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Utilities • 22111b

Nuclear Power in the US

Power struggle: Increased electric power consumption alongside higher electricity prices are expected to boost industry demand

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About

IBISWorld specializes in industry research with coverage on thousands of global industries. Our **comprehensive data and in-depth analysis** help businesses of all types gain quick and actionable insights on industries around the world. Busy professionals can spend less time researching and preparing for meetings, and more time focused on making strategic business decisions

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Standard Report

About This Industry

Definition

This industry consists of companies that operate nuclear-powered, electricity generation plants. The power plants use nuclear fuel to generate steam, which in turn is used to power turbines that generate electric power. The electricity reaches end users via transmission or distribution systems. This industry excludes government-owned nuclear facilities.

Codes

2022	221113-Nuclear Electric Power Generation
2017	221113-Nuclear Electric Power Generation

What's Included

- Generating nuclear electric power

Companies

- Exelon Corporation
- Dominion Energy, Inc.
- Entergy Corporation

Related Industries

Domestic industries

Competitors

- Electric Power Transmission in the US
- Coal & Natural Gas Power in the US
- Hydroelectric Power in the US
- Wind Power in the US
- Solar Power in the US

Complementors

- No data available

International industries

- Electricity Production in the UK
- Electricity Production in Ireland
- Nuclear Power in China

Related Terms

KILOWATT HOUR

A unit of energy measurement, equal to one kilowatt expended over one hour.

ELECTRICITY UTILITY

An integrated electricity generator and distributor supplying a defined area.

BASE LOAD POWER

Electricity provided by power stations that run continuously.

UPRATE

When a firm in the industry upgrades its nuclear facilities to include more electricity generating capacity.

Additional Resources

- US Energy Information Administration
- US Nuclear Regulatory Commission
- World Nuclear Association
- Nuclear Energy Institute
- American Nuclear Society

At a Glance

Revenue	$37.9bn	'19-'24	↓0.9 %
		'24-'29	↑1.4 %
Employees	38,065	'19-'24	↓3.1 %
		'24-'29	↑0.4 %
Businesses	38	'19-'24	↑2.2 %
		'24-'29	↑0.0 %
Profit	$4.3bn	'19-'24	↑5.7 %
Profit Margin	11.3%	'19-'24	↑3.1 pp
Wages	$5.4bn	'19-'24	↓5.4 %
		'24-'29	↑0.6 %

Five-year growth rates display historic and forecast CAGRs

Major Players

Company	Revenue	Market Share
Exelon Corporation	$15.5bn	41.0%
Dominion Energy, Inc.	$4.2bn	11.2%
Entergy Corporation	$2.3bn	6.0%
Other Companies	$15.9bn	41.9%

Key External Drivers

Key External Drivers	Impact
World price of uranium	Positive
Electric power consumption	Positive
Industrial production index	Positive
Price of electric power	Positive

Products and Services

Item	Revenue	Market Share
Nuclear generation from utilities	$21.4bn	56.5%
Nuclear generation from independent power producers	$16.5bn	43.4%
Other	$37.9m	0.1%

Key Takeaways

Performance

- Renewable energy and traditional energy sources continue to damper performance. Some plants have been forced to shut down because they cannot compete.
- Deregulating electric power opened the doors for independent power producers (IPPs). The amount of energy produced by IPPs continues to soar, almost reaching similar levels to utility companies.

External Environment

- Nuclear power plants are subject to strict regulations. The Nuclear Regulatory Commission licenses commercial plants. It is constantly monitored and evaluated. Investor-owned plants must adhere to state and federal government regulations.
- Government funding and incentives aid nuclear power generation. Tax credits are available for power plants that have zero carbon emissions. New laws have bolstered research and development for facilities.

SWOT

Strengths	High & Steady Barriers to Entry
	Medium & Increasing Level of Assistance
	Low Imports
Weaknesses	Low Profit vs. Sector Average
	High Customer Class Concentration
	High Product/Service Concentration
	Low Revenue per Employee
	High Capital Requirements
Opportunities	High Revenue Growth (2019-2024)
	High Revenue Growth (2024-2029)
	High Performance Drivers
	Price of electric power
Threats	Low Revenue Growth (2005-2024)
	Low Outlier Growth
	World price of uranium

Industry Structure

Characteristic	Level	Trend
Concentration	Moderate	
Barriers To Entry	High	Steady
Regulation and Policy	High	Decreasing
Life Cycle	Mature	
Revenue Volatility	Moderate	
Assistance	Moderate	Increasing
Competition	Moderate	Increasing
Innovation	Moderate	

Executive Summary

Power struggle: Increased electric power consumption alongside higher electricity prices are expected to boost industry demand

Nuclear power companies produce electricity by heating water in a reactor via nuclear fission and using the produced steam to spin large turbines. The United States has more nuclear electricity generation capacity than any other country, generating more than 771.5 billion kilowatt-hours of electricity alone, according to the Energy Information Administration's (EIA) most recent Electric Power Monthly report. Even so, public concerns about the safety of nuclear power have increased. Nuclear power producers have also faced rising competition from renewable and traditional energy sources. In response, nuclear capacity additions have slowed and older facilities have steadily closed. Nonetheless, in 2023, the country saw its first nuclear reactor, Vogtle 3, enter the power grid in 2016, with Vogtle 4 set to commence operation in 2024.

Government tax credits have provided a slight boost for existing plants. Even so, the price of uranium, the primary input for nuclear energy, has surged, constraining plant profit. Overall, revenue will fall at a CAGR of 0.9% to $37.9 billion through the end of 2024, including a 2.8% rise in 2024 alone, when profit remains at 11.3%.

While new entrants are unlikely to enter the industry, existing producers will continue to expand their footprint through power uprates and consolidation. A consistent income stream from the industrial sector will remain a bright spot for nuclear power. Government incentives for nuclear power are set to swell as its adoption in data centers to support artificial intelligence has recently gained momentum. Nonetheless, nuclear power will still have to endure competition from alternative energy sources, namely natural gas and renewables, like wind and solar. Uranium prices are set to continue rising, allowing companies to charge more for their power. Overall, revenue is set to push up at a CAGR of 1.4% to $40.6 billion through the end of 2029.

Performance

Key Takeaways

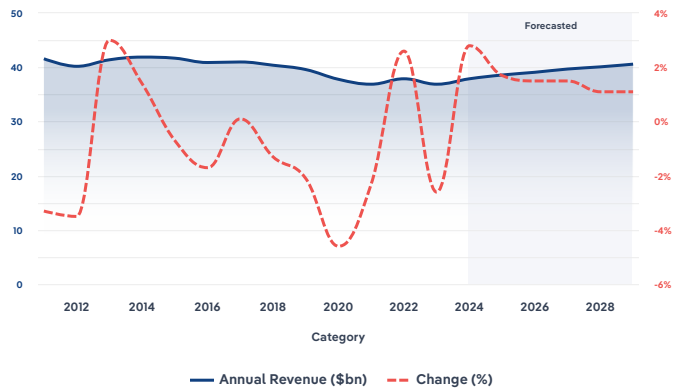
Renewable energy and traditional energy sources continue to damper performance. Some plants have been forced to shut down because they cannot compete.

Deregulating electric power opened the doors for independent power producers (IPPs). The amount of energy produced by IPPs continues to soar, almost reaching similar levels to utility companies.

Performance Snapshot

Revenue

Total value ($) and annual change from 2011 – 2029. Includes 5-year outlook.



Revenue

$37.9bn

'19-'24 ↓0.9 %

'24-'29 ↑1.4 %

2024 Revenue Growth

2.8 % Increasing

Revenue Volatility

Moderate

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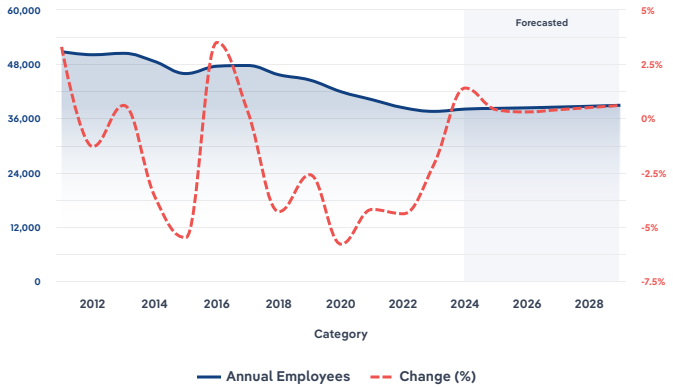
Source: IBISWorld

Employees

Total number of employees and annual change from 2011 – 2029. Includes 5-year outlook.



Employees

38,065

'19-'24 ↓3.1 %

'24-'29 ↑0.4 %

Employees per Business

1,002

'19-'24 ↓5.2 %

'24-'29 ↑0.4 %

Revenue per Employee

$996k

'19-'24 ↑2.3 %

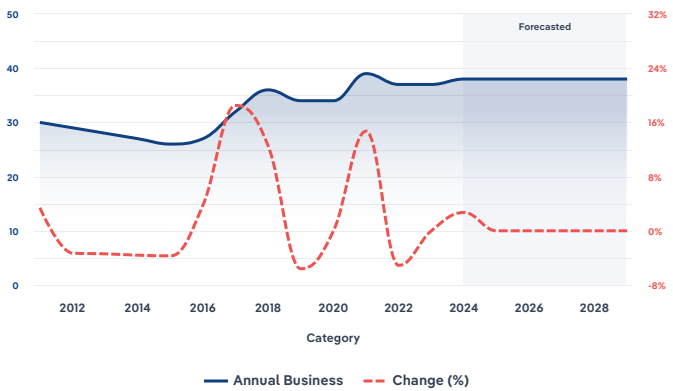
'24-'29 ↑0.9 %

IBISWorld

Source: IBISWorld

Business

Total number of businesses and annual change from 2011 – 2029. Includes 5-year outlook.



