



Keeping Pace: Utility Construction Mid-Year Outlook

August 2022

<https://theutilityexpo.com>

Overview



In competitive long-distance races, a pace setter takes the lead and drives the pace for the competitors to ensure the field is on track to hit goal times. That pacer typically peels off and leaves those remaining to fend for themselves in the final laps of the event. Those racers expect to maintain the pace of the race to win and meet their goals (often qualifying times for future events). For utilities and their service providers alike, the target “pace” to maintain a profitable return in real dollars has been set at the fastest level in almost forty years.

The consumer price index increased 9.1% year-over-year in June of 2022 and the companies serving the utility industry are challenged with growing profit at a pace greater than inflation to preserve purchasing power. The companies that build and maintain utility and communication infrastructure have a daunting task; however, the opportunity to exceed the pace set by inflation is actionable due to current infrastructure needs, a long-term energy transition and the ingenuity that is thriving in the sector.

FMI, a leading consulting and investment banking firm dedicated to serving companies working within the built environment, shares exclusive insights on where the utility industry stands, mid-2022.

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Utility & Communication Infrastructure Opportunity

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Grid Resilience & Hardening

Increasing the security (or hardening) for current infrastructure requires improving both the reliability and resilience of U.S. utility infrastructure and there are many areas where companies ranging from service providers to utilities can assist. It begins with what often seems simple – ensuring the grid is protected against weather events. Depending on where a system is present, the primary threat could be hurricanes, flooding, fire, ice or tornados. Each requires a unique solution to ensure that the associated utility infrastructure does not go down when a weather event occurs.

The next area of hardening that has been ramping up is protection against security-related threats. Following accidents that caused stoppages in major pipelines and events like the 2020 Nashville bombing, plans to improve the security around critical infrastructure increased meaningfully. This includes moving from chain-link fences with easily accessible paths around major substations to walled facilities with reasonable security as well as limiting access to rights-of-way where major pipelines are located to prevent potential threats.

Additionally, it includes laying fiber along major transmission to ensure real-time communication of outages to the infrastructure owners. This fiber activity coincides with major fiber backhaul to support 5G infrastructure and significant funding of rural broadband in the IIJA legislation, so demand for the new build, splicing and maintenance of fiber will also be necessary to implement these plans.

