) the prime rate publicly announced by Bank of America, N.A. and (iii) the Eurocurrency Rate plus 1.00%. Quanta was also subject to a commitment fee of 0.275% to 0.425% from September 22, 2020 through October 7, 2021, based on its Consolidated Leverage Ratio, on any unused availability under the senior credit facility. Prior to the amendment on September 22, 2020, Quanta was subject to a commitment fee of 0.200% to 0.400%.

Deferred Financing Costs. As of December 31, 2022 and 2021, capitalized deferred financing costs, net of accumulated amortization, related to Quanta's revolving loans under its senior credit facility and commercial paper program were \$8.3 million and \$10.1 million and are included in "Other assets, net" in the accompanying consolidated balance sheets. Amortization of deferred financing costs for all debt instruments included in interest expense was \$12.7 million, \$8.4 million and \$5.1 million for the years ended December 31, 2022, 2021 and 2020.

Commercial Paper Program

On August 23, 2022, Quanta entered into a commercial paper program that allows Quanta to issue unsecured commercial paper notes in an amount up to a maximum aggregate face amount of \$1 billion outstanding at any time. The notes are sold under customary market terms in the U.S. commercial paper market at a discount from par or at par and bear interest at rates determined at the time of issuance. The maturities of the notes may vary, but may not exceed 397 days from the date of issuance. Quanta began issuing notes under this program on September 2, 2022 and had \$373.0 million of outstanding notes as of December 31, 2022, with a weighted average interest rate of 5.2%. The commercial paper notes were outstanding from September 2, 2022 through December 31, 2022. During such period, Quanta had maximum borrowings outstanding of \$707.3 million, weighted average borrowings outstanding of \$462.4 million, a weighted average interest rate of 4.5%, and a weighted average maturity of 15 days. The carrying amounts of the notes issued under Quanta's commercial paper program approximate fair value, as all notes currently have a short maturity.

Additional Letters of Credit

As of December 31, 2022 Quanta had \$189.9 million of surety-backed letters of credit issued outside of its senior credit facility, which were denominated in U.S. dollars.

11. LEASES:

Quanta primarily leases land, buildings, vehicles, construction equipment and office equipment. As of December 31, 2022, the majority of Quanta's leases had remaining lease terms of less than eleven years. Certain leases include options to

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

extend their terms in increments of up to five years and/or options to terminate. The components of lease costs in the accompanying consolidated statements of operations are as follows (in thousands):

Lease cost	Classification	Year Ended December 31,		
		2022	2021	2020
Finance lease cost:				
Amortization of lease assets	Depreciation ⁽¹⁾	\$ 1,540	\$ 1,097	\$ 1,234
Interest on lease liabilities	Interest and other financing expenses	108	90	107
Operating lease cost	Cost of services and Selling, general and administrative expenses	93,539	104,668	116,672
Short-term and variable lease cost ⁽²⁾	Cost of services and Selling, general and administrative expenses	953,721	716,722	656,649
Total lease cost		<u>\$ 1,048,908</u>	<u>\$ 822,577</u>	<u>\$ 774,662</u>

⁽¹⁾ Depreciation is included within “Cost of services” and “Selling, general and administrative expenses” in the accompanying consolidated statements of operations.

⁽²⁾ Short-term lease cost includes both leases and rentals with initial terms of one year or less. Variable lease cost is insignificant.

Quanta has entered into arrangements with certain related parties to lease real property and facilities. Typically, the parties are employees of Quanta who are also the former owners of businesses acquired by Quanta, and the real property and facilities continue to be utilized by Quanta subsequent to the acquisitions. Quanta utilizes third-party market valuations to evaluate rental rates for these properties and facilities, and the lease agreements generally have remaining lease terms of up to ten years, subject to renewal options. Related party lease expense was \$14.7 million, \$13.9 million and \$14.3 million for the years ended December 31, 2022, 2021 and 2020.

The components of leases in the accompanying consolidated balance sheets were as follows (in thousands):

Lease type	Classification	December 31,	
		2022	2021
Assets:			
Operating lease right-of-use assets	Operating lease right-of-use assets	\$ 229,691	\$ 240,605
Finance lease assets	Property and equipment, net of accumulated depreciation	3,238	2,415
Lease financing transaction assets ⁽¹⁾	Property and equipment, net of accumulated depreciation	83,591	53,950
Total lease assets		<u>\$ 316,520</u>	<u>\$ 296,970</u>
Liabilities:			
Current:			
Operating	Current portion of operating lease liabilities	\$ 74,052	\$ 78,251
Finance	Current maturities of long-term debt and short-term debt	1,433	1,156
Lease financing transaction liabilities ⁽¹⁾	Current maturities of long-term debt and short-term debt	15,034	9,782
Non-current:			
Operating	Operating lease liabilities, net of current portion	171,512	170,427
Finance	Long-term debt, net of current maturities	2,109	1,390
Lease financing transaction liabilities ⁽¹⁾	Long-term debt, net of current maturities	68,557	44,168
Total lease liabilities		<u>\$ 332,697</u>	<u>\$ 305,174</u>

⁽¹⁾ Certain of Quanta’s equipment rental agreements contain purchase options pursuant to which the purchase price is offset by a portion of the rental payments. When these purchase options are exercised by a third-party lessor on behalf of Quanta, the transaction is deemed to be a financing transaction for accounting purposes, which results in the recognition of an asset equal to the purchase price and a corresponding liability.

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

Future minimum lease payments for operating, finance leases and lease financing transactions were as follows (in thousands):

	As of December 31, 2022			
	Operating Leases	Finance Leases	Lease Financing Transactions	Total
2023	\$ 80,899	\$ 1,517	\$ 15,034	\$ 97,450
2024	61,186	1,002	19,058	81,246
2025	45,363	638	15,331	61,332
2026	33,227	431	13,998	47,656
2027	19,835	40	10,460	30,335
Thereafter	24,631	—	9,710	34,341
Total future minimum payments related to operating leases, finance leases and lease financing transactions	265,141	3,628	83,591	352,360
Less imputed interest	(19,577)	(86)	—	(19,663)
Total operating lease, finance lease and lease financing transaction liabilities	\$ 245,564	\$ 3,542	\$ 83,591	\$ 332,697

Future minimum lease payments for short-term leases were \$22.3 million as of December 31, 2022.

The weighted average remaining lease terms and discount rates were as follows:

	As of December 31,	
	2022	2021
Weighted average remaining lease term (in years):		
Operating leases	4.39	4.25
Finance leases	2.93	2.57
Weighted average discount rate:		
Operating leases	3.5 %	3.7 %
Finance leases	3.1 %	3.3 %

Quanta has also guaranteed the residual value under certain of its equipment operating leases, agreeing to pay any difference between the residual value and the fair market value of the underlying asset at the date of lease termination. Residual value guarantees approximate fair value and, therefore, generally do not result in significant payments.

12. INCOME TAXES:

The components of income before income taxes were as follows (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Income before income taxes:			
Domestic	\$ 532,051	\$ 534,302	\$ 632,791
Foreign	171,835	88,599	(61,445)
Total	\$ 703,886	\$ 622,901	\$ 571,346

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

The components of the provision for income taxes were as follows (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Current:			
Federal.....	\$ 97,673	\$ 65,273	\$ 134,538
State.....	29,439	32,930	45,610
Foreign.....	23,078	6,644	(745)
Total current tax provision.....	<u>150,190</u>	<u>104,847</u>	<u>179,403</u>
Deferred:			
Federal.....	29,657	27,762	(46,251)
State.....	4,225	(2,418)	(3,850)
Foreign.....	8,171	727	(9,915)
Total deferred tax provision (benefit).....	<u>42,053</u>	<u>26,071</u>	<u>(60,016)</u>
Total provision for income taxes.....	<u>\$ 192,243</u>	<u>\$ 130,918</u>	<u>\$ 119,387</u>

Income taxes related to other (loss) income within other comprehensive income (loss) was a benefit of \$0.2 million, an expense of \$0.4 million and a benefit of \$0.9 million for the years ended December 31, 2022, 2021 and 2020. There was no tax on foreign currency translation adjustment within other comprehensive income (loss) for the years ended December 31, 2022, 2021 and 2020.

The actual income tax provision differed from the income tax provision computed by applying the U.S. federal statutory corporate rate to income before provision for income taxes as follows (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Provision at the statutory rate.....	\$ 147,816	\$ 130,809	\$ 119,983
Increases (decreases) resulting from:			
State taxes.....	28,320	27,204	31,791
Valuation allowance on deferred tax assets.....	23,366	6,107	(31,138)
Tax contingency reserves, net.....	7,939	844	(2,125)
Employee per diems, meals and entertainment.....	6,086	3,569	10,680
Company-owned life insurance.....	2,917	(6,969)	—
Foreign taxes.....	(638)	(9,359)	(7,268)
Taxes on certain equity method investments and non-controlling interests.....	(12,886)	(8,825)	(3,466)
Stock-based compensation.....	(24,066)	(21,271)	(3,109)
Other.....	13,389	8,809	4,039
Total provision for income taxes.....	<u>\$ 192,243</u>	<u>\$ 130,918</u>	<u>\$ 119,387</u>

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

Deferred income taxes result from temporary differences in the recognition of income and expenses for financial reporting purposes and tax purposes. The tax effects of these temporary differences, representing deferred tax assets and liabilities, result principally from the following (in thousands):

	December 31,	
	2022	2021
Deferred income tax liabilities:		
Property and equipment.....	\$ (286,950)	\$ (278,303)
Goodwill.....	(129,491)	(93,632)
Leased assets.....	(84,870)	(76,728)
Retainage.....	(28,773)	(32,661)
Total deferred income tax liabilities.....	<u>(530,084)</u>	<u>(481,324)</u>
Deferred income tax assets:		
Lease liabilities.....	84,189	76,608
Other intangible assets.....	73,654	19,110
Net operating loss carryforwards.....	56,556	78,947
Stock and incentive compensation.....	55,413	50,772
Accruals and reserves.....	48,168	66,000
Tax credits.....	34,413	39,826
Deferred tax benefits on unrecognized tax positions.....	8,899	10,090
Equity method investments and non-controlling interests.....	5,878	273
Other.....	5,849	7,114
Subtotal.....	<u>373,019</u>	<u>348,740</u>
Valuation allowance.....	<u>(58,461)</u>	<u>(41,308)</u>
Total deferred income tax assets.....	<u>314,558</u>	<u>307,432</u>
Total net deferred income tax liabilities.....	<u><u>\$(215,526)</u></u>	<u><u>\$(173,892)</u></u>

The net deferred income tax assets and liabilities comprised the following in the accompanying consolidated balance sheets (in thousands):

	December 31,	
	2022	2021
Deferred income taxes:		
Assets.....	\$ 12,335	\$ 17,206
Liabilities.....	<u>(227,861)</u>	<u>(191,098)</u>
Total net deferred income tax liabilities.....	<u><u>\$(215,526)</u></u>	<u><u>\$(173,892)</u></u>

The valuation allowances for deferred income tax assets at December 31, 2022, 2021 and 2020 were \$58.5 million, \$41.3 million and \$43.3 million. These valuation allowances relate to state and foreign net operating loss carryforwards and foreign tax credits. The net changes in the total valuation allowance for each of the years ended December 31, 2022, 2021 and 2020 were an increase of \$17.2 million, a decrease of \$1.9 million and a decrease of \$60.9 million. The change in valuation allowance during the year ended December 31, 2022 resulted in a \$23.3 million increase in tax expense due primarily to \$22.7 million in new valuation allowances recorded on unrealized losses on Quanta's investment in Starry as further described in Note 8. The total valuation allowance increased by \$17.2 million from December 31, 2021 to December 31, 2022 primarily as a result of the \$22.7 million valuation allowance related to Starry mentioned above, partially offset by a reduction of \$4.8 million due to the removal of deferred tax assets that were no longer available to be carried forward to future years for which a valuation allowance had been provided in prior years, as well as currency translation adjustments on previously provided valuation allowances. The change in valuation allowance during the year ended December 31, 2021 resulted in a \$6.1 million increase in tax expense due to approximately \$8.5 million of new valuation allowances primarily recorded on foreign net operating losses, which was partially offset by a \$2.4 million valuation allowance release recorded due to the completion of certain internal restructuring efforts that increased management's visibility into future utilization of certain state net operation losses. The total valuation allowance was reduced by \$1.9 million from December 31, 2020 to December 31, 2021 as a result of

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

a reduction of \$8.0 million due to the expiration of certain net operating losses, for which a valuation allowance had previously been recorded, as well as currency translation adjustments on previously recorded valuation allowances, offset by an increase to the valuation allowance as a result of the \$6.1 million of new valuation allowances as noted above. The change in valuation allowance during the year ended December 31, 2020 resulted in a \$31.1 million reduction in tax expense, primarily due to a release of \$45.1 million of valuation allowance on foreign tax credits due to the completion of an internal financial reorganization, which was partially offset by the establishment of \$14.0 million of new valuation allowances on deferred tax assets generated during the year ended December 31, 2020. The total change in valuation allowance for the year ended December 31, 2020 was a \$60.9 million reduction, primarily due to the removal of approximately \$29.4 million of foreign net operating losses that were no longer eligible to be carried forward as well as the \$31.1 million reduction noted above. The valuation allowances were established primarily as a result of uncertainty in Quanta's outlook as to the amount and character of future taxable income in particular tax jurisdictions. Quanta believes it is more likely than not that it will realize the benefit of its deferred tax assets net of existing valuation allowances.

