Constellation Energy

Information Deck

A formal recommendation by the PU&I sector group at UTM Capital

Executive Summary

UTM Capital should purchase Constellation Energy (CEG) for $73 per share because:

As a company:

- Constellation Energy is the American leader in carbon-free energy generation, also with the largest exposure to nuclear capacity production
- Constellation Energy's position of high flexibility, downside protection, and favourable regulation is not being fully valued by the market, especially regarding market sentiment regarding nuclear capacity generation – making it severely undervalued
- And as a result, they offer an asymmetrical payoff structure biased towards the upside, with the limit being dependant on nuclear perspectives

As an addition to the portfolio:

- Constellation Energy offers stability through de-risking heavy technology and pharmaceutical exposures which compromise ~48% of holdings
- Constellation Energy offers a defensive play through uncertain business cycles over the upcoming years
- Constellation offers an inflation hedge to combat sticky inflation scenarios with the addition of PTC regulation

Agenda

Exelon Overview

Constellation is a *new* company without the risk of a *new* company

Exelon's Founding

- Exelon Corp. is an American energy producer and distributor HQ'd in Chicago, Illinois
- Exelon was founded in 2000 by the merger of PECO Energy and Unicom Corp.
- Within the entity of Exelon, Constellation existed as its own subsidiary **focused on carbon-free energy**

Exelon Corporation

- Exelon Corp. is still currently one of the largest energy companies in the United States, with over 10mln customers and a market cap of $41bln
- They generate power **from nuclear, natural gas, and renewable sources** to customers in Illinois, Pennsylvania, Maryland and New Jersey

Constellation Energy

- Constellation was a Baltimore-based energy company that specialized in **electricity generation, and natural gas and electricity distribution**
- Constellation Energy was acquired by Exelon in 2011 for **$7.9 billion**, but then later spun off as a **separate entity in February of 2022**

The Split

- Exelon's decision to spin off Constellation Energy was driven by a desire to focus on its core business of energy generation and distribution
- The split allowed Constellation Energy to operate as a separate entity, with a focus on its own business strategy and growth opportunities, namely pure carbon-free generation

Results

- Exelon and Constellation Energy's split was a strategic move that allowed both companies to focus on their core businesses and pursue growth opportunities in their respective markets, Constellation focusing on customer facing business and clean generation
- Today, both companies continue to play important roles in the energy industry, and their success is closely tied to the ongoing transformation of the energy sector

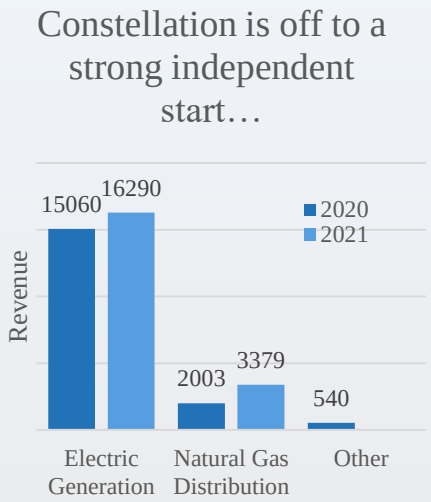
Constellation Overview

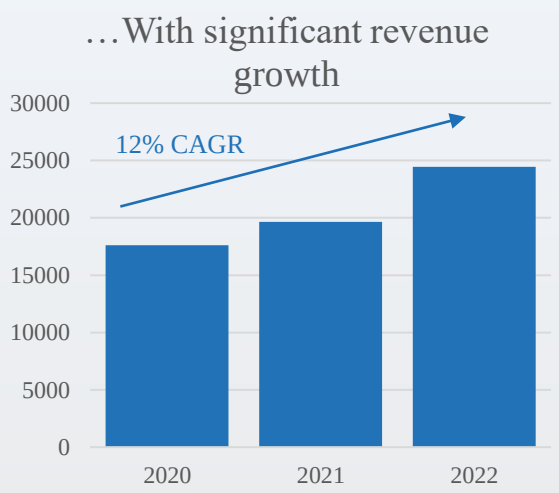
Constellation is America's leader in carbon-free generation

Constellation Overview

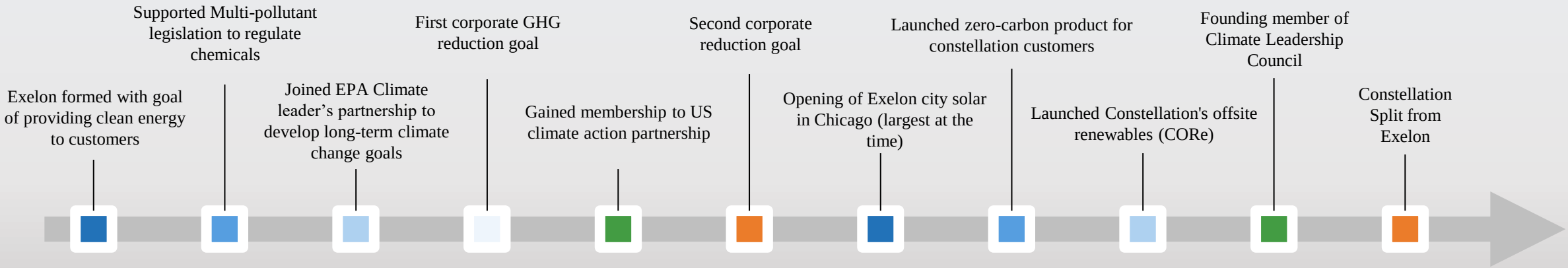
- Constellation Energy is America's leading clean energy company. It is the **largest supplier** of clean energy to all end-users across the continental United States, producing **~11% of the nations carbon-free energy.** It is a unique integrated utility with a focus on nuclear power generation and moving the world to clean, sustainable energy.
- Constellation **owns America's largest nuclear fleet** with operating nuclear capacity of ~180 TWhs
- **Serve approx. 2.4 million customers** including 250,000 commercial, industrial and public sector customers, 3/4 of fortune 100 companies and 2.1 million unique residential customers
- **Leader of retail markets**, serving ~140 TWhs of electric load and 800 Bcf of gas to the commercial and industrial markets
- High customer satisfaction levels, **market expertise**, stability and scale drive growth and result in historically proven business consistency and margins. Includes non-commodity products like their technology solutions
- What sets CEG apart is its **unique ability to deliver on ESG goals while delivering financial strength** and return for its stakeholders

Constellation Revenue per year





Constellation History (2012-2022)



Constellation is the market leader in electrical utilities in the United States, dedicated to de-carbonization of energy

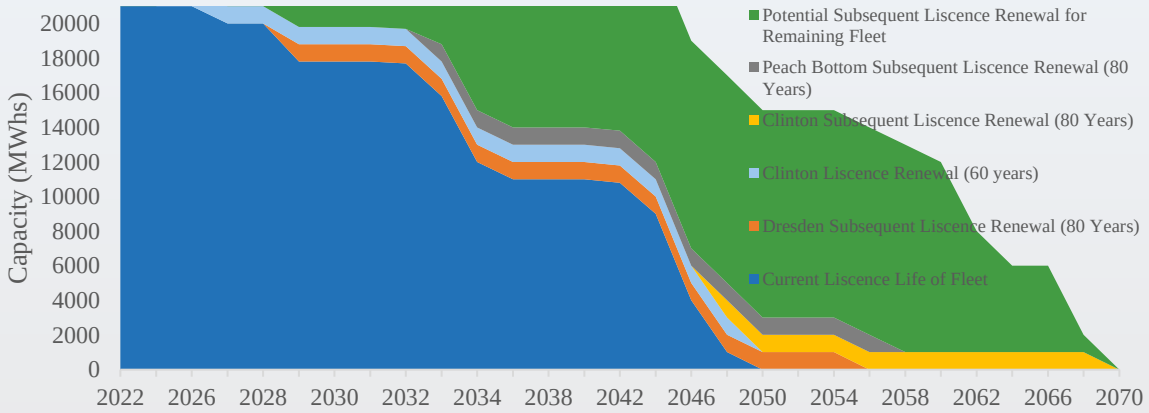
Constellation's Portfolio

Constellation's leading nuclear portfolio offers opportunity for extension, serving upcoming demand imbalances

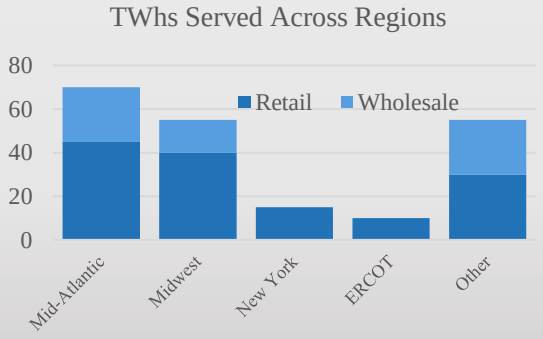
- Constellation owns **32,355 MWs** of total generating capacity
- Can extend their nuclear fleet **to 80 years**
- Are also a **top 10** natural gas provider in the United States

- **63%** of the electricity supplied last year was from nuclear plants
- Generated **7.8%** of total US energy consumption in 2022

