

# Investing in the Industries Fueling the AI Boom

**Industries, Stocks, ETFs, and IPOs to capitalize on the once-in-a-generation energy sector megatrend, driven by the power-hungry AI boom.**

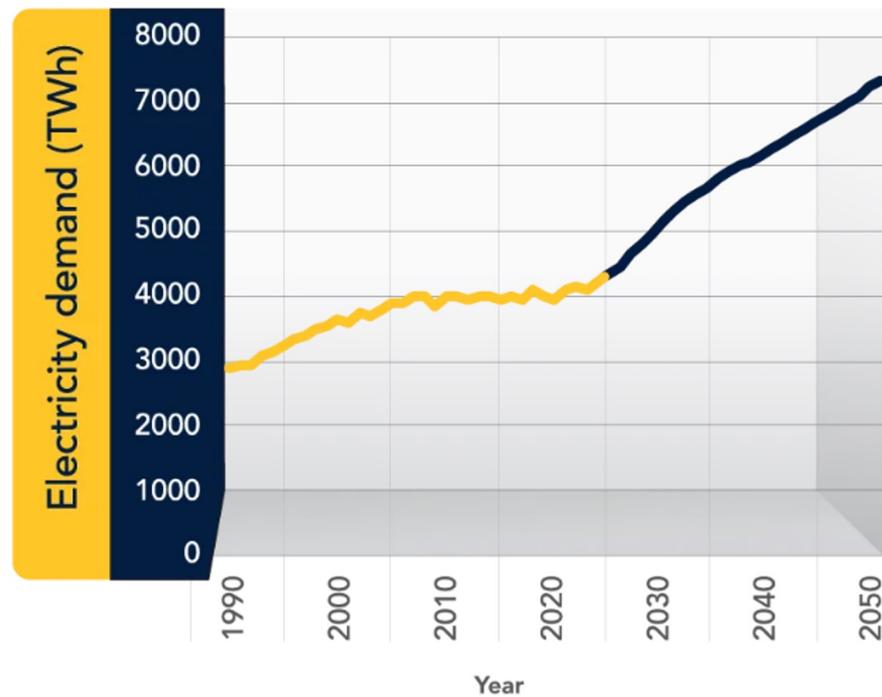
*Ben Rains, Stock Strategist at Zacks Investment Research*

# AI + Energy Investment Supercycle

- **AI** marks a paradigm shift for energy demand.
- Generative AI like ChatGPT use **10x energy** of a Google search.
- Large data centers consume as much electricity as a **midsize city**.
- Electricity demand to grow **~25% by 2030** and **~75% by 2050**.
- The next decade will require more new electricity than any period in U.S. history.
- **All-of-the-Above Approach**
  - U.S. and Big Tech are pursuing every option:
    - Nuclear
    - Natural Gas
    - Solar
    - Storage



# Soaring Electricity Demand



— Historical electricity demand

— Projected electricity demand

— Historical peak electricity demand

— Projected peak electricity demand

Source:  
ISO/RTO Forecasts, NERC ES&D, Utility IRPs, ICF

Note:  
1. Historical demand represents data from NERC ES&D from 1990 to 2023, 2024 represents forecast from NERC ES&D.  
2. Q1 2025 represents ICF's demand projections from 2025 to 2050, based on data sources mentioned above.





# Spending Boom

- **Massive AI and Data Center Spend**
  - AI hyperscalers: **~\$400B capex in 2025**
  - AI hyperscalers: **~\$530B capex in 2026**
  - Global data center infrastructure: **~\$7T by 2030** (McKinsey)
- **Energizer Investment**
  - **~\$1.3T** needed for electrical and mechanical equipment, power generation, and networks
  - **~40% of this spend in the U.S.**
- **Sector Gaps and Grid Strain**
  - Energy sector faces a **\$578B investment gap by 2033**
  - Utilities must **double transmission capacity by 2050**
  - PJM's prices soared over **800% last year**
- **Energy Mix Shifts**
  - U.S. aims to **quadruple nuclear capacity by 2050**
  - Natural gas, solar, and other renewables must grow
  - **Coal in decline**

# Wall Street Opportunities

- **Attractive entry points for 2026** across select stocks and ETFs
- AI energy trade cooled in H2 2025
- **Vistra, GE Vernova, Constellation,** and **Talen** now trading at or below August 2025 levels
- **Home-run stocks in correction:** Next-gen nuclear, uranium, AI power infrastructure, solar
- **Early bullish signals in 2026:** Range Nuclear Renaissance ETF up **9% YTD**