At December 31, 2022, Quanta had state and foreign net operating loss carryforwards, the tax effect of which was \$57.7 million. These carryforwards will expire as follows: 2023, \$0.3 million; 2024, \$0.1 million; 2025, \$5.5 million; 2026, \$1.6 million; 2027, \$0.2 million; and \$50.0 million thereafter. A valuation allowance of \$27.6 million has been recorded against certain foreign and state net operating loss carryforwards.

Quanta generally does not provide for taxes related to undistributed earnings of its foreign subsidiaries because such earnings either would not be taxable when remitted or they are considered to be indefinitely reinvested. Quanta could also be subject to additional foreign withholding taxes if it were to repatriate cash that is indefinitely reinvested outside the United States, but it does not expect such amount to be material.

A reconciliation of unrecognized tax benefit balances is as follows (in thousands):

	December 31,		
	2022	2021	2020
Balance at beginning of year	\$ 37,737	\$ 33,219	\$ 40,878
Additions based on tax positions related to the current year	11,699	6,881	4,398
Additions for tax positions of prior years	230	2,339	—
Reductions for tax positions of prior years	(407)	—	(2,410)
Reductions for audit settlements	(2,207)	—	(930)
Reductions resulting from a lapse of the applicable statute of limitations periods	(5,413)	(4,702)	(8,717)
Balance at end of year	\$ 41,639	\$ 37,737	\$ 33,219

As of December 31, 2022, the total amount of unrecognized tax benefits relating to uncertain tax positions was \$41.6 million, a net increase of \$3.9 million from December 31, 2021, which primarily resulted from a \$11.7 million increase related to positions expected to be taken in 2022, partially offset by a \$2.2 million reduction related to the settlement of audits and a \$5.4 million reduction related to the expiration of U.S. federal and state statutes of limitations. For the year ended December 31, 2021, the aggregate increase results primarily from reserves for uncertain tax positions taken in 2021. For the year ended December 31, 2020, the \$12.1 million of aggregate reductions were primarily due to the favorable settlement of U.S. and Canadian tax audits and the expiration of U.S. federal and state statutes of limitations.

The balances of unrecognized tax benefits, the amount of related interest and penalties and what Quanta believes to be the range of reasonably possible changes in the next 12 months are as follows (in thousands):

	December 31, 2022
Unrecognized tax benefits	\$ 41,639
Portion that, if recognized, would reduce tax expense and effective tax rate	39,247
Accrued interest on unrecognized tax benefits	4,334
Accrued penalties on unrecognized tax benefits	1,085
Reasonably possible reduction to the balance of unrecognized tax benefits in succeeding 12 months	\$0 to \$12,122
Portion that, if recognized, would reduce tax expense and effective tax rate	\$0 to \$11,699

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

Quanta classifies interest and penalties within the provision for income taxes. Quanta recognized interest expense of \$0.5 million, interest income of \$0.8 million and interest income of \$0.7 million in the provision for income taxes for the years ended December 31, 2022, 2021 and 2020.

Quanta's consolidated federal income tax returns for tax years 2017, 2018, 2019, 2020 and 2021 remain open to examination by the IRS, as the applicable statute of limitations periods have not yet expired. Additionally, various state and foreign tax returns filed by Quanta and certain subsidiaries for multiple periods remain under examination by various U.S. state and foreign tax authorities. Quanta does not consider any state in which it does business to be a major tax jurisdiction.

13. EQUITY:

Treasury Stock

General

Treasury stock is recorded at cost. Under Delaware law, treasury stock is not counted for quorum purposes or entitled to vote.

Shares withheld for tax withholding obligations

The tax withholding obligations of employees with respect to RSUs and PSUs that are settled in common stock are typically satisfied by Quanta making tax payments and withholding the number of shares of common stock having a value equal to the tax withholding obligation that is due on the date of vesting or settlement (as applicable). With respect to these liabilities, Quanta withheld 0.7 million shares of Quanta common stock during the year ended December 31, 2022, which had a market value of \$82.9 million, 0.8 million shares of Quanta common stock during the year ended December 31, 2021, which had a market value of \$65.3 million, and 0.6 million shares of Quanta common stock during the year ended December 31, 2020, which had a market value of \$25.5 million. These shares and the related costs to acquire them were accounted for as adjustments to the balance of treasury stock.

Stock repurchases

During the third quarter of 2018, Quanta's Board of Directors approved a stock repurchase program that authorized Quanta to purchase up to \$500.0 million of its outstanding common stock. This program was completed in 2021. In August 2020, Quanta's Board of Directors approved a stock repurchase program that authorized Quanta to repurchase, from time to time through June 30, 2023, up to an additional \$500.0 million in shares of its outstanding common stock, and as of December 31, 2022, \$345.1 million remained available under this repurchase program. Quanta repurchased the following shares of common stock in the open market under stock repurchase programs (in thousands):

Year ended:	Shares	Amount
December 31, 2022.....	1,061	\$ 127,747
December 31, 2021.....	721	\$ 63,988
December 31, 2020.....	6,680	\$ 249,949

Quanta's policy is to record a stock repurchase as of the trade date of the transaction; however, the payment of cash related to the repurchase is made on the settlement date of the transaction. During the years ended December 31, 2022, 2021 and 2020, cash payments related to stock repurchases were \$127.8 million, \$66.7 million and \$247.2 million. Repurchases may be implemented through open market repurchases or privately negotiated transactions, at management's discretion, based on market and business conditions, applicable contractual and legal requirements, including restrictions under Quanta's senior credit facility, and other factors. Quanta is not obligated to acquire any specific amount of common stock, and the repurchase program may be modified or terminated by Quanta's Board of Directors at any time at its sole discretion and without notice.

Non-controlling Interests

The carrying amounts of investments held by the non-controlling interests were \$15.4 million and \$4.6 million at December 31, 2022 and 2021 and are included in "Non-controlling interests" in the consolidated balance sheets. The carrying amount of these investments held by Quanta was \$29.3 million and \$12.9 million at December 31, 2022 and 2021. See Notes 2 and 16 for further disclosures related to Quanta's joint venture arrangements.

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

Dividends

Quanta declared and paid the following cash dividends and cash dividend equivalents during 2022, 2021 and 2020 (in thousands, except per share amounts):

Declaration Date	Record Date	Payment Date	Dividend Per Share	Dividends Declared
December 13, 2022	January 3, 2023	January 13, 2023	\$ 0.08	\$ 11,756
August 31, 2022	October 3, 2022	October 14, 2022	\$ 0.07	\$ 10,322
May 27, 2022	July 1, 2022	July 15, 2022	\$ 0.07	\$ 10,283
March 31, 2022	April 11, 2022	April 18, 2022	\$ 0.07	\$ 10,459
December 1, 2021	January 4, 2022	January 14, 2022	\$ 0.07	\$ 10,363
August 27, 2021	October 1, 2021	October 15, 2021	\$ 0.06	\$ 8,638
May 27, 2021	July 1, 2021	July 15, 2021	\$ 0.06	\$ 8,650
March 25, 2021	April 6, 2021	April 15, 2021	\$ 0.06	\$ 8,429
December 11, 2020	January 4, 2021	January 15, 2021	\$ 0.06	\$ 8,933
August 26, 2020	October 1, 2020	October 15, 2020	\$ 0.05	\$ 7,244
May 28, 2020	July 1, 2020	July 15, 2020	\$ 0.05	\$ 7,182
March 26, 2020	April 6, 2020	April 15, 2020	\$ 0.05	\$ 7,184
December 11, 2019	January 2, 2020	January 16, 2020	\$ 0.05	\$ 7,371

A significant majority of the dividends declared were paid on the corresponding payment dates, which are generally within two months of the declaration date. Holders of certain stock awards generally received cash dividend equivalent payments equal to the cash dividends payable on account of the underlying Quanta common stock. Holders of other stock awards receive cash dividend equivalent payments only to the extent such awards become earned and/or vest. Additionally, cash dividend equivalent payments related to certain stock-based awards that have been deferred pursuant to the terms of Quanta's deferred compensation plan are recorded as liabilities in such plans until the deferred awards are settled.

14. STOCK-BASED COMPENSATION:

Stock Incentive Plans

The 2019 Plan was approved by Quanta's stockholders in May 2019 and provides for the award of non-qualified stock options, incentive (qualified) stock options, stock appreciation rights, restricted stock awards, RSUs, stock bonus awards, performance compensation awards (including cash bonus awards) or any combination of the foregoing. Current and prospective employees, directors, officers, advisors or consultants of Quanta or its affiliates are eligible to participate in the 2019 Plan. In May 2022, Quanta's stockholders approved an amendment to the 2019 Plan to increase the shares available for issuance. Subject to certain adjustments, the maximum number of shares available for issuance under the 2019 Plan is 9,639,592, plus any shares underlying share-settling awards previously awarded pursuant to the 2011 Plan that are ultimately forfeited, canceled, expired or settled in cash subsequent to stockholder approval of the 2019 Plan. All awards subsequent to stockholder approval of the 2019 Plan have been and will be made pursuant to the 2019 Plan and applicable award agreements. Awards made under the 2011 Plan prior to approval of the 2019 Plan remain subject to the terms of the 2011 Plan and applicable award agreements.

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

RSUs to be Settled in Common Stock

A summary of the activity for RSUs to be settled in common stock for the years ended December 31, 2022, 2021 and 2020 is as follows (RSUs in thousands):

	2022		2021		2020	
	RSUs	Weighted Average Grant Date Fair Value (Per Unit)	RSUs	Weighted Average Grant Date Fair Value (Per Unit)	RSUs	Weighted Average Grant Date Fair Value (Per Unit)
Unvested at January 1	3,880	\$61.64	3,869	\$37.57	3,265	\$35.34
Granted	860	\$113.07	1,642	\$94.83	2,029	\$39.91
Vested	(1,319)	\$50.60	(1,476)	\$37.03	(1,269)	\$35.69
Forfeited	(158)	\$84.94	(155)	\$48.52	(156)	\$36.67
Unvested at December 31	3,263	\$78.74	3,880	\$61.64	3,869	\$37.57

The approximate fair value of RSUs that vested during the years ended December 31, 2022, 2021 and 2020 was \$152.5 million, \$125.7 million and \$51.6 million, respectively.

During the years ended December 31, 2022, 2021 and 2020, Quanta recognized \$84.0 million, \$67.3 million and \$55.7 million of non-cash stock compensation expense related to RSUs to be settled in common stock. As of December 31, 2022, there was \$143.4 million of total unrecognized compensation expense related to unvested RSUs to be settled in common stock granted to both employees and non-employees. This cost is expected to be recognized over a weighted average period of 3.87 years.

PSUs to be Settled in Common Stock

A summary of the activity for PSUs to be settled in common stock for the years ended December 31, 2022, 2021 and 2020 is as follows (PSUs in thousands):

	2022		2021		2020	
	PSUs	Weighted Average Grant Date Fair Value (Per Unit)	PSUs	Weighted Average Grant Date Fair Value (Per Unit)	PSUs	Weighted Average Grant Date Fair Value (Per Unit) ⁽¹⁾
Unvested at January 1	931	\$47.27	1,047	\$37.65	848	\$40.04
Granted	153	\$119.74	174	\$90.44	437	\$34.60
Vested	(334)	\$40.15	(268)	\$38.28	(238)	\$41.87
Forfeited	(17)	\$58.79	(22)	\$41.86	—	N/A
Unvested at December 31	733	\$65.39	931	\$47.27	1,047	\$37.65

⁽¹⁾ Certain weighted average grant date fair value per unit amounts related to the year ended December 31, 2020 were recast in the year ended December 31, 2021 to conform to the correction of the valuation of PSUs described below.

The Monte Carlo simulation valuation methodology applied the following key inputs:

	2022	2021	2020
Valuation date price based on March 2, 2022, March 25, 2021 and March 26, 2020 closing stock prices of Quanta common stock	\$110.24	\$83.48	\$31.49
Expected volatility	39 %	36 %	34 %
Risk-free interest rate	1.64 %	0.26 %	0.35 %
Term in years	2.83	2.77	2.76

During the years ended December 31, 2022, 2021 and 2020, Quanta recognized \$21.6 million, \$21.0 million and \$35.9 million of non-cash stock compensation expense related to PSUs to be settled in common stock. Included in compensation expense associated with PSUs during the year ended December 31, 2020 was a charge of \$14.0 million to correct the valuation of certain PSUs during the years 2017 to 2019. Quanta assessed the materiality of the prior period error and determined that the error was immaterial to the December 31, 2020 and prior period financial statements.

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

As of December 31, 2022, there was an estimated \$19.6 million of total unrecognized compensation expense related to unearned and unvested PSUs. This amount is based on forecasted attainment of performance metrics and estimated forfeitures of unearned and unvested PSUs. The compensation expense related to outstanding PSUs can vary from period to period based on changes in forecasted achievement of established performance goals and the total number of shares of common stock that Quanta anticipates will be issued upon vesting of such PSUs. This cost is expected to be recognized over a weighted average period of 1.69 years.