Portfolio

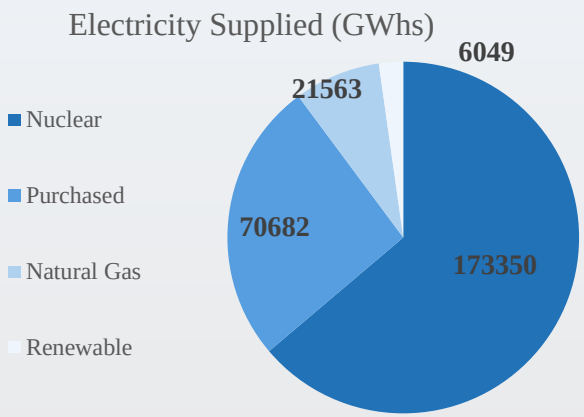


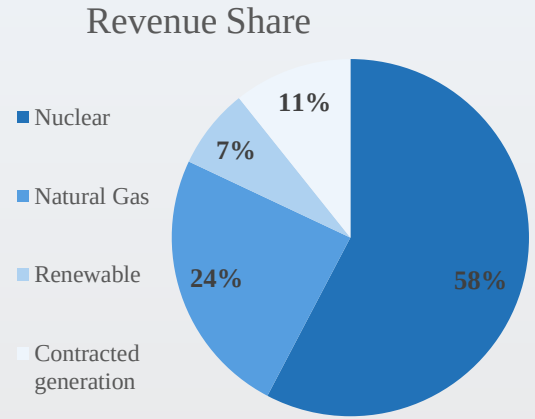
By Segment



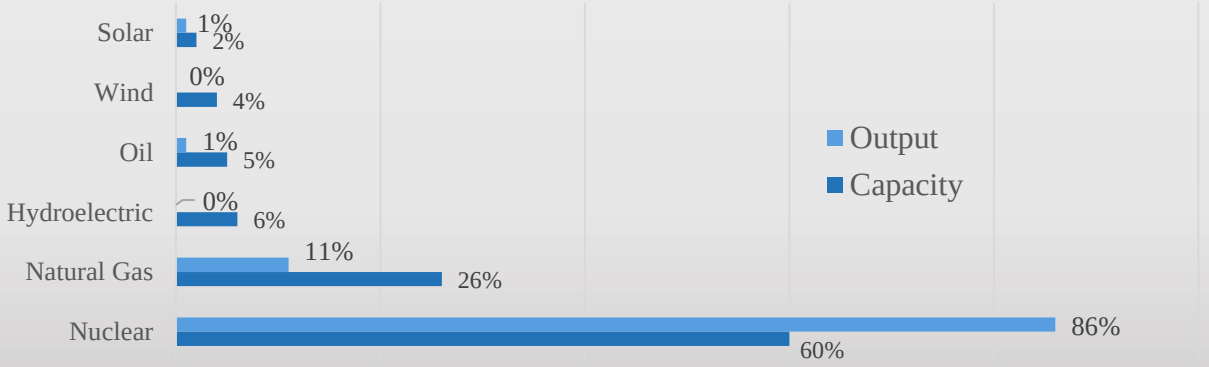
- The Mid-Atlantic is their largest region, followed closely by the Midwest and other regions
- Within each region, Constellation provides the full suite of services from generation to meters and other services such as their app, and servicing

Generation by Type





Output vs. Capacity by Generation Type

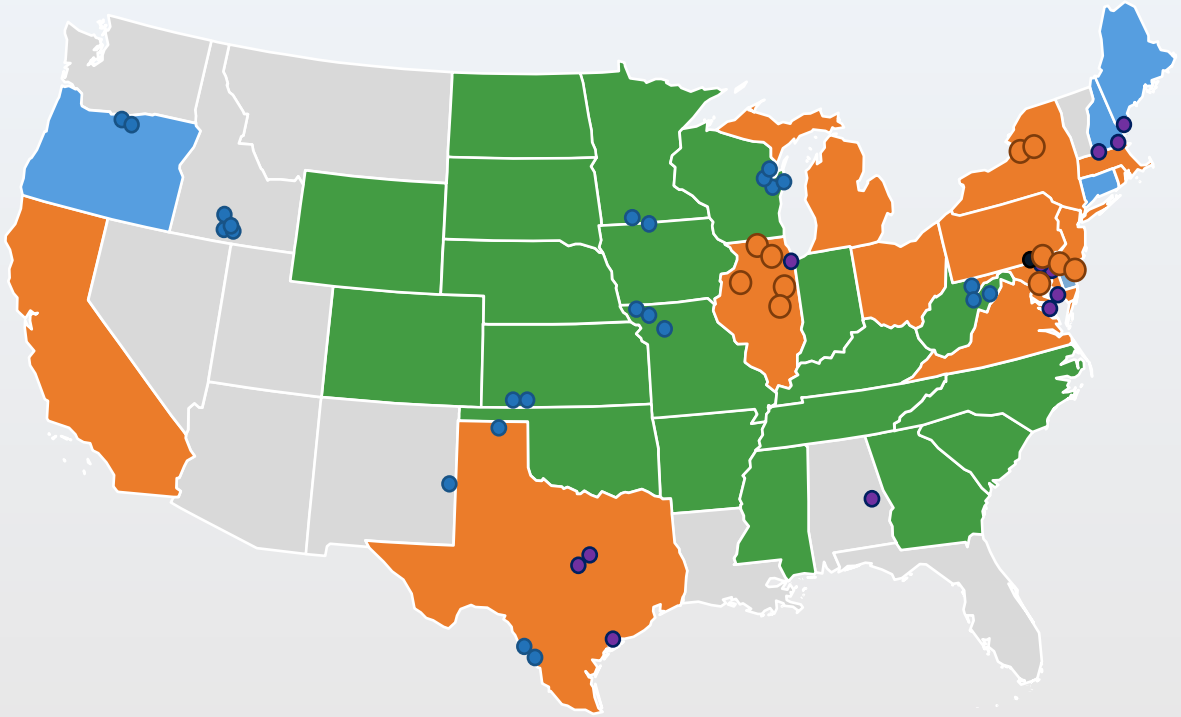


Constellation's portfolio is industry leading, with flexibility for extension

Constellation's Market Position

Constellation's geographic diversity and nuclear dominance over its competitors solidifies its spot in America's energy infrastructure

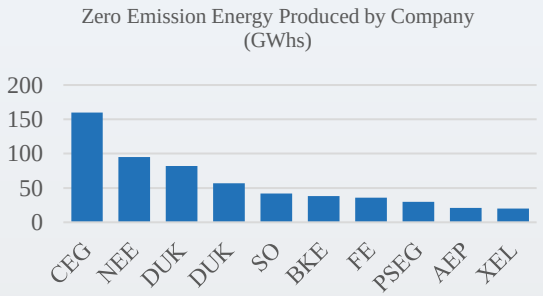
Market Presence



Served With Power | Served With Natural Gas | Served With Both

Wind | Gas/Other | Hydro | Nuclear

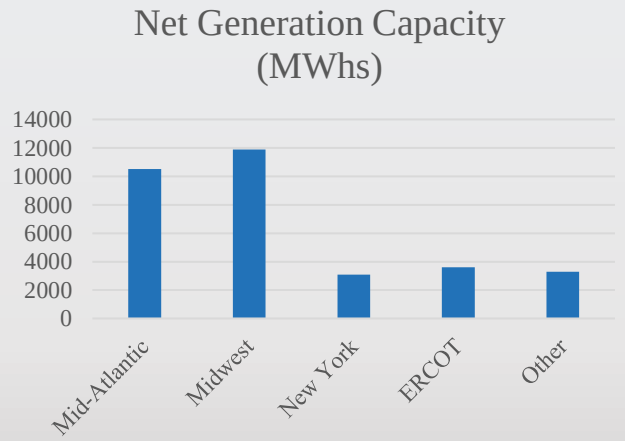
Competitors and Capacity/Revenues



Owns ~25% of the United States nuclear fleet, producing **nearly twice as much** carbon-free energy as the next generator

Constellation achieves a nuclear capacity factor 4pps better than industry average

Net Sales by Region



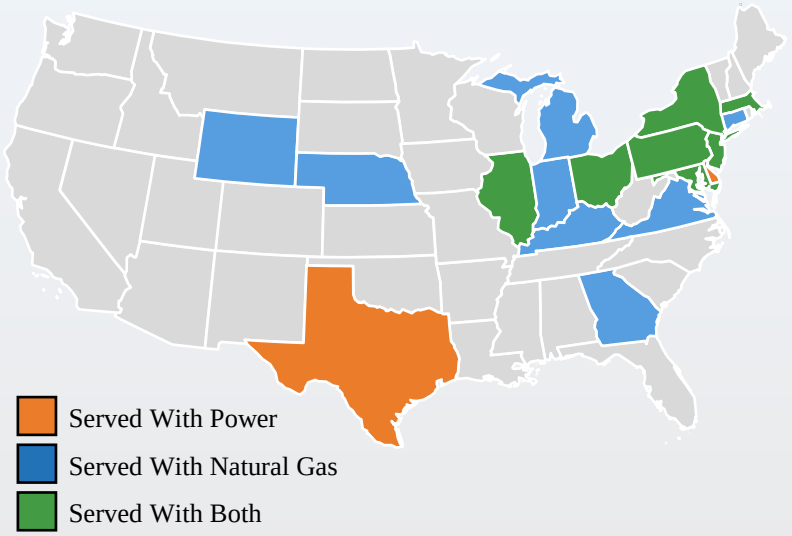
- #1 in market share for C&I Customers
- #2 retail electricity provider
- #1 provider of carbon-free 24/7 energy in the united states

Constellation has strong geographical diversification

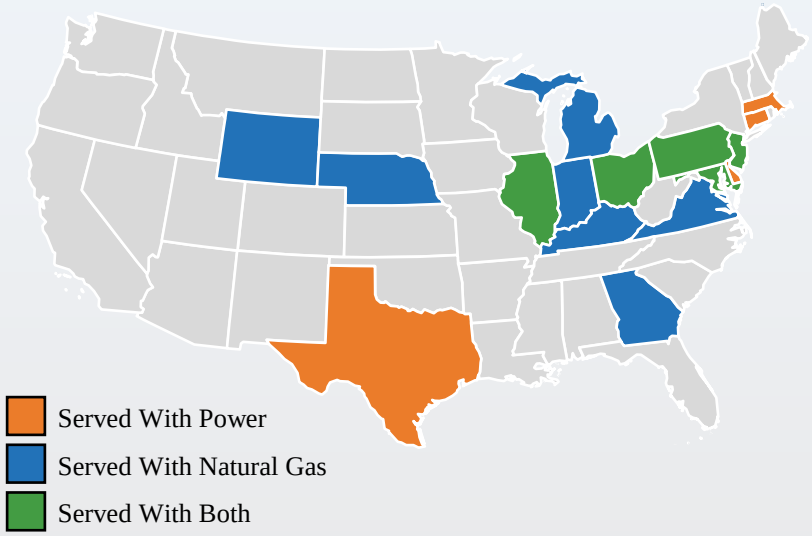
Constellation's Regulated Boundaries

Constellation serves customers America, and has large opportunity to replace and expand upon shrinking coal generation