# Nuclear Energy

- **Nuclear is the most reliable domestic clean energy source**
  - **2.5–3.5× more dependable** than wind and solar
- Share of U.S. electricity generation has remained largely unchanged for 35 years
- Government aims to **quadruple nuclear capacity by 2050**
  - President Trump signed a **nuclear energy executive order** in May
- Decades of stagnation create significant upside potential
- Amazon, Google, Meta, and Microsoft all secured nuclear deals in 2024 and 2025



# Nuclear Investments



## GE Vernova (GEV)



Pure-play energy transition company; growth in electrification, nuclear/SMRs and natural gas.



## Rolls-Royce (RYCEY)



Historic engine maker; applying nuclear propulsion expertise to SMRs.



## Constellation Energy (CEG)



Largest U.S. nuclear operator; 20+ reactors across ~12 sites; acquired Calpine for \$26.6B, expanding TX and CA footprint.



## Cameco (CCJ)



2nd-largest uranium producer; owns 49% of Westinghouse; key for U.S. nuclear security; building 10 large U.S. reactors.



## Nuclear Power Generation



## Small Modular Reactors (SMRs)



## Uranium



## Fuel Cycle, Engineering and Technology



## Nuclear ETFs

Range Nuclear Renaissance ETF (NUKZ)  
VanEck Uranium and Nuclear ETF (NLR)

# Small Modular Reactors (SMRs)

## **GE Vernova Hitachi Nuclear Energy (GEV)**

BWRX-300 selected by U.S. DOE and Canada for next-gen SMRs - deployments planned in US, Canada, and beyond.

## **NuScale Power (SMR)**

First SMR technology to receive design approval and certification from NRC.

## **Oklo (OKLO)**

Targeting commercial operation by late 2020s.

## **Rolls-Royce (RYCEY)**

Working with British government to build its first three small modular reactors by the 2030s.

## **Westinghouse Electric (CCJ) and (BEP)**

In talks to build 10 reactors under U.S. executive order. Owned by Brookfield Renewable Partners (51%) and Cameco (49%)

## **Holtec International (IPO in early 2026)**

## **TerraPower (Private)**

Broke ground on demonstration plant in Wyoming (2024).

## **X-energy (Private)**

Partnerships for projects with Dow and Energy Northwest/Amazon.