During the years ended December 31, 2022, 2021 and 2020, 0.7 million, 0.5 million and 0.5 million shares of common stock were earned and either issued or deferred for future issuance under Quanta's deferred compensation plans in connection with PSUs. The approximate fair values of PSUs earned during the years ended December 31, 2022, 2021 and 2020 were \$72.4 million, \$45.2 million and \$18.3 million, respectively.

RSUs to be Settled in Cash

During the years ended December 31, 2022, 2021 and 2020, compensation expense related to RSUs to be settled in cash was \$15.5 million, \$17.4 million and \$9.4 million. RSUs that are anticipated to be settled in cash are not included in the calculation of weighted average shares outstanding for earnings per share, and the estimated earned value of such RSUs is calculated at the end of each reporting period based on the market value of Quanta's common stock and is classified as a liability. Quanta paid \$14.5 million, \$13.2 million and \$4.3 million to settle liabilities related to cash-settled RSUs in the years ended December 31, 2022, 2021 and 2020. Accrued liabilities for the estimated earned value of outstanding RSUs to be settled in cash were \$11.0 million and \$11.1 million as of December 31, 2022 and 2021.

15. EMPLOYEE BENEFIT PLANS:

Unions' Multiemployer Pension Plans

Quanta contributes to a number of multiemployer defined benefit pension plans under the terms of collective bargaining agreements with various unions that represent certain of Quanta's employees. Approximately 34% of Quanta's employees as of December 31, 2022 were covered by collective bargaining agreements. Quanta's multiemployer pension plan contribution rates generally are specified in the collective bargaining agreements (usually on a monthly or annual basis), and contributions are made to the plans on a "pay-as-you-go" basis based on its union employee payrolls. Quanta may also have additional liabilities imposed by law as a result of its participation in multiemployer defined benefit pension plans. The Employee Retirement Income Security Act of 1974, as amended by the Multiemployer Pension Plan Amendments Act of 1980, imposes certain liabilities upon an employer who is a contributor to a multiemployer pension plan if the employer withdraws or is deemed to have withdrawn from the plan or the plan is terminated or experiences a mass withdrawal.

The Pension Protection Act of 2006 (PPA) also added special funding and operational rules generally applicable to plan years beginning after 2007 for multiemployer plans in the United States that are classified as "endangered," "seriously endangered" or "critical" status based on multiple factors (including, for example, the plan's funded percentage, cash flow position and whether a projected minimum funding deficiency exists). Plans in these classifications must adopt remedial measures to improve their funded status through a funding improvement or rehabilitation plan, as applicable, which may require additional contributions from employers (which may take the form of a surcharge on benefit contributions) and/or modifications to retiree benefits. Certain plans to which Quanta contributes or may contribute in the future are in "endangered," "seriously endangered" or "critical" status. The amount of additional funds, if any, that Quanta may be obligated to contribute to these plans cannot be reasonably estimated due to uncertainty regarding the amount of future work involving covered union employees, future contribution levels and possible surcharges on plan contributions.

The following table summarizes plan information relating to Quanta's participation in multiemployer defined benefit pension plans, including company contributions for the last three years, the status of the plans under the PPA and whether the plans are subject to a funding improvement or rehabilitation plan or contribution surcharges. The most recent PPA zone status available in 2022 and 2021 relates to the plans' fiscal year-ends in 2021 and 2020. Forms 5500 were not yet available for the plan years ending in 2022. The PPA zone status is based on information that Quanta received from the respective plans' administrators, as well as publicly available information on the U.S. Department of Labor website, and is certified by each plan's actuary. Although multiple factors or tests may result in red zone or yellow zone status, plans in the red zone generally are less than 65 percent funded, plans in the yellow zone generally are less than 80 percent funded, and plans in the green zone generally are at least 80 percent funded. Under the PPA, red zone plans are classified as "critical" status, yellow zone plans are classified as "endangered" status and green zone plans are classified as neither "endangered" nor "critical" status. The "Subject to Financial Improvement/ Rehabilitation Plan" column indicates plans for which a financial improvement plan or a rehabilitation plan is either pending or has been implemented. The last column lists the expiration dates of Quanta's collective-bargaining agreements to which the plans are subject. Total contributions to these plans correspond to the number of union

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

employees employed at any given time and the plans in which they participate and vary depending upon the location and number of ongoing projects at a given time and the need for union resources in connection with such projects. Information has been presented separately for individually significant plans, based on PPA funding status classification, and in the aggregate for all other plans.

Fund	Employee Identification Number/ Pension Plan Number	PPA Zone Status		Subject to Financial Improvement/ Rehabilitation Plan	Contributions (in thousands)			Sur-charge Imposed	Expiration Date of Collective Bargaining Agreement
		2022	2021		2022	2021	2020		
National Electrical Benefit Fund ..	53-0181657	Green	Green	No	\$ 47,390	\$ 38,195	\$ 40,902	No	Varies through May 2027
Excavators Union Local 731 Pension Fund	13-1809825	Green	Green	No	20,733	16,202	14,310	No	April 2026
Central Pension Fund of the IUOE & Participating Employers ..	36-6052390	Green	Green	No	11,989	11,237	8,467	No	Varies through May 2024
Eighth District Electrical Pension Fund	84-6100393	Green	Green	No	5,119	1,599	4,272	No	Varies through August 2024
Laborers Pension Trust Fund for Northern California	94-6277608	Green	Green	No	4,849	4,479	2,328	No	Varies through May 2024
IBEW LOCAL 1249 Pension Plan	15-6035161	Green	Green	No	4,558	2,667	530	No	May 2025
Operating Engineers' Local 324 Pension Fund	38-1900637	Red	Red	Yes	2,951	2,789	2,629	No	Varies through April 2026
Local 697 IBEW and Electrical Industry Pension Plan	51-6133048	Green	Green	No	2,509	2,229	1,840	No	May 2025
Pipeline Industry Pension Fund	73-6146433	Green	Green	No	2,477	5,081	3,654	No	Varies through June 2023
Pension Trust Fund for Operating Engineers	94-6090764	Yellow	Yellow	Yes	1,898	1,755	1,177	Yes	Varies through June 2025
Operating Engineers Pension Trust	95-6032478	Yellow	Yellow	Yes	1,360	1,143	172	No	June 2025
Plumbers and Pipefitters National Pension Fund	52-6152779	Green	Yellow	Yes	1,153	932	1,453	No	Varies through June 2023
Laborers National Pension Fund ..	75-1280827	Red	Red	Yes	667	1,049	638	No	June 2023
Laborers District Council of W PA Pension Fund	25-6135576	Yellow	Yellow	Yes	110	1,375	77	No	Varies through May 2024
All other plans - U.S.					40,391	39,470	32,769		
All other plans - Canada ⁽¹⁾					19,245	2,794	6,760		
Total contributions					<u>\$167,399</u>	<u>\$132,996</u>	<u>\$121,978</u>		

⁽¹⁾ Multiemployer defined benefit pension plans in Canada are not subject to the reporting requirements under the PPA. Accordingly, certain information was not publicly available.

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

Quanta’s contributions to the following individually significant plans were five percent or more of the total contributions to these plans for the periods indicated based on the Forms 5500 for these plans for the years ended December 31, 2021 and 2020. Forms 5500 were not yet available for these plans for the year ended December 31, 2022.

Pension Fund	Plan Years in which Quanta Contributions Were Five Percent or More of Total Plan Contributions
National Electrical Benefit Fund	2021 and 2020
Excavators Union Local 731 Pension Fund	2021 and 2020
Local 697 IBEW and Electrical Industry Pension Fund	2021 and 2020
Pipeline Industry Pension Fund	2021 and 2020
Local Union No. 9 IBEW and Outside Contractors Pension Fund ⁽¹⁾	2021 and 2020
IBEW Local 456 Pension Plan ⁽¹⁾	2021 and 2020
Teamsters National Pipe Line Pension Plan ⁽¹⁾	2021 and 2020
Eighth District Electrical Pension Fund	2020

⁽¹⁾ This plan is included in the “All other plans - U.S.” category in the prior table.

In addition to the contributions made to multiemployer defined benefit pension plans noted above, Quanta also contributed to multiemployer defined contribution or other benefit plans on behalf of certain union employees. Contributions to union multiemployer defined contribution or other benefit plans by Quanta were \$234.3 million, \$213.4 million and \$188.6 million for the years ended December 31, 2022, 2021 and 2020. Total contributions made to all of these multiemployer plans correspond to the number of union employees employed at any given time and the plans in which they participate and vary depending upon the location and number of ongoing projects at a given time and the need for union resources in connection with such projects.

Quanta 401(k) Plan

Quanta maintains a 401(k) plan pursuant to which employees who are not provided retirement benefits through a collective bargaining agreement may make contributions through payroll deductions. Quanta makes matching cash contributions of 100% of each employee’s contribution up to 3% of that employee’s salary and 50% of each employee’s contribution between 3% and 6% of such employee’s salary, up to the maximum amount permitted by law. Contributions to the 401(k) plan by Quanta were \$61.7 million, \$50.7 million and \$45.9 million for the years ended December 31, 2022, 2021 and 2020.

Deferred Compensation Plans

Quanta maintains non-qualified deferred compensation plans under which eligible directors and key employees may defer their receipt of certain cash compensation and/or the settlement of certain stock-based awards. These plans are unfunded and unsecured compensation arrangements. Individuals participating in these plans may allocate deferred cash amounts among a group of notional accounts that mirror the gains and losses of various investment alternatives. Generally, participants receive distributions of deferred balances based on predetermined payout schedules or other events.

The plan covering key employees provides for employer matching contributions for certain officers and employees whose benefits under the 401(k) plan are limited by federal tax law. Quanta may also make discretionary employer contributions to such plan. Matching contributions vest immediately, and discretionary employer contributions may be subject to a vesting schedule determined at the time of the contribution, provided that vesting accelerates upon a change in control or the participant’s death or retirement. All matching and discretionary employer contributions, whether vested or not, are forfeited upon a participant’s termination of employment for cause or upon the participant engaging in competition with Quanta or any of its affiliates.

Quanta made matching contributions to the eligible participants’ accounts under the deferred compensation plans of \$1.5 million, \$1.4 million and \$1.3 million during the years ended December 31, 2022, 2021 and 2020 and did not make discretionary contributions during those years. As of December 31, 2022 and 2021, the deferred compensation liability under Quanta’s deferred compensation plans, including amounts contributed by Quanta, was \$67.4 million and \$74.2 million, the majority of which was included in “Insurance and other non-current liabilities” in the accompanying consolidated balance sheets. To provide for future obligations related to these deferred compensation plans, Quanta has invested in corporate-owned life insurance (COLI) policies covering certain participants in the deferred compensation plans, the underlying investments of which are intended to be aligned with the investment alternatives elected by plan participants. The COLI assets are recorded at their cash surrender value, which is considered their fair market value, and as of December 31, 2022 and 2021, the fair market

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

values were \$64.0 million and \$73.8 million and were included in “Other assets, net” in the accompanying consolidated balance sheets. The level of inputs used for these fair value measurements is Level 2.

Changes in the fair market value of Quanta’s COLI assets and deferred compensation liabilities largely offset and are recorded in the accompanying statements of operations as follows (in thousands):

Classification	Change in fair market value of	December 31,		
		2022	2021	2020
Gain (loss) included in Selling, general and administrative expenses	Deferred compensation liabilities	\$ 13,192	\$ (10,428)	\$ (7,507)
Other (expense) income, net	COLI assets	\$ (13,757)	\$ 8,566	\$ 6,857

16. COMMITMENTS AND CONTINGENCIES:

Legal Proceedings

Quanta is from time to time party to various lawsuits, claims and other legal proceedings that arise in the ordinary course of business. These actions typically seek, among other things, compensation for alleged personal injury, property damage, breach of contract, negligence or gross negligence, environmental liabilities, wage and hour and other employment-related damages, punitive damages, consequential damages, civil penalties or other losses, or injunctive or declaratory relief. With respect to all such lawsuits, claims and proceedings, Quanta records a reserve when it is probable that a liability has been incurred and the amount of loss can be reasonably estimated. In addition, Quanta discloses matters for which management believes a material loss is at least reasonably possible.

The assessment of whether a loss is probable or reasonably possible, and whether the loss or a range of loss is estimable, often involves a series of complex judgments about future events. In all instances, management has assessed the matter based on current information and made a judgment concerning its potential outcome, giving due consideration to the nature of the claim, the amount and nature of damages sought and the probability of success and taking into account, among other things, negotiations with claimants, discovery, settlements and payments, judicial rulings, arbitration and mediation decisions, advice of internal and external legal counsel, and other information and events pertaining to a particular matter. Costs incurred for litigation are expensed as incurred. Except as otherwise stated below, none of these proceedings are expected to have a material adverse effect on Quanta’s consolidated financial position, results of operations or cash flows. However, management’s judgment may prove materially inaccurate, and such judgment is made subject to the known uncertainties of litigation.

Peru Project Dispute

In 2015, Redes Andinas de Comunicaciones S.R.L. (Redes), a majority-owned subsidiary of Quanta, entered into two separate contracts with an agency of the Peruvian Ministry of Transportation and Communications (MTC), currently Programa Nacional de Telecomunicaciones (PRONATEL), as successor to Fondo de Inversion en Telecomunicaciones (FITEL), pursuant to which Redes would design, construct and operate certain telecommunication networks in rural regions of Peru. The aggregate consideration provided for in the contracts was approximately \$248 million, consisting of approximately \$151 million to be paid during the construction period and approximately \$97 million to be paid during a 10-year post-construction operation and maintenance period. At the beginning of the project, FITEL made advance payments totaling approximately \$87 million to Redes, which were secured by two on-demand advance payment bonds posted by Redes to guarantee proper use of the payments in the execution of the project. Redes also provided two on-demand performance bonds in the aggregate amount of \$25 million to secure performance of its obligations under the contracts.