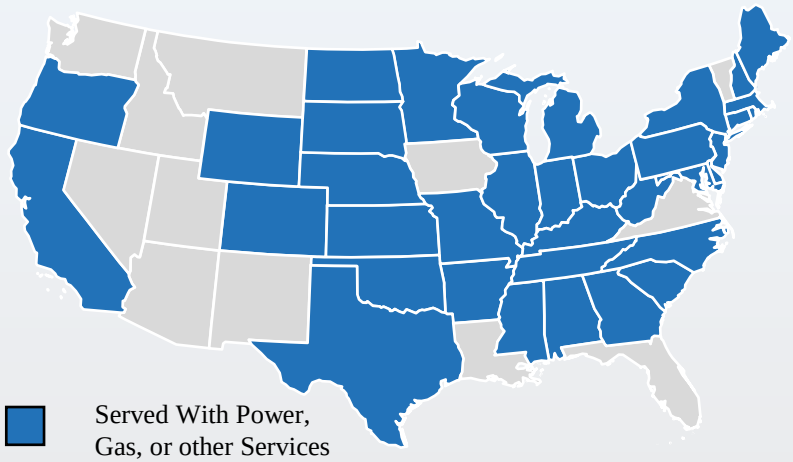
Residential Services

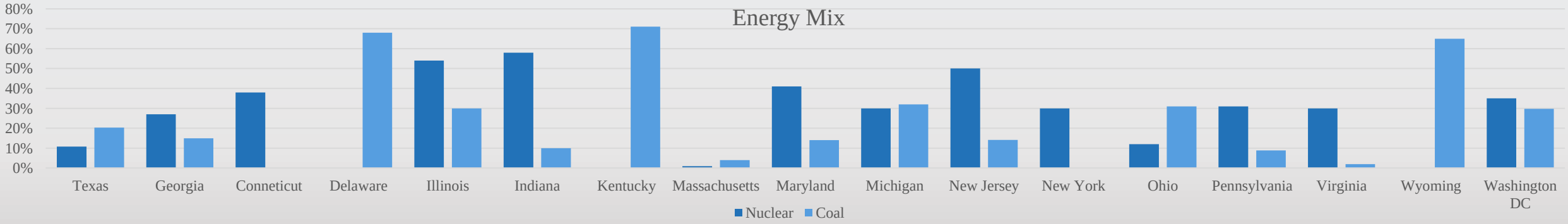


Small Business Services



Commercial Services





In the states that Constellation serves, there is still significant energy being consumer from coal

Constellation's Properties

Station	Location	No. of Units	Percent Owned	Primary Fuel Type	Primary Dispatch Type	Net Generation Capacity (MWs)
Midwest						
Braidwood	**Braidwood, IL**	**2**		**Uranium**	**Base-load**	**2,386**
Byron	**Byron, IL**	**2**		**Uranium**	**Base-load**	**2,347**
LaSalle	**Seneca, IL**	**2**		**Uranium**	**Base-load**	**2,320**
Dresden	**Morris, IL**	**2**		**Uranium**	**Base-load**	**1,845**
Quad Cities	**Cordova, IL**	**2**	**75**	**Uranium**	**Base-load**	**1,403**
Clinton	**Clinton, IL**	**1**		**Uranium**	**Base-load**	**1,080**
Michigan Wind 2	Sanilac Co., MI	50	51	Wind	Intermittent	46
Beebe	Gratiot Co., MI	34	51	Wind	Intermittent	42
Michigan Wind 1	Huron Co., MI	46	51	Wind	Intermittent	35
Harvest 2	Huron Co., MI	33	51	Wind	Intermittent	30
Harvest	Huron Co., MI	31	51	Wind	Intermittent	26
Beebe 1B	Gratiot Co., MI	21	51	Wind	Intermittent	26
Blue Breezes	Faribault Co., MN	2		Wind	Intermittent	3
CP Windfarm	Faribault Co., MN	2	51	Wind	Intermittent	2
Southeast Chicago	Chicago, IL	8		Gas	Peaking	296
Clinton Battery Storage	Blanchester, OH	1		Energy Storage	Peaking	5

Station	Location	No. of Units	Percent Owned (b)	Primary Fuel Type	Primary Dispatch Type (c)
Mid-Atlantic					
Limerick	Sanatoga, PA	2		Uranium	Base-load
Calvert Cliffs	Lusby, MD	2		Uranium	Base-load
Peach Bottom	Delta, PA	2	50	Uranium	Base-load
Salem	Lower Alloways Creek Township, NJ	2	42.59	Uranium	Base-load
Conowingo	Darlington, MD	11		Hydroelectric	Base-load
Criterion	Oakland, MD	28	51	Wind	Intermittent
Fair Wind	Garrett County, MD	12		Wind	Intermittent
Fourmile Ridge	Garrett County, MD	16	51	Wind	Intermittent
Solar Horizons	Emmitsburg, MD	1	51	Solar	Intermittent
Solar New Jersey 3	Middle Township, NJ	5	51	Solar	Intermittent
Muddy Run	Drumore, PA	8		Hydroelectric	Intermediate
Eddystone 3, 4	Eddystone, PA	2		Oil/Gas	Peaking
Perryman	Aberdeen, MD	5		Oil/Gas	Peaking
Croydon	West Bristol, PA	8		Oil	Peaking
Handsome Lake	Kennerdell, PA	5		Gas	Peaking

Constellation's Properties

Station	Location	No. of Units	Percent Owned	Primary Fuel Type	Primary Dispatch Type	Net Generation Capacity (MWs)
ERCOT						
Whitetail	Webb County, TX	57	51	Wind	Intermittent	47
Sendero	Jim Hogg and Zapata County, TX	39	51	Wind	Intermittent	40
Colorado Bend II	Wharton, TX	3		Gas	Intermediate	1,143
Wolf Hollow II	Granbury, TX	3		Gas	Intermediate	1,115
Handley 3	Fort Worth, TX	1		Gas	Intermediate	395
Handley 4, 5	Fort Worth, TX	2		Gas	Peaking	870
New York						
Nine Mile Point	**Scriba, NY**	**2**		**Uranium**	**Base-load**	**1,675**
FitzPatrick	**Scriba, NY**	**1**		**Uranium**	**Base-load**	**842**
Ginna	**Ontario, NY**	**1**		**Uranium**	**Base-load**	**576**
Total New York						**3,093**

Station	Location	No. of Units	Percent Owned	Primary Fuel Type	Primary Dispatch Type	Net Generation Capacity (MWs)
Other						
Antelope Valley	Lancaster, CA	1		Solar	Intermittent	242
Bluestem	Beaver County, OK	60	51	Wind	Intermittent	101
Shooting Star	Kiowa County, KS	65	51	Wind	Intermittent	53
Sacramento PV Energy	Sacramento, CA	4	51	Solar	Intermittent	15
Bluegrass Ridge	King City, MO	27	51	Wind	Intermittent	29
Conception	Barnard, MO	24	51	Wind	Intermittent	26
Cow Branch	Rock Port, MO	24	51	Wind	Intermittent	26
Mountain Home	Glenns Ferry, ID	20	51	Wind	Intermittent	21
High Mesa	Elmore Co., ID	19	51	Wind	Intermittent	20
Echo 1	Echo, OR	21	50.49	Wind	Intermittent	17
Cassia	Buhl, ID	13	51	Wind	Intermittent	14
Wildcat	Lovington, NM	13	51	Wind	Intermittent	14
Echo 2	Echo, OR	9	51	Wind	Intermittent	9
Tuana Springs	Hagerman, ID	8	51	Wind	Intermittent	9
Greensburg	Greensburg, KS	10	51	Wind	Intermittent	6
Three Mile Canyon	Boardman, OR	6	51	Wind	Intermittent	5
Loess Hills	Rock Port, MO	4		Wind	Intermittent	5
Denver Airport Solar	Denver, CO	1	51	Solar	Intermittent	2
Mystic 8, 9	Charlestown, MA	6		Gas	Intermediate	1413
Hillabee	Alexander City, AL	3		Gas	Intermediate	753
Wyman 4	Yarmouth, ME	1	5.9	Oil	Intermediate	34
West Medway II	West Medway, MA	2		Oil/Gas	Peaking	191
West Medway	West Medway, MA	3		Oil	Peaking	124
Grand Prairie	Alberta, Canada	1		Gas	Peaking	105
Framingham	Framingham, MA	3		Oil	Peaking	31

Constellation's Structure

Constellation serves its customers through some key philosophies about leading the clean energy transition

Strategy

Concept	Realization
Power America's Clean Energy Future	Make all generation carbon-free by 2040, including an interim goal of 95% by 2030
Expand America's Largest Fleet of Clean Energy Centres	Maintaining an **investment grade balance sheet** and strong free cash flow enabling sustainable growth of operations
Uplift and Strengthen our Communities	**100%** reduction of operations-driven emissions by 2040
	Continue to support initiatives through employee volunteering and charitable donations
Provide Energy and Sustainability Solutions for Customers	Provide **100%** of C&I customers with specific information about their GHG impact
	Provide access for residents about their usage with new smart meter infrastructure

My Constellation App

The My Constellation app is available on both Appstores and allows residential customers the ability to **interact with their power meters, bills, and see individual data** on their energy usage

- #1 in Pre-Sale Support
- #1 in After-Sale Support
- #1 in Pricing and Contracting

