

POWER & COMMUNICATION CONTRACTORS ASSOCIATION



# Economic Overview 2023-2024

Power & Communication Contractors Association (PCCA)

Mid-Year Meeting

Mark Bridgers - Continuum Capital

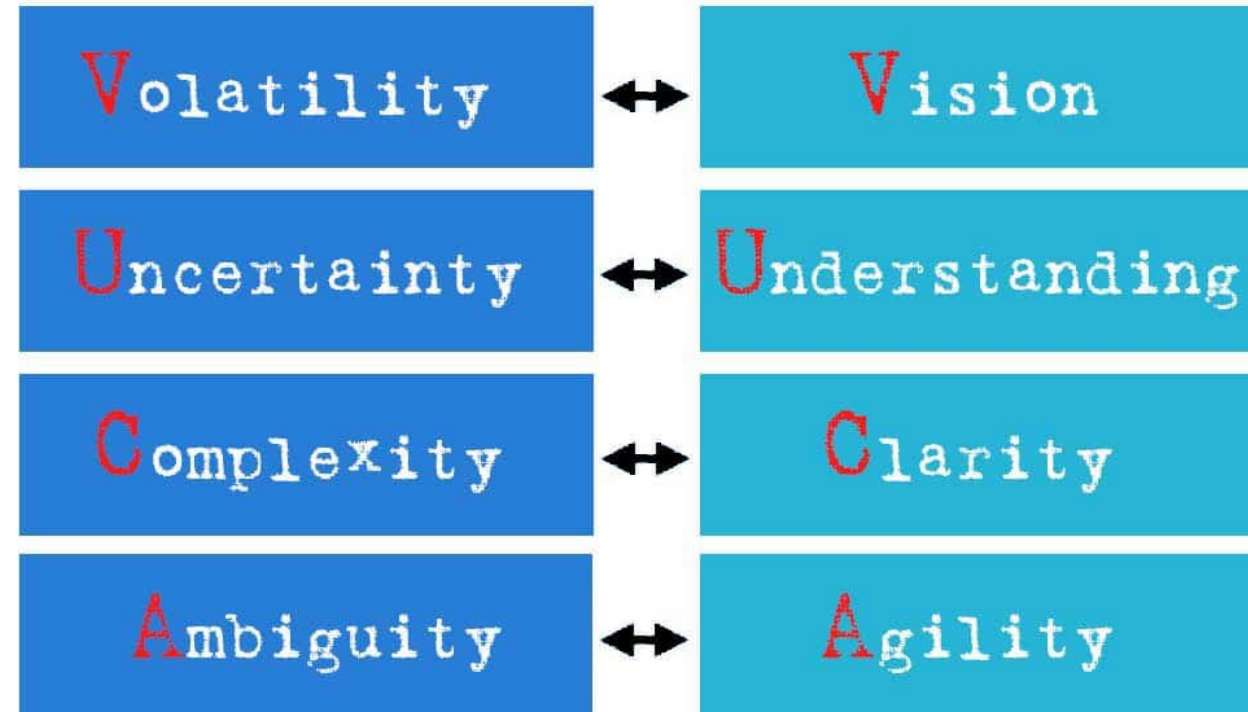
August 7, 2023

Dana Point, CA

# What Are Customers & Markets are Feeling & Seeing

- ▶ Global Instability – Iran/Russia/Ukraine Tensions – More VUCA
- ▶ Supply Chain Normalizing – China vs. Onshoring – More VUCA
- ▶ Pesky Inflation Remains High – More VUCA
- ▶ Biden/Trump Political Landscape – More VUCA
- ▶ Lead Cable Sheathing – More VUCA
- ▶ Heat Wave – More VUCA
- ▶ Workforce & Supervision Availability – More VUCA
- ▶ Unprecedented Federal Spending – More VUCA
- ▶ State & Muni Condition & Spending – More VUCA
- ▶ Utility Construction Perceptions – More VUCA

## VUCA



# Utility Industry Perceptions (1 of 5)

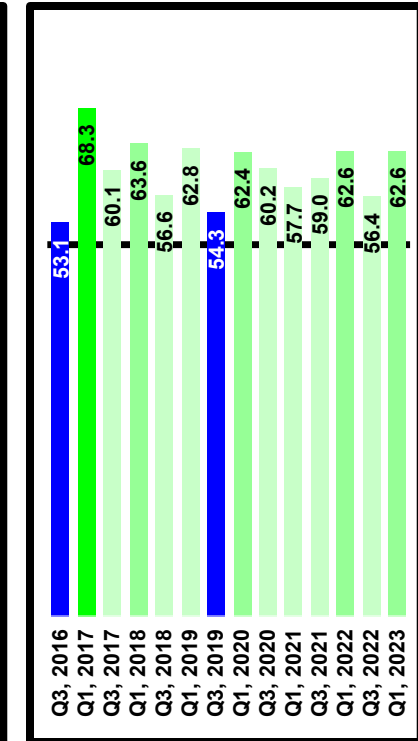
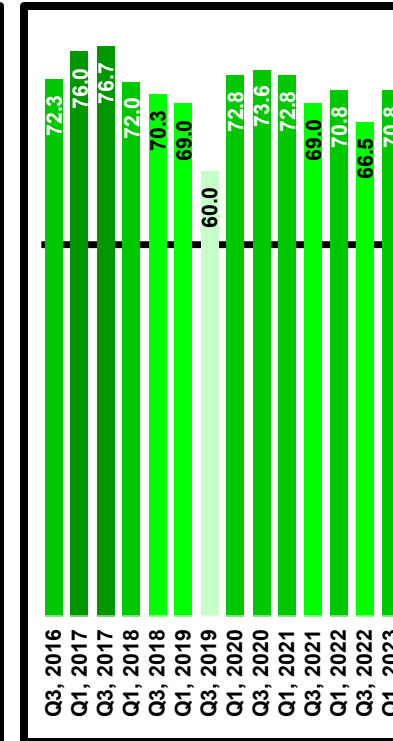
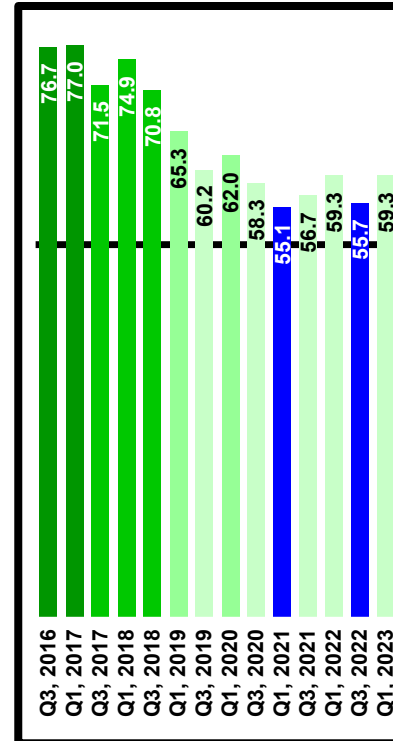
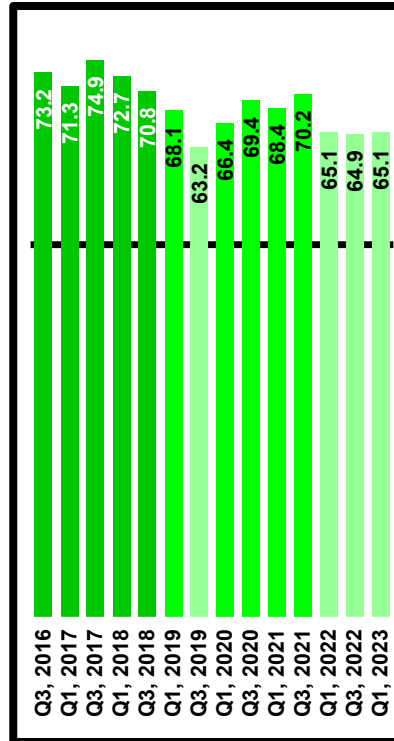
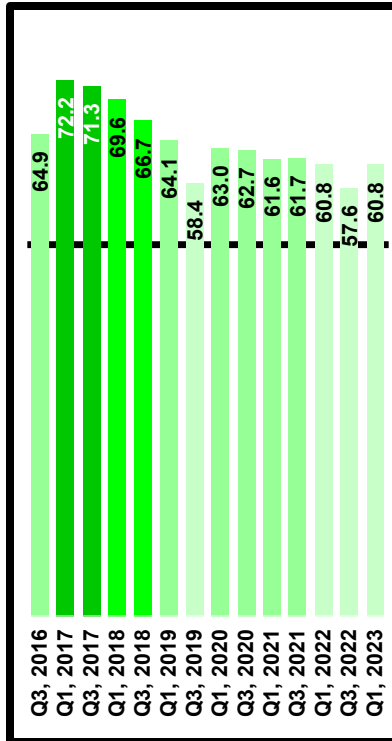
## All Utility & Contractors