Businesses

38

'19-'24 ↑2.2 %

'24-'29 ↑0.0 %

Employees per Business

1,002

'19-'24 ↓5.2 %

'24-'29 ↑0.4 %

Revenue per Business

$998.0m

'19-'24 ↓3.0 %

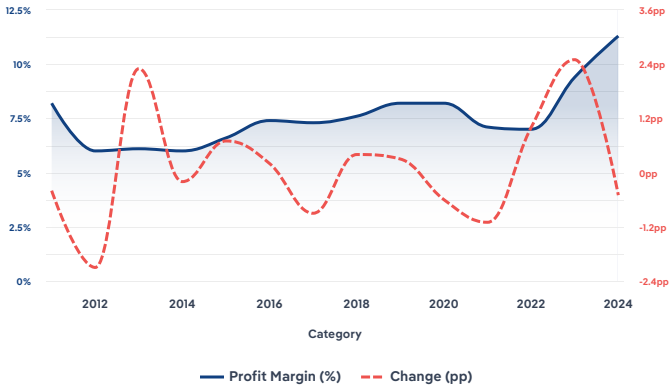
'24-'29 ↑1.4 %

IBISWorld

Source: IBISWorld

Profit Margin

Total profit margin (%) and annual change from 2011 – 2029



Total Profit
$4.3bn '19-'24 ↑5.7 %

Profit Margin
11.3% '19-'24 ↑3.1 pp

Profit per Business
$112.8m

IBISWorld

Source: IBISWorld

Current Performance

↓ 2019-24 Revenue CAGR -0.9%

What's driving current industry performance?

Government incentives provide a bright spot

- Production tax credits (PTC) allow nuclear power producers to claim tax credits for every megawatt-hour of energy produced. Investment tax credits (ITC) allow producers to claim a percentage of their investment if they meet specific requirements. Both new and existing reactors can claim production tax credits to generate hydrogen and expand their markets. The Inflation Reduction Act introduced a new zero-emission nuclear power PTC for existing plants that produce and sell electricity from 2024 to 2032.
- The Inflation Reduction Act introduced a new zero-emission nuclear power PTC for existing plants that produce and sell electricity from 2024 to 2032. The Act also provided $700 million in funding for the domestic production of high-assay, low-enriched uranium (HALEU). HALEU has longer cycle times and produces less waste. It is an essential input for advanced and new reactors moving forward.
- The Infrastructure Investment and Jobs Act has greatly benefited nuclear power, notably through the Civil Nuclear Credit Program and the Advanced Reactor Demonstration Program, which allocate $6 billion and $2.5 billion, respectively. These initiatives have led to higher capital investments in nuclear power, focusing on sustaining and advancing nuclear energy.
- The Civil Nuclear Credit Program continues to make significant progress. It has already completed two rounds of awards and is building interest for a third round in October 2024. This program enables nuclear power plant operators to apply for certification and bid on credits supporting their operations.

Industry structure continues to evolve as producers adapt

- Since the deregulation of electric power began in the 1990s and 2000s, the percentage of electricity generated by independent power producers has soared. Heavy regulations have prevented new entrants from joining.
- Companies are expanding by upgrading existing plants rather than constructing new ones. They are also pursuing growth through mergers and acquisitions, enabling access to new nuclear facilities and resources. Between 2021 and 2023, over 45 deals were made in this sector. For instance, nuclear producer Vistra acquired Energy Harbor Corp, gaining 4,000 MW of nuclear generation capacity. They also announced plans to fully take control of Vistra Vision and its nuclear power assets by the end of 2024.
- Power uprates, which involve using more highly enriched fuel to increase output at existing nuclear plants, continue to enhance nuclear generating capacity and production efficiency. These uprates occur when producers submit petitions to the Nuclear Regulatory Commission (NRC). Over the past 20 years, the NRC has approved the addition of 6 GWe of capacity, with another 2.5 GWe expected to be added by 2032 as nuclear power gains popularity and more producers seek uprates.

Competition with other power sources remains fierce

- Nuclear power generators struggle to compete with other energy sources (natural gas, fossil fuel, solar and wind). Indian Point Center, a large plant in New York, recently shut down after six decades as it could not compete with low natural gas prices. Power generators compete on price, but the different types of capacity (base, intermediate and peak load) have different cost structures that feed into price levels. On average, base-load plants have the lowest cost structure, rising through intermediate to peak-load plants.
- Public concerns about the safety of nuclear power have led to a decline in net generation. According to the US Energy Information Administration, electricity generated from nuclear energy has fallen from 19.1% in 2019 to 17.6% in 2023. Meanwhile, electricity generated from renewable energy sources has swelled, going from 19.9% in 2019 to 25.7% in 2023. Many companies have stakes in other energy industries to reduce risk.
- The rise of artificial intelligence (AI) within the last year has made large technology companies rethink the pros and cons of nuclear power. AI requires energy-intensive data centers that need consistent, reliable, sustainable energy output to run optimally. Big tech companies find that gas and coal are too environmentally damaging and renewables don't have the consistent production to compete with nuclear, making nuclear power an attractive choice for big tech companies looking to expand their AI programs.
- As of Fall 2024, Amazon, Google, Microsoft and Meta have all joined the movement toward nuclear energy. Amazon and Google have entered into agreements with startup companies to purchase and assist in constructing various small modular reactors nationwide. These smaller reactors are considered safer and quicker to build, allowing these companies to rapidly access nuclear power. Microsoft announced plans to purchase nuclear power from the Three Mile Island plant, which has been inactive since 2019 but is set to reopen as part of this initiative. Meanwhile, Meta has stated it has requested for proposals (RFPs) from nuclear energy producers to help accelerate its AI initiatives. While this won't cause an immediate revenue spike, it will provide a bright spot for the future.

Safety is still a concern to many residents

- Despite the large number of applications for new plants, producers still face a lengthy regulatory process for construction approval. Only two new nuclear power plants have been constructed over the past 20 years, with Vogtle Unit 3 beginning operation in 2023 and Unit 4 starting in 2024.
- Nuclear power remains a safety concern because an uncontrolled nuclear reaction can cause widespread air and water contamination. Disposing hazardous waste can also be challenging since some radioactive waste may remain active for many years.
- Domestic power plants take drastic measures to reduce risks by implementing safety systems, training reactor operators, conducting constant testing and maintenance activities and adhering to the regulatory requirements and oversight of the US Nuclear Regulatory Commission.
- In July 2024, the Biden Administration enacted the ADVANCE Act to strengthen the Nuclear Regulatory Commission. This Act enables the commission to expand its workforce, streamline the review and approval processes for new reactor licenses, and establish a regulatory framework for fusion technology. As nuclear power gains popularity alongside the rise of artificial intelligence, safety remains the top priority, and this Act aims to uphold industry standards.

Volatility

Moderate

What influences industry volatility?

Electricity is used everywhere

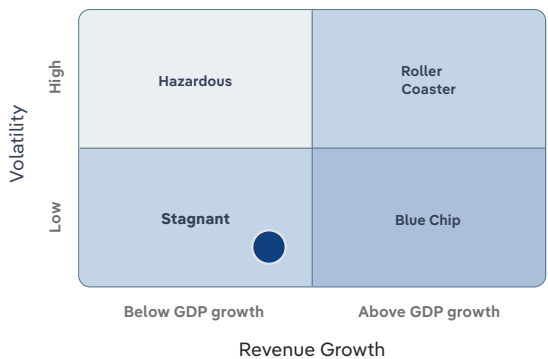
- Electricity is a necessity for most households and businesses, so the need for power experiences minimal volatility.
- Seasonal variation can impact the needs of markets. Industrial and commercial markets experience the least seasonal change in demand for electricity, while residential consumers have a ton of seasonal variation.
- Independent power generators participate in the wholesale market, subject to price fluctuations.

Safety remains a concern

- The government and the public have become more concerned regarding the safety of nuclear power following the Fukushima disaster in 2011. Radioactive waste can contaminate areas, which can directly impact human and environmental health for years to come.
- Public concerns have resulted in a drop in generation and can impact producers down the line.

Stagnant

Industry volatility vs. revenue growth (2018-2025 CAGR)



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Source: IBISWorld

☆ Key Success Factors

How do successful businesses overcome volatility?

Ability to pass on cost increases

Generators must cover not only their cash operating costs but also substantial capital charges. In several states, pricing is still strongly influenced by state government policy.

Optimize operating capacity

Higher capacity utilization is generally associated with lower unit costs.

Superior financial management and debt management

The level of borrowing and interest rates has a major effect on the operation's profitability.

Fast adjustments made to changing regulations

Companies in this industry must be able to deal with regulatory authorities and adjust their operations to changes in the regulatory environment.

Outlook

↑ 2024-29 Revenue CAGR +1.4%

What's driving the industry outlook?

Goverment incentives help push nuclear plower plants

- Extending investment and production tax credits will allow current power generators to save money. Nuclear plants can apply for the Zero-Emission Production Credit, which offers a tax credit based on the amount of electricity produced and sold at a facility between 2024 and 2032.
- New tax incentives will also encourage the advancement of nuclear deployment at new plants. Facilities in service starting in 2025 can be eligible for the Clean Energy Production Tax Credit if they emit zero greenhouse gases while remaining in service. They can also apply for the Clean Electricity Investment Tax Credit, which provides qualifying facilities with a percentage back based on certain criteria.
- The newly elected Trump administration also intends to make significant investments in nuclear energy, particularly in the development of advanced reactor technologies that are poised to play a crucial role in diversifying the nation's energy portfolio. During the first Trump administration from 2016 to 2020, it facilitated guaranteed loans for the construction of Vogtle 3 and 4, the two newest nuclear reactors in the US. This offers optimism for the future of nuclear power, as the administration has a proven track record of supporting the industry, which may lead to increased funding in the future.