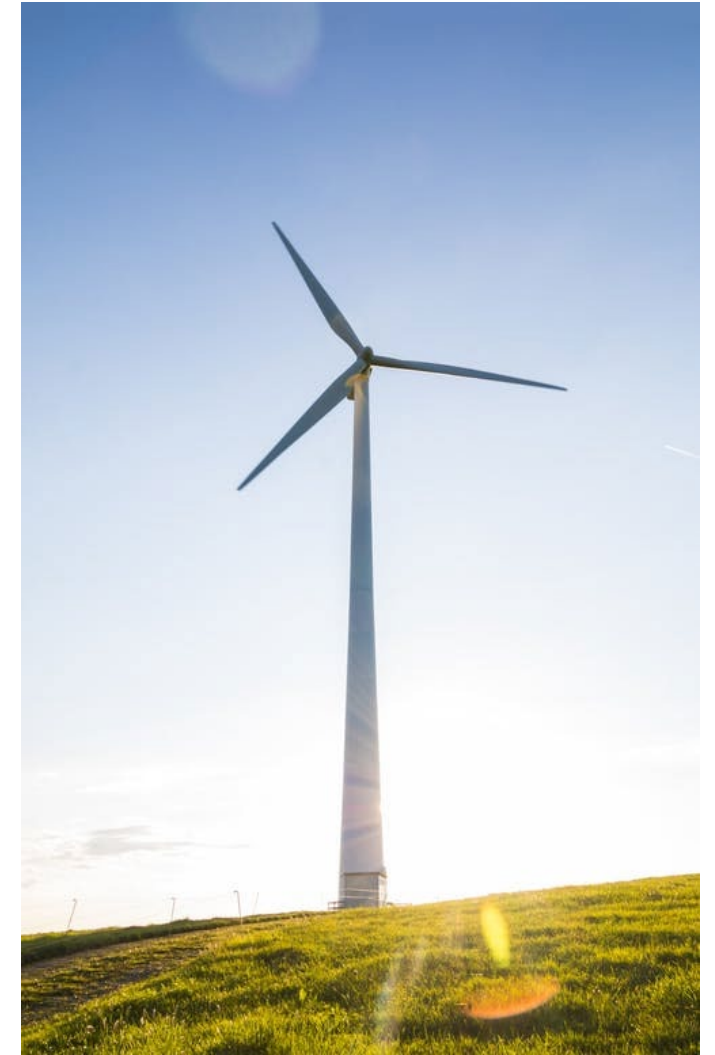
Partner to Energy Transition

The energy transition is the long-term shift toward electrification to more efficient and/or renewable forms of energy to meet our current energy requirements. This shift includes several significant changes including:

- Interconnection of new sources of variable renewable and natural gas power generation
- Rise in O&M expenses as distribution systems experience stress from increasing customer demand, customer-sited variable generation, smart grid technology deployment, and inclement weather
- Incremental T&D infrastructure additions to meet the population growth and energy requirements of an increasingly electrified world

The US population could add 100 million people by 2050; assuming per capita electricity use remains constant (due to falling energy intensity) total power sales will need to increase by over 33%.

In 2008 there was a little less than 40,000 MW of renewable capacity on the US grid not counting hydroelectric dams; there are already 31 states with renewable portfolio standards mandates to install increasing amounts of renewable energy each year into 2020 – the aggregate effects of these mandates will be the addition of about 208,000 MW of renewable power by 2030 – a fivefold increase.



Repair & Replacement of Aging Infrastructure



Over the past four years, publicly traded utility companies and infrastructure owners have increased their investment in capital maintenance projects, specifically around oil and gas infrastructure where new buildouts are increasingly untenable. The volume of work available has shifted the competitive dynamic among contractors from geographic considerations to labor considerations.

Many of the themes driving infrastructure construction spending remain the same: aging infrastructure across the electric grid, natural gas network and water and wastewater systems, upgrading transmission to support distributed energy, and the requirement to upgrade the fiber-optic cable placed during the initial buildout.



Headwinds Impacting the Installation & Maintenance of Infrastructure

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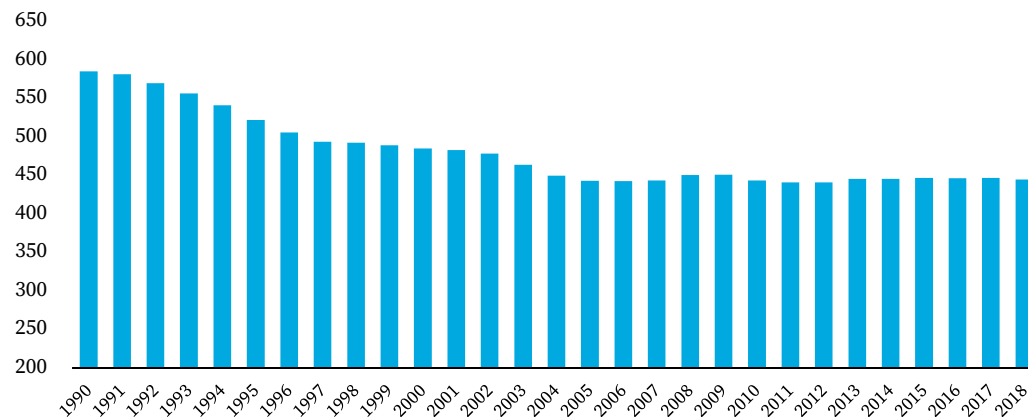
Labor & Skill Shortages

Associated General Contractors of America, which represents more than 27,000 construction companies, said [publicly funded transportation projects](#) are routinely coming in at least 20% higher than government officials anticipated because of [added labor costs](#).