## Electric Dist.

## Gas Dist.

## Telecom

## Water/Sewer



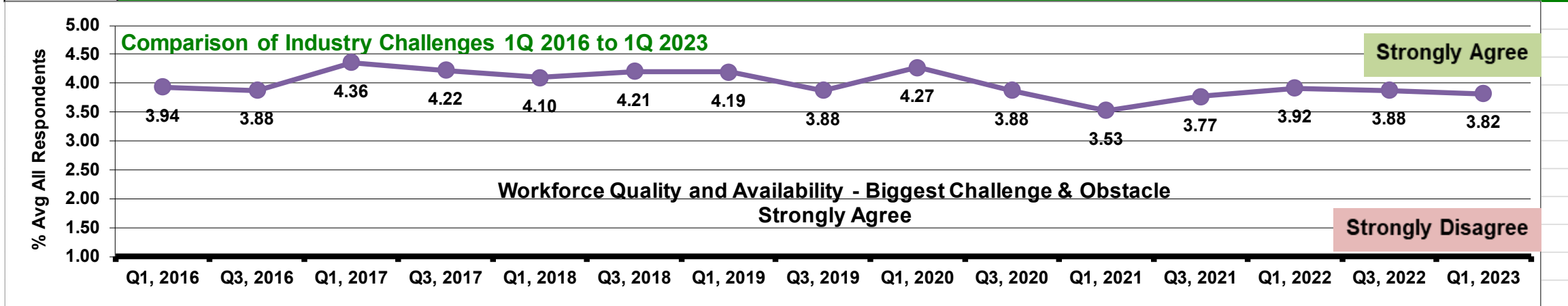
**Utility Construction Index**  
 > 50 Indicates Growth (Better)  
 < 50 Indicates Slowing (Worse)

Interpretation: A reduction from 72.2 (1<sup>st</sup> Q 2017) down to 58.4 (3<sup>rd</sup> Q 2019) for All Utility Contractors indicates that while perceptions of the market are still positive, they are less positive than they were prior to 2017.

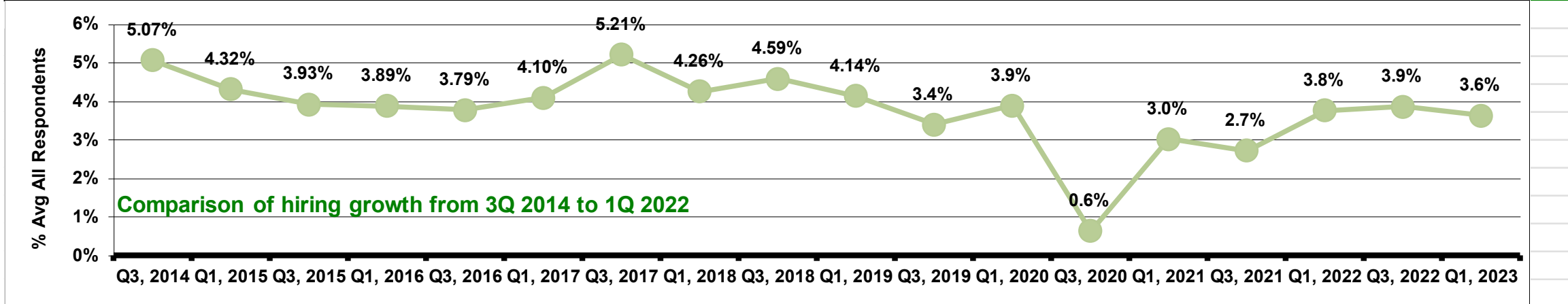
Source: Proprietary Continuum analysis of utility contractor perceptions over 2015-2022.

# Utility Industry Perceptions (2 of 5)

**Exhibit x Market Drivers & Constraints - Workforce Quality & Availability**



**Exhibit x What changes do you foresee in the number of fulltime direct employees in your organization for <year>? (excluding natural attrition, retirements, etc.)**



# Utility Industry Perceptions (3 of 5)

Exhibit x

What changes do you foresee in your Cap Ex for facilities, equipment and other resources in <year>?

