

How to make the most of the next recession

The US power and utilities (P&U) sector finds itself in an unprecedented environment: a continued and accelerated push around decarbonization and electrification (with support from federal legislation), a bounce-back from the COVID-19 pandemic, commodity price and supply chain uncertainty, a constantly evolving and fragmented state regulatory landscape, and large – but required – capital infrastructure investments supporting the ongoing energy transition. At the same time, the economy appears to be tipping into an economic downturn characterized by historic inflation coexisting with a low unemployment rate and a substantial number of unfulfilled positions. How can utilities prepare for this short-term situation alongside long-term disruptions in how electricity is sourced, used and secured? At this unique moment in history, we can leverage lessons learned from prior recessions – combined with potential utility positioning, future strategies, market evolution, and decarbonization and electrification momentum – to help utilities plot a potential course forward.

What have previous recessions taught us?

In 2Q 2022, consumer and business sentiment turned meaningfully more negative. The EY-Parthenon macroeconomic team predicts that the US economy will experience a recession in the near-term, while a Wall Street Journal survey of economists puts the likelihood of a recession at 63% in the next 12 months.¹

The annual inflation rate for the United States was 7.7% for the 12 months ended October 2022, just below the record highs of approximately 9.0% in June 2022. According to the Energy Information Administration (EIA)'s recent Short-Term Energy Outlook, residential electricity prices will average about 14.9 cents/kWh in 2022, approximately 8% higher from 2021. Unadjusted US city electric rates were approximately 14% year over year (YoY) higher in November 2022 on average nationally, according to the recent Consumer Price Index report. Efforts to combat inflation have included multiple rate hikes by the Federal Reserve, increasing interest rates by almost 4.25% over 2022, with more increases forthcoming. Despite weak macroeconomic data, unemployment levels in the US are near record lows – though it is unclear whether those levels are sustainable, which makes this downturn period unique.

If we look backward, the last six recessionary periods in the US each lasted approximately 10 months on average, according to the National Bureau of Economic Research. Further, past recessions were typically preceded by monetary policy tightening, originating from rising interest rates. To a lesser extent, fiscal contraction, including lower government spending or higher taxes, can also have significant impacts. Additionally, of these most recent six recessionary environments, significant increases in energy prices triggered three of them: the OPEC Oil Embargo recession in the early 1970s, the more severe (post energy crisis) recession in the early 1980s and the Gulf War recession in the early 1990s. And across the six past recessions, a combination of rising interest rates, lower capital spending, high leverage, and higher energy prices can be blamed.

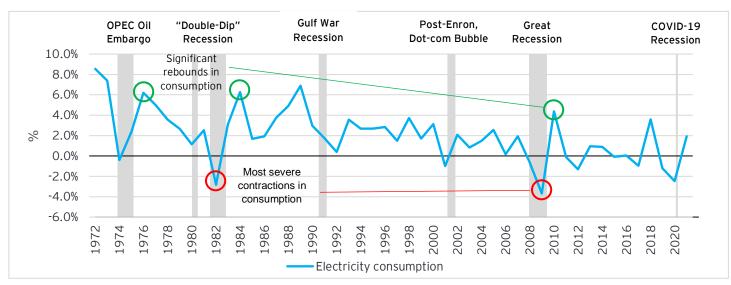
Similar economic impacts are to be expected as the US navigates through the next expected recessionary period, potentially resulting in lower corporate earnings, decreased capital investment, higher unemployment, and ultimately weaker consumer sentiment. These could ultimately lead to lower demand growth for utilities and heighten the risk of non-payments by certain customers. While the degree to which these economic impacts are realized varies, these trends are consistent across the past five recessions.

Historically, the utility industry has exhibited a strong track record of share price performance during the early part of an economic downturn, given the defensive nature of the industry – i.e., relatively high dividend yields. In the last three recessionary environments, the utilities sector outperformed the S&P 500 by up to 17% on average within six months of the start and through the end of the recession. Consistent with that history, for YTD 2022, the utilities sector outperformed the S&P 500 by approximately 17% through December, driven primarily by growing concerns about a recession and significant downward earnings revisions in more cyclical sectors. Despite this level of performance, current valuations for the utilities sector – relative to the S&P 500 historical levels – are still below prior peaks over the last 10 years.