During the construction phase, the project experienced numerous challenges and delays, primarily related to issues which Quanta believes were outside of the control of and not attributable to Redes, including, among others, weather-related issues, local opposition to the project, permitting delays, the inability to acquire clear title to certain required parcels of land and other delays which Quanta believes were attributable to FITEL/PRONATEL. In response to various of these challenges and delays, Redes requested and received multiple extensions to certain contractual deadlines and relief from related liquidated damages. However, in April 2019, PRONATEL provided notice to Redes claiming that Redes was in default under the contracts due to the delays and that PRONATEL would terminate the contracts if the alleged defaults were not cured. Redes responded by claiming that it was not in default, as the delays were due to events not attributable to Redes, and therefore PRONATEL was not entitled to terminate the contracts. PRONATEL subsequently terminated the contracts for alleged cause prior to completion of Redes’ scope of work, exercised the on-demand performance bonds and advance payment bonds against Redes, and indicated its intention to claim damages, including liquidated damages under the contracts.

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

As of the date of the contract terminations, Redes had incurred costs of approximately \$157 million related to the design and construction of the project and had received approximately \$100 million of payments (inclusive of the approximately \$87 million advance payments).

In May 2019, Redes filed for arbitration before the Court of International Arbitration of the International Chamber of Commerce (ICC) against PRONATEL and the MTC. In the arbitration, Redes claimed that PRONATEL: breached and wrongfully terminated the contracts; wrongfully executed the advance payment bonds and the performance bonds; and was not entitled to the alleged amount of liquidated damages, and sought compensation for various damages arising from PRONATEL's actions in the initially claimed amount of approximately \$190 million. In August 2022, Redes received the decision of the arbitration tribunal, which unanimously found in favor of Redes in connection with its claims and ordered, among other things, (i) repayment of the amounts collected by PRONATEL under the advance payment bonds and the performance bonds; (ii) payment of amounts owed for work completed by Redes under the contracts; (iii) payment of lost income in connection with Redes' future operation and maintenance of the networks; and (iv) payment of other related costs and damages to Redes as a result of the breach and improper termination of the contracts (including costs related to the execution of the bonds, costs related to the transfer of the networks and legal and expert fees). Accordingly, the arbitration tribunal awarded Redes approximately \$177 million. In addition, per the terms of the arbitration decision, interest will accrue on the amount owed up to the date of payment. The decision of the arbitration tribunal is final; however, there are limited grounds on which PRONATEL and the MTC may seek to annul the decision in Peruvian court, and in December 2022, an annulment proceeding was filed by PRONATEL and the MTC. Additionally, following the favorable arbitration ruling, in December 2022 Quanta received \$100.5 million pursuant to coverage under an insurance policy for the improper collection by PRONATEL and the MTC of the advance payment and performance bonds, and in January 2023 Quanta received \$6.8 million pursuant to coverage under an insurance policy for nonpayment by PRONATEL and the MTC of amounts owed for work completed by Redes. Quanta is continuing to pursue collection of the ICC arbitration award and any amount collected would result in repayment of an equal amount to the insurers up to the amount received from the insurers. As a result, \$100.5 million is included in "Insurance and other non-current liabilities" in the accompanying consolidated balance sheet as of December 31, 2022.

Quanta also reserves the right to seek full compensation for the loss of its investment under applicable legal regimes, including investment treaties and customary international law, as well as to seek resolution through direct discussions with PRONATEL or the MTC. In connection with these rights, in May 2020 Quanta's Dutch subsidiary delivered to the Peruvian government an official notice of dispute arising from the termination of the contracts and related acts by PRONATEL (which are attributable to Peru) under the Agreement on the Encouragement and Reciprocal Protection of Investments between the Kingdom of the Netherlands and the Republic of Peru (Investment Treaty). The Investment Treaty protects Quanta's subsidiary's indirect ownership stake in Redes and the project, and provides for rights and remedies distinct from the ICC arbitration. In December 2020, Quanta's Dutch subsidiary filed a request for the institution of an arbitration proceeding against Peru with the International Centre for Settlement of Investment Disputes (ICSID) related to Peru's breach of the Investment Treaty, which was registered by ICSID in January 2021. In the ICSID arbitration, Quanta's Dutch subsidiary claims, without limitation, that Peru: (i) treated the subsidiary's investment in Redes and the project unfairly and inequitably; and (ii) effectively expropriated the subsidiary's investment in Redes and the project. In addition, Quanta's Dutch subsidiary is seeking full compensation for all damages arising from Peru's actions, including but not limited to (i) the fair market value of the investment and/or lost profits; (ii) attorneys' fees and arbitration costs; (iii) other related costs and damages and (iv) pre- and post-award interest. The ICSID arbitration hearing is currently scheduled to occur in June 2023.

Quanta believes Redes is entitled to all amounts awarded by the ICC arbitration tribunal, and that its Dutch subsidiary is entitled to other amounts associated with the pending ICSID arbitration proceeding. Quanta and Redes intend to vigorously pursue recovery of the amounts awarded by the ICC arbitration tribunal and take additional legal actions deemed necessary to enforce the ICC arbitration decision. However, due to the inherent uncertainty involved with, among other things, the annulment proceeding, the ultimate timing and conclusion with respect to collection of the amount of the ICC arbitration award remains unknown.

As a result of the contract terminations and the inherent uncertainty involved in arbitration proceedings and recovery of amounts owed, during the three months ended June 30, 2019, Quanta recorded a charge to earnings of \$79.2 million, which included a reduction of previously recognized earnings on the project, a reserve against a portion of the project costs incurred through the project termination date, an accrual for a portion of the alleged liquidated damages, and the estimated costs to complete the project turnover and close out the project. Quanta also initially recorded a contract receivable of approximately \$120 million related to the project during the three months ended June 30, 2019, which includes the amounts collected by PRONATEL through exercise of the advance payment bonds and performance bonds, and that receivable was not changed as of December 31, 2021 and 2022 and is included in "Other assets, net" in the accompanying consolidated balance sheet. After considering, as discussed above, that the ultimate timing and conclusion with respect to collection of the ICC arbitration award remains unknown, Quanta has not recognized a gain in the current period. To the extent amounts in excess of the current

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

receivable are determined to be realizable, a gain would be recorded in the period such determination is made. However, if Quanta is ultimately not successful with respect to collection of the ICC arbitration award, through annulment or otherwise, or with respect to its claims in the pending ICSID arbitration proceeding, this matter could result in an additional significant loss that could have a material adverse effect on Quanta's consolidated results of operations and cash flows.

Lorenzo Benton v. Telecom Network Specialists, Inc., et al.

In June 2006, plaintiff Lorenzo Benton filed a class action complaint in the Superior Court of California, County of Los Angeles, alleging various wage and hour violations against Telecom Network Specialists (TNS), a former subsidiary of Quanta. Quanta retained liability associated with this matter pursuant to the terms of Quanta's sale of TNS in December 2012. Benton represents a class of workers that includes all persons who worked on certain TNS projects, including individuals that TNS retained through numerous staffing agencies. The plaintiff class in this matter is seeking damages for unpaid wages, penalties associated with the failure to provide meal and rest periods and overtime wages, interest and attorneys' fees. In January 2017, the trial court granted a summary judgment motion filed by the plaintiff class and found that TNS was a joint employer of the class members and that it failed to provide adequate meal and rest breaks and failed to pay overtime wages. During 2019 and 2020, the parties filed additional summary judgment and other motions and a bench trial on liability and damages was held. Liability and damages have been determined by the trial court, with the amount of liability for TNS, including interest through the date of the trial court's orders, determined to be approximately \$9.5 million. Separately, in 2022, the court issued a final ruling awarding attorneys' fees and costs to plaintiffs in the amount of approximately \$17.3 million. Quanta continues to contest its liability and the damages calculations asserted by the plaintiff class in this matter and believes the court's decisions on these matters are not supported by controlling law and that attorneys' fees would only be recoverable by the plaintiff class in the event Quanta's appeal of the trial court's rulings on liability and damages is unsuccessful.

Additionally, in November 2007, TNS filed cross complaints for indemnity and breach of contract against the staffing agencies, which employed many of the individuals in question. In December 2012, the trial court heard cross-motions for summary judgment filed by TNS and the staffing agencies pertaining to TNS's demand for indemnity. The court denied TNS's motion and granted the motions filed by the staffing agencies; however, the California Appellate Court reversed the trial court's decision in part and instructed the trial court to reconsider its ruling. In February 2017, the court denied a new motion for summary judgment filed by the staffing companies and has since stated that the staffing companies would be liable to TNS for any damages owed to the class members that the staffing companies employed. However, Quanta currently believes that, due to solvency issues, any contribution from the staffing companies may not be substantial.

The final amount of liability and attorneys' fees, if any, payable in connection with this matter remains the subject of pending litigation and will ultimately depend on various factors, including the outcome of the parties' appeals of the trial court's rulings on liability, damages, and attorneys' fees and costs, and the solvency of the staffing agencies. Based on review and analysis of the trial court's rulings on liability, Quanta does not believe, at this time, that it is probable this matter will result in a material loss. However, if Quanta is unsuccessful in this litigation and the staffing agencies are unable to fund damages owed to class members, based on rulings issued by the trial court, Quanta believes the range of reasonably possible loss to Quanta upon final resolution of this matter could be up to approximately \$26.8 million, plus any additional attorneys' fees, interest, and expenses awarded to the plaintiff class.

Hallen Acquisition Assumed Liability

In August 2019, in connection with the acquisition of The Hallen Construction Co., Inc. (Hallen), Quanta assumed certain contingent liabilities associated with a March 2014 natural gas-fed explosion and fire in the Manhattan borough of New York City, New York. The incident resulted in, among other things, loss of life, personal injury and the destruction of two buildings and other property damage. After investigation, the National Transportation Safety Board determined that the probable cause of the incident was the failure of certain natural gas infrastructure installed by Consolidated Edison, Inc. (Con Ed) and the failure of certain sewer infrastructure maintained by the City of New York. Pursuant to a contract with Con Ed, Hallen had performed certain work related to such natural gas infrastructure and agreed to indemnify Con Ed for certain claims, liabilities and costs associated with its work. Numerous lawsuits are pending in New York state courts related to the incident, which generally name Con Ed, the City of New York and Hallen as defendants. These lawsuits are at various stages and generally seek unspecified damages and, in some cases, punitive damages, for wrongful death, personal injury, property damage and business interruption.

As of December 31, 2022, Quanta had not recorded an accrual related to this matter. Hallen's liabilities associated with this matter are expected to be covered under applicable insurance policies or contractual remedies negotiated by Quanta with the former owners of Hallen. If a loss becomes probable and estimable with respect to this matter, Quanta expects to accrue its estimated liability and a receivable in the same amount. However, the ultimate amount of liability in connection with this matter remains subject to uncertainties associated with pending litigation, including, among other things, the apportionment of liability among the defendants and other responsible parties and the likelihood and amount of potential damages claims. As a result, this matter could result in a loss that is in excess of, or not covered by, such insurance or contractual remedies, which could have a material adverse effect on Quanta's consolidated financial condition, results of operations and cash flows.

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

Silverado Wildfire Matter

During 2022 and 2023, two of Quanta's subsidiaries received tenders of defense and demands for preservation of evidence from Southern California Edison Company (SCE) related to lawsuits filed from April 2021 through January 2023 against SCE and T-Mobile USA, Inc. (T-Mobile) in the Superior Court of California, County of Orange. The lawsuits generally assert property damage and related claims on behalf of certain individuals and subrogation claims on behalf of insurers relating to damages caused by a wildfire that began in October 2020 in Orange County, California (the Silverado Fire) and that is purported to have damaged approximately 13,000 acres. The lawsuits allege the Silverado Fire originated from utility poles in the area, generally claiming that each defendant failed to adequately maintain, inspect, repair or replace its overhead facilities, equipment and utility poles and remove vegetation in the vicinity; that the utility poles were overloaded with equipment from shared usage; and that SCE failed to de-energize its facilities during red flag warnings for a Santa Ana wind event. The lawsuits allege the Silverado Fire started when SCE and T-Mobile equipment contacted each other and note the Orange County Fire Department is investigating whether a T-Mobile lashing wire contacted an SCE overhead primary conductor in high winds. T-Mobile has filed cross-complaints against SCE alleging, among other things, that the ignition site of the Silverado Fire encompassed two utility poles replaced by SCE or a third party engaged by SCE, and that certain equipment, including T-Mobile's lashing wire, was not sufficiently re-secured after the utility pole replacements. One of Quanta's subsidiaries performed planning and other services related to the two utility poles, and another Quanta subsidiary replaced the utility poles and reattached the electrical and telecommunication equipment to the new utility poles in March 2019, approximately 19 months before the Silverado Fire. Pursuant to the general terms of a master services agreement and a master consulting services agreement between the Quanta subsidiaries and SCE, the subsidiaries agreed to defend and indemnify SCE against certain claims arising with respect to performance or nonperformance under the agreements. The SCE tender letters seek contractual indemnification and defense from Quanta's subsidiaries for the claims asserted against SCE in the lawsuits and the T-Mobile cross-complaints.