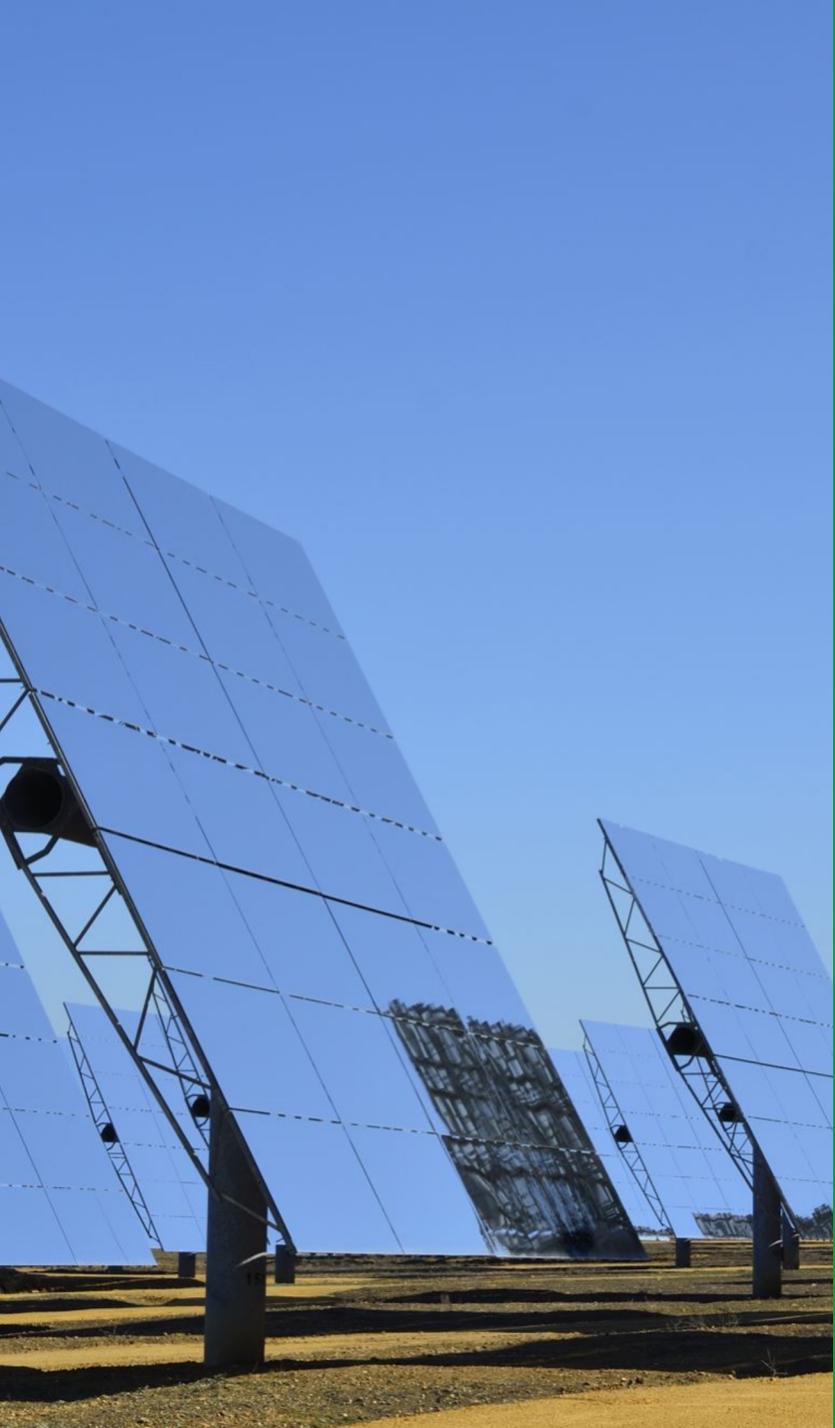
## **Kairos Power (Private)**

Signed PPA with Google for multiple SMRs.

# Uranium Stocks

- **Cameco Corporation (CCJ)**
  - 2nd-largest uranium producer; key in refining, conversion, and fuel services.
  - 49% of Westinghouse Electric; in talks for 10 U.S. reactors.
- **Centrus Energy (LEU)**
  - U.S.-based LEU supplier; delivered 920 kg HALEU to DOE.
  - \$3.8B backlog.
- **Energy Fuels Inc. (UUUU)**
  - Diversified uranium and rare earth producer; expanding capacity.
  - Debt-free; strong balance sheet amid rising demand.
- **Uranium Energy Corp (UEC)**
  - U.S.-focused uranium developer; positioned as U.S. cuts Russian reliance.
  - Debt-free with strategic reserves; upside potential if market stabilizes.





# Solar Energy Outlook: Opportunities and Key Player

## Challenges and Recovery

- Solar stocks pressured by higher interest rates, Chinese panel oversupply, and fading tax incentives.
- Downturn creates **buying opportunities** at discounted levels.
- Industry poised for rebound: AI boom + fossil fuel transition; solar 4% of U.S. electricity (2025) vs. hydro 6% and wind 10%.

## Growth Projections

- Strong runway from rising tech demand and renewable shift.
- Current market offers **undervalued entry points** for investors.

## Grid-Scale Solar

- Quickest construction: 1–2 years post-permitting; total development 2–4 years.

## First Solar, Inc. (FSLR)

- Largest U.S. panel maker; efficient thin-film PV; avoids Chinese manufacturing.
- Investing billions in U.S. facilities; revenue growth 22% (2025), 23% (2026); earnings +21% and +60%.

# Battery Storage: Growth and Investment Opportunities

## Role in Renewable Transition

- Stabilizes grid as solar and wind fluctuate; stores excess power for peak demand.