Additionally, as the economy has moved further into recessions and inflation and interest rates rise, utilities have typically been among the worst-performing sectors, as valuations negatively correlate with long-term treasury bond yields. During economic downturns, the consumption of electricity typically contracts, with recent recessions highlighting year-over-year decreases in the range of 2%-4%. The chart below reflects energy consumption over time and how it has aligned with recent recessions:

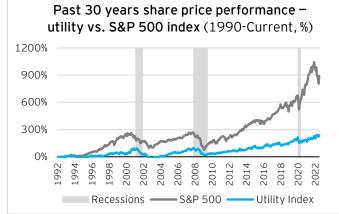
Annual growth rate in electricity consumption in the US (1972-2021, %)

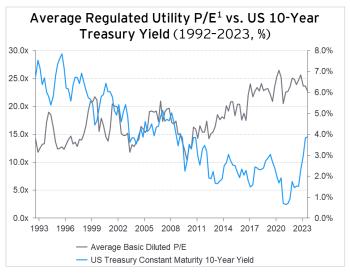
Source: S&P Capital IQ, EY-Parthenon analysis 1 P/E multiple represents basic last twelve months P/E multiple



Sources: EIA, EY-Parthenon Analysis

In the recessions described above, utilities responded in a variety of ways – cutting costs aggressively (e.g., "back to basics" from the post-Enron dot-com bubble), shedding talent, and divesting businesses (e.g., international assets). Others aggressively pursued M&A toward the end of recession to achieve scale economies.





What is different about today's environment?

We believe that today's environment is markedly different. The recent pandemic- and energy price-driven market slowdown has been a very quick cycle: a rapid downturn followed by a short recovery, and now a potential recession. Meanwhile, inflation pressures and the Federal Reserve's reaction has supported the recent increase in long-term bond yields, even though the growth in the cycle is slowing. Amid the recent rise in rates, utilities have materially outperformed the broader stock market in the last 12 months. We think this indicates that the group's defensive characteristics outweigh rate sensitivity as growth slows and the risk of a recession rises. On top of those macroeconomic issues, several key near-to-mid-term market drivers are presenting competing priorities for utility management teams:

- 1. Utility capital expenditure plans for the next few years will still likely be significantly higher than historical levels. Utilities are currently forecasting increased levels of spending amid a focus on modernizing grids, interconnecting renewables, replacing natural gas infrastructure, and addressing extreme weather events, such as the storms and record temperatures in Texas. Capital expenditure plans for investor-owned electric utilities from 2022 to 2024 total about \$156 billion per year, well above their historical average of \$120 billion between 2015 and 2021.² This high level of capital expenditures will ultimately impact customer bills and potentially exacerbate ongoing challenges from regulators around "energy affordability", leading to potential capital retrenchment.
- 2. Commodity prices are expected to remain high in the near term, putting additional pressure on retail electricity prices. Fallout from Russia's continued war in Ukraine and greater demand stemming from hot weather has sent US natural gas prices to some of the highest points in years. With gas-fired power on the supply margin and setting power prices in most regions in the US, industry experts expect wholesale power prices to as much as triple year on year in some regions further creating more "energy affordability" challenges. Also, utilities are not immune to high inflation and supply chain issues, which impact affordability, as well as the ability to procure the equipment required to develop new generation. This continued disruption in commodity supply is further exacerbating the challenges around "energy security."
- 3. Near-term revenue protection challenges related to collection moratoria. Utilities are in an unenviable position: As energy bills going up, more customers are unable to pay. As providers of an essential service, the majority of utilities instituted collection moratoria through the heart of the COVID-19 pandemic. Utilities have emerged from these moratoria in different ways, based on their respective regulatory environments – i.e., recovering these uncollectibles broadly across customer rates or creating a balance sheet item to be addressed later. The disposition of this balance sheet item then creates additional challenges for the utility – impacting some combination of affordability (i.e., if the balance sheet item is distributed across the customer base in rates) or utility financial performance (i.e., write-off of the balance sheet item further impacting earnings).
- 4. Accelerating corporate decarbonization commitments continues to weigh on local utility load growth. About 60% of global Fortune 500 companies have set some type of climate goal be it net-zero, science-based targets, or another alternative.³ These goals are driving a direct interest in companies "greening" the power supply for their operations through purchasing green energy certificates, signing renewable power purchase agreements, and/or investing in their own renewable assets. Corporate procurement led to the installation of a record 11 GW of clean energy in 2021, a 6% increase over the previous record set in 2020 and on track to set another record in 2022 with about 10.9 GW capacity procured by 3Q22.⁴ This push toward "energy sustainability" will drive some level of demand away from local utilities.
- 5. Federal legislation is driving decarbonization investments. The Bipartisan Infrastructure Law (BIL) and the Inflation Reduction Act (IRA) provide momentum in the near- to mid-term for both corporations and utilities to accelerate their respective decarbonization journeys. While many of the grant requirements within the BIL are yet to be defined, the government intends to provide funding for communities and utilities to support investments in equity and infrastructure. Similarly, the IRA extends existing tax incentives (investment tax credit/production tax credit) for renewable energy and creates new tax credits for existing nuclear plants and stand-alone energy storage, among other provisions. Utilities are still in the process of determining how to best take advantage of these new sources of funding from an enterprise perspective.