Quanta's subsidiaries intend to vigorously defend against the lawsuits, the T-Mobile cross-complaints and any other claims asserted in connection with the Silverado Fire. Quanta will continue to review additional information in connection with this matter as litigation and resolution efforts progress, and any such information may potentially allow Quanta to determine an estimate of potential loss, if any. As of December 31, 2022, Quanta had not recorded an accrual with respect to this matter, and Quanta is currently unable to reasonably estimate a range of reasonably possible loss, if any, because there are a number of unknown facts and legal considerations that may impact the amount of any potential liability. Quanta also believes that to the extent its subsidiaries are determined to be liable for any damages resulting from this matter, its insurance would be applied to any such liabilities over its deductible amount and its insurance coverage would be adequate to cover such potential liabilities. However, the ultimate amount of any potential liability and insurance coverage in connection with this matter remains subject to uncertainties associated with pending and potential future litigation.

Concentrations of Credit Risk

Quanta is subject to concentrations of credit risk related primarily to its cash and cash equivalents and its net receivable position with customers, which includes amounts related to billed and unbilled accounts receivable and contract assets for services Quanta has performed for customers. Substantially all of Quanta's cash and cash equivalents are managed by what it believes to be high credit quality financial institutions. In accordance with Quanta's investment policies, these institutions are authorized to invest cash and cash equivalents in a diversified portfolio of what Quanta believes to be high quality cash and cash equivalent investments, which consist primarily of interest-bearing demand deposits, money market investments and money market mutual funds. Although Quanta does not currently believe the principal amount of these cash and cash equivalents is subject to any material risk of loss, changes in economic conditions could impact the interest income Quanta receives from these investments.

Quanta grants credit under normal payment terms, generally without collateral, to its customers, which primarily include utilities, renewable energy developers, communications providers, industrial companies and energy delivery companies located primarily in the United States, Canada and Australia. While Quanta generally has certain statutory lien rights with respect to services provided, Quanta is subject to potential credit risk related to business, economic and financial market conditions that affect these customers and locations, which has been heightened as a result of recent economic and financial market conditions, including in connection with the uncertainties and challenges in the overall economy, including, among other things, inflationary pressure and increased interest rates. Some of Quanta's customers have experienced significant financial difficulties (including bankruptcy), and customers may experience financial difficulties in the future. These difficulties expose Quanta to increased risk related to collectability of billed and unbilled receivables and contract assets for services Quanta has performed. See Note 4 for additional discussion on concentrations on credit risk.

Insurance

As discussed in Note 2, Quanta carries various insurance policies. As of December 31, 2022 and 2021, the gross amount accrued for employer's liability, workers' compensation, auto liability, general liability and group health claims totaled \$319.6

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

million and \$318.2 million, respectively, of which \$209.8 million and \$238.0 million are included in “Insurance and other non-current liabilities”, and the remainder is included in “Accounts payables and accrued expenses.” Related insurance recoveries/receivables as of December 31, 2022 and 2021 were \$5.8 million and \$28.6 million, respectively, of which \$0.3 million and \$0.4 million are included in “Prepaid expenses and other current assets” and \$5.5 million and \$28.2 million are included in “Other assets, net.”

Quanta renews its insurance policies on an annual basis, and therefore deductibles and levels of insurance coverage may change in future periods. In addition, insurers may cancel Quanta’s coverage or determine to exclude certain items from coverage, including wildfires, or Quanta may elect not to obtain certain types or incremental levels of insurance based on the potential benefits considered relative to the cost of such insurance, or coverage may not be available at reasonable and competitive rates.

Letters of Credit

Certain of Quanta’s vendors require letters of credit to ensure reimbursement for amounts they are disbursing on Quanta’s behalf, such as to beneficiaries under its insurance programs. In addition, from time to time, certain customers require Quanta to post letters of credit to ensure payment of subcontractors and vendors and guarantee performance under contracts. Such letters of credit are generally issued by a bank or similar financial institution, typically pursuant to Quanta’s senior credit facility. Each letter of credit commits the issuer to pay specified amounts to the holder of the letter of credit if the holder claims that Quanta has failed to perform specified actions. If this were to occur, Quanta would be required to reimburse the issuer of the letter of credit. Depending on the circumstances of such a reimbursement, Quanta may also be required to record a charge to earnings for the reimbursement. See Note 10 for additional information regarding Quanta’s letters of credit outstanding. Quanta is not aware of any claims currently asserted or threatened under any of these letters of credit that are material, individually or in the aggregate. However, to the extent payment is required for any such claims, the amount paid could be material and could adversely affect Quanta’s consolidated business, financial condition, results of operations and cash flows.

Bonds and Parent Guarantees

Many customers, particularly in connection with new construction, require Quanta to post performance and payment bonds. These bonds provide a guarantee that Quanta will perform under the terms of a contract and pay its subcontractors and vendors. In certain circumstances, the customer may demand that the surety make payments or provide services under the bond, and Quanta must reimburse the surety for any expenses or outlays it incurs. Quanta may also be required to post letters of credit in favor of the sureties, which would reduce the borrowing availability under its senior credit facility. Quanta has not been required to make any material reimbursements to its sureties for bond-related costs except as described in *Legal Proceedings - Peru Project Dispute* above. However, to the extent further reimbursements are required, the amounts could be material and could adversely affect Quanta’s consolidated business, financial condition, results of operations and cash flows. As of December 31, 2022, Quanta is not aware of any outstanding material obligations for payments related to bond obligations.

Performance bonds expire at various times ranging from mechanical completion of a project to a period extending beyond contract completion in certain circumstances, and therefore a determination of maximum potential amounts outstanding requires certain estimates and assumptions. Such amounts can also fluctuate from period to period based upon the mix and level of Quanta’s bonded operating activity. As of December 31, 2022, the estimated total amount of the outstanding performance bonds was estimated to be approximately \$4.5 billion. Quanta’s estimated maximum exposure related to the value of the performance bonds outstanding is lowered on each bonded project as the cost to complete is reduced, and each commitment under a performance bond generally extinguishes concurrently with the expiration of its related contractual obligation. The estimated cost to complete these bonded projects was approximately \$1.2 billion as of December 31, 2022.

Additionally, from time to time, Quanta guarantees certain obligations and liabilities of its subsidiaries that may arise in connection with, among other things, contracts with customers, equipment lease obligations, joint venture arrangements and contractor licenses. These guarantees may cover all of the subsidiary’s unperformed, undischarged and unreleased obligations and liabilities under or in connection with the relevant agreement. For example, with respect to customer contracts, a guarantee may cover a variety of obligations and liabilities arising during the ordinary course of the subsidiary’s business or operations, including, among other things, warranty and breach of contract claims, third party and environmental liabilities arising from the subsidiary’s work and for which it is responsible, liquidated damages, or indemnity claims. Quanta is not aware of any claims under any guarantees that are material. To the extent a subsidiary incurs a material obligation or liability and Quanta has guaranteed the performance or payment of such obligation or liability, the recovery by a customer or other counterparty or a third party will not be limited to the assets of the subsidiary. As a result, responsibility under the guarantee could exceed the amount recoverable from the subsidiary alone and could materially and adversely affect Quanta’s consolidated business, financial condition, results of operations and cash flows.

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

Collective Bargaining Agreements and Multiemployer Pension Plans

Certain of Quanta's operating companies are parties to collective bargaining agreements with unions that represent certain of their employees. The collective bargaining agreements expire at various times and have typically been renegotiated and renewed on terms similar to those in the expiring agreements. From time to time, Quanta is a party to grievance and arbitration actions based on claims arising out of the collective bargaining agreements. The agreements require the operating companies to pay specified wages, provide certain benefits to union employees and contribute certain amounts to multiemployer pension plans and employee benefit trusts. Quanta's multiemployer pension plan contribution rates generally are made to the plans on a "pay-as-you-go" basis based on its union employee payrolls. The location and number of union employees that Quanta employs at any given time and the plans in which they may participate vary depending on Quanta's need for union resources in connection with its ongoing projects. Therefore, Quanta is unable to accurately predict its union employee payroll and the resulting multiemployer pension plan contribution obligations for future periods.

In addition, Quanta may also be subject to liabilities as a result of its participation in, or withdrawal from, multiemployer defined benefit pension plans. Quanta may be required to make additional contributions to its multiemployer pension plans if they become underfunded, and these additional contributions will be determined based on Quanta's union employee payrolls. Certain plans to which Quanta contributes or may contribute in the future may adopt measures to improve their funded status through a funding improvement or rehabilitation plan, as applicable, which may require additional contributions from employers (e.g., a surcharge on benefit contributions) and/or modifications to retiree benefits. The amount, if any, that Quanta may be obligated to contribute to these plans cannot be reasonably estimated due to uncertainty regarding the amount of future work involving covered union employees, future contribution levels and possible surcharges on plan contributions. Quanta may also be subject to additional liabilities imposed by law if it or another participating employer withdraws from a multiemployer defined benefit pension plan, a plan is terminated or a plan experiences a mass withdrawal. These liabilities may include an allocable share of the unfunded vested benefits in the plan for all plan participants, not only the benefits payable to a contributing employer's own retirees. As a result, participating employers may bear a higher proportion of liability for unfunded vested benefits if other participating employers cease to contribute or withdraw, with the reallocation of liability being more acute in cases when a withdrawn employer is insolvent or otherwise fails to pay its withdrawal liability. Quanta is not aware of any material withdrawal liabilities that have been incurred or asserted and that remain outstanding as a result of a withdrawal by Quanta from a multiemployer defined benefit pension plan. However, Quanta's future contribution obligations and potential withdrawal liability exposure could vary based on the investment and actuarial performance of the multiemployer pension plans to which it contributes and other factors, which could be negatively impacted as a result of recent unfavorable and uncertain economic and financial market conditions. Quanta has been subject to significant withdrawal liabilities in the past, and to the extent Quanta is subject to material withdrawal liabilities in the future, such liability could adversely affect its business, financial condition, results of operations and cash flows.

Indemnities

Quanta generally indemnifies its customers for the services it provides under its contracts and other specified liabilities, which may subject Quanta to indemnity claims and liabilities and related litigation. Quanta is not aware of any indemnity claims in connection with these obligations that are material, except as described in *Legal Proceedings - Silverado Wildfire Matter* above.

Additionally, in the normal course of Quanta's acquisition transactions, Quanta has granted indemnification rights to various parties against certain potential liabilities related to the transaction or the acquired business and obtained rights to indemnification from the sellers or former owners of acquired businesses for certain risks, liabilities and obligations arising from business operations prior to the date of acquisition, such as financial, performance, operational, safety, workforce, environmental, litigation, compliance or tax issues, some of which Quanta may not have discovered during due diligence. However, the indemnities may not cover all of Quanta's exposure for such pre-acquisition matters, or the indemnitors may be unwilling or unable to pay amounts owed to Quanta. Accordingly, Quanta may incur expenses for which it is not reimbursed, and such amounts could be material and could have a material adverse effect on Quanta's business or consolidated financial condition, results of operations and cash flows. For example, Quanta has obtained certain indemnification rights from the former owners of Hallen with respect to contingent liabilities that were assumed in connection with the acquisition, as described in *Legal Proceedings — Hallen Acquisition Assumed Liability* above.

Joint Venture Liabilities

As described in Notes 2, 8 and 13, Quanta is a participant in certain joint ventures, including joint venture entities that provide infrastructure-related services under specific customer contracts and partially owned entities that own, operate and/or maintain certain infrastructure assets. If losses are incurred by joint venture entities in which Quanta holds an interest, they are generally shared ratably based on the percentage ownership of the participants in the structures. However, in Quanta's joint venture structures that provide infrastructure-related services, each participant is typically jointly and severally liable for all of the obligations of the joint venture entity pursuant to the contract with the customer, and therefore Quanta can be liable for full

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

performance of the contract with the customer. Additionally, in circumstances where Quanta's participation in a joint venture qualifies as a general partnership, Quanta can be liable for all obligations of the joint venture, including obligations owed to the customer or any other person or entity. Quanta is not aware of circumstances that would lead to future claims against it for material amounts in connection with these liabilities. Additionally, typically each joint venture participant agrees to indemnify the other participant for any liabilities incurred in excess of what the other participant is obligated to bear under the respective joint venture agreement or in accordance with the scope of work subcontracted to each participant. It is possible, however, that Quanta could be required to pay or perform obligations in excess of its share if another participant is unable or refuses to pay or perform its share of the obligations. Quanta is not aware of circumstances that would lead to future claims against it for material amounts that would not be indemnified. However, to the extent any such claims arise, they could be material and could adversely affect Quanta's consolidated business, financial condition, results of operations and cash flows.

Capital Commitments and Other Committed Expenditures

As of December 31, 2022, Quanta had \$0.6 million of outstanding capital commitments associated with investments in unconsolidated affiliates payable by December 31, 2023 and \$10.5 million payable thereafter.