## Current Landscape

- U.S. battery storage: **~59%** growth in 2025

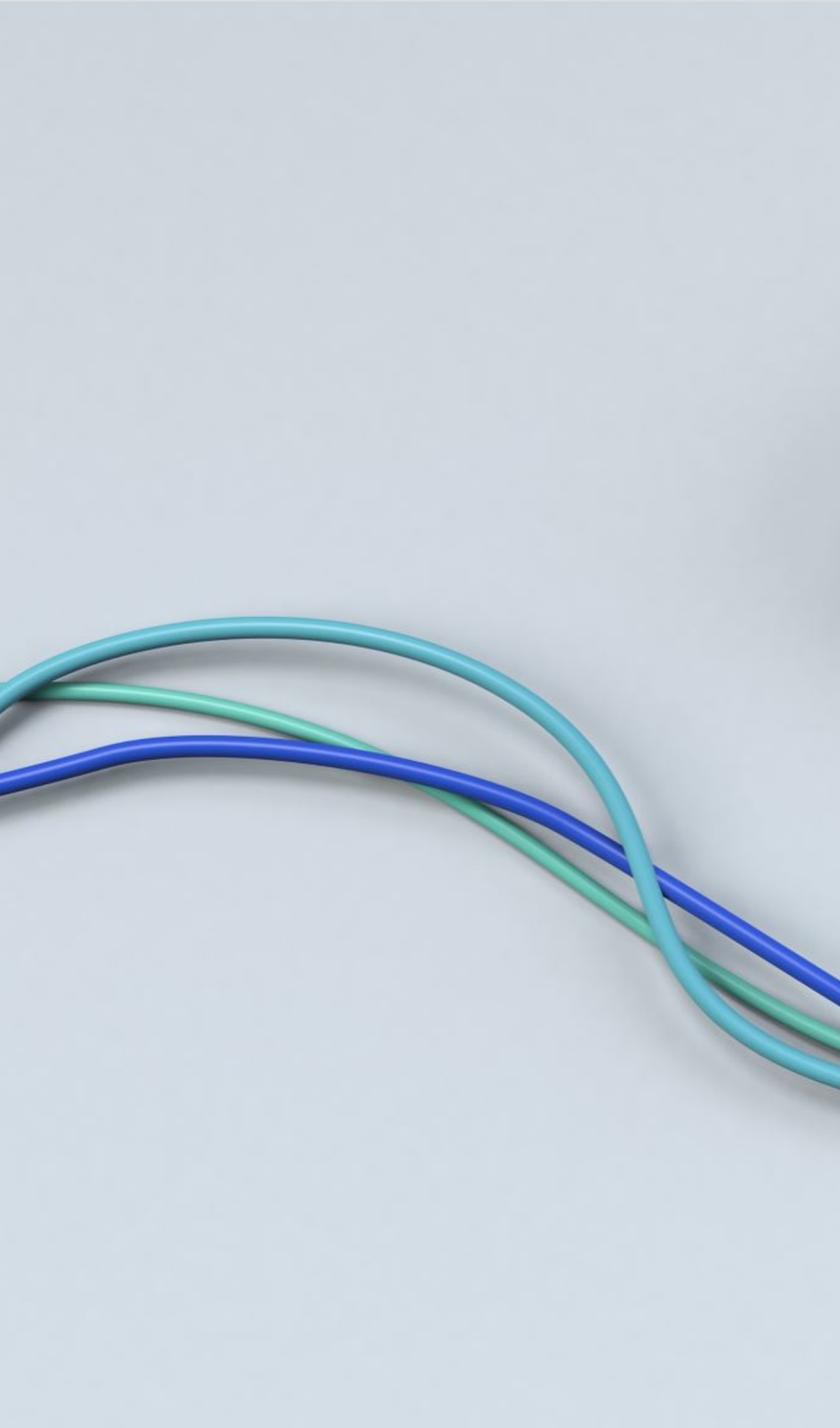
## Growth Projection

- Grid-connected storage set to grow **1,100%**; driven by AI data centers and renewable integration.

## Key Stocks

- **Tesla (TSLA)**: Powerwall and Megapack; utility-scale expansion; storage deployed +81% in Q3 FY25
- **Fluence (FLNC)**: AI-optimized grid storage; 50% revenue growth in 2026





# U.S. Grid Expansion: Opportunities and Key Players

## Grid Expansion Overview

- Driven by AI data centers, electrification, and renewable growth; **\$2.5T** needed in U.S. upgrades by 2035.
- Challenges: regulatory hurdles.

## Key Companies

- **Quanta Services (PWR)**: \$35.3B backlog; leads in transmission and data center projects.
- **Hubbell (HUBB)**: Smart grid innovator
- **Eaton (ETN)**: Powers grid reliability; expanding power management solutions.
- **MasTec, Inc. (MTZ)**: \$16.5B backlog; renewable and transmission infrastructure.
- **MYR Group, Inc. (MYRG)**: Utility construction niche.

## Outlook

- Top firms projected **11.5% annual revenue growth through 2028**, critical for AI and clean energy goals.

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