Technological advances aid production

- In 2024, Vogtle Unit 4 is scheduled to commence operations, becoming operational alongside Vogtle Unit 3 as one of the first new nuclear reactors of the decade. The plants will use advanced pressurized water reactor technology and promote sustainability.
- The Inflation Reduction Act is set to provide $150.0 million in funding to improve and replace aging infrastructure to assist nuclear energy research and development. It will replace water and electricity distribution, process control and roofing to help facilities run more effectively.
- The Inflation Reduction Act will also provide $700 million in funding for high-assay, low-enriched uranium fuel (HALEU) research through 2026. HALEU is used to help advanced reactors move forward by making them smaller and less expensive, which in turn helps expand nuclear power production. HALEU also allows power plant systems to run longer and expand fuel efficiency.
- More types of advanced reactors are poised to gain traction in the coming years. For instance, TerraPower's Natrium reactor, slated to begin construction in 2025, uses high-assay, low-enriched uranium (HALEU) and sodium-based technology for cooling instead of water. Sodium reactors enable operation at higher temperatures and lower pressures, enhancing safety. The U.S. Department of Energy anticipates that sodium-based reactors will be operational by 2030.

The rapid evolution of artificial intelligence gives nuclear power an advantage over competitors

- The rapid adoption of renewable energy sources will continue to hinder nuclear power producers. The Inflation Reduction Act extended production tax credits through 2024 and investment tax credits through 2032, accelerating the switch to renewable energy in downstream markets.

- More states are adopting renewable portfolio standards (RPS) and clean energy standards (CES). These programs require a utility to generate renewable energy as a percentage of their total energy portfolio. While nuclear power is clean, it does not fall under RPS, causing companies to look elsewhere. Currently, 36 states have implemented RPS goals or some other voluntary renewable target, with more states likely to continue along this track.
- Traditional energy sources like gas also continue to remain a threat as gas prices are set to dip after massive spikes after the pandemic. Lower gas prices will make it more challenging for nuclear power plants and may cause some plants to make the switch or shut down entirely.
- While other energy sources offer their advantages, the increasing popularity of artificial intelligence (AI) will revitalize the nuclear power sector. AI-driven applications rely on large data centers that require substantial energy, demanding a reliable and consistent power supply for efficient operation. With significantly higher energy density than both solar and wind and a much lower carbon footprint than natural gas, nuclear power stands out as the preferred choice for companies looking to expand their AI initiatives.

A shift in industry structure

- While external competition may force some plants out of the industry, larger producers will seek expansion. While uprates may still occur, the Nuclear Regulatory Commission (NRC) expects 0 uprate applications in 2024 and 2025. Even so, more applications may come down the line, allowing generators to bolster market size and capacity. Nonetheless, the NRC can decommission the plant if certain conditions are not met during a given time frame.
- While uprates will enhance efficiency, profitability is expected to be limited due to rising uranium prices. According to John Ciampaglia, CEO of Sprott Asset Management, primary uranium production is increasing as more countries seek energy security. However, in the short term, production costs are also on the rise, influenced by inflationary pressures, which will keep prices elevated and create challenges for developing new mines.
- While some companies may pass these costs down to consumers, they may also find themselves compelled to absorb a portion of the expenses to avoid substantial customer increases. Customers might opt for alternative energy sources if faced with significant price hikes.

Life Cycle Mature

Why is the industry mature?

Contribution to GDP

While the Nuclear Power industry is established, it's contribution to the overall economy is set to decline as many plants have been decommissioned. Even so, it will continue to be a major source of electricity remaining mature.

Market Saturation

Market saturation remains exceptionally high, as the top three companies control more than half the market. Companies continue to expand by increasing capacity.

Innovation

Using enriched uranium is set to increase efficiency and power for specific generators. Government funding continues to play a crucial role in innovation.

Consolidation

Consolidation activity is high, as many larger producers use this to bolster their market share. The number of mergers and acquisitions has spiked since 2021.

Technology & Systems

Research and development of new generators have been an ongoing process. New generators will enter the United States after three decades in 2023.

Life Cycle

Indication of the industry's stage in its life cycle compared to similar industries

*Growth is based on change in share of economy combined with change in establishment numbers

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Source: IBISWorld

Products and Markets

Key Takeaways

The industrial sector continues to be the largest source of revenue for producers. Manufacturers require high voltage and rely on electricity generated by nuclear power for day-to-day operations.

The Energy Policy Act of 1992 has led to the rise of independent power producers as many public utility companies were forced to sell their assets. The act allowed any business to generate and sell electricity at a wholesale level.

Largest Market
$21.4bn Nuclear generation from utilities

Product Innovation
Moderate

Products and Services

How are the industry's products and services performing?

Utility companies are slowly losing their hold

- Public utility companies are heavily regulated and make up more than half of the nuclear power generation in the United States. While they still control the bulk of the market, their share has fallen drastically.
- Nuclear power deregulation was established to separate electricity generation and distribution, causing utilities to sell their assets.

Independent power producers continue to expand

- Independent power producers (IPPs) are independent of direct government regulations and electricity rate settings. The Energy Policy Act of 1992 allowed any business to generate and sell electricity wholesale, leading to an uptick in IPPs.
- IPPs have slowed down recently since they were more susceptible to government lockdown mandates during the pandemic.

Products & Services Segmentation

Industry revenue in 2024 broken down by key product and service lines.

- Nuclear generation from utilities ($21.4bn) 56.5%
- Nuclear generation from independent power producers ($16.5bn) 43.4%
- Other ($37.9m) 0.1%

IBISWorld

Source: IBISWorld

What are innovations in industry products and services? Moderate

Enriched uranium to make its mark

- Government investment is set to aid the development of high-assay low-enriched uranium (HALEU).
- HALEU is uranium enriched between 5.0% and 20.0% for advanced reactors, generating more power while increasing operational and fuel efficiency.

Generation technology continues to improve

- An international task force is developing six nuclear Generation IV reactor technologies for deployment before 2030. These reactors involve

higher temperatures than today's reactors, and four of the six technologies are designated to produce hydrogen.

- New reactors have come to the United States after three decades. In Waynesboro, GA, The Vogtle Unit 3 has begun operations and Unit 4 is set to start in 2024. After operation, these plants will be the largest nuclear power stations in the country.

☆ Key Success Factors

What products or services do successful businesses offer?

Superior financial management and debt management

The level of borrowing and interest rates has a major effect on the operation's profitability.

Establish supply contracts for domestic sales

Companies can enter fixed-price contracts with downstream markets to hedge against volatility and keep revenue steady. This can be helpful when prices spike and producers cannot absorb the costs.

Major Markets

What's influencing demand from the industry's markets?

Industrial clients rely on nuclear power

- The industrial market, which consists mainly of manufacturers, accounts for almost half of the electricity generated by nuclear power plants. This segment pays the lowest amount per kilowatt-hour since it's more efficient and less expensive to supply.
- Industrial markets receive electricity at higher voltages because of their intense operations. Manufacturing activity plunged during the pandemic, but an economic recovery caused a resurgence in the market.
- Throughout 2024, the industrial production index saw a gradual increase, with a CAGR of 2.0%. While high interest rates initially restrained production, rate cuts in September 2024 led to a surge in growth late in the year, strengthening this segment.

Residential populations require electricity

- Residential households use electricity for lighting, refrigeration and appliances. Consumers in this segment require a minimum amount of electricity to power their homes.
- The shift to renewable energy has slowed this segment, as many homeowners are switching to solar and wind power. This has been exacerbated by the Inflation Reduction Act, which extended Investment Tax Credits.
- Nonetheless, this segment has benefited from the recently constructed nuclear reactors Vogtle Unit 3 and 4. These plants are set to continue delivering power to many homes in the area, keeping this segment steady.

Commercial businesses pay in bulk

- Businesses use electricity to power office space, computers and other activities. Commercial businesses buy electricity in bulk, leading to higher volumes at lower prices.
- Like residential markets, many businesses have shifted toward renewable energy like solar and wind power. Environmental concerns have pushed businesses to transition to appeal to more environmentally conscious stakeholders and customers.
- Even so, the recent surge in artificial intelligence (AI) popularity has motivated many large technology companies, such as Google, Meta and Amazon, to pursue power agreements with nuclear energy producers to supply their expansive data centers. While this initiative will enhance revenue from the commercial market, its implementation is not expected to occur shortly.

Major Markets Segmentation

Industry revenue in 2024 broken down by key markets

- Industrial ($17.6bn) 46.5%
- Residential ($11.0bn) 29.1%
- Commercial ($9.3bn) 24.4%

IBISWorld

Source: IBISWorld

International Trade

Some industries don't directly import or export goods. See reports at the manufacturing level for international trade data on relevant products.

Geographic Breakdown

Key Takeaways

The Great Lakes is home to many industrial manufacturers and the largest nuclear power generator market. Illinois holds the largest number of nuclear plants in the country.

Heavily populated areas are perfect for nuclear plants, such as the Southeast and Atlantic regions. Consumers and businesses alike use a significant amount of energy daily.