Quanta has capital commitments for the expansion of its equipment fleet in order to accommodate manufacturer lead times on certain types of vehicles. As of December 31, 2022, Quanta had \$172.3 million of production orders with expected delivery dates in 2023. Although Quanta has committed to purchase these vehicles at the time of their delivery, Quanta anticipates that the majority of these orders will be assigned to third-party leasing companies and made available under certain master equipment lease agreements, thereby releasing Quanta from its capital commitments.

Employment Agreements

Quanta has various employment agreements with certain executives and other employees, which provide for compensation, other benefits and, under certain circumstances, severance payments and post-termination stock-based compensation benefits. Certain employment agreements also contain clauses that require the potential payment of specified amounts to such employees upon the occurrence of a defined change in control event.

Availability of Project Materials, Equipment and Labor

Quanta's customers depend on the availability of certain materials for construction, upgrade and repair and maintenance of their infrastructure and are typically responsible for supplying most or all of the materials required for the services Quanta performs on their projects, including, among other things, steel, copper, aluminum and components for renewable energy projects (e.g., solar panels, wind turbine blades). Additionally, Quanta is required to procure all or part of the materials needed for certain projects. Although there have been recent delays related to disruption in the supply chain for certain project materials, including delays with respect to solar panels during the year ended December 31, 2022, Quanta and its customers have generally been able to procure necessary materials.

Quanta also depends on the availability of certain equipment, including specialty vehicles, to perform services. Based on the significant worldwide shortage of semiconductors, vehicle manufacturers experienced production delays with respect to new vehicles for Quanta's fleet (both on-road and specialty vehicles) and vehicle parts (e.g., tires), and certain of its vehicle delivery orders scheduled for delivery in 2022 were delayed and cancelled. Quanta believes it has taken steps to secure delivery of a sufficient amount of vehicles and does not anticipate any significant disruptions with respect to its fleet in the near-term.

Quanta's success depends on its ability to attract, develop and retain highly qualified employees, including craft skilled labor, engineers, architects, designers, management and professional and administrative employees, and the industries in which Quanta operates have experienced shortages of qualified skilled labor personnel in recent years, which is expected to continue and potentially worsen in the future. In order to help meet near-term and longer term labor needs, Quanta supports and utilizes its own training and educational programs and has developed additional company-wide and project-specific employee training and educational programs and strategic relationships with universities, the military and unions to recruit qualified personnel.

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

17. DETAIL OF CERTAIN ACCOUNTS:

Cash and Cash Equivalents

Amounts related to Quanta's cash and cash equivalents based on geographic location of the bank accounts were as follows (in thousands):

	December 31,	
	2022	2021
Cash and cash equivalents held in domestic bank accounts	\$ 376,456	\$ 205,781
Cash and cash equivalents held in foreign bank accounts	52,049	23,316
Total cash and cash equivalents	<u>\$ 428,505</u>	<u>\$ 229,097</u>

As of December 31, 2022 and 2021, cash equivalents were \$260.1 million and \$140.0 million and consisted primarily of money market investments and money market mutual funds. Cash and cash equivalents in foreign bank accounts are primarily held in Canada and Australia.

Cash and cash equivalents held by joint ventures, which are either consolidated or proportionately consolidated, are available to support joint venture operations, but Quanta cannot utilize those assets to support its other operations. Quanta generally has no right to cash and cash equivalents held by a joint venture other than participating in distributions, to the extent made, and in the event of dissolution. Cash and cash equivalents held by Quanta's wholly-owned captive insurance company are generally not available for use in support of its other operations. Amounts related to cash and cash equivalents held by consolidated or proportionately consolidated joint ventures and the captive insurance company, which are included in Quanta's total cash and cash equivalents balances, were as follows (in thousands):

	December 31,	
	2022	2021
Cash and cash equivalents held by domestic joint ventures	\$ 14,291	\$ 21,828
Cash and cash equivalents held by foreign joint ventures	6,277	3,461
Total cash and cash equivalents held by joint ventures	20,568	25,289
Cash and cash equivalents held by captive insurance company	35,085	133,302
Cash and cash equivalents not held by joint ventures or captive insurance company	372,852	70,506
Total cash and cash equivalents	<u>\$ 428,505</u>	<u>\$ 229,097</u>

Property and Equipment

Property and equipment consisted of the following (in thousands):

	Estimated Useful Lives in Years	December 31,	
		2022	2021
Land	N/A	\$ 90,715	\$ 86,013
Buildings and leasehold improvements	5-30	396,003	318,499
Operating machinery, equipment and vehicles	1-25	2,726,546	2,603,149
Office equipment, furniture and fixtures and information technology systems	3-10	282,282	259,776
Construction work in progress	N/A	84,446	91,502
Finance lease assets and lease financing transactions	5-20	101,385	64,256
Property and equipment, gross		3,681,377	3,423,195
Less — Accumulated depreciation and amortization		(1,650,913)	(1,503,498)
Property and equipment, net of accumulated depreciation		<u>\$ 2,030,464</u>	<u>\$ 1,919,697</u>

Depreciation expense related to property and equipment is recognized on a straight-line basis over the estimated useful lives of the assets and was \$290.6 million, \$255.5 million and \$225.3 million for the years ended December 31, 2022, 2021 and 2020.

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

Accounts Payable and Accrued Expenses

Accounts payable and accrued expenses consisted of the following (in thousands):

	December 31,	
	2022	2021
Accounts payable, trade.....	\$ 1,302,086	\$ 1,251,118
Accrued compensation and related expenses	469,048	547,161
Other accrued expenses	381,995	456,392
Accounts payable and accrued expenses	<u>\$ 2,153,129</u>	<u>\$ 2,254,671</u>

Other accrued expenses primarily include accrued insurance liabilities, income and franchise taxes payable and deferred revenues.

18. SUPPLEMENTAL CASH FLOW INFORMATION:

The net effects of changes in assets and liabilities, net of non-cash transactions, on cash flows from operating activities are as follows (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Accounts and notes receivable.....	\$ (349,485)	\$ (248,452)	\$ 71,058
Contract assets	(311,175)	(331,946)	153,832
Inventories.....	(19,333)	1,418	9,860
Prepaid expenses and other current assets	(15,615)	(6,503)	83,518
Accounts payable and accrued expenses and other non-current liabilities ⁽¹⁾	144,219	95,829	115,569
Contract liabilities	336,113	47,163	(84,370)
Other, net.....	(14,439)	(15,191)	(22,098)
Net change in assets and liabilities, net of non-cash transactions	<u>\$ (229,715)</u>	<u>\$ (457,682)</u>	<u>\$ 327,369</u>

⁽¹⁾ Accounts payable and accrued expenses and other non-current liabilities for the year ended December 31, 2022 includes the receipt of \$100.5 million pursuant to coverage under an insurance policy, as further described in Note 16.

Reconciliations of cash, cash equivalents, and restricted cash reported within the consolidated balance sheets that sum to the total of such amounts shown in the statements of cash flows are as follows (in thousands):

	December 31,			
	2022	2021	2020	2019
Cash and cash equivalents	\$ 428,505	\$ 229,097	\$ 184,620	\$ 164,798
Restricted cash included in "Prepaid expenses and other current assets" ⁽¹⁾	3,759	1,836	1,275	4,026
Restricted cash included in "Other assets, net" ⁽¹⁾	950	954	913	921
Total cash, cash equivalents, and restricted cash reported in the statements of cash flows.....	<u>\$ 433,214</u>	<u>\$ 231,887</u>	<u>\$ 186,808</u>	<u>\$ 169,745</u>

⁽¹⁾ Restricted cash includes any cash that is legally restricted as to withdrawal or usage.

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

Supplemental cash flow information related to leases is as follows (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Cash paid for amounts included in the measurement of lease liabilities:			
Operating cash flows used by operating leases	\$ (95,175)	\$ (104,434)	\$ (115,597)
Operating cash flows used by finance leases	\$ (108)	\$ (90)	\$ (108)
Financing cash flows used by finance leases	\$ (1,457)	\$ (1,001)	\$ (1,198)
Lease assets obtained in exchange for lease liabilities:			
Operating leases	\$ 77,826	\$ 73,713	\$ 69,721
Finance leases	\$ 2,331	\$ 1,044	\$ 1,384
Lease financing transaction assets obtained in exchange for lease financing transaction liabilities	\$ 35,144	\$ 11,713	\$ 35,734

Additional supplemental cash flow information is as follows (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Cash (paid) received during the period for:			
Interest paid	\$ (106,052)	\$ (52,737)	\$ (32,142)
Income taxes paid	\$ (111,569)	\$ (125,328)	\$ (231,186)
Income tax refunds	\$ 8,281	\$ 13,257	\$ 18,119

Accrued capital expenditures were \$13.4 million, \$27.4 million and \$11.3 million as of December 31, 2022, 2021 and 2020. The impact of these items has been excluded from Quanta's capital expenditures in the accompanying consolidated statements of cash flows due to their non-cash nature.

ITEM 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

There have been no changes in or disagreements with accountants on accounting and financial disclosure within the parameters of Item 304(b) of Regulation S-K.

ITEM 9A. Controls and Procedures

Attached as exhibits to this Annual Report on Form 10-K are certifications of Quanta's Chief Executive Officer and Chief Financial Officer that are required in accordance with Rule 13a-14 of the Securities Exchange Act of 1934, as amended (the Exchange Act). This Item 9A. section includes information concerning the controls and controls evaluation referred to in the certifications, and it should be read in conjunction with the certifications for a more complete understanding of the topics presented.

Evaluation of Disclosure Controls and Procedures

Our management has established and maintains a system of disclosure controls and procedures that are designed to provide reasonable assurance that information required to be disclosed by us in the reports that we file or submit under the Exchange Act, such as this Annual Report on Form 10-K, is recorded, processed, summarized and reported within the time periods specified in the SEC rules and forms. The disclosure controls and procedures are also designed to provide reasonable assurance that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

As of the end of the period covered by this Annual Report, we evaluated the effectiveness of the design and operation of our disclosure controls and procedures pursuant to Rule 13a-15(b), as such disclosure controls and procedures are defined in Rule 13a-15(e) and 15d-15(e) of the Exchange Act. This evaluation was carried out under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer. Based on this evaluation, these officers have concluded that, as of December 31, 2022, our disclosure controls and procedures were effective to provide reasonable assurance of achieving their objectives.

Evaluation of Internal Control over Financial Reporting

Management's report on internal control over financial reporting can be found in Item 8. *Financial Statements and Supplementary Data* of this Annual Report under the heading *Report of Management* and is incorporated herein by reference. The report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, on the financial statements, and its opinion on the effectiveness of internal control over financial reporting, can also be found in Item 8. *Financial Statements and Supplementary Data* of this Annual Report under the heading *Report of Independent Registered Public Accounting Firm* and is incorporated herein by reference.

There has been no change in our internal control over financial reporting that occurred during the quarter ended December 31, 2022 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Design and Operation of Control Systems

Our management, including the Chief Executive Officer and Chief Financial Officer, does not expect that our disclosure controls and procedures or our internal control over financial reporting will prevent or detect all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. The design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Further, because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, within the company have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty and breakdowns can occur because of simple errors or mistakes. Controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the controls. The design of any system of controls is based in part on certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Over time, controls may become inadequate because of changes in conditions or deterioration in the degree of compliance with policies or procedures.

ITEM 9B. Other Information

None.

ITEM 9C. *Disclosure Regarding Foreign Jurisdictions that Prevent Inspections*

Not applicable.

PART III

ITEM 10. *Directors, Executive Officers and Corporate Governance*

The information required by this Item 10 is incorporated by reference to the definitive proxy statement related to our 2023 Annual Meeting of Stockholders, which is to be filed with the SEC pursuant to the Exchange Act within 120 days following the end of our 2022 fiscal year.

ITEM 11. *Executive Compensation*

The information required by this Item 11 is incorporated by reference to the definitive proxy statement related to our 2023 Annual Meeting of Stockholders, which is to be filed with the SEC pursuant to the Exchange Act within 120 days following the end of our 2022 fiscal year.

ITEM 12. *Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters*

The information required by this Item 12 is incorporated by reference to the definitive proxy statement related to our 2023 Annual Meeting of Stockholders, which is to be filed with the SEC pursuant to the Exchange Act within 120 days following the end of our 2022 fiscal year.

ITEM 13. *Certain Relationships and Related Transactions, and Director Independence*

The information required by this Item 13 is incorporated by reference to the definitive proxy statement related to our 2023 Annual Meeting of Stockholders, which is to be filed with the SEC pursuant to the Exchange Act within 120 days following the end of our 2022 fiscal year.

ITEM 14. *Principal Accounting Fees and Services*

The information required by this Item 14 is incorporated by reference to the definitive proxy statement related to our 2023 Annual Meeting of Stockholders, which is to be filed with the SEC pursuant to the Exchange Act within 120 days following the end of our 2022 fiscal year.

PART IV

ITEM 15. *Exhibits and Financial Statement Schedules*

The following financial statements, schedules and exhibits are filed as part of this Annual Report on Form 10-K:

(1) *Consolidated financial statements.* The consolidated financial statements are included in Item 8. *Financial Statements and Supplementary Data* of this Annual Report on Form 10-K.

(2) *Financial statement schedules.* All financial statement schedules are omitted because they are not applicable or the required information is shown in the consolidated financial statements or the notes to the consolidated financial statements in Item 8. *Financial Statements and Supplementary Data* of this Annual Report on Form 10-K.