6. Increasing electrification will create opportunities for utilities but will also require significant investment in infrastructure. The electric vehicle (EV) market is finally expanding, primarily driven by increasing demand, federal initiatives to expand charging infrastructure and the growing availability of diverse vehicle models. However, for widespread adoption of EVs to work, new infrastructure has to provide the same confidence and convenience as for combustion engine vehicles, allowing people to travel anywhere at any time. Growing e-mobility – in combination with other electrification efforts (e.g., heat pumps replacing gas space heating) – represents significant incremental electric load growth, requiring extremely large investments and effort to modernize and upgrade current electric power grids. This load growth could further challenge utility planning efforts, as clusters of EVs and fast-charging infrastructure create load pockets and the need to upgrade substations and distribution networks in select parts of the utility grid.

Where should utilities start?

When facing the potential effects of the expected recession, utilities have multiple options regarding *where* and *how* to proceed – from pursuing an internal focus that emphasizes preserving financial position to taking a more aggressive approach that prioritizes expanding business scale, reach, and/or value. These paths can be value creating in isolation or in tandem, and contribute to a significant reshaping of the business, from cost structure and business mix to portfolio breadth and depth.

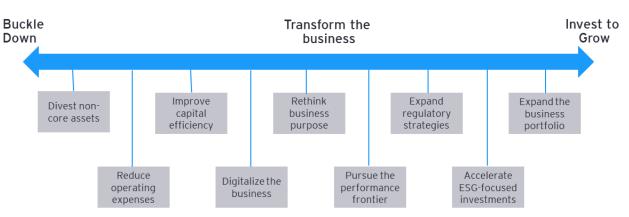
An undervalued reality is the availability of options – some that are ripe to pursue now, and others that will take time to mature. In a recession, companies need to be cautious about their moves and recognize that it is likely that financial and market success will result from multiple actions, not just one "gamechanger." Hunting an elephant may appear as the fastest means to building scale, but not by sacrificing precious financial flexibility and taking on excessive risk.

Significantly influencing which value creation path a utility pursues are the three pillars of the energy trilemma: sustainability, security (supply/reliability) and affordability. Affordability for customers remains a fundamental objective of the industry as it underpins the ability for utilities to be allowed to pursue, and the capacity to engage in, new paths. Further, without financial strength, a utility does not have the flexibility to achieve strategic success.

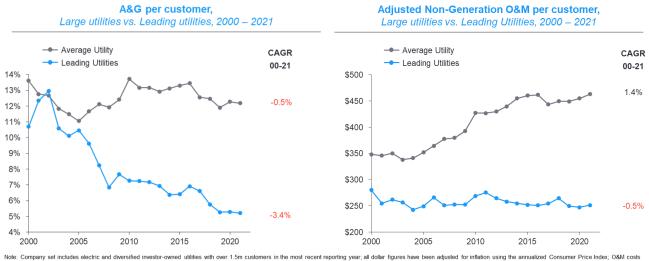
In the immediate term, to best position themselves as they exit the recession, utilities can develop integrated and complementary strategies across a range of options on a continuum from "Buckle Down" to "Transform the Business," to "Invest to Grow" – based on their strategic priorities, financial position, operational performance, and regulatory environment:

- Buckle Down by deploying short-term cost management strategies, optimizing capital spend and divesting non-core assets to manage overall earnings – a *defensive* strategy to improve the balance sheet prior to pursuing any growth strategies.
- Transform the Business by fundamentally rethinking the purpose of the utility and how it provides value to customers an aggressive strategy intended to reshape all dimensions of cost, operations, and innovation performance, with a digital accent.
- Invest to Grow by taking advantage of the macro environment and identifying undervalued companies/assets to acquire, accelerate investments in certain ESG-focused businesses, prioritize certain beneficial regulatory issues, and determine how to best approach prioritization and execution a winning offensive strategy for financially strong companies.