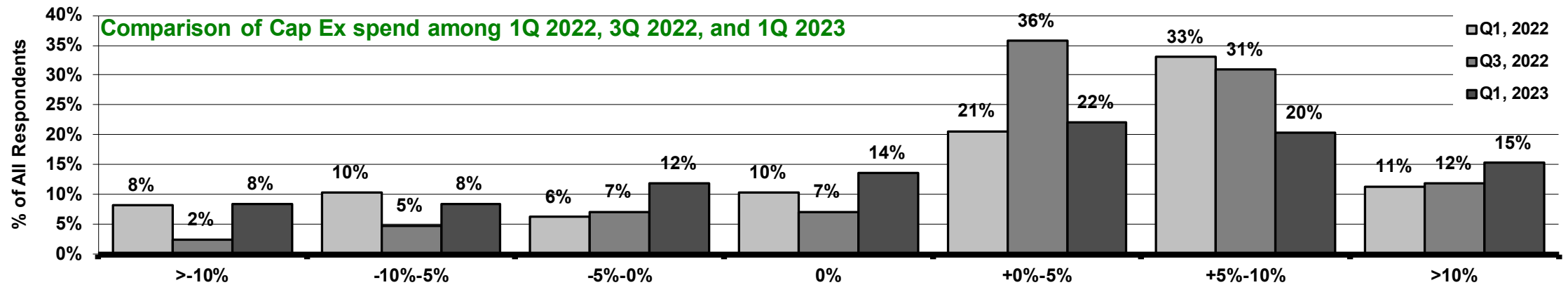
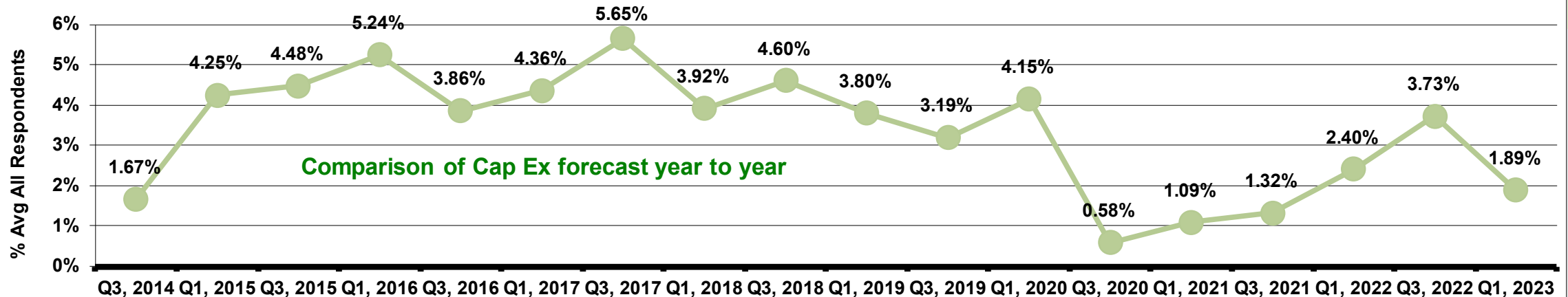


Exhibit x

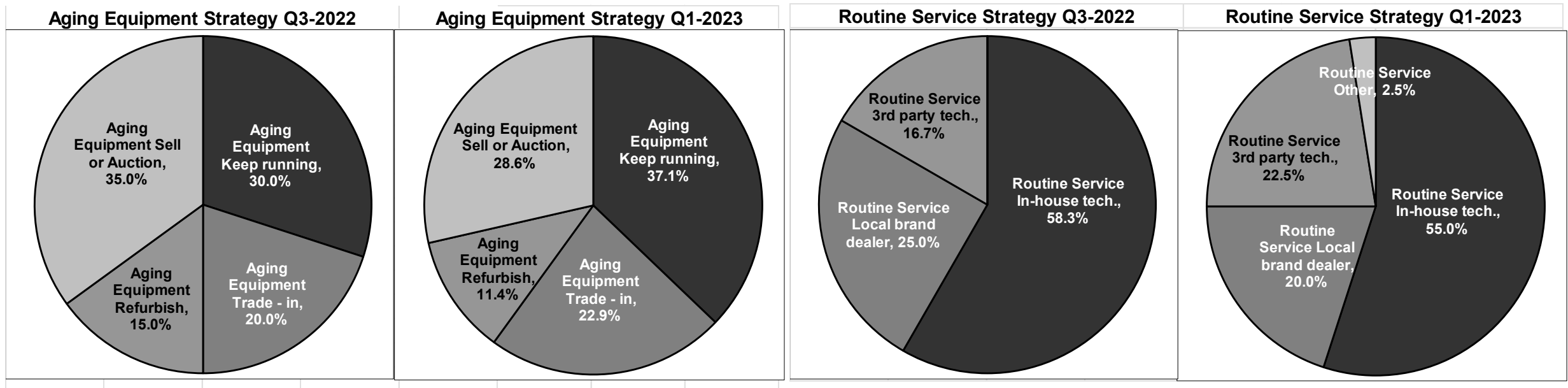
What changes do you foresee in your Cap Ex for facilities, equipment and other resources in <year>?



# Utility Industry Perceptions *(4 of 5)*

## ► 2023/2024 Management of Equipment Fleet & Assets

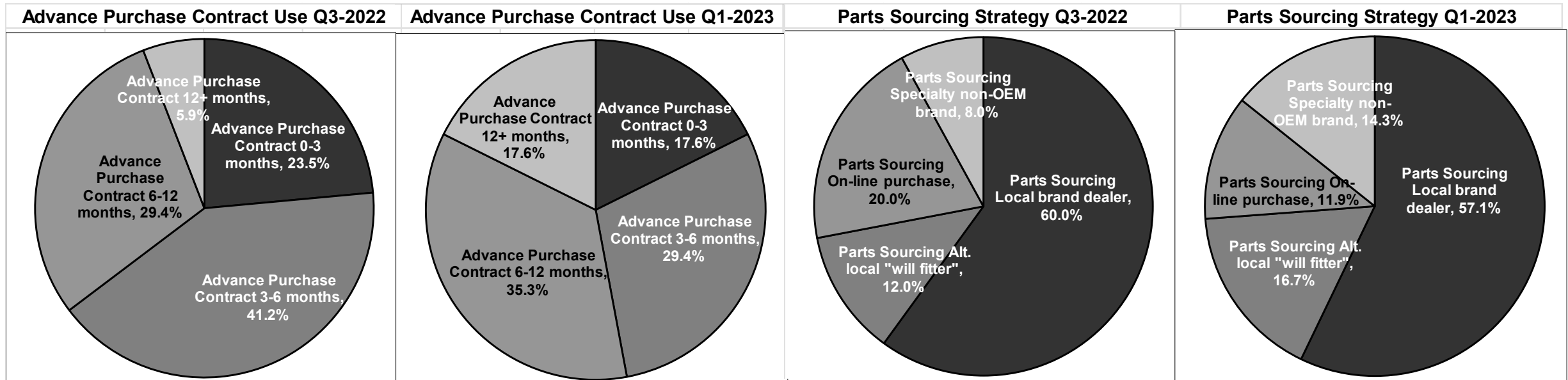
- Aging Equipment Strategy – Substantial increase in “Keep Running” choice implying some pessimism about market dynamics
- Routine Service Strategy – Reduced in-house and increased 3<sup>rd</sup> party – perhaps driven by mechanic workforce availability or use of more flexible outsourcing options



# Utility Industry Perceptions *(5 of 5)*

## ► 2023/2024 Management of Equipment Fleet & Assets *(Continued)*

- Advance Purchase Contract Use – Increased use of 6-12 month or 12+ month contracts pushing decision farther into the future – perhaps as sign of pessimism
- Parts Sourcing Strategy – Some shifting in use of non-OEM and/or on-line purchase use; limited change in local dealer and “will fitter” use