(3) *Exhibits.*

EXHIBIT INDEX

Exhibit No.	Description
2.1	— Agreement and Plan of Merger by and among Blattner Holding Company, Quanta Services, Inc., Quanta Merger Sub, LLC and certain shareholders of Blattner Holding Company, dated as of September 1, 2021 (previously filed as Exhibit 2.1 to the Company's Form 8-K filed October 15, 2021 and incorporated herein by reference)
3.1	— Restated Certificate of Incorporation of Quanta Services, Inc. (previously filed as Exhibit 3.1 to the Company's Form 8-K filed March 26, 2019 and incorporated herein by reference)
3.2	— Bylaws of Quanta Services, Inc., as amended and restated January 13, 2023 (previously filed as Exhibit 3.1 to the Company's Form 8-K filed January 19, 2023 and incorporated herein by reference)
4.1 [^]	— Description of Quanta Services, Inc.'s Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934
4.2	— Form of Common Stock Certificate (previously filed as Exhibit 4.1 to the Company's Registration Statement on Form S-1/Amendment No. 2 filed February 9, 1998 and incorporated herein by reference)
4.3	— Indenture, dated as of September 22, 2020, between Quanta Services, Inc. and U.S. Bank National Association, as trustee (previously filed as Exhibit 4.1 to the Company's Form 8-K filed September 25, 2020 and incorporated herein by reference)
4.4	— First Supplemental Indenture, dated as of September 22, 2020, between Quanta Services, Inc. and U.S. Bank National Association, as trustee (previously filed as Exhibit 4.2 to the Company's Form 8-K filed September 25, 2020 and incorporated herein by reference)
4.5	— Second Supplemental Indenture, dated as of September 23, 2021, between Quanta Services, Inc. and U.S. Bank National Association, as trustee (previously filed as Exhibit 4.2 to the Company's Form 8-K filed September 23, 2021 and incorporated herein by reference)
4.6	— Third Supplemental Indenture, dated as of September 23, 2021, between Quanta Services, Inc. and U.S. Bank National Association, as trustee (previously filed as Exhibit 4.3 to the Company's Form 8-K filed September 23, 2021 and incorporated herein by reference)
4.7	— Fourth Supplemental Indenture, dated as of September 23, 2021, between Quanta Services, Inc. and U.S. Bank National Association, as trustee (previously filed as Exhibit 4.4 to the Company's Form 8-K filed September 23, 2021 and incorporated herein by reference)
4.8	— Form of 2.900% Senior Notes due 2030 (previously filed as Exhibit 4.3 to the Company's Form 8-K filed September 25, 2020 and incorporated herein by reference)
4.9	— Form of 0.095% Senior Notes due 2024 (previously filed as Exhibit 4.5 to the Company's Form 8-K filed September 23, 2021 and incorporated herein by reference)
4.10	— Form of 2.350% Senior Notes due 2032 (previously filed as Exhibit 4.6 to the Company's Form 8-K filed September 23, 2021 and incorporated herein by reference)
4.11	— Form of 3.050% Senior Notes due 2041 (previously filed as Exhibit 4.7 to the Company's Form 8-K filed September 23, 2021 and incorporated herein by reference)
10.1*	— Quanta Services, Inc. 2019 Omnibus Equity Incentive Plan (previously filed as Exhibit 10.1 to the Company's Form 8-K filed May 24, 2019 and incorporated herein by reference)
10.2*	— Amendment No. 1 to the Quanta Services, Inc. 2019 Omnibus Equity Incentive Plan (previously filed as Exhibit 10.2 to the Company's Form 8-K filed May 31, 2022 and incorporated herein by reference)
10.3*	— Form of RSU Award Agreement for awards to employees/consultants pursuant to the 2019 Omnibus Equity Incentive Plan (previously filed as Exhibit 10.2 to the Company's Form 8-K filed May 24, 2019 and incorporated herein by reference)
10.4*	— Form of RSU Award Agreement for awards to non-employee directors pursuant to the 2019 Omnibus Equity Incentive Plan (previously filed as Exhibit 10.3 to the Company's Form 8-K filed May 24, 2019 and incorporated herein by reference)
10.5*	— Form of PSU Award Agreement for awards to employees/consultants pursuant to the 2019 Omnibus Equity Incentive Plan (previously filed as Exhibit 10.4 to the Company's Form 8-K filed May 24, 2019 and incorporated herein by reference)
10.6*	— Employment Agreement dated September 1, 2016, effective as of March 14, 2016, by and between Quanta Services, Inc. and Earl C. Austin, Jr. (previously filed as Exhibit 10.1 to the Company's Form 8-K filed September 8, 2016 and incorporated herein by reference)

Exhibit No.	Description
10.7*	— Employment Agreement dated March 29, 2012, effective as of May 17, 2012, by and between Quanta Services, Inc. and Derrick A. Jensen (previously filed as Exhibit 10.2 to the Company's Form 8-K filed April 2, 2012 and incorporated herein by reference)
10.8*	— Employment Agreement dated September 12, 2017, effective as of January 1, 2017, by and between Quanta Services, Inc. and Paul C. Gregory (previously filed as Exhibit 10.1 to the Company's Form 10-Q for the quarter ended September 30, 2017 filed November 9, 2017 and incorporated herein by reference)
10.9*	— Employment Agreement dated September 12, 2017, effective as of May 15, 2017, by and between Quanta Services, Inc. and Donald C. Wayne (previously filed as Exhibit 10.2 to the Company's Form 10-Q for the quarter ended September 30, 2017 filed November 9, 2017 and incorporated herein by reference)
10.10*	— Employment Agreement dated March 31, 2020, effective as of April 1, 2020, by and between Quanta Services, Inc. and James Redgie Probst (previously filed as Exhibit 10.1 to the Company's Form 10-Q filed May 8, 2020 and incorporated herein by reference)
10.11*	Amended and Restated Employment Agreement, dated as of July 18, 2022, by and between Quanta Services, Inc. and Jayshree Desai (previously filed as Exhibit 10.3 to the Company's Form 10-Q for the quarter ended September 30, 2022 and incorporated herein by reference)
10.12*	— Quanta Services, Inc. Term Sheet for 2020 Annual Incentive Plan – Corporate Employees, Quanta Services, Inc. Term Sheet for 2020 Senior Leadership Long-Term Incentive Plan and Quanta Services, Inc. Term Sheet for Discretionary Plan –All Employees (previously filed as Exhibit 10.1 to the Company's Form 8-K filed April 1, 2020 and incorporated herein by reference)
10.13*	— Quanta Services, Inc. Term Sheet for 2021 Annual Incentive Plan – Corporate Employees, Quanta Services, Inc. Term Sheet for 2021 Senior Leadership Long-Term Incentive Plan and Quanta Services, Inc. Term Sheet for 2021 Discretionary Plan – All Employees (previously filed as Exhibit 10.1 to the Company's Form 8-K filed March 30, 2021 and incorporated herein by reference)
10.14*	— Quanta Services, Inc. Term Sheet for 2022 Annual Incentive Plan – Corporate Employees, Quanta Services, Inc. Term Sheet for 2022 Senior Leadership Long-Term Incentive Plan and Quanta Services, Inc. Term Sheet for 2022 Discretionary Plan – All Employees (previously filed as Exhibit 10.1 to Quanta's Form 8-K filed March 8, 2022 and incorporated herein by reference)
10.15*	— Director Compensation Summary, adopted December 1, 2021 and effective as of May 27, 2022 (previously filed as Exhibit 10.22 to the Company's Form 10-K filed February 25, 2022 and incorporated herein by reference)
10.16*	— Quanta Services, Inc. Non-Employee Director Deferred Compensation Plan dated effective January 1, 2017 (previously filed as Exhibit 10.25 to the Company's Form 10-K for the year ended December 31, 2016 filed March 1, 2017 and incorporated herein by reference)
10.17*	— Quanta Services, Inc. Nonqualified Deferred Compensation Plan, as restated effective January 1, 2017, including the Nonqualified Deferred Compensation Plan Adoption Agreement (previously filed as Exhibit 10.27 to the Company's Form 10-K for the year ended December 31, 2016 filed March 1, 2017 and incorporated herein by reference)
10.18	— Form of Amended and Restated Indemnity Agreement (previously filed as Exhibit 10.1 to the Company's Form 8-K filed December 11, 2018 and incorporated herein by reference)
10.19	— Fourth Amended and Restated Credit Agreement, dated as of December 18, 2015, among Quanta Services, Inc. and certain subsidiaries of Quanta Services, Inc., as Borrowers, certain subsidiaries of Quanta Services, Inc. identified therein as Guarantors, Bank of America, N.A., as Administrative Agent, Domestic Swing Line Lender and an L/C Issuer, and the other Lenders party thereto (previously filed as Exhibit 99.1 to the Company's Form 8-K filed December 23, 2015 and incorporated herein by reference)
10.20	— First Amendment to Fourth Amended and Restated Credit Agreement dated as of June 27, 2016, among Quanta Services, Inc. and certain subsidiaries of Quanta Services, Inc., as Borrowers, certain subsidiaries of Quanta Services, Inc. identified therein as Guarantors, Bank of America, N.A., as Administrative Agent, Domestic Swing Line Lender and an L/C Issuer, and the other Lenders party thereto (previously filed as Exhibit 10.2 to the Company's Form 10-Q filed August 8, 2016 and incorporated herein by reference)
10.21	— Second Amendment to Fourth Amended and Restated Credit Agreement, dated as of October 31, 2017, among Quanta Services, Inc. and certain subsidiaries of Quanta Services, Inc., as Borrowers, certain subsidiaries of Quanta Services, Inc. identified therein as Guarantors, the lenders party thereto, Bank of America, N.A., as Administrative Agent, and the Swing Line Lenders and L/C Issuers party thereto (previously filed as Exhibit 10.1 to the Company's Form 8-K filed November 6, 2017 and incorporated herein by reference)

Exhibit No.	Description
10.22	— Third Amendment to Fourth Amended and Restated Credit Agreement, dated as of August 24, 2018, among Quanta Services, Inc. and certain subsidiaries of Quanta Services, Inc., as Borrowers, certain subsidiaries of Quanta Services, Inc. identified therein as Guarantors, the lenders party thereto, Bank of America, N.A., as Administrative Agent, and the Swing Line Lenders and L/C Issuers party thereto (previously filed as Exhibit 10.1 to the Company's Form 8-K filed October 15, 2018 and incorporated herein by reference)
10.23	— Fourth Amendment to Fourth Amended and Restated Credit Agreement, dated as of October 10, 2018, among Quanta Services, Inc. and certain subsidiaries of Quanta Services, Inc., as Borrowers, certain subsidiaries of Quanta Services, Inc. identified therein as Guarantors, the lenders party thereto, Bank of America, N.A., as Administrative Agent, and the Swing Line Lenders and L/C Issuers party thereto (previously filed as Exhibit 10.2 to the Company's Form 8-K filed October 15, 2018 and incorporated herein by reference)
10.24	— Incremental Term Loan Amendment and Fifth Amendment to Fourth Amended and Restated Credit Agreement and Omnibus Amendment to Loan Documents, dated as of September 6, 2019, among Quanta Services, Inc. and certain subsidiaries of Quanta Services, Inc., as Borrowers, certain subsidiaries of Quanta Services, Inc. identified therein as Guarantors, the lenders party thereto, Bank of America, N.A., as Administrative Agent, and the L/C Issuers party thereto (previously filed as Exhibit 10.6 to the Company's Form 8-K filed September 9, 2019 and incorporated herein by reference)
10.25	— Incremental Revolving Credit Increase Agreement and Lender Joinder Agreement, dated as of September 12, 2019, among Quanta Services, Inc. and certain subsidiaries of Quanta Services, Inc., as Borrowers, certain subsidiaries of Quanta Services, Inc. identified therein as Guarantors, BNP Paribas, the Swing Line Lenders and L/C Issuers party thereto and Bank of America, N.A., as Administrative Agent (previously filed as Exhibit 10.4 to the Company's Form 10-Q filed November 1, 2019 and incorporated herein by reference)
10.26	— Sixth Amendment to Fourth Amended and Restated Credit Agreement, dated as of September 22, 2020, among Quanta Services, Inc. and certain subsidiaries of Quanta Services, Inc., as Borrowers, certain subsidiaries of Quanta Services, Inc. identified therein as Guarantors, the lenders party thereto, Bank of America, N.A., as Administrative Agent, and the Swing Line Lenders and L/C Issuers party thereto (previously filed as Exhibit 10.1 to the Company's Form 8-K filed September 25, 2020 and incorporated herein by reference)
10.27	— Seventh Amendment to Fourth Amended and Restated Credit Agreement, dated as of May 17, 2021, among Quanta Services, Inc. and certain subsidiaries of Quanta Services, Inc., as Borrowers, the lenders party thereto, Bank of America, N.A., as Administrative Agent, and the Swing Line Lenders and L/C Issuers party thereto (previously filed as Exhibit 10.1 to the Company's Form 10-Q filed August 5, 2021 and incorporated herein by reference)
10.28	— Eighth Amendment to Fourth Amended and Restated Credit Agreement, dated as of September 9, 2021, among Quanta Services, Inc. and certain subsidiaries of Quanta Services, Inc., as Borrowers, Quanta Services, Inc., as Guarantor, the lenders party thereto, Bank of America, N.A., as Administrative Agent, and the Swing Line Lenders and L/C Issuers party thereto (previously filed as Exhibit 10.1 to the Company's Form 8-K filed October 15, 2021 and incorporated herein by reference)
10.29	— Ninth Amendment to Fourth Amended and Restated Credit Agreement, dated as of October 8, 2021, among Quanta Services, Inc. and certain subsidiaries of Quanta Services, Inc., as Borrowers, Quanta Services, Inc., as Guarantor, the lenders party thereto, Bank of America, N.A., as Administrative Agent, and the Swing Line Lenders and L/C Issuers party thereto (previously filed as Exhibit 10.2 to the Company's Form 8-K filed October 15, 2021 and incorporated herein by reference)
10.30	— Tenth Amendment to Fourth Amended and Restated Credit Agreement, dated as of February 4, 2022, among Quanta Services, Inc. and certain subsidiaries of Quanta Services, Inc., as Borrowers, the lenders party thereto and Bank of America, N.A., as Administrative Agent (previously filed as Exhibit 10.37 to the Company's Form 10-K filed February 25, 2022 and incorporated herein by reference)
10.31	— Eleventh Amendment to Fourth Amended and Restated Credit Agreement, dated as of August 23, 2022, among Quanta Services, Inc., as a borrower and the guarantor, certain subsidiaries of Quanta Services, Inc., as borrowers, the lenders party thereto and Bank of America, N.A., as Administrative Agent (previously filed as Exhibit 10.2 to Quanta's Form 8-K filed August 24, 2022 and incorporated herein by reference)
10.32	— Form of Commercial Paper Dealer Agreement between Quanta Services, Inc. and the Dealer party thereto (previously filed as Exhibit 10.1 to Quanta's Form 8-K filed August 24, 2022 and incorporated herein by reference)