“The severity of the labor shortage means you’re paying workers more and your construction schedules are longer, both of which are big drivers in overall cost,” said Brian Turmail, the industry group’s vice president of public affairs and strategic initiatives.

Utility Workforces are Aging and Shrinking.....

Production and Nonsupervisory U.S. Utility Employees (thousands)



Causes of Labor Shortage in Utility Construction

- **Aging workforce:** Utility workforce is aging, with a significant climb in the average age over the past decade. This has coincided with an overall decrease in total utility deployment. As these employees retire, the job functions need to be replaced.
- **Need for a more skilled workforce:** As the utility landscape shifts, skill sets shift, resulting in labor shortages in certain skilled trades. This increases the need for outsourcing, which remains more agile in the labor talent markets.
- **Growing base of work:** Decades of sub-par maintenance has led to a significant need to upgrade utility systems, increasing the spend attributed to these services and driving demand.

Inflation

“Less for More” is the theme of 2022 as price increases to almost every line item on a bid sheet impact both the owners and contractors.

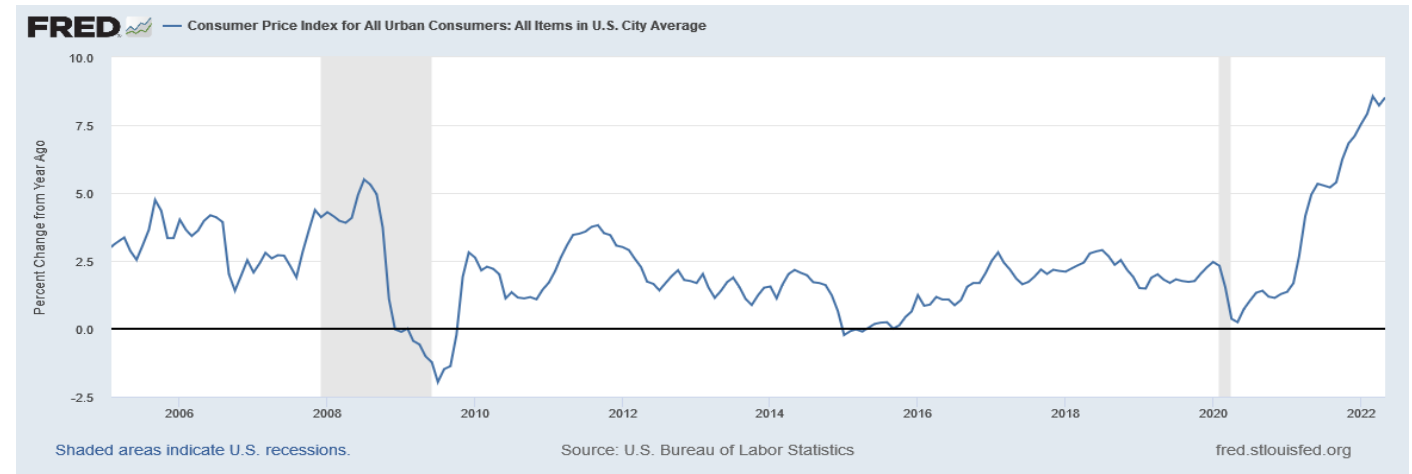
FMI’s Utility & Infrastructure group references the Producer Price Index (PPI) (Figure 1) because there is less variability in the calculation of the index. Actual producer prices rather than proxies for the prices, (i.e., owners’ equivalent rent) make up the index. Thus, the rise of more than 10% is a less modified reflection of current inflation and the impact to both businesses and consumers alike.

Despite differences in calculation, the CPI (Figure 2) still reflects incredible inflationary pressures that will be difficult to resolve.

Figure 1: U.S. Producer’s Price Index Change (10-year Lookback)



Figure 2: Consumer Price Index for Urban Consumers



Procurement & Contract Challenges



The utility industry has largely held two major types of contracts – multi-year unit priced contracts with annual escalators or fixed price contracts for large project work. Both can be problematic in an inflationary environment.