# US Economic Overview *(1 of 4)*

- ▶ Recession Potential Reduced: We appear to have dodged a short-term bullet and economic resilience, employment demand, consumer confidence remain positive – can we hold on to a soft landing and reacceleration in 2024?
  - GDP growth 2.4% in Q2, up from 2.0% in 1Q – remains resilient – is this optimism or something else?
  - No likely recession in 2023 – potential remains for 2024 – all economic expansions end the same way!
- ▶ Business Pessimism vs. Optimism: Capital spending decelerating slightly across the board – anticipating further slowdown and desire to take a more conservative financial posture
  - Ironically, both consumer and business confidence has improved in last 2 quarters
  - Continued infrastructure capital spending pull back by private sector – Federal/State infrastructure spending continues to accelerate



# US Economic Overview *(2 of 4)*

- ▶ Energy Markets Stabilizing: Natural gas, gasoline, diesel, etc. generally trending up slightly in last several months – not too high and not too low – down more substantially from 1 year ago
- ▶ Housing Market Volatility: National prices are falling from 1 year ago – rising in this calendar year
  - Housing starts for June down to 1.4 million annualized – slowing but still health market
    - Available home inventory for sale at record low levels – providing some encouragement for new construction
    - Move distances increasing – normally a sign of economic expansion – this case baby boomer chasing grandchildren
    - Demand for 2<sup>nd</sup>/3<sup>rd</sup> vacation homes down 50% from pre-pandemic highs
  - Mortgage rates are a drag on borrowers in two ways – holders of low rate mortgages don't/can't afford to move, renters can't/won't transition to borrowers at higher rates
  - Multi-Family permit demand slowing – not showing up in construction activity – simply scan the horizon in cities across the country for tower crane activity!

# US Economic Overview *(3 of 4)*

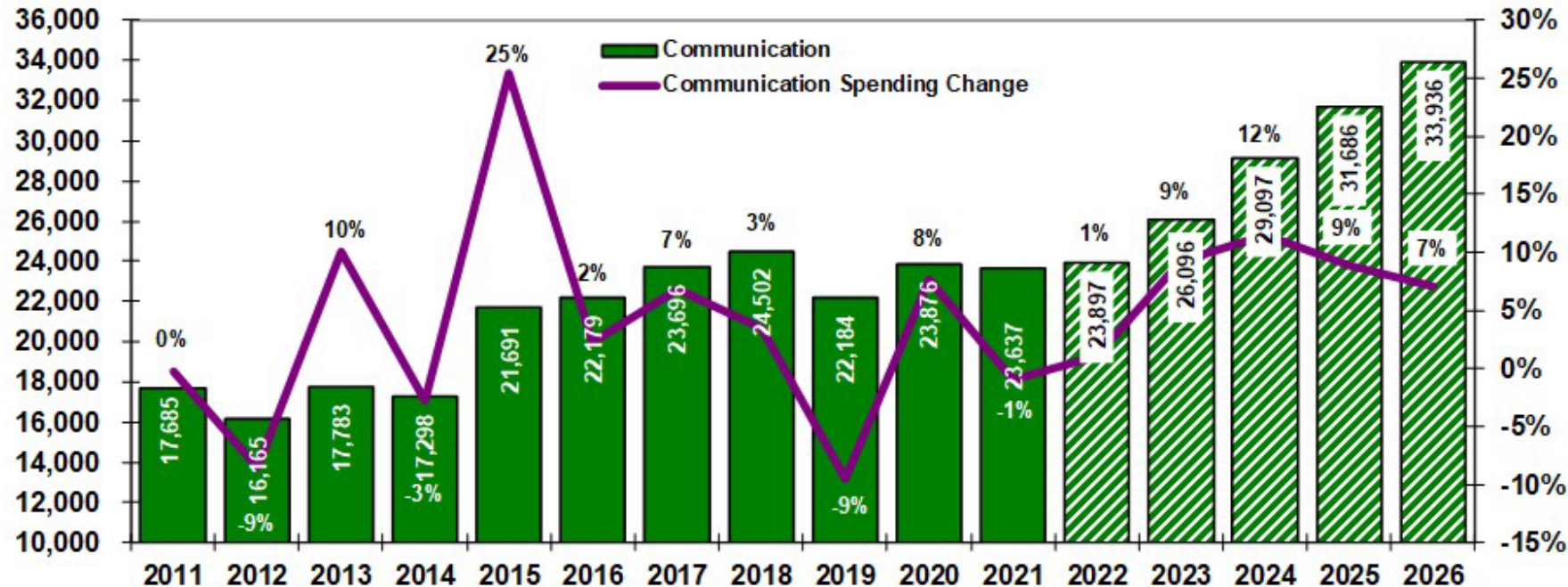
- ▶ Continued Growth Slowing: Federal Reserve wants to slow the economy and bring down inflation to 2.0% target
  - Borrowing rates are higher than they have been since the early 1990s – Fed raised rates 11 times in current cycle – they are not done yet but are on pause till deeper in 2023
  - Banks are tightening lending requirements
  - Wage growth slowing from above 4%
  - Job additions down to 187,000 for July – not too little and not too much – workforce participation and unemployment remain steady – jobs added for 31 straight months
    - Temporary help use by manufacturers down by 170,000 since October 2022
  - Inflationary drag remains – year-over-year rate to 3%, down from 4.9% earlier in 2023 due to price hikes in 2022 falling out of calculation – annualized inflation remains above 4% - still far too high
    - Product inflation falling - Business services inflation stubbornly high driven by workforce availability
  - China and Europe economic condition continuing to slow – US impact?
    - UK and Germany entering recession?
    - Global export markets continuing to slow
    - US exports slowing
  - Consumer spending steadily slowing from pandemic spike

## US Economic Overview *(4 of 4)*

- ▶ We will continue to see Volatility, Uncertainty, Complexity, and Ambiguity (VUCA) in all of the traditional ways to look at economic performance. This disruption however is the source of significant opportunity in the construction markets, innovative workforce strategies, growth strategies, etc.:
  - **Volatility:** Inflation & Consumer Borrowing: Stock and bond market volatility attempting to position for unsure future while higher interest rates punishing borrowers
  - **Uncertainty:** Recession Potential and Fear: Federal Reserve actions continuing to slow resilient growth
  - **Complexity:** Interest Rates: 11 rate increases in 2022-2023...too far, too fast won't be known until its too late!
  - **Ambiguity:** Geopolitical: Iran/Russia/Ukraine
- ▶ Federally mandated spending, IIJA, IRA, regulation, and service demand have formed a floor under utility markets that will mitigate any general recession

# Broadband Construction

- ▶ **Opportunity:** Unrelenting demand for streaming and wireless data usage is growing exponentially; Only 50% fiber penetration to U.S. households; \$2.7 billion Digital Equity Act and the BEAD program of \$42.45 billion are budgeted and will be spent regardless of economic or political conditions.
- ▶ **Volatility:** First of its kind decision by the Federal Communications Commission (FCC) to reject Starlink’s Rural Digital Opportunity Fund (RDOF) application for \$885.5 million.
- ▶ **Uncertainty:** Untested and unchallenged FCC broadband penetration maps – will agreement be reached on formulation of the new maps?
- ▶ **Ambiguity:** 24 states lack a formal broadband office for rollout of federal funding (AL, AK, AZ, DC, DE, HI, ID, IA, MI, MS, MT, NE, NV, NH, NJ, ND, OK, PA, SC, SD, TN, TX, VT and WY).