Business Locations

State	Estab. Units	Estab. %	Revenue $m	Revenue %	Wages $m	Wages %	Employment Units	Employment %
Illinois	17	10.2	6,659.2	17.6	511.4	9.5	3,255	8.6
Pennsylvania	12	7.2	2,751.2	7.3	1,037.6	19.2	7,703	20.2
Michigan	7	4.2	1,810.2	4.8	624.3	11.6	3,591	9.4
New York	10	6.0	2,721.8	7.2	239.3	4.4	1,220	3.2
North Carolina	11	6.6	2,213.4	5.8	247.4	4.6	1,468	3.9
Florida	11	6.6	1,509.7	4.0	129.4	2.4	998	2.6
South Carolina	9	5.4	1,444.8	3.8	501.3	9.3	3,460	9.1
Texas	7	4.2	1,880.5	5.0	221.1	4.1	1,274	3.3
Georgia	7	4.2	1,416.0	3.7	437.3	8.1	2,855	7.5
Louisiana	8	4.8	1,308.6	3.5	359.0	6.7	2,417	6.4
New Jersey	8	4.8	1,770.8	4.7	389.0	7.2	2,340	6.1
Ohio	8	4.8	1,509.0	4.0	255.1	4.7	2,036	5.3
Massachusetts	8	4.8	1,399.6	3.7	38.3	0.7	217	0.6
Alabama	3	1.8	986.1	2.6	234.6	4.3	1,493	3.9
Arkansas	7	4.2	574.8	1.5	37.3	0.7	303	0.8
Mississippi	5	3.0	673.2	1.8	195.5	3.6	1,367	3.6
Connecticut	3	1.8	717.9	1.9	163.5	3.0	1,005	2.6
Virginia	5	3.0	811.8	2.1	163.5	3.0	933	2.5
Vermont	6	3.6	319.6	0.8	15.7	0.3	91	0.2
Wisconsin	4	2.4	808.9	2.1	137.2	2.5	873	2.3
Maryland	4	2.4	565.5	1.5	22.4	0.4	259	0.7
California	2	1.2	579.9	1.5	18.5	0.3	139	0.4
New Hampshire	3	1.8	208.6	0.6	7.5	0.1	71	0.2
Missouri	3	1.8	269.8	0.7	6.8	0.1	79	0.2
Minnesota	3	1.8	489.8	1.3	24.6	0.5	143	0.4

State	Estab. Units	Estab. %	Revenue $m	Revenue %	Wages $m	Wages %	Employment Units	Employment %
Iowa	3	1.8	274.7	0.7	19.6	0.4	145	0.4
Washington	3	1.8	219.6	0.6	8.4	0.2	73	0.2
Arizona	2	1.2	306.6	0.8	7.1	0.1	175	0.5
Indiana	2	1.2	173.6	0.5	7.0	0.1	60	0.2
Maine	2	1.2	59.6	0.2	0.5	0.0	14	0.0
Nebraska	2	1.2	87.0	0.2	0.3	0.0	3	0.0
Kansas	2	1.2	125.6	0.3	6.9	0.1	53	0.1
Colorado	2	1.2	152.6	0.4	2.1	0.0	14	0.0
Idaho	2	1.2	66.3	0.2	0.6	0.0	6	0.0
Tennessee	2	1.2	197.5	0.5	1.1	0.0	9	0.0
Oregon	2	1.2	89.5	0.2	1.8	0.0	14	0.0

Where are industry businesses located?

The Southeast is a nuclear hotspot

- The Southeast region holds the country's largest number of nuclear power producers. Its large population makes it a premier location for power generation.
- Georgia is home to the two newest nuclear power plants, Vogtle Unit 3 and 4. Unit 3 has recently gone into operation with Unit 4 shortly to follow sometime in 2024.

The Great Lakes are home to industrial bases.

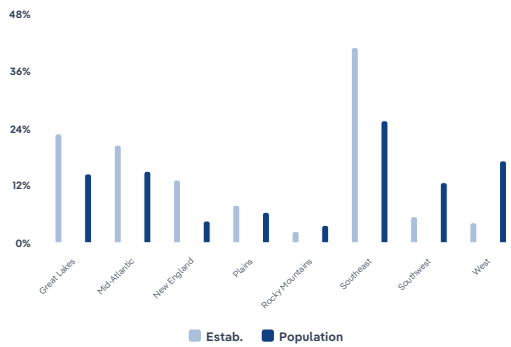
- The Great Lakes are home to many nuclear power producers who need reliable and abundant electricity, making nuclear power an attractive option because of its capacity to consistently generate large amounts of electricity.
- Illinois leads the country in nuclear generating capacity. More than half of Illinois's electricity comes from nuclear power plants.

The Mid-Atlantic uses a lot of power

- Like the Southeast, the Mid-Atlantic is highly populated and needs an abundant energy source to constantly provide electricity to businesses and consumers.
- New York State leads the region in nuclear generating capacity. New York's Indian Point power plant was shut down after six decades of service; competition from natural gas was too much to handle.

Southeast has the largest spread of businesses compared to its population

Share of Estab. (%) vs. share of population (%)



IBISWorld

Source: IBISWorld

Key Success Factors

How do businesses use location to their advantage?

Optimize operating capacity

Higher capacity utilization is generally associated with lower unit costs.

Operate in a location that is close to key markets

Operating near key markets can help nuclear power producers generate more revenue, enticing buyers to choose a closer power source.

Competitive Forces

Key Takeaways

The three largest companies make up more than half of the market, making it harder for new entrants to enter the industry. Existing establishments continue to expand their market share through acquisition and capacity expansion.

Nuclear power competes with traditional and renewable energy sources. Companies compete based on price and ease of access. Safety concerns have deterred customers from nuclear energy.

Concentration **Moderate**	Competition **Moderate** Increasing	Barriers to Entry **High** Steady
Substitutes **High** Steady	Buyer Power **High** Increasing	Supplier Power **Moderate** Steady

Concentration Moderate

What impacts the industry's market share concentration?

Large companies dominate

- Large and established producers dominate the industry, with the three largest companies controlling more than half the market.
- Merger and acquisition activity has contributed to the rising concentration, allowing producers to access new nuclear facilities and resources. Activity has surged, with over 45 mergers and acquisitions made since 2021.

Capacity continues to increase

- Most expansion can be attributed to uprates when producers bolster existing nuclear facilities' capacity by petitioning the Nuclear Regulatory Commission.
- This allows nuclear power producers to expand their domestic footprint and control a larger market share.

Market Share Concentration

Combined market share of the four largest companies in this industry

Source: IBISWorld

Key Success Factors

How do successful businesses handle concentration?

Optimize operating capacity

Higher capacity utilization is generally associated with lower unit costs.

Negotiate successfully with regulators

Negotiating a regulatory environment that can vary substantially across states is crucial to success in this industry.

Barriers to Entry High Steady

What challenges do potential industry entrants face?

Legal

- New entrants need to obtain a license from the Nuclear Regulatory Commission before they can start operations.

Start-up Costs

- A significant amount of capital is required as plants must purchase equipment and uranium.

Differentiation

- Companies differentiate themselves by operating different types of plants to diversify their offerings and reduce risk. They can also offer different loads of electricity.

Labor Expenses

- Skilled labor is needed since facilities must follow heavy regulations and safety requirements. Not adhering to safety protocols can spell disaster for all parties involved, so it's essential to ensure that the staff is experienced and knowledgeable.

Key Success Factors

How can potential entrants overcome barriers to entry?

Optimize operating capacity

Higher capacity utilization is necessary for optimum operating efficiency. New entrants must pay high start-up costs to compete with other plants.

Guarantee supply of key inputs

Nuclear power producers that can establish a constant supply of key inputs like uranium for fixed costs can reduce volatility in operations.

Substitutes

High Steady

What are substitutes for industry services?

Other renewable energy sources

- The push towards renewable energy and decarbonization continues to be a focal point for the US. Numerous states have implemented renewable portfolio standards (RPS) which require a portion of the electricity generated in that region to come from renewable sources.
- These sources are more environmentally friendly, safer and less costly, leading to producers not wanting to open new facilities.

Traditional energy sources

- The use of non-renewable energy sources, such as natural gases and fossil fuels, is the most commonly used across the country, resulting from its established infrastructure and low prices.
- Many electric generators have turned to natural gas power plants at the expense of new nuclear reactors.
- Many states aim to reduce their dependency on nonrenewable energy as they work toward reducing their greenhouse gas emissions, decreasing their need for traditional power entirely.

Key Success Factors

How do successful businesses compete with substitutes?

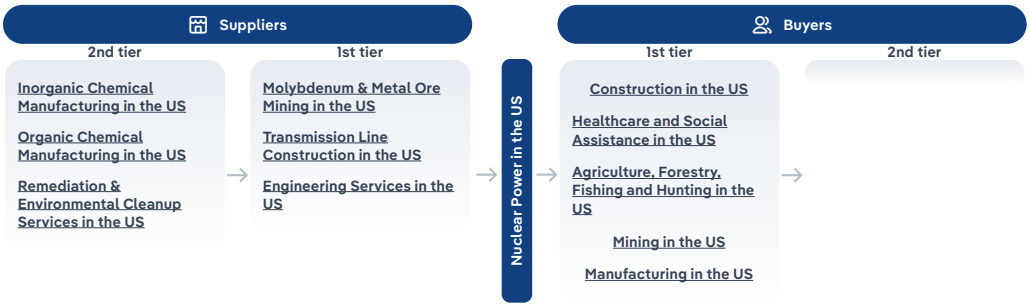
Fast adjustments made to changing regulations

Companies in this industry must be able to both deal with regulatory authorities and adjust their operations to changes in the regulatory environment.

Develop a loyal customer base

Nuclear power plants can provide massive amounts of electricity. This can be crucial for the industrial sector, which constantly needs energy.

Buyer & Supplier Power



IBISWorld

Source: IBISWorld

What power do buyers and suppliers have over the industry?

High | Increasing

Buyers: Lots of options to choose from

- Buyers have a variety of options to choose from regarding energy. Some consumers and businesses benefit from renewable energy sources.
- Power generators compete on price, but the different types of capacity (base load, intermediate and peak load) have different cost structures that feed into price levels.
- Public concerns about the safety of nuclear power have deterred buyers.

Moderate | Steady

Suppliers: Uranium can get expensive

- Uranium is the critical input for nuclear power, has experienced price hikes and remains a volatile commodity.
- While companies can pass these increases onto buyers, the sheer volatility forces producers to eat up some costs, which hinders profitability. Producers can hedge against price hikes by entering forward contracts with suppliers.