Hydrogen

Zero emitting nuclear is a prime vehicle for producing hydrogen

Green hydrogen from nuclear currently beats hydrogen production from renewables on a levelized cost basis	Nuclear plants require no siting or permitting and offer a secure and steady production rate	Electrolyser capacity can be modularly ramped onto nuclear assets from pilot stage to at-scale production	Contains end-uses benefit from high heat industrial process	With increasing renewables intermittency, electrolysers can also be used to add flexibility to nuclear assets

Constellation is in a position to take full advantage of white space

Constellation's Capabilities and Opportunities

Constellation holds a dominant spot, and seeks to expand its portfolio of reactors, and explore hydrogen production

Fundamental R&D / Technology

- Generated **~180 TWhs** of clean energy, avoiding **~127 million metric tons of carbon dioxide**, equivalent to over **27.5 M passenger vehicles** being removed for one year
- Strong, long-lasting customer relationships shown through high retention rates **(90%+)**

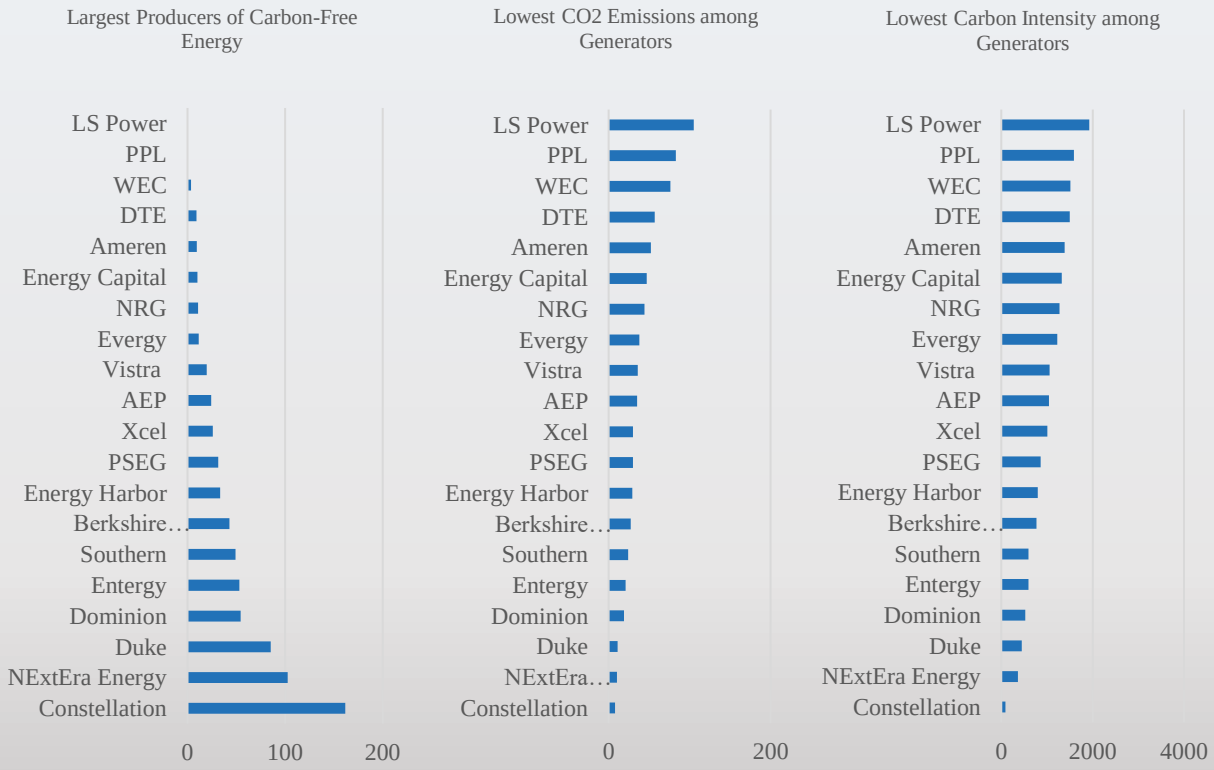
Commercial Hydrogen Production

- Hydrogen facility will initially use **~250 MWs** and produce **~33,450 TPA** hydrogen, with **ability to expand** to 400 MWs
- Investing total construction Capex of **~900M** from 2023-25
- Anticipate commercial production of hydrogen **beginning in 2026**

Nuclear Uprates

- **Increasing nuclear output** by ~135 MWs at Byron and Braidwood
- **Investing ~800M** in plants through to 2029 to **increase capacity** and general maintenance

Constellation and its Peers



Advertising / Customer Facing

Engagement with the community through partnerships with universities, national labs, startups, and research institutes

Management / Business Strategy

- Opportunistic carbon-free energy acquisitions, **particularly nuclear plants** with supportive capability
- **Create new value** from the existing fleet through repowering opportunities
- Grow sustainability products and services for a customer base shifting to ESG priorities
- Produce clean hydrogen using the carbon-free fleet
- Explore advancements in nuclear technology

Constellation's Management

Constellation has a strong regulatory and scientific leadership team at its helm

CEO

Joseph Dominquez

- JD holder
- Background in Mechanical Engineering
- Previously CEO of power generation segment of Exelon
- Entire career has been in Exelon

CSO

Kathleen Barron

- JD holder
- Previously worked as an attorney for 15+ years
- Worked as SVP, Government and Regulatory Affairs and Public Policy at Exelon prior to the spinoff

EVP and CFO

Dan Eggers

- Finance degree
- Managing director at a utility company (Credit Suisse) for 19 years prior to joining Exelon
- Worked as SVP of corporate finance and investor relations before spinoff
- CFO before the spin-off

CLO and EVP

David Dardis

- JD background
- Worked as Legal Advisor for the Federal Energy Regulatory Commission prior to joining Exelon
- Deputy General Counsel for Exelon prior to joining constellation

CAO

Mike Koehler

- Software/Computer Engineering background
- Worked as Chief Information and Digital Officer prior to joining Constellation

CGO and EVP

Bryan Hanson

- Nuclear Engineering background with an MBA
- Worked his way up in Exelon nuclear operations

CCO

Jim McHugh

- Electrical Engineering Background with MBA
- Portfolio manager in Exelon and Constellation prior to become CCO

Board of directors has numerous committees tackling

- Projects
- Audits
- Generation & Operations

Constellation management and leadership represents the diversity of the communities they serve, striving for hiring talent, strong promotion practices and other consideration free of discrimination. Constellation uses an **employee engagement survey** which is shared with all levels of leadership to ensure top employee performance and satisfaction

On the executive team alone, we have

- 3 Lawyers
- 4 Engineers
- 6 Ex-Exelon Managers

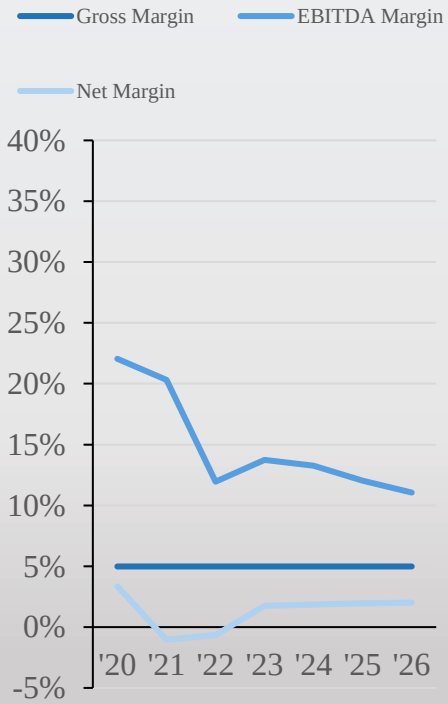
Agenda

Ratio Analysis

Constellation offers a growing balance sheet and stable financials

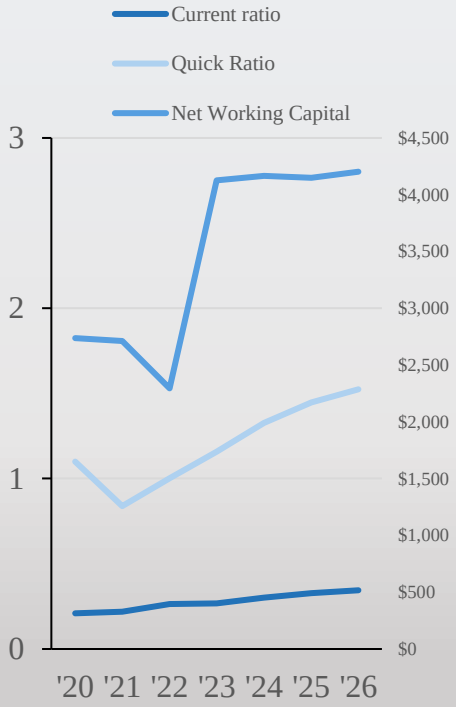
Profitability Ratios

- We forecast flat gross margins at ~5%, consistent with past performance
- EBITDA margins are falling, as depreciation gradually falls, with no additional PP&E acquisitions
- Net margins took a small dip during the energy price volatility, and unusual losses were sustained



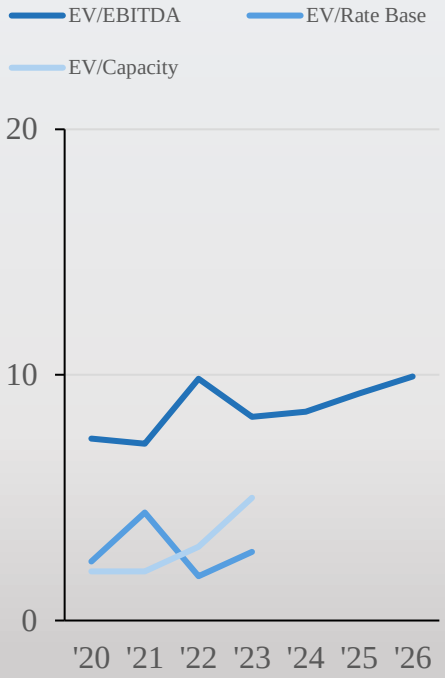
Liquidity Ratios

- CEG has a philosophy of low debt, and it shows overall in their liquidity ratios
- We expect current ratio to rise as debt is paid down even further, also reflected in the quick ratio and NWC projections