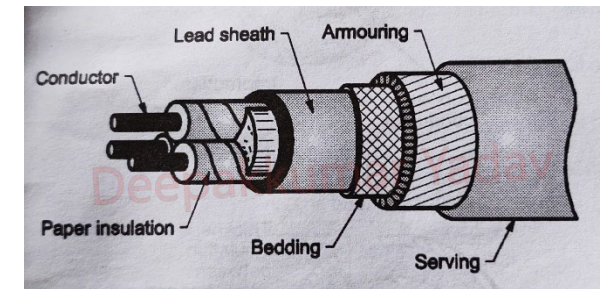


Source: Building permits, construction put in place, and trade sources. Continuum prepared forecasts for 2022-2026.



## Lead Casing & Cable View *( of 2 )*

- ▶ Lead wire sheathing installation era - 1930-1960 - Flexible lead cable sheath covering rubber or pvc-insulated electric conductors
- ▶ WSJ Article: “AT&T, Verizon and other telecom giants have left behind a sprawling network of cables covered in toxic lead that stretches across the U.S., under the water, in the soil and on poles overhead . . . . As the lead degrades, it is ending up in places where Americans live, work and play.”
  - AT&T System = 2 million miles; 2/3 buries or in conduit; <10% is lead clad
  - Verizon System = 540,000 miles; very small % is lead clad
  - TDS Communications - <10 miles is lead clad
- ▶ US Senator Edward Markey (D-Mass) letter on 7/11/23 to USTelecom
- ▶ VUCA: New market opportunity created for removal and replacement of lead sheath cable

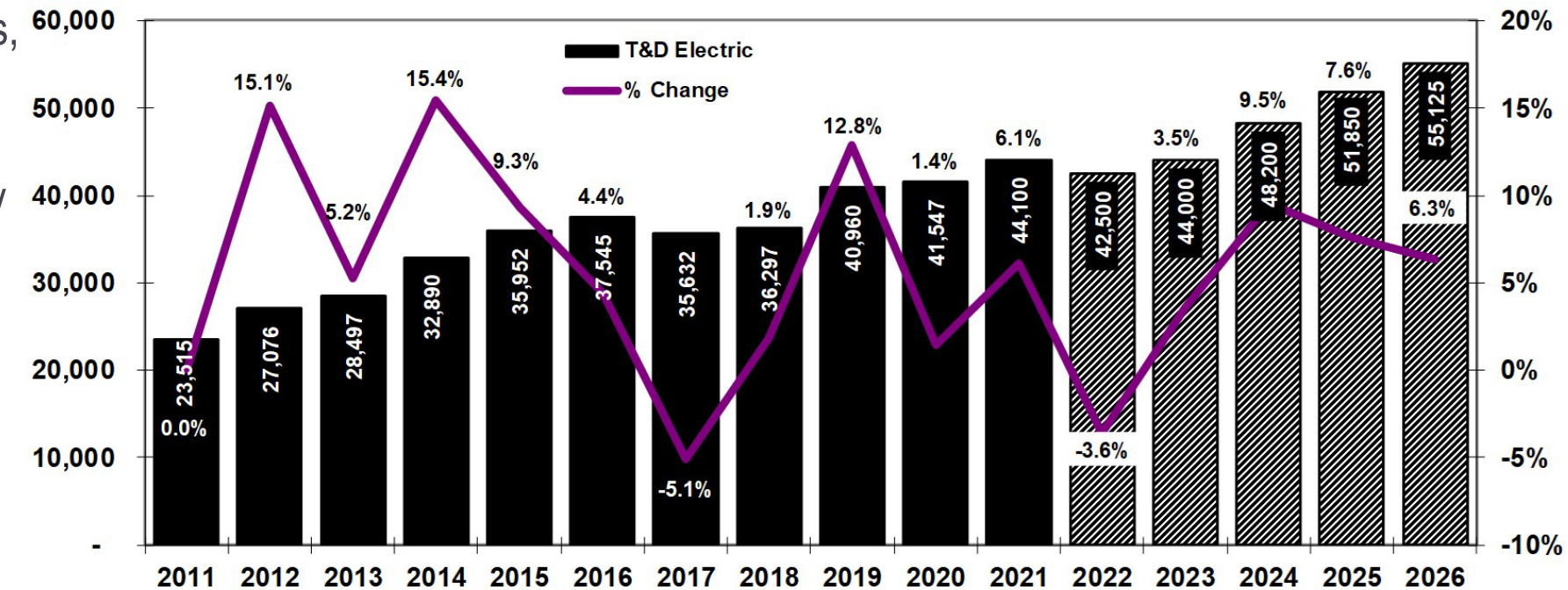


## Lead Casing & Cable View *(2 of 2)*

- ▶ How did we get here?
  - **Hypothesis 1:** AT&T planted the story with the WSJ as a way to begin getting the market and Federal authorities to consider providing funding for lead cable removal (similar to Federal funding for lead water pipe removal).
  - **Hypothesis 2:** Long or Short angle investors planted the story with the WSJ as a way to move the stock of telecom companies and capitalize on these movements.
  - **Hypothesis 3:** Class action attorneys saw the existence and use of lead clad cable and lead cable as a new opportunity for a negotiated settlement similar to the original asbestos settlement and the subsequent Johnson & Johnson asbestos settlement.
  - **Hypothesis 4:** That the real target is municipal use of lead clad electric cable and lead electric cable where Federal authorities might consider providing funding for removal (similar to Federal funding for lead water pipe removal).
  - **Hypothesis 5:** The WSJ, as part of their normal investigative journal efforts, came across this topic, chose to investigate it including undertaking the soil testing described in the article, and concluded there is a real problem here that exposes workers and the public to safety hazards and needs a solution.

# Electric Transmission & Distribution

- ▶ **Opportunity:** Current Government, environmental, social push to electrify everything; Electric reliability efforts including significant undergrounding with the states of FL and VA leading the way with how to economically and efficiently underground electric assets and achieve much higher reliability.
- ▶ **Complexity:** Extreme weather events — droughts, hurricanes, flooding, heat waves and wildfires — demand improved reliability using multiple strategies. These strategies include energy storage, distributed generation, microgrids, infrastructure hardening, load management, and undergrounding among others.