☆ Key Success Factors

How do successful businesses manage buyer & supplier power?

Ability to pass on cost increases

Generators must cover not only their cash operating costs but also substantial capital charges. In several states, pricing is still strongly influenced by state government policy.

Superior financial management and debt management

The level of borrowing and interest rates has a major effect on the operation's profitability.

Companies

Key Takeaways

Exelon Corporation spins off its nuclear power generation assets into a new business. Thirteen stations with 21 gigawatts of capacity were spun into Constellation Energy Corporation. The separation will give the company financial and strategic independence to best serve its customers.

Entergy increases profitability as it raises prices. The company has exclusive contracts in some regions and faces an inelastic customer base, allowing it to raise prices and maintain strong profitability.

Major Players

Company	Revenue	Market Share
Exelon Corporation	$15.5bn	41.0%
Dominion Energy, Inc.	$4.2bn	11.2%
Entergy Corporation	$2.3bn	6.0%
Other Companies	$15.9bn	41.9%

Companies

Company	Market Share (%) 2024	Revenue ($m) 2024	Profit ($m) 2024	Profit Margin (%) 2024
Exelon Corporation	41.0	15,531.0	1,989.9	12.8
Dominion Energy, Inc.	11.2	4,230.9	1,554.5	36.7
Entergy Corporation	6.0	2,291.2	516.1	22.5

Exelon Corporation

Company Details

IndustrySpecificRevenue (2024)	$15.5bn
Industry Profit (2024)	$2.0bn
CompanyEmployees (2024)	19,063
MarketShare (2024)	41.0%

Description

Exelon is a public company headquartered in Illinois with an estimated 19,063 employees. In the US, the company has a notable market share in at least four industries: Utilities, Electric Power Transmission, Coal & Natural Gas Power, Nuclear Power and Coal & Natural Gas Power. Their largest market share is in the Nuclear Power industry, where they account for an estimated 41.0% of total industry revenue.

Brands & Trading Names

- Atlantic City Electric
- BGE
- ComEd
- Constellation
- Delmarva Power
- Exelon Generation
- PECO
- Pepco

Other Industries

- Coal & Natural Gas Power in the US
- Electric Power Transmission in the US
- Utilities in the US

Company's Industry Revenue, Market Share, and Profit Margin Over Time

Year	Market Share (%)	Revenue ($m)	Profit ($m)	Profit Margin (%)
2019	34.3	11,303.8	790.3	7.0
2020	33.3	10,627.9	154.6	1.5
2021	34.5	11,249.9	-198.1	-1.8
2022	42.3	15,145.9	306.8	2.0
2023	46.0	16,617.5	1,073.7	6.5
2024	41.0	15,531.0	1,989.9	12.8

What's impacting Exelon Corporation's performance?

Company creates new teams to handle leadership responsibilities

- On October 29, 2021, Exelon released an announcement that the company is set to make several new appointments in the company ahead of the company's plan to divide into two individual divisions in early 2022. The new teams, entitled Exelon and Constellation respectively, will consist of these new appointments related to leadership roles from COO, EVPs and CSOs. The Exelon team is set to consist of individuals that have experience with the energy industry which is set to help the new team with key decisions related to energy management.

Exelon spins off generation assets into new businesses

- In February 2022, Exelon Corporation (Exelon) completed the separation of its generation businesses from its utility business, allowing each entity to operate with financial and strategic independence to better meet customer needs and achieve operational excellence. The primary generation assets, including 13 nuclear power stations with a combined capacity of 21 gigawatts, were spun off into Constellation Energy Corporation. This helps Exelon focus on its core businesses and remains committed to investing in and modernizing the national energy grid to enhance customer experience and foster community equity.

Path to reducing climate change in the company

- Exelon is establishing goals to cut its greenhouse gas emissions over the coming years by modernizing the nation's infrastructure and investing in clean equipment and vehicles. The organization's current goal is to cut its emissions in half by 2030 and achieve net zero by 2050. It also has plans to electrify 30.0% of its vehicle fleet by 2025 and half of it by 2030. The company continues to invest in infrastructure and promote local and federal policies targeting decarbonization.

Constellation resumes former nuclear plant thanks to the rise of artificial intelligence

- In September 2024, Constellation Energy announced that it had entered into a power purchase agreement (PPA) with Microsoft to initiate the Crane Clean Energy Center and resume operations at Three Mile Island Unit 1. This reactor, which was shut down in 2019 due to economic constraints, will be restarted as part of Microsoft's new artificial intelligence initiatives. Microsoft plans to purchase energy from the plant to support its extensive data centers. The facility is projected to become operational in 2028, generating 835 MW of carbon-free energy and creating over 3,000 jobs for the local community.

Dominion Energy, Inc.

Company Details

IndustrySpecificRevenue (2024)	$4.2bn
Industry Profit (2024)	$1.6bn
CompanyEmployees (2024)	17,200
MarketShare (2024)	11.2%

Description

Dominion Energy is a public company headquartered in Virginia with an estimated 17,200 employees. In the US, the company has a notable market share in at least two industries: Coal & Natural Gas Power, Nuclear Power and Nuclear Power. Their largest market share is in the Coal & Natural Gas Power industry, where they account for an estimated 14.5% of total industry revenue and are considered a Disruptor because they display lower to medium market share that's rising rapidly, but weaker profits compared to some of their peers.

Other Industries

- Coal & Natural Gas Power in the US

Company's Industry Revenue, Market Share, and Profit Margin Over Time

Year	Market Share (%)	Revenue ($m)	Profit ($m)	Profit Margin (%)
2019	12.7	4,176.3	447.8	10.7
2020	14.2	4,535.0	657.6	14.5
2021	10.2	3,311.5	578.8	17.5
2022	10.9	3,902.6	401.2	10.3
2023	11.6	4,174.0	990.1	23.7
2024	11.2	4,230.9	1,554.5	36.7

What's impacting Dominion Energy, Inc.'s performance?

Dominion selling assets to meet clean energy goals

- In recent years, Dominion Energy Inc. (Dominion) has sold off assets to reposition the company's focus as a state-regulated, sustainable and clean-energy focused utility business. In October 2021, the company agreed to sell its $1.9 billion Questar Pipeline to Southwest Gas Holdings Inc. In February 2022, Dominion sold its natural gas utility, Hope Gas, Inc., to Ullico Inc. The sales are anticipated to support the company plan to reduce carbon output and build its clean energy portfolio.

Dominion continues to innovate on small modular reactor development

- In October 2024, Dominion Energy Virginia and Amazon signed a Memorandum of Understanding (MOU) to research advancements in Small Modular Reactors (SMRs) in Virginia. This collaboration is driven by the state's increasing power demands, which have risen by over 5.0% annually and are projected to double within the next 15 years. Dominion is particularly focused on developing SMRs due to their ability to produce constant, carbon-free energy at a lower cost and with a smaller footprint, thanks to their compact design. Additionally, this initiative will support Amazon's data centers, which require a continuous and reliable energy supply.

Dominion commits to sustainability through largest US offshore wind project

- Dominion has maintained its commitment to sustainable and safe energy throughout 2021. The company's May 2021 acquisition of Birdseye Renewable Energy (Birdseye) will support long-term contacted solar and storage projects. Dominion announced its Green Initiative, which will aim to convert company vehicles to electric by 2030. Most recently, the company advanced in the largest offshore wind project in the US off the coast of Virginia, which will generate enough clean energy for 660,000 homes when completed.

Entergy Corporation

Company Details

IndustrySpecificRevenue (2024)	$2.3bn
Industry Profit (2024)	$516.1m
CompanyEmployees (2024)	12,000
MarketShare (2024)	6.0%

Description

Entergy is a public company headquartered in Louisiana with an estimated 12,000 employees. In the US, the company has a notable market share in at least one industry: Nuclear Power, where they account for an estimated 6.0% of total industry revenue.

Brands & Trading Names

- Entergy Arkansas, LLC
- Entergy Louisiana, LLC
- Entergy Mississippi, LLC
- Entergy New Orleans, LLC
- Entergy Nuclear
- Entergy Texas, Inc.
- Entergy Wholesale Commodities

Company's Industry Revenue, Market Share, and Profit Margin Over Time

Year	Market Share (%)	Revenue ($m)	Profit ($m)	Profit Margin (%)
2019	5.7	1,868.4	259.0	13.9
2020	6.8	2,177.5	281.7	12.9
2021	6.6	2,160.9	339.5	15.7
2022	7.2	2,571.5	383.0	14.9
2023	6.1	2,201.4	474.3	21.5
2024	6.0	2,291.2	516.1	22.5

What's impacting Entergy Corporation's performance?

Entergy Mississippi announces ideas to lower customer costs

- With energy prices rising across the country, Entergy Mississippi released a list of company initiatives working to lower customer's energy bills. The list included investing in nuclear power, expanding solar energy, increasing natural gas plant efficiency, investing in projects to create jobs and grow customer bases and finally offering customer discounts. The company plans to increase operating efficiency and improve sustainability while investing in community infrastructure. In states with low median incomes like Mississippi, running out of money to pay utilities has devastating consequences on households. The Mississippi division's efforts may improve people's livelihoods and make a long term investment in a local economy.

Entergy increases profitability while managing debt, in part due to higher prices

- Despite a setback in 2020 revenue, Entergy increased revenue and operating income for 2021. The company grew assets with increased financing over this period. Its ability to maintain low costs and access credit enabled strong financial performance. As a utility provider, the company enjoys exclusive contracts in some regions and faces an inelastic consumer base. Raising prices over the past few years contributed greatly to maintain strong margins. The company's credit rating of BBB enables further investment in energy infrastructure to increase sustainability, reduce customer costs and ensure quality service.