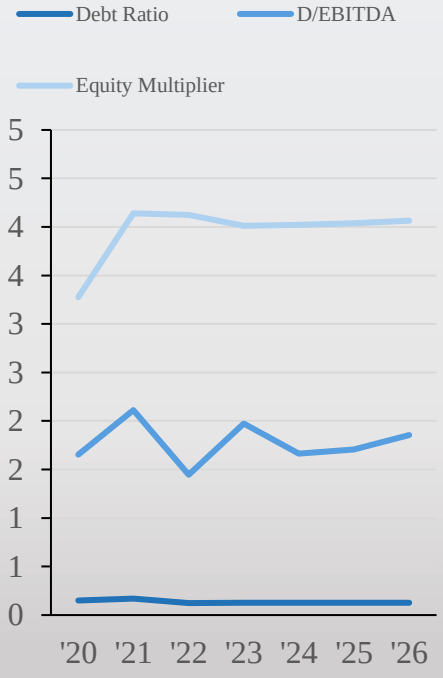
Valuation Ratios

- We forecast valuation ratios to slowly rise, fuelled by top line growth as nuclear energy gains accelerated traction



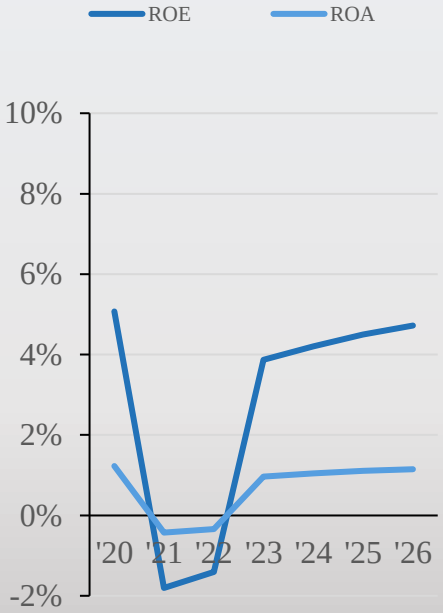
Leverage Ratios

- We forecast debt to remain largely unchanged consistent with CEG's philosophy



DuPont Analysis

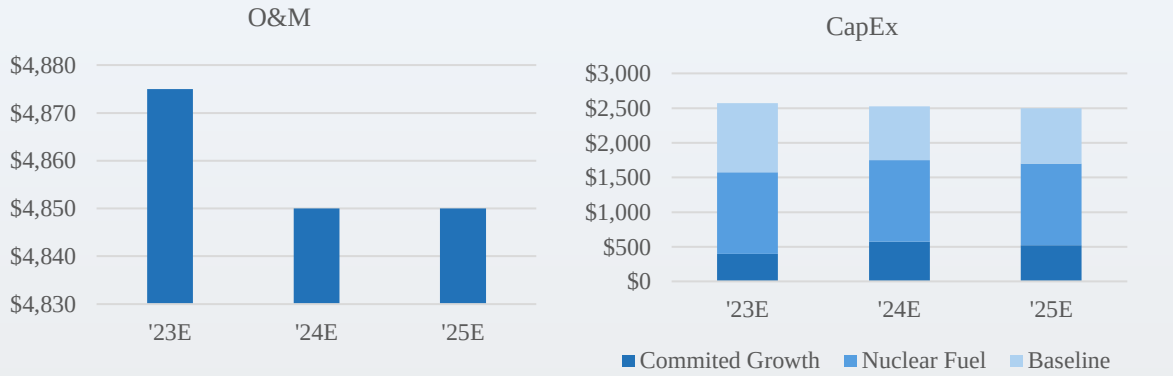
- With the unusual expenses sustained by hedging strategies over 2022, we have dips in net income, but we forecast unchanged fundamentals in these line items



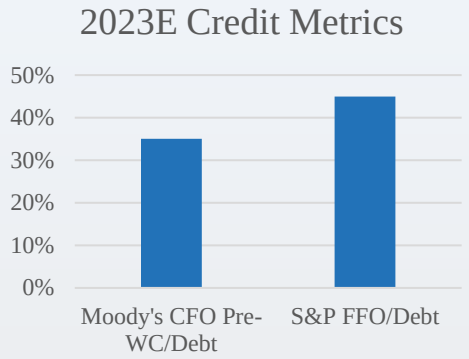
Financial based Competitive Advantages

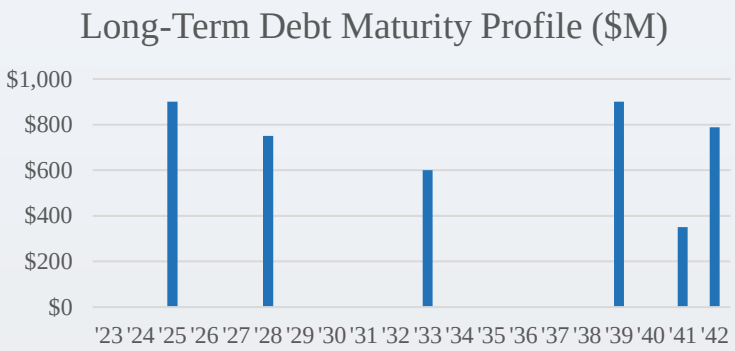
Constellation offers an investment grade balance sheet, strong free cash flows, and defensive revenue streams

Adjusted O&M and Cap Ex (Mlns)

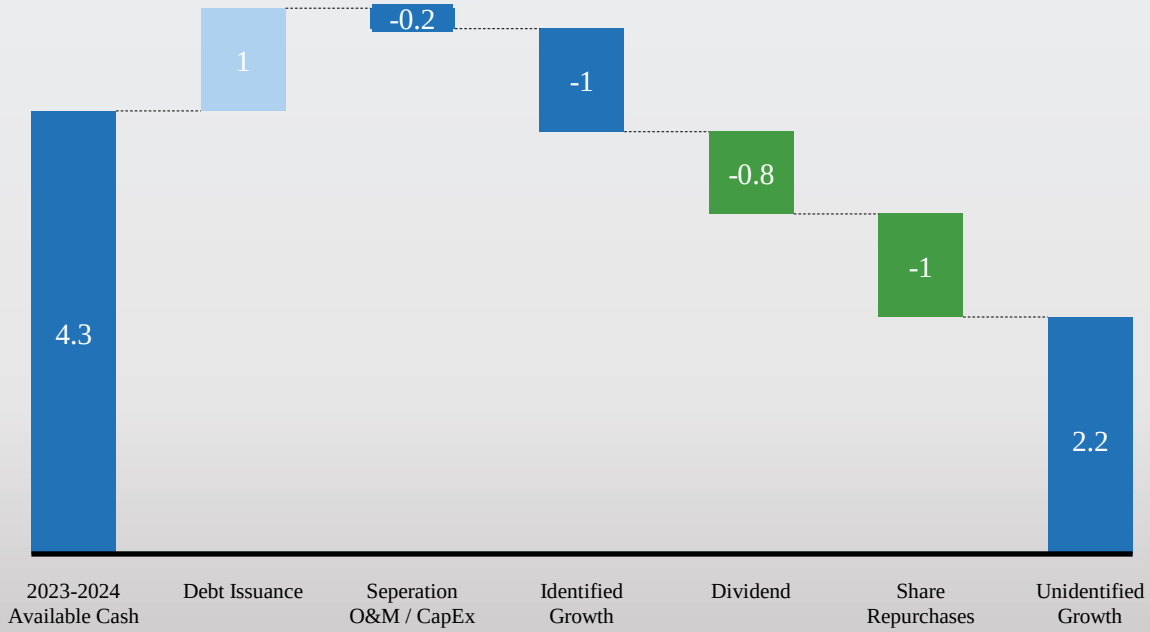


Investment Grade Balance Sheet

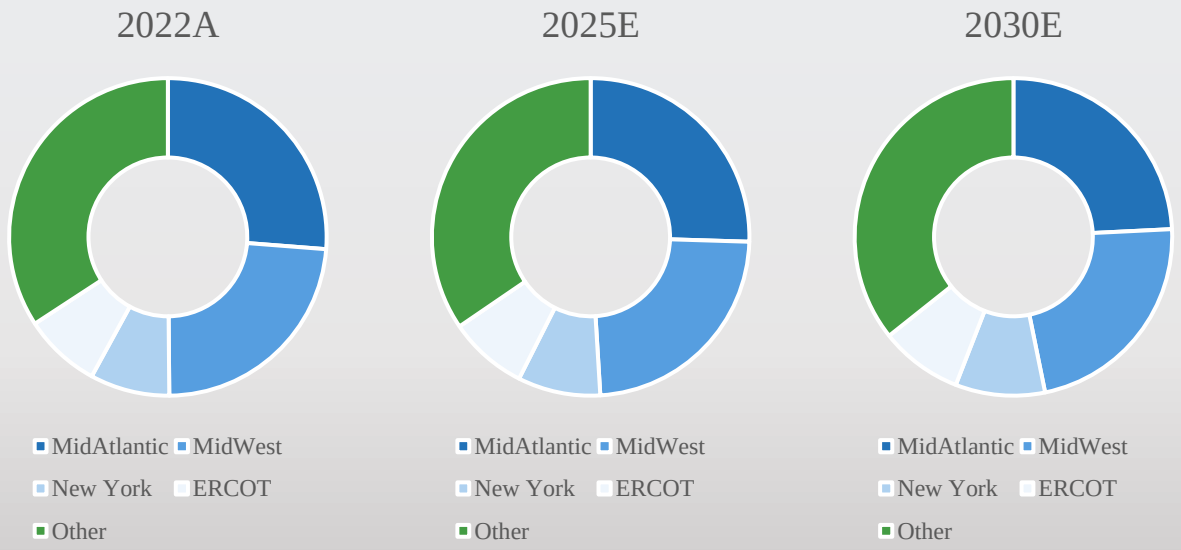




Free Cash flows (Blns)