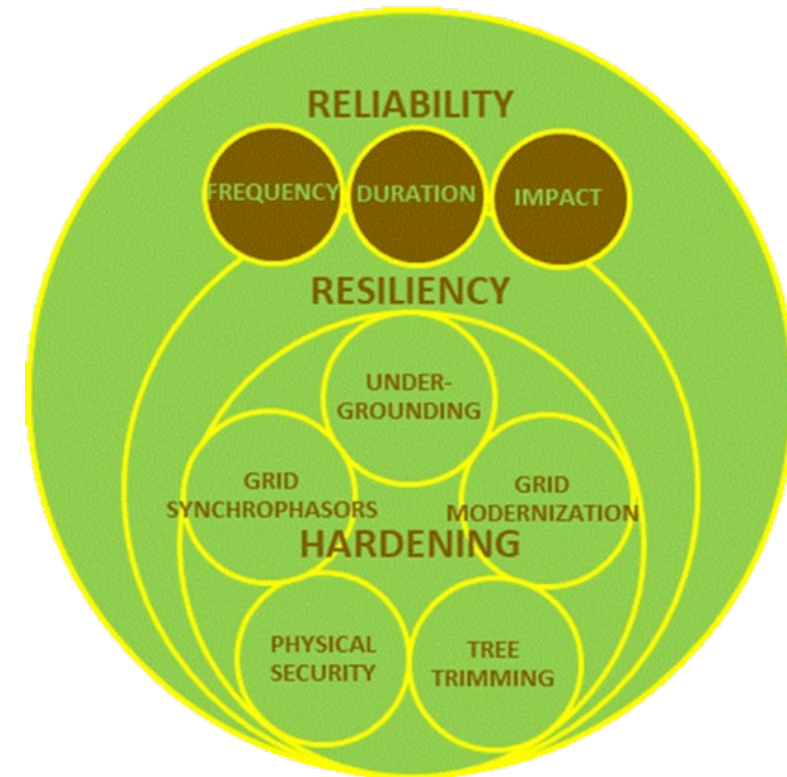
Source: Building permits, construction put in place, and trade sources. Continuum prepared forecasts for 2022-2026.



# Underground Electric History & Vocabulary

- ▶ Turning Points
  - 1992 FL Hurricane Andrew
  - 2004 FL Hurricanes Charlie, Frances, Ivan, and Jeanne
  - 2012 East Coast Super Storm Sandy & Derecho
- ▶ Vocabulary
  - Hardening: Physical changes that improve the durability and stability of specific pieces of electric distribution or transmission system infrastructure
  - Undergrounding: Installation of new or relocation of existing electric infrastructure underground to remove any exposure to certain types of extreme weather
  - Reliability: long-term and operational steps that reduce the probability of power interruptions and prevent loss of customer load
    - Resiliency: steps taken to reduce outage damage and hasten restoration or recovery to shorten outage duration

**Exhibit 1.1**  
**Reliability Related Vocabulary**





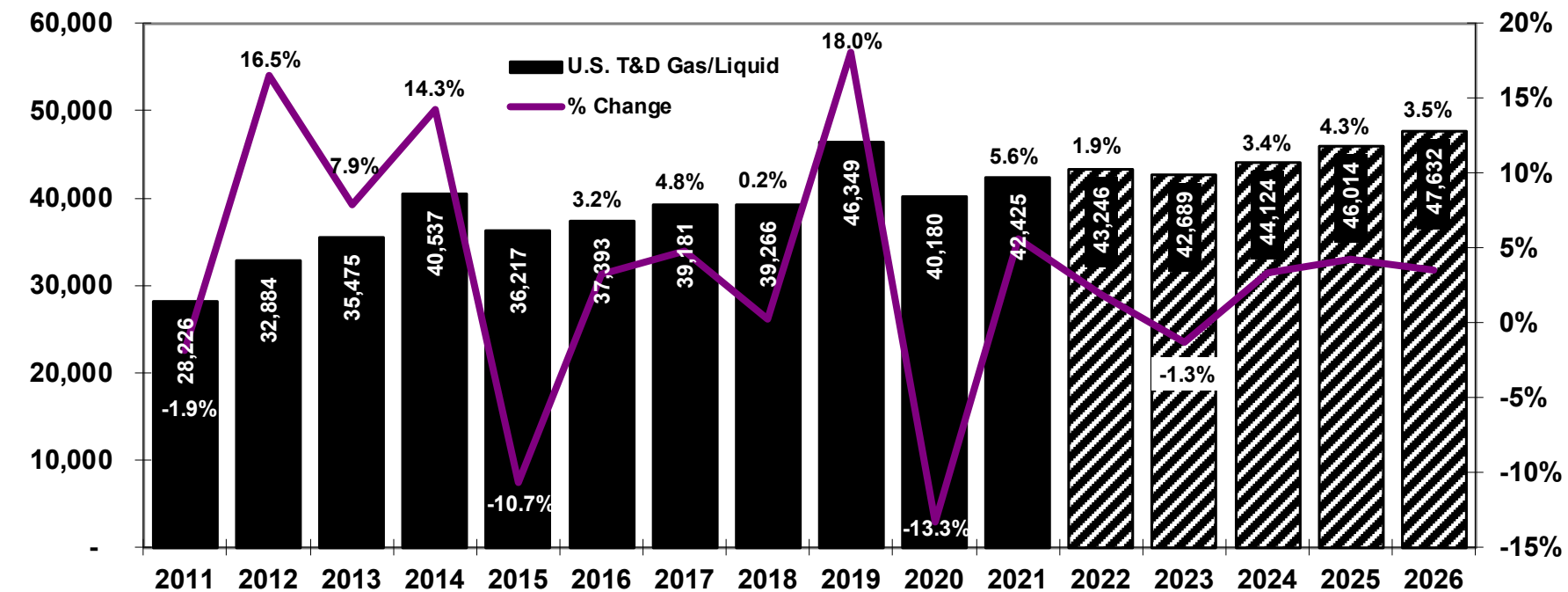
- ▶ Strategic Undergrounding: Undergrounding of selective high risk or impact segments of electric distribution infrastructure
  - Lowest lifecycle cost option for selected segments – upfront cost, while higher than doing nothing or building new overhead, yields lower maintenance, lower restoration, higher system resiliency and reliability, and longer cable life (2-3x longer than wooden pole supported cable), reduced tree trimming – resulting in the lowest long-term lifecycle cost
    - Dominion – Reduction in outage duration of 20-30% after undergrounding
    - Dominion – Reduction from 300 annual average outage minutes to 3 annual average minutes per customer on system segments after undergrounding
  - Capital investment opportunity for electric utilities
  - Legislatively driven in Virginia and California as examples:
    - California Senate Bill 884 (enacted September 29, 2022): Charges the CPUC to expedite the approval of electric utility proposals to bury distribution in California High-Fire Threat Districts.
  - PG&E scrapped their tree trimming program in favor of grid tech and undergrounding