Entergy partners with companies locating in the Southeast

- In March 2022, the company invested $100.0 million in the Ouachita Parish, Louisiana energy system. A month before in February, Entergy partnered with US Steel for the opening of a new steel mill in Arkansas. Entergy also partnered with Sempra Infrastructure to provide energy to its Louisiana facilities. Several high-profile companies recently relocated to Entergy's domain, including Tesla. Entergy's ability to provide low-rate energy to industrial customers provides an opportunity to take advantage of this relocation trend. The company must also maintain existing systems, as exemplified in its recent Ouachita Parish investment.

External Environment

Key Takeaways

Nuclear power plants are subject to strict regulations. The Nuclear Regulatory Commission licenses commercial plants. It is constantly monitored and evaluated. Investor-owned plants must adhere to state and federal government regulations.

Government funding and incentives aid nuclear power generation. Tax credits are available for power plants that have zero carbon emissions. New laws have bolstered research and development for facilities.

Regulation & Policy
High Decreasing

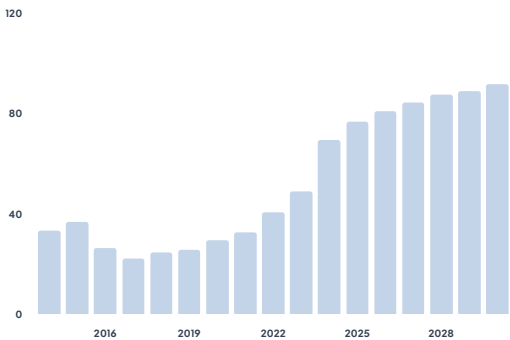
Assistance
Moderate Increasing

External Drivers

What demographic and macroeconomic factors impact the industry?

World price of uranium

Dollars

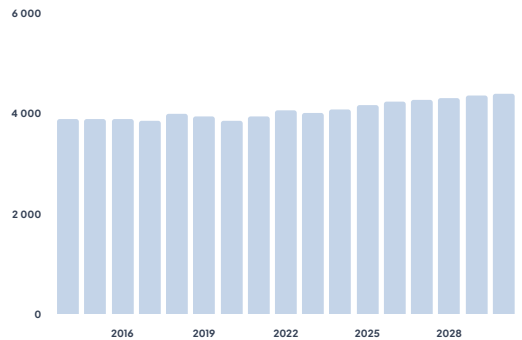


IBISWorld Source: IBISWorld

The price of uranium substantially affects purchase costs since enriched uranium generates nuclear power. When the price of uranium rises, purchases rise accordingly. Generators either pass on some of these increased costs in wholesale markets or rely on government regulatory agencies to raise retail rates. The volatility of uranium prices poses a potential threat to nuclear power generators.

Electric power consumption

Billion kilowatt hours

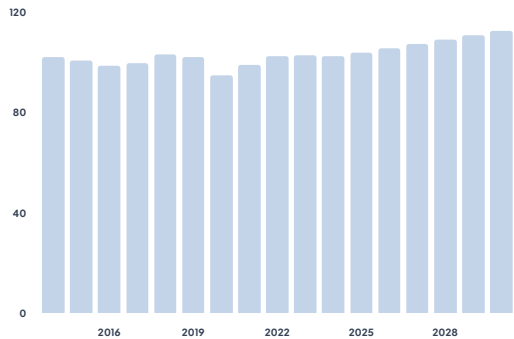


IBISWorld Source: IBISWorld

Many nuclear power generators sell electricity to the wholesale market instead of directly to end users. The level of energy sold indicates how much electric power is required. Higher transmission levels lead to more revenue.

Industrial production index

Index



IBISWorld

Source: IBISWorld

Industrial electricity use by manufacturing industries accounts for a sizable portion of end markets. An increase in industrial production benefits generators, especially energy-intensive metal production.

Electricity demand is relatively inelastic. Generators benefit from higher electricity prices, as it nets them more revenue, presenting a potential opportunity for nuclear power generators.

Regulation & Policy

High | Decreasing

What regulations impact the industry?

Nuclear Regulatory Commission

The Nuclear Regulatory Commission (NRC) is responsible for the safety regulation of civilian uses of nuclear materials. It licenses all commercially owned nuclear power plants that produce electricity in the United States. It can amend, renew, modify or transfer the license depending on the activities of the reactor. It monitors and evaluates plant activities and performance and regulates the storage of spent nuclear fuel. The two acceptable forms of storage are spent fuel pools and dry cask storage.

State regulations

While regulated activities that cross state lines are subject to federal authority, intrastate activities are subject to state authority. State governments have jurisdiction over the large, vertically integrated, investor-owned electric utilities. The states grant investor-owned electric utilities service monopolies in set geographic areas and the utilities serve all consumers. State regulators require utilities to charge comparable prices to similar types of customers and to provide services under comparable conditions.

Assistance

Moderate | Increasing

What assistance is available to this industry?

Government
Government tax incentives

The newly passed Inflation Reduction Act (IRA) introduced benefits for nuclear power facilities. Zero-emission production provides up to $15.00 per megawatt-hour for electricity produced in these plants. This is available for facilities in service in 2024 and lasts until 2032. New benefits include choosing between a technology-neutral production tax credit of $25.00 per megawatt-hour for the first ten years of operation or a 30.0% investment tax credit on new zero-carbon power plants operating in 2025 or after.

Government
Uranium supply chain enhancement

The IRA has invested $700.0 million to aid the development of a domestic supply chain for high-assay, low-enriched uranium (HALEU). HALEU

is uranium enriched between 5.0% and 20.0%, allowing smaller designs to get more power per unit of volume while increasing life cores, efficiency and fuel optimization.

Government
Research and development investment

The IRA has allocated $150.0 million to assist with national nuclear power labs' research and development infrastructure.

Government
Infrastructure Investment and Jobs Act

The $1.2 trillion Infrastructure Investment and Jobs Act modernizes US infrastructure, encouraging capital and other investments in nuclear power. Programs like the Civil Nuclear Credit Program contribute to enhancing nuclear facilities. These initiatives drive the need for updated technology and safety improvements, supporting industry growth and ensuring reliable energy production.

Non-government
Private support doesn't apply to the industry

The Nuclear Power industry doesn't receive any private sector support.

Financial Benchmarks

Key Takeaways

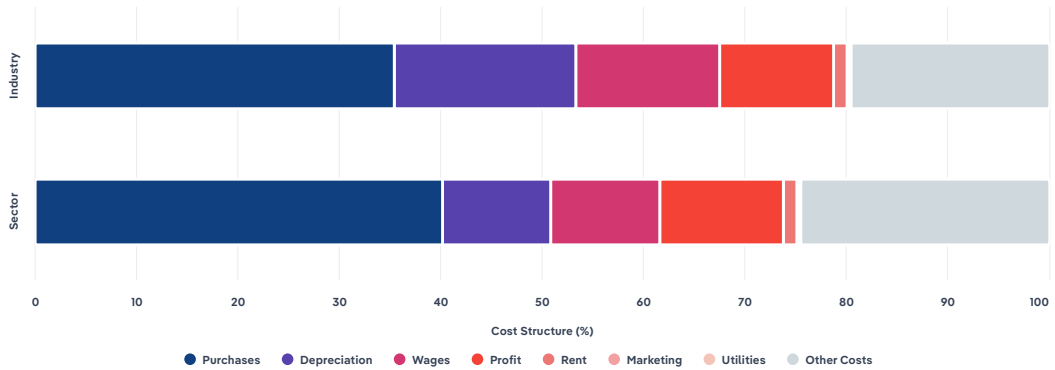
Following safety protocols is extremely important. Plants will hire skilled employees who can ensure regulations are being met. As safety concerns continue to rise, wages will follow.

Uranium, the most crucial input for nuclear power, is expensive and continues to soar. While producers have historically passed these costs down to customers, increasing volatility has led to profit constraints.

Profit Margin	Average Wage	Largest Cost
11.3 % Lower than sector	$142k Higher than sector	Purchases 35.4% of Revenue

Cost Structure Benchmarks

Average operating costs by industry and sector as a share (%) of revenue 2024



IBISWorld

Source: IBISWorld

What trends impact industry costs?

Key inputs translate to significant expenses for plants

- Purchase costs account for the largest expenses, accounting for more than one-third in revenue, which exceeds the utility sector as a whole. Fuel is the largest purchase expense and consists of pellets of uranium oxide arranged in tubes to form fuel rods, which are then arranged into fuel assemblies in the reactor core. Other purchase expenses include protective gear and materials used by workers.
- Uranium prices have soared in recent years, including a 98.1% uptick in 2024 alone, stemming from the Ukraine-Russia war and an uptick in new or existing nuclear power plants opening. Despite this hike, power producers are able to pass these costs down to customers to shield themselves from higher operational costs. Some companies also enter forward contracts to lock in uranium prices ahead of time to hedge against price volatility.

Safety concerns keep wages moderately high

- Wages are high for nuclear power producers since skilled employees must meet regulations and safety requirements. Relatively high staffing levels reflect high regulatory compliance required from nuclear generators, particularly in health and secure disposal of spent fuel and other materials. Plants can risk fines or even closure if items are not disposed of properly.
- Since nuclear power plants are more vulnerable to hazardous conditions because of their handling of radioactive waste, wages typically represent a larger percentage of revenue compared to other sectors. Nuclear power plants have higher salaries in place to attract the best of the best, simply to ensure safety procedures are being upheld.

Commodity prices push profit up even more

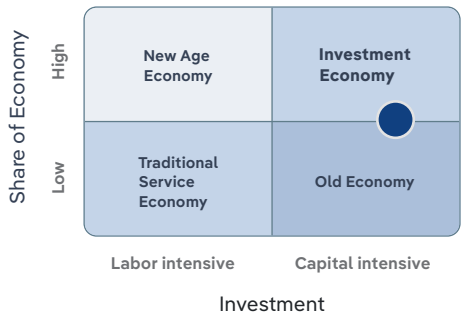
- Profit for nuclear power plants have continued to creep up amid recent events. Power producers that use uprates (increases in the electricity generating capacity of a nuclear facility) tend to have a

higher profit margin because they create more energy.