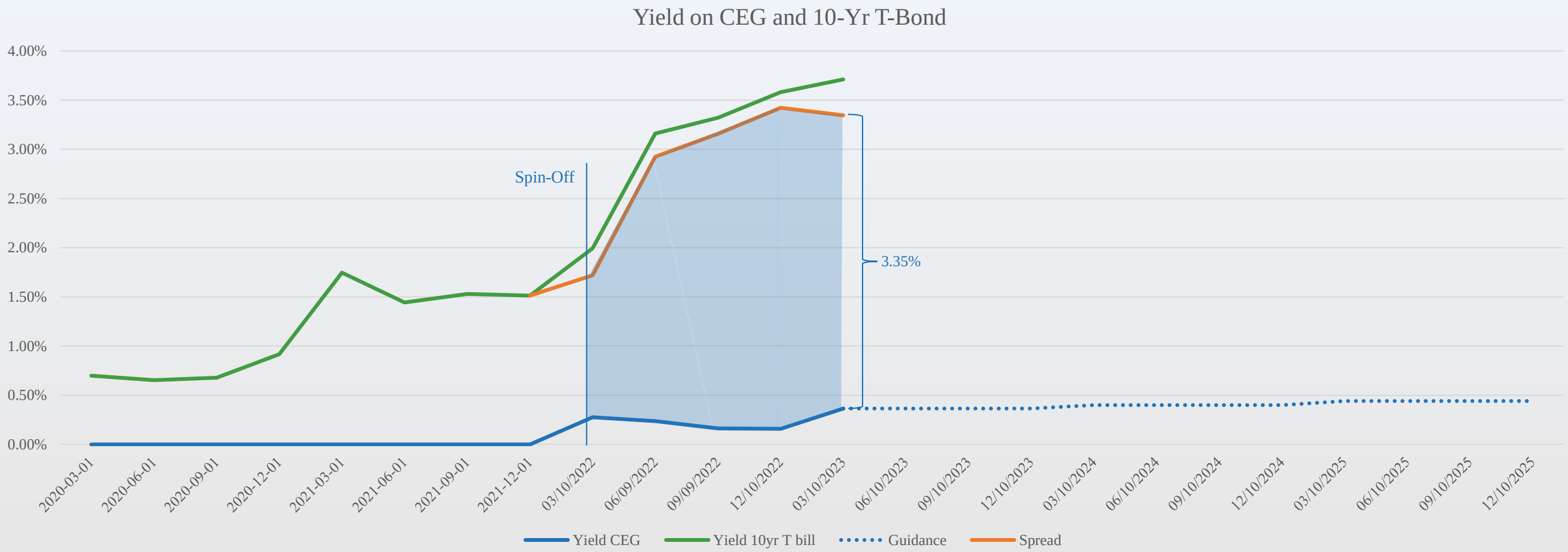


Geographic Revenue Mix



Constellation as Fixed Income

Constellation has a decreasing risk profile and offers a strong dividend expected to grow by 10% YoY into the foreseeable future



- When considering Constellation as a fixed income investment, we first consider managements promise to deliver a 10% increase to their annual dividend
- With the recent rate hikes coinciding with the spin-off of Constellation from Exelon, it is difficult to judge the risk spreads of Constellation's business model, but as rates come down and the yield on CEG compounds, we expect the yield spread to come down

Illustrative Valuation Analysis

Assumptions

Income Statement

- **Assumption 1** – We use a multi-factor regression to forecast top line numbers for each segment using Population Growth, Usage growth and GDP growth
- **Assumption 2** – Upside contains increased nuclear demand as a percent of capacity usage
- **Assumption 3** – Downside cases contain numbers reflecting lower than anticipated input factors, and flat downside growth
- **Assumption 4** – COGS is forecasted to be flat, consistent with past performance, subject to uranium price increases/decreases
- **Assumption 5** – SG&A is forecasted to be relatively flat as it is a small part of operations

Revenue	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Mid-Atlantic	4645	4584	5164	$ 5,311.23	$ 5,283.53	$ 5,297.56	$ 5,312.60	$ 5,328.47	$ 5,344.81	$ 5,361.39	$ 5,378.06	$ 5,404.52	$ 5,430.67
Midwest	4024	4060	4650	$ 4,895.62	$ 4,875.11	$ 4,894.59	$ 4,916.38	$ 4,939.94	$ 4,964.53	$ 4,989.49	$ 5,014.14	$ 5,109.98	$ 5,205.88
ERCOT	958	1181	1543	$ 1,676.28	$ 1,702.08	$ 1,750.72	$ 1,802.38	$ 1,856.45	$ 1,912.03	$ 1,968.24	$ 2,024.36	$ 2,086.70	$ 2,148.50
New York	1431	1575	1595	$ 1,589.44	$ 1,630.21	$ 1,666.45	$ 1,704.17	$ 1,743.05	$ 1,782.71	$ 1,822.87	$ 1,863.23	$ 1,902.23	$ 1,941.21
Other	4002	4890	6732	$ 6,866.64	$ 7,038.31	$ 7,179.07	$ 7,322.65	$ 7,469.11	$ 7,618.49	$ 7,770.86	$ 7,926.28	$ 8,084.80	$ 8,246.50
Total electric revenues	15060	16290	19684	$ 20,339.20	$ 20,529.24	$ 20,788.38	$ 21,058.19	$ 21,337.02	$ 21,622.57	$ 21,912.85	$ 22,206.06	$ 22,588.23	$ 22,972.76
Growth %		8%	21%	3%	1%	1%	1%	1%	1%	1%	1%	2%	2%

Idea 1 – Sales are a function of its drivers, namely population, usage and GDP growth
Idea 2 – Nuclear power will increase its share of energy production in the United States over the long-run

Balance Sheet

- **Assumption 1** – We assume that current asset and liabilities lines stay mostly consistent, as no major changes will impact operations on these line items
- **Assumption 2** – We do not include the acquisition of new plants, or major investments into the fleet, as renewals are the expectation going forward. These renewals typically take 5 years to complete and cost an average of $12.5mln

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Depreciation	3,063	3,636	4,540	2,427	2,861	2,768	2,489	2,264	2,095	1,997	1,894	1,920	1,817	1,744
Increase in CapEx	1,845	1,747	1,329	1,768	1,768	1,606	1,614	1,635	1,656	1,652	1,674	1,597	1,624	1,652
PP&E depreciaton rate		22.3%	26.4%	21.4%	23.4%	23.4%	23.4%	23.4%	23.4%	23.4%	23.4%	23.4%	23.4%	23.4%

Idea 1 – Constellation will largely renew current assets and won't need to make any acquisitions of new plants or nuclear facilities
Idea 2 – Current operations are good predictions of future performance

Cash Flow Statement

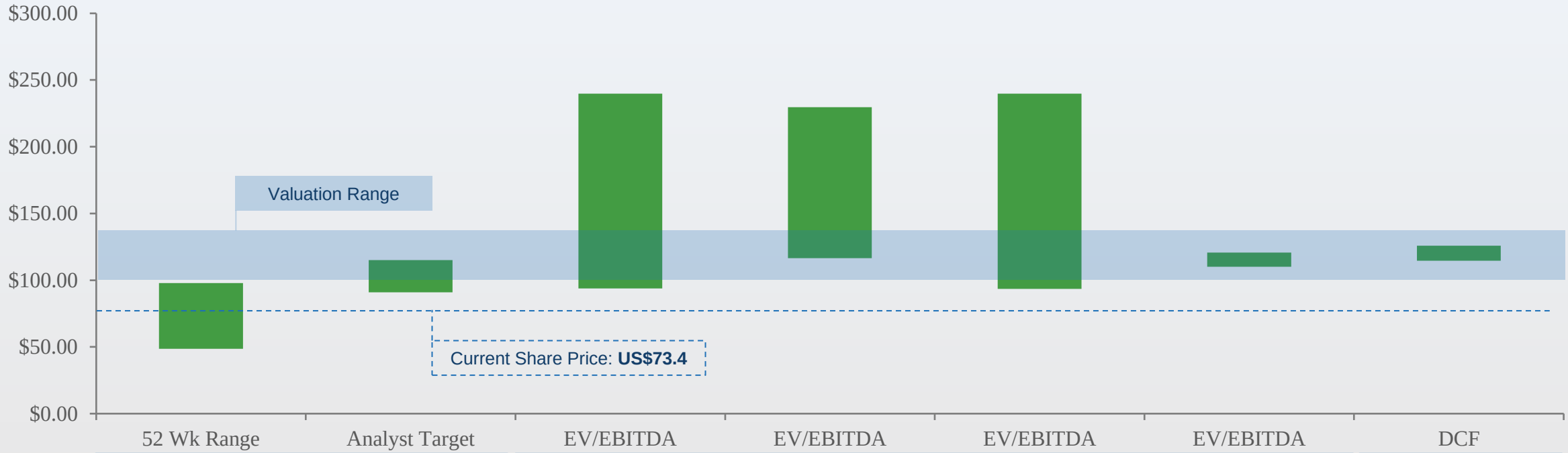
- **Assumption 1** – Renewals of current properties will cost an average of $12.5mln and happen upon each property expiration
- **Assumption 2** – Past M&O will be good predictors of future performance
- **Assumption 3** – We follow management guidance for a 10% increase in dividend each year

Capital Expenditures (% of Sales)	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base	7.0%	6.3%	6.3%	6.3%	6.3%	6.2%	6.2%	5.8%	5.8%	5.8%
Upside	7.0%	7.0%	7.0%	7.0%	6.0%	6.0%	5.5%	5.5%	5.0%	5.0%
Management	4.0%	4.0%	4.0%	4.0%	4.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Downside 1	7.0%	6.3%	6.3%	6.3%	7.0%	6.2%	7.0%	5.8%	7.0%	7.0%
Downside 2	7.0%	6.3%	6.3%	6.3%	7.0%	6.2%	7.0%	5.8%	7.0%	7.0%