### ► PCCA Opportunity:

- Member are perfectly positioned to execute this undergrounding work;
- Collaboration with PDi<sup>2</sup> ([www.pdi2.org](http://www.pdi2.org)) opens door to helping IOU, Co-Op, and Municipal electric utilities investigate and position successfully the pursuit of a “Strategic Undergrounding” effort
- PDi<sup>2</sup> White Paper – Targeted for publishing in August 2023
  - Executive Summary
  - Myth Busting Table
  - The Current State of Undergrounding Electric Infrastructure (Who is Doing What and Where)
  - Cost of Current and Emerging Practices in Materials and Undergrounding Techniques
  - Factors Affecting The “True Lifetime Cost” of Undergrounding...Taking the Long View
  - Boardroom and Regulatory Support is Required to Pursue the Undergrounding of Existing Overhead Infrastructure

# Gas Distribution & Pipeline

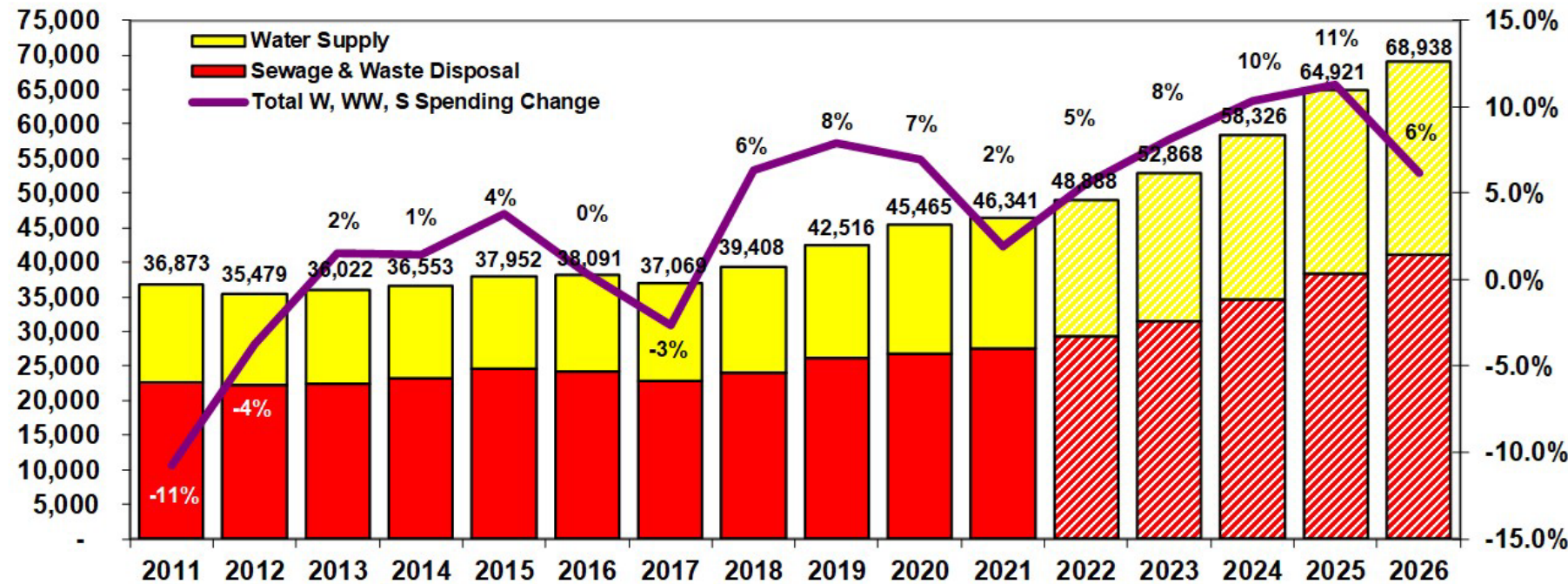
- ▶ **Opportunity:** Continue replacement of at-risk natural gas distribution assets for safety reasons for at least another 10 years; A “green” future that requires the collection, transportation via pipeline, distribution and/or storage of RNG, H<sub>2</sub> or H<sub>2</sub> blending, and CO<sub>2</sub>.
- ▶ **Complexity:** The integration of H<sub>2</sub> and RNG into the natural gas system and the transport of H<sub>2</sub> via pipeline introduce a series of complex technical, design, or construction challenges that are just now getting attention.
- ▶ **Ambiguity:** Is it the product in the pipeline or the pipeline itself that is facing government, social, and environmental attacks to not permit these facilities? The capture, transport, storage or use of carbon dioxide to reduce greenhouse gas emissions can only be accomplished via pipeline.



Source: Building permits, construction put in place, and trade sources. Continuum prepared forecasts for 2022-2026.

# Water & Sewer

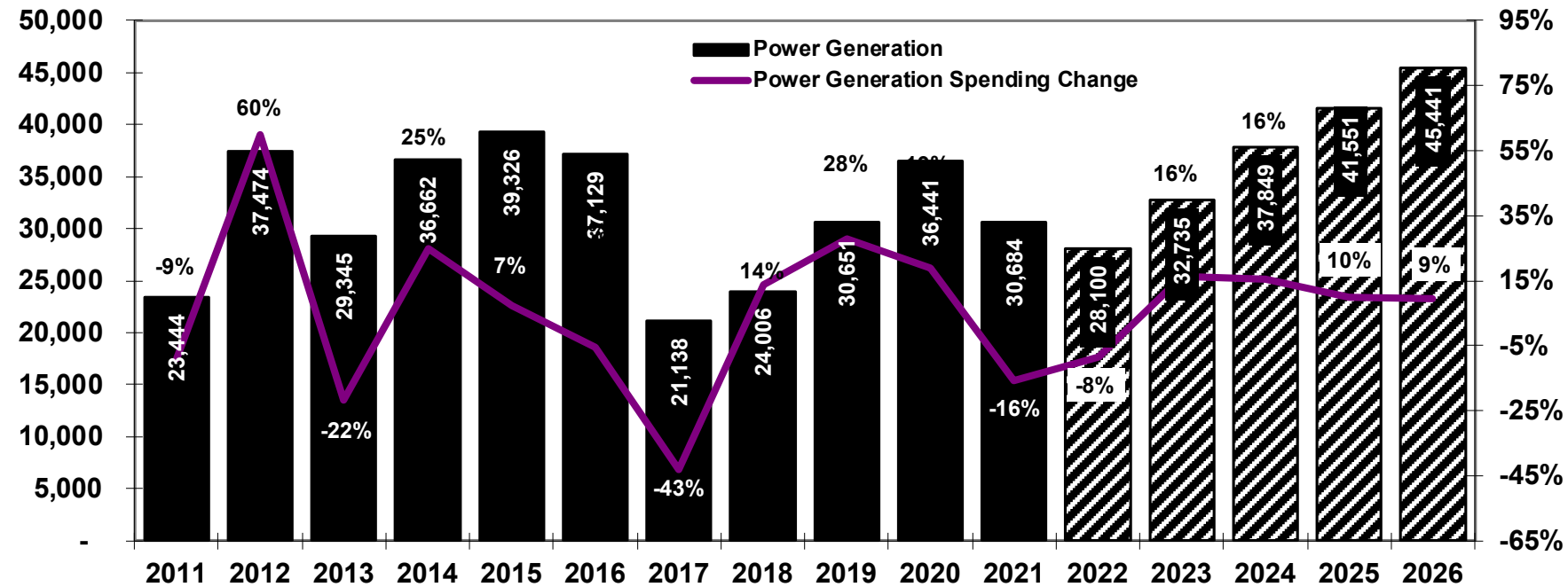
- ▶ **Opportunity:** The combination of federal funding and unexpectedly flush state and municipal budgets will result in one of the most robust construction spending growth rates exhibited in the sewer market in over a decade.
- ▶ **Opportunity:** Water scarcity and extreme weather events demand newer, more robust, and more efficient water infrastructure.
- ▶ **Volatility:** The supply chain challenges and compliance with the federal funding requirements will slow the implementation of spending in 2023 after which faster growth will occur.
- ▶ **Uncertainty:** The federal money for lead service removal is a drop in the bucket. Is additional state or federal funding forthcoming to chase this effort to the finish line?