- The price of uranium surged due to an increase in demand for nuclear power following Russia's invasion of Ukraine, enabling producers to pass some of these costs on to consumers. As a result, they were able to achieve gains in profitability despite facing higher operational expenses.
- Despite profit pushing up, the average profitability for nuclear power producers is much lower than the overall utility sector. This stems from higher purchase and depreciation costs, along with significant expenses related to regulatory compliance, maintenance and handling of radioactive waste, all of which place a greater financial burden on nuclear operators compared to their peers in other energy sectors.

Investment Economy

Share of economy vs. Investment



IBISWorld

Source: IBISWorld

Financial Ratios

Days' Receivables	Interest Coverage	Debt/Net Worth
43.0 Higher than sector	2.9 Higher than sector	4.8 Higher than sector

Industry Multiples

Ratio	2019	2020	2021	2022	2023	3-Year	5-Year	10-Year
EBIT/Revenue	19.7	22.4	21.1	14.8	10.5	12.7	17.2	14.4
EBITDA/Revenue	25.1	31.8	27.2	21.8	16.1	18.9	24.2	20.4
Leverage Ratio	4.0	3.1	3.7	1.1	1.6	1.4	2.4	2.4

Industry Tax Structure

Ratio	2019	2020	2021	2022	2023	3-Year	5-Year	10-Year
Taxes Paid/Revenue	2.5	3.7	2.0	2.5	2.4	2.4	2.6	2.4

Income Statement

Ratio	2019	2020	2021	2022	2023	3-Year	5-Year	10-Year
Total Revenue	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Business receipts	92.8	95.4	90.2	92.1	94.3	93.2	93.0	87.3
Cost of goods	33.4	27.7	44.9	41.5	39.7	40.6	38.4	42.2
Gross Profit	66.6	72.3	55.1	58.5	60.3	59.4	61.6	57.8
Expenses								
Salaries and wages	12.1	4.6	3.6	4.4	4.6	4.5	4.3	5.8
Advertising	1.7	3.5	1.6	1.1	1.3	1.2	1.9	1.8
Depreciation	3.8	6.3	4.4	3.1	3.7	3.4	4.4	3.6
Depletion	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Amortization	1.6	3.1	1.8	3.8	1.9	2.9	2.6	2.4
Rent paid	0.4	2.2	0.6	1.3	1.3	1.3	1.4	1.3
Repairs	0.2	0.3	0.2	0.1	0.1	0.1	0.2	0.2
Bad debts	3.3	5.4	4.0	2.1	3.1	2.6	3.7	4.5
Employee benefit programs	1.2	3.4	1.4	2.7	3.5	3.1	2.7	1.7
Compensation of officers	3.7	0.5	0.3	6.2	9.2	7.7	4.0	2.9
Taxes paid	2.5	3.7	2.0	2.5	2.4	2.4	2.6	2.4
Interest Income	3.8	2.2	3.2	1.6	0.9	1.2	2.0	5.3
Other Income								
Royalties	0.4	0.2	2.3	0.9	0.4	0.7	1.0	0.6
Rent Income	0.0	0.2	0.7	0.4	0.2	0.3	0.4	0.6
Net Income	10.4	7.6	11.3	5.6	4.5	5.0	7.2	4.0
Charitable contributions	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Dividends	0.0	0.0	0.6	1.4	1.9	1.7	1.0	0.5
Interest paid	6.8	11.1	7.7	6.8	3.6	5.2	7.3	8.0
Net gain, noncapital assets	0.3	0.1	0.7	0.3	0.2	0.3	0.3	1.0
Net long-term capital gain less net short-term loss	0.1	0.4	0.1	0.0	0.0	0.0	0.1	0.4
Net loss, noncapital assets	3.8	6.3	4.4	1.9	0.9	1.4	3.4	3.1
Net short-term capital gain less net long-term loss	1.6	1.0	1.3	2.2	1.1	1.7	1.4	2.9
Other deductions	11.5	9.8	9.0	12.6	13.3	12.9	11.2	11.6
Other receipts	1.0	0.4	1.0	1.0	1.0	1.0	0.8	1.4
Pension, profit-sharing, etc., plans	0.5	0.1	0.2	1.5	2.2	1.9	1.0	0.6

Balance Sheet

Ratio	2019	2020	2021	2022	2023	3-Year	5-Year	10-Year
Assets								
Cash and Equivalents	1.2	6.1	1.7	5.8	5.4	5.6	4.7	3.2
Notes and accounts receivable	13.0	16.5	16.9	12.0	11.8	11.9	14.3	14.3
Allowance for bad debts	0.7	2.0	1.3	0.5	0.5	0.5	1.1	1.4
Inventories	2.7	10.3	5.9	8.6	10.6	9.6	8.9	8.0
Other current assets	2.2	2.1	3.3	4.3	4.0	4.1	3.4	2.8
Other investments	17.5	7.9	7.0	18.6	19.0	18.8	13.1	13.9
Property, Plant and Equipment	50.2	45.7	45.2	45.5	45.2	45.4	45.4	44.3
Accumulated depreciation	8.1	11.9	11.3	29.6	29.4	29.5	20.5	14.6
Intangible assets (Amortizable)	4.5	10.1	10.1	12.2	11.5	11.8	11.0	9.1
Accumulated amortization	0.7	7.1	0.7	1.5	1.5	1.5	2.7	1.5
Other assets	8.8	14.4	14.8	6.7	6.7	6.7	10.6	11.4
Total assets	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Accounts payable	2.9	3.1	2.5	7.6	7.9	7.8	5.3	3.7
Liabilities and Net Worth								
Mort, notes, and bonds under 1 yr	19.3	17.1	18.4	10.1	10.5	10.3	14.0	16.3
Other current liabilities	2.8	3.2	3.8	6.1	5.4	5.8	4.6	3.9
Loans from shareholders	0.2	4.5	3.6	2.5	3.3	2.9	3.5	1.8
Mort, notes, bonds, 1 yr or more	44.4	46.0	43.0	42.9	41.9	42.4	43.4	44.4
Other liabilities	11.4	6.2	10.1	10.7	10.3	10.5	9.3	10.6
Total liabilities	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Capital stock	-5.0	0.4	1.1	0.2	-0.4	-0.1	0.3	-2.0
Additional paid-in capital	3.4	8.6	9.7	12.0	13.0	12.5	10.9	9.4
Retained earnings, appropriated	-11.6	-5.9	-5.3	-3.2	-2.9	-3.0	-4.3	-6.5
Retained earnings-unappropriated	49.0	33.9	30.1	29.1	27.2	28.1	30.1	35.5
Cost of treasury stock	16.9	17.3	17.1	18.1	16.3	17.2	17.2	17.2
Net worth	18.9	19.8	18.5	20.1	20.7	20.4	19.8	19.3
Accumulated depletion	0.0	0.0	0.0	0.3	0.3	0.3	0.2	0.1
Depletable assets	0.1	0.0	0.1	1.5	1.4	1.5	0.8	0.4
Government Obligations	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Land	8.6	3.2	5.6	4.6	4.8	4.7	4.5	5.7
Loans to shareholders	0.0	3.7	1.6	1.5	1.6	1.6	2.1	1.5
Mortgage and real estate loans	0.9	0.9	1.0	10.3	9.4	9.8	5.4	2.8
Tax Exempt Securities	0.0	0.0	0.0	0.2	0.4	0.3	0.2	0.1

Liquidity Ratios

Ratio	2019	2020	2021	2022	2023	3-Year	5-Year	10-Year
Current Ratio	0.8	1.6	1.2	1.3	1.4	1.3	1.4	1.3
Quick Ratio	0.7	1.1	0.9	1.0	0.9	0.9	1.0	0.9
Sales/Receivables	7.7	6.1	5.9	8.4	8.5	8.4	7.2	7.2
Days' Receivables	47.5	60.3	61.7	43.6	43.0	43.3	52.2	52.3
Days' Inventory	29.1	136.0	48.3	18.8	25.5	22.1	57.1	36.5
Inventory Turnover	12.5	2.7	7.6	19.4	14.3	16.9	11.0	16.7
Payables Turnover	11.6	9.0	17.8	21.9	19.2	20.5	17.0	42.2
Days' Payables	31.5	40.6	20.5	16.7	19.1	17.9	24.2	16.5
Sales/Working Capital	-17.7	7.0	20.1	6.0	6.3	6.2	9.9	5.0

Coverage Ratios

Ratio	2019	2020	2021	2022	2023	3-Year	5-Year	10-Year
Interest Coverage	2.9	2.0	2.7	2.2	2.9	2.5	2.5	1.9
Debt Service Coverage Ratio	21.8	13.4	14.3	27.4	19.6	23.5	18.7	25.6

Leverage Ratios

Ratio	2019	2020	2021	2022	2023	3-Year	5-Year	10-Year
Fixed Assets/Net Worth	3.8	3.9	3.9	4.7	4.5	4.6	4.3	3.9
Debt/Net Worth	5.3	5.1	5.4	5.0	4.8	4.9	5.1	5.2
Tangible Net Worth	18.9	19.8	18.5	20.1	20.7	20.4	19.8	19.3

Operating Ratios

Ratio	2019	2020	2021	2022	2023	3-Year	5-Year	10-Year
Return on Net Worth, %	10.0	80.2	118.1	27.8	16.6	54.2	50.6	36.0
Return on Assets, %	2.7	21.5	31.9	4.5	2.9	13.1	12.7	9.1
Sales/Total Assets	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
EBITDA/Revenue	25.1	31.8	27.2	21.8	16.1	18.9	24.2	20.4
EBIT/Revenue	19.7	22.4	21.1	14.8	10.5	12.7	17.2	14.4