Exhibit	No.	Description
	10.33	— Underwriting, Continuing Indemnity and Security Agreement dated as of March 14, 2005 by Quanta Services, Inc. and the subsidiaries and affiliates of Quanta Services, Inc. identified therein, in favor of Federal Insurance Company (previously filed as Exhibit 10.1 to the Company’s Form 8-K filed March 16, 2005 and incorporated herein by reference)
	10.34	— Joinder Agreement and Amendment to Underwriting, Continuing Indemnity and Security Agreement dated as of November 28, 2006, among American Home Assurance Company, National Union Fire Insurance Company of Pittsburgh, Pa., The Insurance Company of the State of Pennsylvania, Federal Insurance Company, Quanta Services, Inc., and the other Indemnitors identified therein (previously filed as Exhibit 99.1 to the Company’s Form 8-K filed December 4, 2006 and incorporated herein by reference)
	10.35	— Second Amendment to Underwriting, Continuing Indemnity and Security Agreement dated as of January 9, 2008, among American Home Assurance Company, National Union Fire Insurance Company of Pittsburgh, Pa., The Insurance Company of the State of Pennsylvania, Federal Insurance Company, Quanta Services, Inc., and the other Indemnitors identified therein (previously filed as Exhibit 10.34 to the Company’s Form 10-K for the year ended December 31, 2007 filed February 29, 2008 and incorporated herein by reference)
	10.36	— Joinder Agreement and Third Amendment to Underwriting, Continuing Indemnity and Security Agreement dated as of December 19, 2008, among American Home Assurance Company, National Union Fire Insurance Company of Pittsburgh, Pa., The Insurance Company of the State of Pennsylvania, Federal Insurance Company, Quanta Services, Inc., and the other Indemnitors identified therein (previously filed as Exhibit 10.30 to the Company’s Form 10-K for the year ended December 31, 2011 filed February 29, 2012 and incorporated herein by reference)
	10.37	— Joinder Agreement and Fourth Amendment to Underwriting, Continuing Indemnity and Security Agreement dated as of March 31, 2009, among American Home Assurance Company, National Union Fire Insurance Company of Pittsburgh, Pa., The Insurance Company of the State of Pennsylvania, Liberty Mutual Insurance Company, Liberty Mutual Fire Insurance Company, Safeco Insurance Company of America, Federal Insurance Company, Quanta Services, Inc., and the other Indemnitors identified therein (previously filed as Exhibit 99.1 to the Company’s Form 8-K filed April 1, 2009 and incorporated herein by reference)
	10.38	— Joinder Agreement and Fifth Amendment to Underwriting, Continuing Indemnity and Security Agreement dated as of May 17, 2012, among Federal Insurance Company, Liberty Mutual Insurance Company, Liberty Mutual Fire Insurance Company, Safeco Insurance Company of America, American Home Assurance Company, National Union Fire Insurance Company of Pittsburgh, PA, The Insurance Company of the State of Pennsylvania, Quanta Services, Inc., and the other Indemnitors identified therein (previously filed as Exhibit 10.2 to the Company’s Form 10-Q for the quarter ended June 30, 2012 filed August 8, 2012 and incorporated herein by reference)
	10.39	— Sixth Amendment to Underwriting, Continuing Indemnity and Security Agreement dated as of December 3, 2012, among Federal Insurance Company, American Home Assurance Company, National Union Fire Insurance Company of Pittsburgh, PA, The Insurance Company of the State of Pennsylvania, Liberty Mutual Insurance Company, Liberty Mutual Fire Insurance Company, Safeco Insurance Company of America, Quanta Services, Inc., and the other Indemnitors identified therein (previously filed as Exhibit 10.32 to the Company’s Form 10-K for the year ended December 31, 2012 filed March 1, 2013 and incorporated herein by reference)
	10.40	— Seventh Amendment to Underwriting, Continuing Indemnity and Security Agreement dated as of August 4, 2015, among Federal Insurance Company; American Home Assurance Company, National Union Fire Insurance Company of Pittsburgh, PA and The Insurance Company of the State of Pennsylvania; Liberty Mutual Insurance Company, Liberty Mutual Fire Insurance Company and Safeco Insurance Company of America; Quanta Services, Inc., the other Indemnitors identified therein; and the Stallone Companies (previously filed as Exhibit 10.2 to the Company’s Form 10-Q for the quarter ended June 30, 2018 filed August 7, 2018 and incorporated herein by reference)
	10.41	— Eighth Amendment to Underwriting, Continuing Indemnity and Security Agreement, dated as of September 22, 2020, among Federal Insurance Company, American Home Assurance Company, National Union Fire Insurance Company of Pittsburgh, Pa., The Insurance Company of the State of Pennsylvania, Liberty Mutual Insurance Company, Liberty Mutual Fire Insurance Company, Safeco Insurance Company of America, Quanta Services, Inc. and the other Indemnitors identified therein (previously filed as Exhibit 10.2 to the Company's Form 8-K filed September 25, 2020 and incorporated herein by reference)
	21.1 [^]	— Subsidiaries
	23.1 [^]	— Consent of PricewaterhouseCoopers LLP
	31.1 [^]	— Certification of Chief Executive Officer pursuant to Rule 13a-14(a) of the Exchange Act, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
	31.2 [^]	— Certification of Chief Financial Officer pursuant to Rule 13a-14(a) of the Exchange Act, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

Exhibit No.	Description
32.1†	— Certification of Chief Executive Officer and Chief Financial Officer pursuant to Rule 13a-14(b) of the Exchange Act and 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101.INS^	— The following financial statements from the Company's Annual Report on Form 10-K for the year ended December 31, 2022, formatted in Inline XBRL: (i) Consolidated Balance Sheets, (ii) Consolidated Statements of Operations, (iii) Consolidated Statements of Comprehensive Income, (iv) Consolidated Statements of Cash Flows, (v) Consolidated Statements of Equity and (vi) Notes to Consolidated Financial Statements, tagged as blocks of text and with detailed tags
104*	— The cover page from the Company's Annual Report on Form 10-K for the year ended December 31, 2022, formatted in Inline XBRL (included as Exhibit 101)

* Management contracts or compensatory plans or arrangements

^ Filed with this Annual Report on Form 10-K

† Furnished with this Annual Report on Form 10-K

ITEM 16. *Form 10-K Summary.*

Not applicable.

Signature	Title
<hr/> /s/ EARL C. AUSTIN, JR. <hr/> Earl C. Austin, Jr.	President, Chief Executive Officer and Director (Principal Executive Officer)
<hr/> /s/ JAYSHREE S. DESAI <hr/> Jayshree S. Desai	Chief Financial Officer (Principal Financial Officer)
<hr/> /s/ PAUL M. NOBEL <hr/> Paul M. Nobel	Chief Accounting Officer (Principal Accounting Officer)
<hr/> /s/ DOYLE N. BENEBY <hr/> Doyle N. Beneby	Director
<hr/> /s/ VINCENT D. FOSTER <hr/> Vincent D. Foster	Director
<hr/> /s/ BERNARD FRIED <hr/> Bernard Fried	Director
<hr/> /s/ WORTHING F. JACKMAN <hr/> Worthing F. Jackman	Director
<hr/> /s/ HOLLI C. LADHANI <hr/> Holli C. Ladhani	Director
<hr/> /s/ DAVID M. McCLANAHAN <hr/> David M. McClanahan	Chairman of the Board of Directors
<hr/> /s/ R. SCOTT ROWE <hr/> R. Scott Rowe	Director
<hr/> /s/ MARGARET B. SHANNON <hr/> Margaret B. Shannon	Director
<hr/> /s/ MARTHA B. WYRSCH <hr/> Martha B. Wyrsh	Director

DIRECTORS

Director Name and Principal Position / Experience

Earl C. (“Duke”) Austin, Jr.	President and Chief Executive Officer of Quanta
Doyle N. Beneby	Former President and Chief Executive Officer of Midland Cogeneration Venture ^{2,4}
Vincent D. Foster	Executive Chairman and Former Chief Executive Officer of Main Street Capital Corporation ^{1,4}
Bernard Fried	Principal of BF Consulting and Former Chief Executive Officer of Plastikon Industries, Inc. ^{1,2}
Worthing F. Jackman	President and Chief Executive Officer of Waste Connections, Inc. ^{1,2}
Holli C. Ladhani	Former President and Chief Executive Officer of Select Energy Services, Inc. ^{1,4}
David M. McClanahan	Chairman of the Board of Quanta and Former President and Chief Executive Officer of CenterPoint Energy, Inc.
R. Scott Rowe	President, Chief Executive Officer and Director of Flowserve Corporation ^{3,4}
Margaret B. Shannon	Former Vice President and General Counsel of BJ Services Company ^{3,4}
Martha B. Wyrsh	Former Executive Vice President and General Counsel of Sempra Energy ^{2,3}

1 - Audit Committee, 2 - Compensation Committee, 3 - Governance and Nominating Committee, 4 - Investment Committee

Executive Officers

Earl C. (“Duke”) Austin, Jr.
President, Chief Executive Officer
and Director

Jayshree S. Desai
Chief Financial Officer

J. Redgie Probst
Chief Operating Officer

Derrick A. Jensen
Executive Vice President –
Business Operations

Donald C. Wayne
Executive Vice President
and General Counsel

Paul M. Nobel
Vice President and
Chief Accounting Officer

Dorothy C. Upperman
Vice President – Tax

Investor Information

New York Stock Exchange

Last year, our Annual CEO Certification, without qualifications, was timely submitted to the NYSE. Also, we have filed the certifications required under The Sarbanes-Oxley Act of 2002 as exhibits to our Annual Report on Form 10-K.

Ticker Symbol | PWR

Transfer Agent

American Stock Transfer & Trust Company, LLC
6201 15th Avenue
Brooklyn, New York 11219
718.921.8200

Auditors

PricewaterhouseCoopers LLP
1000 Louisiana Street, Suite 5800
Houston, Texas 77002
713.356.4000

Investor Relations

Kip Rupp, CFA, IRC,
Vice President – Investor Relations
713.629.7600
investors@quantaservices.com

CAUTIONARY STATEMENT ABOUT FORWARD-LOOKING STATEMENTS This document contains “forward-looking statements” reflecting assumptions, expectations, projections, intentions or beliefs about future events that are intended to qualify for the “safe harbor” from liability established by the Private Securities Litigation Reform Act of 1995. You can identify these statements by the fact that they do not relate strictly to historical or current facts. They use words such as “anticipate,” “estimate,” “project,” “forecast,” “may,” “will,” “should,” “could,” “expect,” “believe,” “plan,” “intend” and other words of similar meaning. 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 forward-looking statements and that any or all of our forward-looking statements may turn out to be inaccurate or incorrect. Forward-looking statements can be affected by inaccurate assumptions and by known or unknown risks and uncertainties, including, among others, the risks and uncertainties detailed in Quanta’s Annual Report on Form 10-K for the year ended Dec. 31, 2022 and any other documents that Quanta files with the Securities and Exchange Commission (SEC). For a discussion of these risks, uncertainties and assumptions, investors are urged to refer to Quanta’s documents filed with the SEC that are available through the company’s website at www.quantaservices.com or through the SEC’s Electronic Data Gathering and Analysis Retrieval System at www.sec.gov. 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. Investors are cautioned not to place undue reliance on these forward-looking statements. Quanta does not undertake and expressly disclaims any obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. Quanta further expressly disclaims any written or oral statements made by any third party regarding the subject matter of this press release.

References in this document to Quanta, Quanta Services, the company, we, us, our or similar are references collectively to Quanta Services, Inc. and its subsidiaries.



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713.629.7600 | QUANTASERVICES.COM