Illustrative Valuation Analysis

Football Field

Constellation is a clear value play, with its trading prices in the last year below all valuation methods



	Other		Trading Comparables				Intrinsic Value
Methodology:	52 Week Range	Analyst 1yr Targets	Overall	Tier 1	Tier 2	Tier 3	Discounted Cash Flows
Assumptions:			**YEAR-10 Adjusted EBITDA:**				**WACC:**
			$2,721.42M				7.2% - 8.2%
			Comparables Multiple Range:				**Terminal Value Multiple:**
			10.5x – 26.84x	13.04x – 25.7x	10.50x – 26.84x	12.32x – 13.51x	12.5x – 13.5x

Illustrative Valuation Analysis

Selected Public Comparables

Company	Ticker	Current Share Price	% of 52 Wk. High	Equity Value	Enterprise Value	Enterprise Value / LTM Sales	Enterprise Value / 2021 Sales	Enterprise Value / 2020 Sales	Enterprise Value / LTM EBITDA	Enterprise Value / 2021 EBITDA	Enterprise Value / 2020 EBITDA	Enterprise Value / LTM EBIT	Enterprise Value / 2021 EBIT	Enterprise Value / 2020 EBIT	LTM EBITDA Margin	Total Debt / EBITDA	Price / LTM EPS	Price / 2021 EPS	Price / 2020 EPS
Constellation Energy	CEG	78.98	81%	$ 26,055.50	$ 30,895.50	1.26	1.57	1.76	10.58	7.74	6.05	62.54	-56.48	133.75	12%	1.97	-174.3	-65.2	47.4
Tier 1:																			
Xcel Energy	XEL	$ 67.98	88%	$ 37,198.66	$ 62,407.66	4.08	4.65	5.41	25.70	13.99	14.94	25.70	28.33	29.77	16%	10.19	21.50	22.99	24.70
Consolidated Edison	ED	$ 92.93	91%	$ 32,980.86	$ 59,036.86	3.92	4.32	4.82	21.79	20.32	21.88	21.79	20.32	21.88	32%	5.26	19.77	20.26	20.50
First Energy	FE	$ 40.76	83%	$ 23,322.87	$ 45,542.87	3.66	4.09	4.22	13.34	13.95	11.80	21.84	27.39	17.11	27%	7.08	30.01	18.96	14.74
WEC Energy Group	WEC	$ 93.56	86%	$ 29,508.82	$ 47,014.12	4.90	5.65	6.49	15.43	16.86	17.54	24.42	27.41	27.56	32%	5.13	20.96	22.14	23.89
DTE Energy	DTE	$ 112.76	80%	$ 21,841.61	$ 41,547.61	2.14	2.78	3.64	13.04	12.34	17.54	24.66	22.45	26.35	16%	5.73	21.64	16.44	18.84
Mean		$ 81.60	86%	$ 28,970.56	$ 51,109.82	3.74	4.30	4.92	17.86	15.49	16.74	23.68	25.18	24.53	25%	6.68	22.78	20.15	20.53
Median		$ 92.93	86%	$ 29,508.82	$ 47,014.12	3.92	4.32	4.82	15.43	13.99	17.54	24.42	27.39	26.35	27%	5.73	21.50	20.26	20.50
Tier 2:																			
New Era Energy	NEE	$ 74.67	82%	$ 148,384.22	$ 221,956.22	10.59	13.00	12.33	26.84	30.91	20.71	63.78	74.83	34.66	39%	6.70	27.40	27.93	29.53
Eversource Energy	ES	$ 79.88	84%	$ 27,838.18	$ 49,351.98	4.02	5.00	5.54	12.79	14.23	15.48	22.26	23.14	24.31	31%	5.14	19.57	20.20	21.71
Public Service Enterprise	PEG	$ 60.85	80%	$ 30,358.07	$ 50,265.07	5.17	5.17	5.23	16.90	14.33	14.38	29.62	23.89	24.80	31%	6.60	44.22	20.20	18.92
Southern Co	SO	$ 67.27	83%	$ 73,236.85	$ 132,356.85	3.70	4.54	4.88	10.50	11.41	11.04	18.04	20.03	19.59	35%	0.01	37.59	91.52	30.05
American Electric Power	AEP	$ 92.11	87%	$ 47,464.28	$ 85,302.88	4.82	5.08	5.72	13.23	13.65	14.87	24.97	25.55	28.75	36%	5.68	20.76	19.85	23.58
Mean		$ 74.96	83%	$ 65,456.32	$ 107,846.60	5.66	6.56	6.74	16.05	16.91	15.29	31.73	33.49	26.42	35%	4.82	29.91	35.94	24.76
Median		$ 74.67	83%	$ 47,464.28	$ 85,302.88	4.82	5.08	5.54	13.23	14.23	14.87	24.97	23.89	24.80	35%	5.68	27.40	20.20	23.58
Tier 3:																			
Dominion Energy	D	$ 60.25	68%	$ 50,206.33	$ 95,820.33	5.58	6.86	6.76	12.32	13.68	13.96	20.55	22.61	23.79	45%	5.28	17.00	13.68	16.70
PG&E Corp	PCG	$ 15.55	94%	$ 30,908.74	$ 82,756.74	3.84	4.01	4.48	13.51	15.69	25.35	35.25	44.21	-405.67	28%	7.54	18.85	-302.62	-14.83
Mean		$ 37.90	81%	$ 40,557.53	$ 89,288.53	4.71	5.44	5.62	12.92	14.68	19.66	27.90	33.41	-190.94	37%	6.41	17.92	-144.47	0.94
Median		$ 37.90	81%	$ 40,557.53	$ 89,288.53	4.71	5.44	5.62	12.92	14.68	19.66	27.90	33.41	-190.94	37%	6.41	17.92	-144.47	0.94
Overall:																			
Mean		$ 71.55	84%	$ 46,104.12	$ 81,113.27	4.70	5.43	5.79	16.28	15.95	16.62	27.74	30.01	-10.59	31%	5.86	24.94	-0.71	19.03
Median		$ 71.33	84%	$ 31,944.80	$ 60,722.26	4.05	4.83	5.32	13.42	14.11	15.21	24.54	24.72	24.55	32%	5.71	21.23	20.20	21.10
High		$ 112.76	94%	$ 148,384.22	$ 221,956.22	10.59	13.00	12.33	26.84	30.91	25.35	63.78	74.83	34.66	45%	10.19	44.22	91.52	30.05
Low		$ 15.55	68%	$ 21,841.61	$ 41,547.61	2.14	2.78	3.64	10.50	11.41	11.04	18.04	20.03	-405.67	16%	0.01	17.00	-302.62	-14.83

Illustrative Valuation Analysis

Discounted Cash Flow Summary

	Historical Period			Projection Period									
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
EBIAT	**$ 3,819.75**	**$ 4,129.75**	**$ 2,797.50**	**$ 3,316.14**	**$ 3,227.19**	**$ 2,954.40**	**$ 2,735.06**	**$ 2,572.74**	**$ 2,687.14**	**$ 2,593.49**	**$ 2,628.20**	**$ 2,537.49**	**$ 2,477.14**
(+) Depreciation and Amortization	$ 3,636.00	$ 4,540.00	$ 2,427.00	$ 2,860.91	$ 2,767.71	$ 2,489.12	$ 2,263.74	$ 2,095.18	$ 1,997.38	$ 1,894.46	$ 1,919.82	$ 1,816.92	$ 1,744.31
(-) Capital Expenditures	-$ 1,747.00	-$ 1,329.00	-$ 1,689.00	-$ 1,768.33	-$ 1,606.36	-$ 1,613.73	-$ 1,634.67	-$ 1,656.32	-$ 1,651.63	-$ 1,673.80	-$ 1,596.91	-$ 1,624.39	-$ 1,652.04
(-) Increase in Net Working Capital	-$ 3,362.00	-$ 4,335.00	-$ 6,011.00	-$ 1,831.69	-$ 38.56	$ 18.16	-$ 53.82	-$ 55.62	$ 129.06	-$ 55.41	-$ 55.97	$ 3.91	-$ 72.09
Unlevered Free Cash Flow	**$ 2,346.75**	**$ 3,005.75**	**-$ 2,475.50**	**$ 2,577.04**	**$ 4,349.99**	**$ 3,847.96**	**$ 3,310.30**	**$ 2,955.98**	**$ 3,161.95**	**$ 2,758.73**	**$ 2,895.14**	**$ 2,733.94**	**$ 2,497.31**

Enterprise Value

Cumulative Value of FCF		**$ 22,422**
Terminal Value		
Terminal Year EBITDA		$ 2,721
Exit Multiple		13.x
Terminal Value		**$ 35,378**
Discount Factor		0.478
Present Value of Terminal Value		**$ 16,893**
% Enterprise Value		43%
Enterprise Value	$ 39,315.02	

Enterprise Value

WACC \ Exit Multiple	$ 39,315.02	11.5x	12.x	12.5x	13.x	13.5x	14.x	14.5x
	6.2%	$ 40,903.17	$ 41,648.79	$ 42,394.42	$ 43,140.04	$ 43,885.67	$ 44,631.29	$ 45,376.92
	6.7%	$ 39,649.39	$ 40,360.81	$ 41,072.22	$ 41,783.63	$ 42,495.05	$ 43,206.46	$ 43,917.87
	7.2%	$ 38,450.18	$ 39,129.10	$ 39,808.02	$ 40,486.94	$ 41,165.86	$ 41,844.77	$ 42,523.69
	7.7%	$ 37,302.76	$ 37,950.81	$ 38,598.86	$ 39,246.91	$ 39,894.96	$ 40,543.01	$ 41,191.06
	8.2%	$ 36,204.51	$ 36,823.23	$ 37,441.95	$ 38,060.67	$ 38,679.39	$ 39,298.11	$ 39,916.83
	8.7%	$ 35,152.99	$ 35,743.83	$ 36,334.67	$ 36,925.51	$ 37,516.35	$ 38,107.19	$ 38,698.03
	9.2%	$ 34,145.85	$ 34,710.18	$ 35,274.52	$ 35,838.86	$ 36,403.20	$ 36,967.54	$ 37,531.88