Source: Building permits, construction put in place, and trade sources. Continuum prepared forecasts for 2022-2026.

# Power Generation

- ▶ **Opportunity:** Federal, social, investment support for renewables (wind, solar primarily) is dominant and will continue. Economics are not the driver, federal support through IPC and PTC.
- ▶ **Volatility:** Impact of transition toward renewables and corresponding removal of traditional power generation from grid on power cost and availability.
- ▶ **Uncertainty:** Have or will we reach the point where the economics of various power generation sources are the primary driver of their construction and use?



Source: Building permits, construction put in place, and trade sources. Continuum prepared forecasts for 2022-2026.

# Thank You

## **MARK BRIDGERS**

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# Mark Bridgers

Mark founded and leads a Utility Vertical Market team team at Continuum Capital. He works with gas/electric utilities, power generators, pipeline companies, and energy companies. As a recognized expert in capital construction and operational challenges, Mark was recently honored with membership in the Society of Gas Operators (SOGO) and the Guild of Ancient Suppliers.

Mark helps firms prepare for and successfully navigate “strategic transitions.” His passion is helping organizations achieve breakthrough innovations through collaborative or integrated relationships. He is the architect of an approach for integrated service provider management referred to as the “Extended Enterprise” among construction industry participants.

Mark is an avid educator, trainer, and writer with more than 20 years of industry expertise including financial performance analysis; development and implementation of tools to reduce construction cost, life-cycle cost, and operational friction; restructuring of processes and procedures - often times using LEAN Construction techniques; and leader development.. He is a recognized expert in capital construction and operational challenges . Mark is also author of over 150 articles and research papers published internationally in industry journals, including ENR, PE – The Magazine for Professional Engineers, Pipeline & Gas Journal, Utility Contractor (NUCA), Underground Contractor, Electric Energy (RMEL) and Electric Perspectives (EEI).

Mark holds a master’s degree in business administration from the University of Virginia’s Darden school of Business and a bachelor’s degree in financial management from Clemson University. In addition, he earned the designation of Chartered Property and Casualty Underwriter (CPCU) and Associate in Reinsurance (ARe).



# About Continuum

Continuum Capital is a boutique management consulting, training, investment banking, and capital services firm providing services to the worldwide construction industry. We provide services in the areas of strategic market information, acquisition integration, ownership transition, private equity financing, project delivery improvement, management and field-level training, strategic planning, strategic sourcing, and productivity improvement.

<b><i>Mission Statement</i></b>	Transform capital asset construction worldwide.
<b><i>Founded</i></b>	2011
<b><i>Office Locations</i></b>	Raleigh, NC; Birmingham, AL; Denver, CO; Dallas, TX; Chicago, IL; Baltimore, MD
<b><i>Number of Employees</i></b>	9
<b><i>Geographic Market</i></b>	United States, Canada, Latin America, Europe, and Pacific Rim
<b><i>Continuum Capital's Clients</i></b>	Contractors; engineers; architects; government agencies; utility companies; manufacturers and distributors of construction materials and construction equipment
<b><i>Consulting Clients</i></b>	15 per year (90% of whom are repeat customers)
<b><i>International Speaking Locations</i></b>	Brazil, Canada, France, Mexico, South Korea, United Arab Emirates
<b><i>Professional Lecture &amp; Speaking</i></b>	20 per year
<b><i>Knowledge &amp; Database Access</i></b>	Proprietary database tools for benefit of clients: <ul style="list-style-type: none"> <li>a) Utility construction index from 2009 to present;</li> <li>b) Utility construction field productivity improvement techniques from 1700 surveys;</li> <li>c) Utility contractor financial performance comparison of 50+ publicly traded and privately held firms;</li> <li>d) National and regional utility construction spending history and forecast</li> <li>e) Gas utility "Best Practice" database and knowledge defining superior performance from 2000 to present</li> <li>d) 35,000 contact database to support acquisition, research, and industry knowledge</li> </ul>
<b><i>Corporate Web Site</i></b>	<a href="http://www.ContinuumCapital.net">www.ContinuumCapital.net</a>
<b><i>Energy &amp; Utility Team Leader</i></b>	Mark Bridgers – President & Founder Continuum Capital; Director Utility Vertical Market



Founded in 2011, Continuum Capital provides boutique management consulting, capital services, and training, to the energy, utility, pipeline, and industrial markets supporting the successful and efficient planning, design, construction, and operations of capital asset.

Continuum utilizes a proprietary “SMART Advisory” methodology to deliver innovative and customized solutions to energy, utility, or pipeline owners/operators who want to transform their capital asset construction processes. Service providers to these firms, including underground and overhead contractors and engineers, are integrated into the transformation process, frequently forming what Continuum refers to as an “Extended Enterprise.”

Continuum’s experienced consultants can assist your business with Capital Construction/O&M Unit Effectiveness, Program Management Office Transformation, Risk Management/Mitigation for Capital Asset Construction, Project Management/Controls Installation, Process Analysis & Improvement, Management of RFI / RFQ / RFP / Procurement, Extended Enterprise/Alliance Formation, and Field Productivity Assessment & Improvement.

Additional and specialized services include, M&A or Due Diligence support, market strategy, Market Research, Cost Analysis & Savings, Cost to Complete Analysis, Cost to Convert to Best Purpose, and Cost to Restore Asset.

Let Continuum transform your business!

**S** – Strategic Relations

**M** – Measurable Objectives

**A** – Aligned Sourcing

**R** – Risk Controlled

**T** – Technology Enabled