Cash Flow & Debt Service Ratios (% of sales)

Ratio	2019	2020	2021	2022	2023	3-Year	5-Year	10-Year
Cash from Trading	25.1	67.9	60.4	63.7	58.8	61.3	62.7	54.6
Cash after Operations	5.7	57.4	53.5	50.9	42.3	46.6	51.0	42.5
Net Cash after Operations	7.9	62.2	55.4	53.3	42.9	48.1	53.5	42.9
Debt Service P&I Coverage	0.3	2.0	2.1	5.0	5.6	5.3	3.7	2.9
Interest Coverage (Operating Cash)	1.2	5.6	7.2	7.9	11.8	9.8	8.1	5.8

Key Ratios

Year	Revenue per Employee ($)	Revenue per Enterprise ($ Million)	Employees per Estab. (Units)	Employees per Enterprise (Units)	Average Wage ($)	Wages/ Revenue (%)	Estab. per Enterprise (Units)	IVA/ Revenue (%)
2005	1,287,306	1400.5	416.0	1088.0	138,209	10.7	2.6	24.7
2006	1,481,402	1530.6	373.1	1033.2	145,448	9.8	2.8	23.6
2007	1,397,088	1586.8	404.5	1135.8	155,421	11.1	2.8	25.3
2008	1,140,859	1807.7	458.2	1584.5	161,934	14.2	3.5	27.9
2009	1,043,219	1882.4	477.0	1804.4	155,606	14.9	3.8	30.2
2010	875,004	1483.7	334.5	1695.7	151,882	17.4	5.1	33.0
2011	819,743	1387.5	357.6	1692.6	152,540	18.6	4.7	34.9
2012	801,850	1385.1	357.8	1727.3	152,968	19.1	4.8	38.1
2013	820,846	1477.8	342.9	1800.4	152,420	18.6	5.3	38.0
2014	863,120	1553.7	326.2	1800.1	145,802	16.9	5.5	36.1
2015	907,234	1602.4	290.6	1766.2	157,764	17.4	6.1	38.1
2016	860,901	1516.2	310.8	1761.1	154,669	18.0	5.7	40.7
2017	858,656	1280.3	268.1	1491.0	156,297	18.2	5.6	41.7
2018	885,605	1123.2	241.6	1268.3	158,245	17.9	5.3	39.0
2019	890,119	1164.5	243.1	1308.2	160,044	18.0	5.4	40.8
2020	901,351	1111.0	248.0	1232.6	157,982	17.5	5.0	44.0
2021	919,511	946.5	229.4	1029.3	151,094	16.4	4.5	41.2
2022	987,077	1023.8	234.0	1037.2	141,585	14.3	4.4	38.6
2023	982,743	997.5	230.4	1015.0	141,453	14.4	4.4	42.4
2024	996,277	998.0	229.3	1001.7	141,842	14.2	4.4	43.5
2025	1,008,896	1014.7	230.2	1005.8	142,202	14.1	4.4	42.4
2026	1,020,813	1030.0	231.0	1009.0	142,538	14.0	4.4	42.8
2027	1,031,473	1045.3	233.4	1013.4	142,834	13.8	4.3	43.2
2028	1,037,771	1056.6	233.1	1018.1	143,011	13.8	4.4	43.1
2029	1,043,391	1068.3	234.4	1023.9	143,162	13.7	4.4	43.1
2030	1,045,885	1078.2	236.0	1030.9	143,233	13.7	4.4	43.1

Key Statistics

Industry Data

Values

Year	Revenue ($ Million)	IVA ($ Million)	Estab. (Units)	Enterprises (Units)	Employment (Units)	Wages ($ Million)
2005	36,414.0	8,989.4	68	26	28,287	3,909.5
2006	39,794.9	9,400.7	72	26	26,863	3,907.2
2007	41,257.4	10,450.9	73	26	29,531	4,589.7
2008	43,385.7	12,099.7	83	24	38,029	6,158.2
2009	43,295.7	13,061.2	87	23	41,502	6,458.0
2010	43,027.4	14,214.8	147	29	49,174	7,468.7
2011	41,624.9	14,515.6	142	30	50,778	7,745.7
2012	40,167.1	15,308.9	140	29	50,093	7,662.6
2013	41,378.8	15,706.8	147	28	50,410	7,683.5
2014	41,949.4	15,154.1	149	27	48,602	7,086.2
2015	41,662.0	15,867.8	158	26	45,922	7,244.8
2016	40,936.7	16,664.8	153	27	47,551	7,354.6
2017	40,969.0	17,095.9	178	32	47,713	7,457.4
2018	40,434.1	15,771.0	189	36	45,657	7,225.0
2019	39,592.5	16,166.4	183	34	44,480	7,118.7
2020	37,774.7	16,631.8	169	34	41,909	6,620.9
2021	36,912.9	15,209.3	175	39	40,144	6,065.5
2022	37,880.1	14,627.0	164	37	38,376	5,433.5
2023	36,905.9	15,657.1	163	37	37,554	5,312.1
2024	37,923.3	16,504.1	166	38	38,065	5,399.2
2025	38,559.0	16,347.6	166	38	38,219	5,434.8
2026	39,140.0	16,767.3	166	38	38,342	5,465.2
2027	39,721.0	17,161.3	165	38	38,509	5,500.4
2028	40,149.3	17,307.5	166	38	38,688	5,532.8
2029	40,595.2	17,494.6	166	38	38,907	5,570.0
2030	40,971.5	17,677.9	166	38	39,174	5,611.0

Note

Figures are inflation adjusted to 2024

Industry Data

Annual Change

Year	Revenue %	IVA %	Estab. %	Enterprises %	Employment %	Wages %
2005	N/A	N/A	N/A	N/A	N/A	N/A
2006	9.3	4.6	5.9	0.0	-5.0	-0.1
2007	3.7	11.2	1.4	0.0	9.9	17.5
2008	5.2	15.8	13.7	-7.7	28.8	34.2
2009	-0.2	7.9	4.8	-4.2	9.1	4.9
2010	-0.6	8.8	69.0	26.1	18.5	15.6
2011	-3.3	2.1	-3.4	3.4	3.3	3.7
2012	-3.5	5.5	-1.4	-3.3	-1.3	-1.1
2013	3.0	2.6	5.0	-3.4	0.6	0.3
2014	1.4	-3.5	1.4	-3.6	-3.6	-7.8
2015	-0.7	4.7	6.0	-3.7	-5.5	2.2
2016	-1.7	5.0	-3.2	3.8	3.5	1.5
2017	0.1	2.6	16.3	18.5	0.3	1.4
2018	-1.3	-7.7	6.2	12.5	-4.3	-3.1
2019	-2.1	2.5	-3.2	-5.6	-2.6	-1.5
2020	-4.6	2.9	-7.7	0.0	-5.8	-7.0
2021	-2.3	-8.6	3.6	14.7	-4.2	-8.4
2022	2.6	-3.8	-6.3	-5.1	-4.4	-10.4
2023	-2.6	7.0	-0.6	0.0	-2.1	-2.2
2024	2.8	5.4	1.8	2.7	1.4	1.6
2025	1.7	-0.9	0.0	0.0	0.4	0.7
2026	1.5	2.6	0.0	0.0	0.3	0.6
2027	1.5	2.3	-0.6	0.0	0.4	0.6
2028	1.1	0.9	0.6	0.0	0.5	0.6
2029	1.1	1.1	0.0	0.0	0.6	0.7
2030	0.9	1.0	0.0	0.0	0.7	0.7

Note

Figures are inflation adjusted to 2024

Key Success Factors

How do successful businesses overcome volatility?

Ability to pass on cost increases

Generators must cover not only their cash operating costs but also substantial capital charges. In several states, pricing is still strongly influenced by state government policy.

Optimize operating capacity

Higher capacity utilization is generally associated with lower unit costs.

Superior financial management and debt management

The level of borrowing and interest rates has a major effect on the operation's profitability.

Fast adjustments made to changing regulations

Companies in this industry must be able to deal with regulatory authorities and adjust their operations to changes in the regulatory environment.

What products or services do successful businesses offer?

Superior financial management and debt management

The level of borrowing and interest rates has a major effect on the operation's profitability.

Establish supply contracts for domestic sales

Companies can enter fixed-price contracts with downstream markets to hedge against volatility and keep revenue steady. This can be helpful when prices spike and producers cannot absorb the costs.

How do businesses use location to their advantage?

Optimize operating capacity

Higher capacity utilization is generally associated with lower unit costs.

Operate in a location that is close to key markets

Operating near key markets can help nuclear power producers generate more revenue, enticing buyers to choose a closer power source.

How do successful businesses handle concentration?

Optimize operating capacity

Higher capacity utilization is generally associated with lower unit costs.

Negotiate successfully with regulators

Negotiating a regulatory environment that can vary substantially across states is crucial to success in this industry.

How can potential entrants overcome barriers to entry?

Optimize operating capacity

Higher capacity utilization is necessary for optimum operating efficiency. New entrants must pay high start-up costs to compete with other plants.

Guarantee supply of key inputs

Nuclear power producers that can establish a constant supply of key inputs like uranium for fixed costs can reduce volatility in operations.

How do successful businesses compete with substitutes?

Fast adjustments made to changing regulations

Companies in this industry must be able to both deal with regulatory authorities and adjust their operations to changes in the regulatory environment.

Develop a loyal customer base

Nuclear power plants can provide massive amounts of electricity. This can be crucial for the industrial sector, which constantly needs energy.

How do successful businesses manage buyer & supplier power?

Ability to pass on cost increases

Generators must cover not only their cash operating costs but also substantial capital charges. In several states, pricing is still strongly influenced by state government policy.

Superior financial management and debt management

The level of borrowing and interest rates has a major effect on the operation's profitability.

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