- Multi-year unit-priced contracts may not have price escalators that are pegged to inflation rates (or those pegs understate price increases)
- Fixed-price multi-year contracts result in significant labor and material pricing risk
- Change orders are increasing for municipalities; if the economy tightens and workers are impacted, change order approvals will be harder to obtain

Supply Chain

The impact to the utility industry from the global supply chain has been vast. For equipment as common as pick-up trucks, the process has gone from casual trip to the lot to a 12-month pre-order. Some of the most impactful items include:

- PVC pipe shortages causing municipalities to look for [alternatives](#)
- Fiber-optic cable lead times have grown [substantially](#)
- Equipment used for utility construction is facing both semiconductor chip and supply [shortages](#)





Meeting the Challenge: Development, Productivity & Innovation

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Training & Development

Union Training & Development Programs

While unions have some of the same demographic challenges, they are actively recruiting to address the demand for services to the utility industry through numerous programs including:

- [Diversity](#) and [women](#) in utility construction recruitment events
- Improving apprenticeship programs that [pay to participate](#)
- Partnership with employers to identify and target new members that can assist with the volume of new work

Trade Schools & Job-Specific Training

Through coordination with industry associations, trade school have taken a proactive role in the installation and repair of utility infrastructure. These programs are varying but include:

- Specific [training](#) for utility construction through junior colleges and trade schools
- [Acquisition](#) of training resources for use with larger labor pools
- Development of internal programs to bridge the gaps and to transition local labor from other industries into utility services

Productivity & Innovation

Crew Experience & Sizing

- Retirements and the volume of additional utility work results in a less experienced workforce – optimizing the experience and quality of a crew will be essential to productive construction
- Crew size has also been impacted over the past two years by local regulation – ensuring crews are appropriately staffed with limited down-time improves profitability

Leveraging Technology

- Innovations in automation and equipment capabilities have reduced the number of people necessary to safely install or upgrade infrastructure
- Videoconferencing has improved communication between parties on jobsites and increased the likelihood of meeting owner's expectations

Utilizing Resource and Workforce Management Software

- Paperless job sites with effective tools for measuring materials, labor, job reports, purchase orders can result in increased productivity and information to make future decisions
- Job-site analytics can also improve coordination and the latest locating technologies are decreasing the potential for dangerous strikes in the underground

Concluding Thoughts



The utility and communication infrastructure industry is experiencing a historic period for investment in under-served infrastructure. FMI remains optimistic about the long-term prospects for growth and profitability; however, the near-term challenges in a tumultuous market will be felt by both utilities and their service providers alike.

Approaching the market with strong people and talent development, thoughtful costing and bidding, and a keen awareness of one's capabilities will help ensure profitable growth.

If we as an industry are successful, the result will be a smarter, more resilient utility infrastructure that will be the foundation for U.S. economic growth.

About the Author



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Dan specializes in mergers and acquisition and business continuity transactions. A respected thought leader, he is a member of and regularly contributes articles and industry insights to the Power and Communication Contractors Association, Distribution Contractors Association and National Utility Contractors Association.

Prior to his work with FMI, Dan served as a Captain and pilot of Blackhawk helicopters for the Tennessee Army National Guard. In this role, he also oversaw the maintenance and logistical support for the Blackhawks in the Air Assault and MEDEVAC units.



WHAT IS **THE UTILITY EXPO**?

An all-inclusive trade exhibition highlights every facet of the utility industry, from improved productivity to enhanced safety to increased efficiency.

We connect attendees with new ideas, new solutions, and new products from the world's best and most innovative manufacturers.

All while providing hands-on demonstrations and one-on-one communication that let everyone return to their organization more confident, more intelligent, and more prepared for wherever the industry goes next.

WHO ATTENDS?

The Utility Expo is the largest event for utility professionals and construction contractors in:

- Electric transmission
- Natural gas distribution
- Telecommunications
- Wastewater
- Electric distribution
- Natural gas transmission
- Drinking water
- Stormwater

NEXT SHOW?

Held every two years, the next The Utility Expo will be held September 26-28, 2023 in Louisville, KY.