Below is a summary of these strategies, along the continuum from defense to offense:



- Divest non-core assets. Many utilities are reviewing the assets on their balance sheet, adjusting their portfolio with the objective of investing more capital/cash in the regulated electric utility business, given the certainty of returns (relative to non-regulated businesses), potential for higher-ROE electric transmission investments, and higher ROEs relative to gas utility businesses. This has resulted in three main opportunities:
 - a. **Pursue asset sales:** Utilities have divested operating companies to focus capital on higher-value businesses. Recent examples include National Grid's sale of its Rhode Island assets, CenterPoint Energy's divestiture of its Arkansas and Oklahoma gas LDCs, and AEP's sale of its Kentucky Power operating company.
 - b. Minority asset sales or equity enhancement: In some recent transactions, utilities have executed minority interest sales in their core T&D businesses, as they navigate the clean energy transition and seek cash infusions as well as capitalize on high market valuations for these businesses. For example, in Q4 2021, FirstEnergy raised \$2.4 billion by selling a 19.9% minority stake in FirstEnergy Transmission. In Q1 2022, Duke Energy raised \$2 billion for a minority stake sale in Duke Energy Indiana. Sempra Energy similarly raised a total of roughly \$5 billion through a 30% stake sale in its Sempra Infrastructure new business platform. These are all small, targeted moves, but all provided outsized benefits.
 - c. Separation of unregulated businesses: Many of the last remaining hybrid utilities have separated (or are considering separating) their unregulated generation businesses, to unlock the value of both businesses including both fossil and renewable asset sales.
- Reduce operating expenses. To manage the impact of a severe economic downturns, many industries, including utilities, have deployed rapid and aggressive cost management techniques to influence near-term cash flows. Over the last 20 years, leading utilities have deployed cost management strategies to decrease administrative and general (A&G) costs per customer and adjusted non-generation O&M per customer by approximately a 3.4% and 0.5% CAGR respectively, on a real dollar basis (reference graphs below).



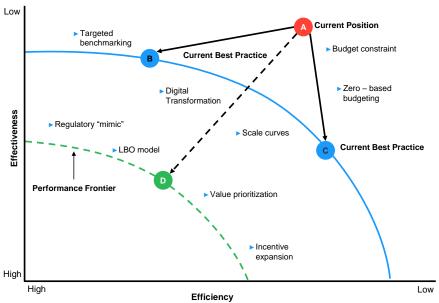
Note: Company set includes electric and diversified investor-owned utilities with over 1.5m customers in the most recent reporting year, all dollar figures have been adjusted for inflation using the annualized Consumer Price Index; O&M costs adjusted to remove the following items: injuries & Damages, Pension & Benefits, Transmission by Others, Purchased Power, and Uncollectable accounts, A&G includes, Salaries, Office Supplies, Outside Services Employed, Property Insurance, Franchise Requirements, Regulatory Commission, General Advertising, Rents Source: FERC Form 1, Regulatory filings

Utility management teams have historically considered two main options to reduce costs:

- a. **Reshape service company costs** Focus on labor and administrative and general (A&G) expenses (e.g., process improvements and corresponding hiring/salary freezes and attrition). These strategies have transformed the utility business through investments in technology and digitalization of work (e.g., intelligent automation), particularly in finance, customer and other back-office functions.
- b. Enhance field workforce planning, management and execution Critically evaluate what work is done and how, and leverage technology to drive efficiencies. In operations, utility leaders can leverage data and analytics to enhance field workforce planning and drive value by bringing workload volumes, scheduling and resource management into harmony. As a result, stakeholders can realize benefits from improved workforce productivity, execution, regulatory compliance, customer satisfaction, and visibility across service centers and types of work.
- Optimize capital efficiency. For regulated utilities, prudent capital spending provides the basis for earnings growth. Utilities with effective capital project lifecycle management capabilities addressing project identification, asset investment planning/prioritization, project planning and scheduling, execution, and feedback mechanisms for continuous improvement are effective at deploying capital for the benefit of all their stakeholders. With the recent introduction of new federal grant funding or tax benefits opportunities (Bipartisan Infrastructure Law, Inflation Reduction Act), successful capital optimization can strategically leverage funding and incentives to drive value and establish (or reinforce) this foundation to invest and grow.
- Rethink business purpose. Changes to the overall operating environment are occurring at a pace hard for companies to navigate, even without a recession. When fundamental business shifts and adverse circumstances occur, it is time to capitalize on these events to re-examine all facets of the enterprise starting with the basic purpose of the organization. This seems fundamental given the historical legacy of utilities, but times change, and priorities require reassessment and rearticulation are utilities focused on the traditional trilemma of energy sustainability, security (supply/reliability), and affordability, or should they be emphasizing innovation, transformation, and customer value? These paths are not in conflict with each other, but the emphasis for the future is clearly evolving toward utilities elevating the basis of performance to focus on integrating execution and investment (the "purpose") with direct outcomes to customers (the "value").
- Digitalize the business. Many companies have been chasing digital transformation as a cause célèbre and to advance the technical acumen of their businesses. But going digital is too often limited to adoption of digital technology rather than the broader challenge of digitalizing the business, i.e., leveraging technology to redefine business performance standards and execution processes. A pure digital approach allows utilities to progress away

from existing technologies through substitution; however, digitalization also enables companies to advance the business through directing technology to solve day-to-day execution friction and "hard-wired" inputs (technology) to outcomes (value) to the business and customer. This embedded value orientation links intentional purpose and consequential outcomes from technology adoption directly to the performance model and rearchitects how customer benefits are delivered. Successful digital transformation, i.e., tailored digitalization, provides an opportunity to capitalize on the real "capability" of digital as transformative and deliver substantial improvements to business results.

Pursue the "performance frontier." Utilities have been serial cost cutters over the last several decades and have become very adept at it. But just as strategy needs a North Star to guide direction and priorities, cost management requires a similar aspirational target to drive targets and outcomes. While incremental cost reduction methods like activity value analysis, lean principles, zero-based budgeting, and best-in-class standards can yield meaningful results, they still reflect conventional approaches. A more challenging and higher-yield model is to drive the business toward the "performance" or "efficient" frontier depicted below, i.e., the theoretical boundary where optimal cost and service converge and relevant objectives are incorporated – business purpose, utility role, service levels, and value delivery to shareholders and customers - by adopting a different set of lenses to view the business, such as the value of scale, unconventional ownership, digital thinking, and redefined incentives.



Focus on Market Prices and Outcomes

This requires utilities to identify "frontier" levels of execution optimization considering the prioritization of targeted outcomes, revolution in delivery models, and trade-offs between objectives and incentives – thus, resetting the standards of performance and value delivered through execution. Embracing this philosophical mindset enables management's expectations of the art of the possible to grow from tens of millions for large companies, to unlocking hundreds of millions in fundamental costs, while elevating the bar on service delivery accomplishment levels.

Expand regulatory strategies. Given the continued increase in utility capital expenditures in recent years and current record inflation levels/commodity prices, many utilities and regulators are working together to develop innovative rate-making mechanisms to enable timely cost recovery. Some recent mechanisms worth highlighting and exploring by utility management teams include alternative ratemaking (formula rate plans, multiyear rate plans, performance-based ratemaking), demand decoupling (common with gas utilities but less prominent with electrics), and innovation investment recovery (riders for grid modernization, distributed resources, and energy transition technologies). Utilities also need to determine how to best weave Bipartisan Infrastructure Law (BIL)

funding (which partially supports new capital investments, often requiring matching funds that utilities will want to rate base) and IRA tax incentive opportunities into their strategies.

- Accelerate ESG-focused investments. A strong desire to buy assets that accelerate decarbonization and ESG strategies has been driving an uptick in renewable energy and other emerging technology deals, including EV charging, carbon capture, hydrogen, and energy storage. In the recently conducted EY CEO Survey 2022, 90% of CEOs surveyed consider ESG issues in their buying strategies, while 6% admitted having walked away from deals due to ESG-related concerns. While we believe that many utilities still not have explicit short- and long-term blueprints to improve ESG performance, we see three key levers that utilities can pull to take advantage of ESG investments:
 - a. Embed a capital allocation strategy that leans into the energy transition for the regulated utility. The IRA tax incentives provide additional capability for utilities to invest in a range of low-carbon growth options, ranging from "mature" renewables/storage to less mature carbon capture, hydrogen, and small modular reactor (SMR) technologies. While the availability of a production/investment tax credits (PTC/ITC) and transferability of tax benefits has the potential to unlock utility investments in solar, the breadth of tax incentive options for key renewable technologies and other funding sources (e.g., for electric vehicle charging infrastructure) will result in new investment opportunities.
 - b. Carve out new business models focused on growth. More aggressive utilities are developing new businesses both organically and inorganically that take advantage of energy transition opportunities. These capabilities include providing energy services and renewable project development for C&I customers, participating in scaled EV infrastructure development (service territory or national scale), owning renewable generating assets, introducing new energy systems (hydrogen, SMRs), and building out distribution service platforms akin to their distribution networks.
 - c. Leverage partnering. Most utilities have limited capabilities in areas such as emerging technologies, product and service development, go-to-market models, and commercialization of innovation. Leveraging experienced entities whether OEMs, software developers, solutions providers, or venture capital provides "force extenders" that enable utilities to extend their market "reach," as well as their access to expertise, capabilities, funding, and distribution channels. This approach can enable companies to "stretch" their internal capacity and capabilities through these third parties and offer increased access to deal flow and investment opportunities.
- Expand the business portfolio. Since the last major recession (2008-10), multiple utility combinations have taken place; merger and acquisition (M&A) activity has reduced the number of investor-owned utilities included in the Edison Electric Institute (EEI) Index, from 61 in 2007 to 39 at year-end 2021.⁵ However, large utility M&A activity was relatively muted prior to the pandemic, as valuations were quite elevated, with average price-to-earnings ratios above 20x. Over the last two years, though, multiples for companies with higher commodity exposure or unregulated assets have declined, while fully regulated companies have maintained their premium valuations. The valuation gap is creating opportunities for companies with strong balance sheets to identify relatively weaker target companies. But inorganic growth does not need to be traditional corporate M&A; plenty of value chain options exist to strengthen the portfolio e.g., assets, properties, or lines of business that can provide additional scale or market presence to produce value. Each of these alternative paths can help utilities build asset depth, customer presence, revenue sources, and/or market value. The critical capability needed is to know which option provides long-term value, not just short-term returns.

In pursuing any of these growth-oriented partnering, investment or acquisition options, companies need to be disciplined about how they deploy capital and recognize that any deal requires significant management attention, and the right deal may be one that is not pursued or requires waiting/patience.

Now what?

Just as potential effects of the expected recession will create adverse outcomes to utilities, unprecedented opportunities will become available to companies thoughtful about how to optimize the time available before the "official" recession fully affects the economy. Smart companies have already started to prepare their game plan for success, even though uncertainty exists about the timing, severity and duration of any recession.

These companies recognize that internal recession responses are far more controllable than externally directed moves, and both types of actions are necessary to lead to an advantaged market positioning when the economy recovers. And when significant capital may be expended to prevail on several identified growth opportunities, it takes both imagination and fortitude to successfully advance strategic position in a differentiable manner.

Consequently, their game plan will not reflect a single strategy; rather, it will be built with flexibility in mind so that trigger points are identified to drive action and off-ramps readied should economy, market, and customer impacts and paths be different than initially planned – whether accelerated, delayed, reshaped, or foregone. Utilities that adopt "flexible planning" will be both better prepared to act and nimbler to move when the time for action arrives.

Notes and sources

- 1. Wall Street Journal, "Economists' Expectations for a Recession Rise Ahead of Election Day," October 2022
- 2. Edison Electric Institute (EEI), "Industry Capital Expenditures," September 2022
- 3. WWF, "Fortune 500 companies are acting on the climate crisis-but is it enough?"
- 4. Clean Energy Buyers Association (CEBA), Deal Tracker 3Q2022
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- 1. S&P Capital IQ
- 2. Energy Information Agency (EIA)
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- 4. National Renewable Energy Laboratory (NREL)
- 5. Solar Electric Power Association (SEPA)
- 6. Company disclosures

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