With a conservative exit multiple of 13x, we see terminal value take a short-end percent of our implied Enterprise Value

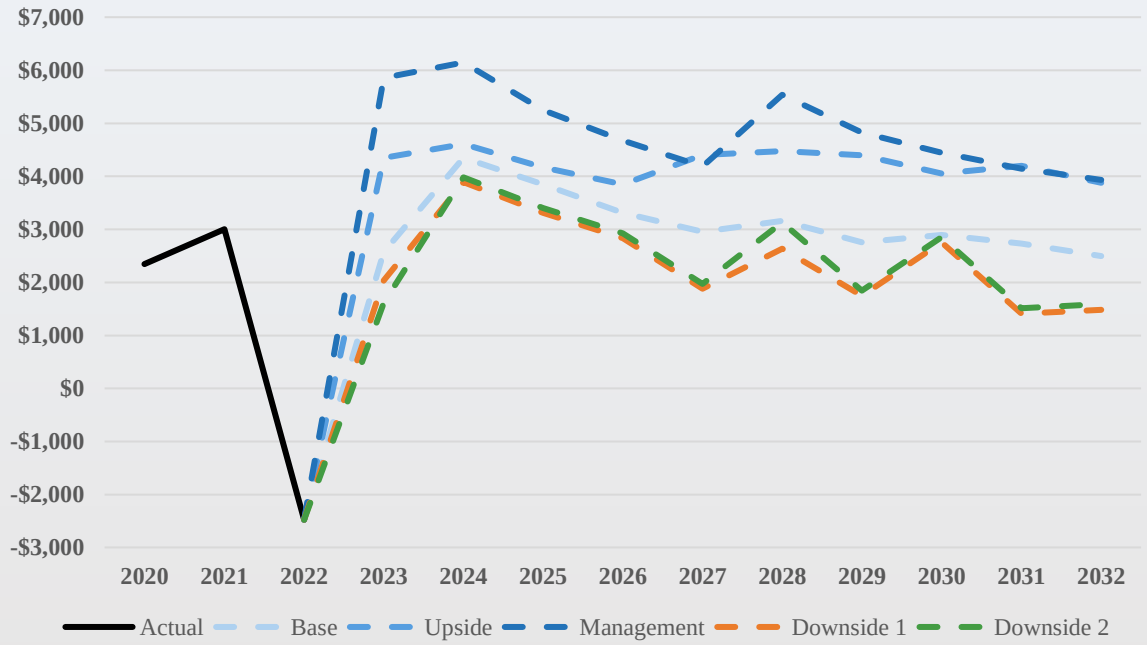
Our sensitivity table shows that our implied Enterprise Value is centred just under the $40bln range, and shows strong pricing compared to its current level

Illustrative Valuation Analysis

FCF and EBIT Projections by Case

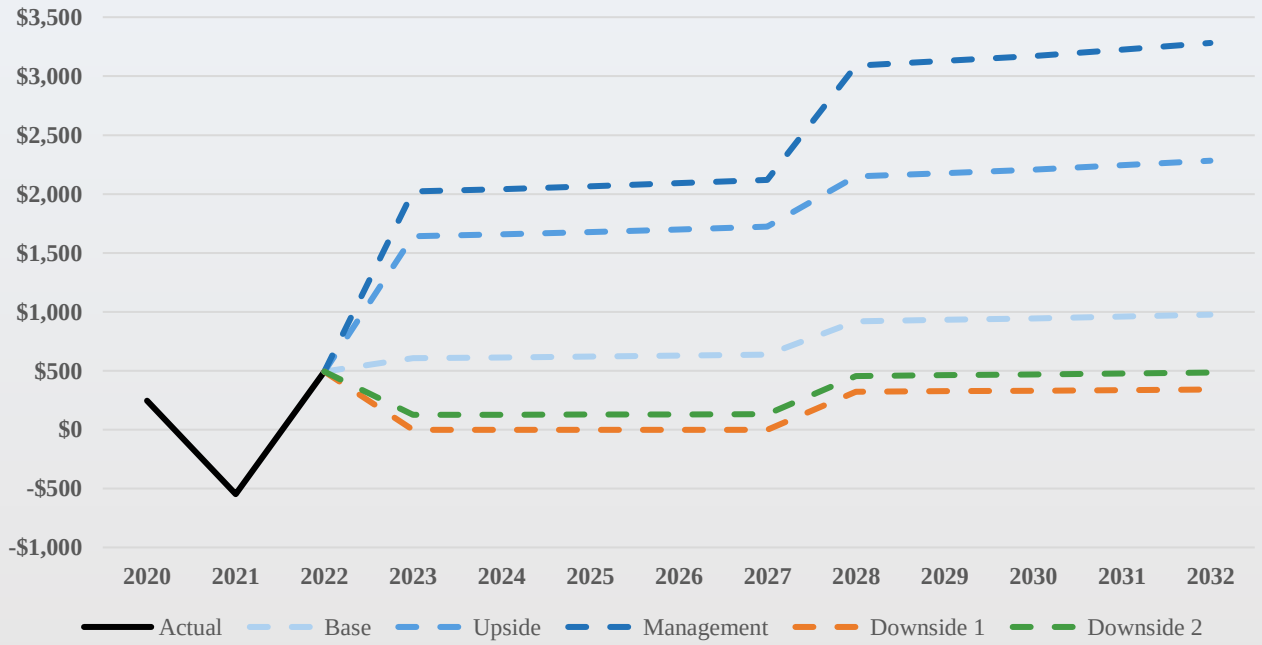
UFCF Projections by Case (Mlns)

- Unlevered Free Cash Flow is expected to rebound after an unusual year in 2022. With shrinking CapEx and asset base, depreciation brings EBITDA downwards, trickling into UFCF



EBIT Projections by Case (Mlns)

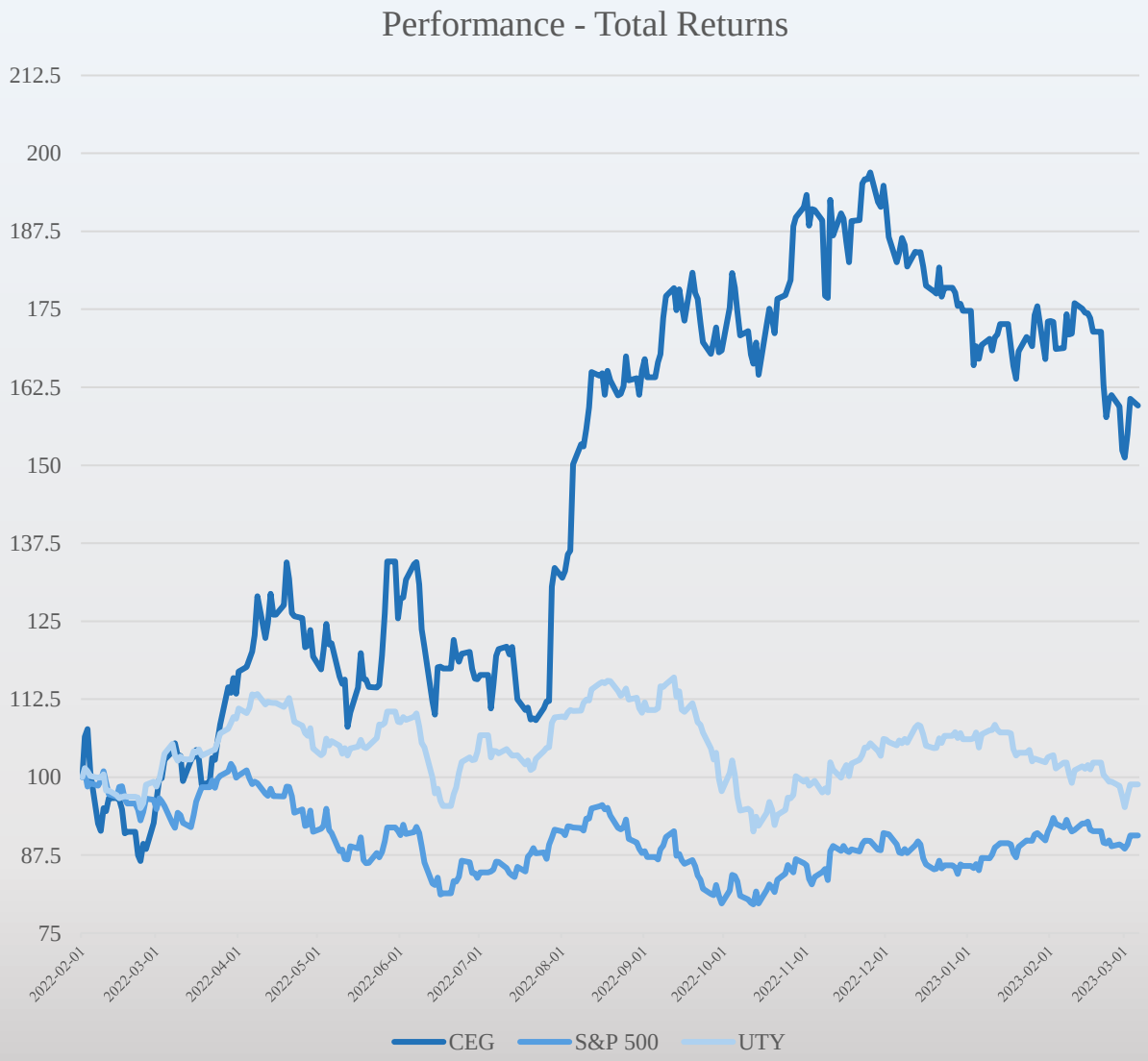
- As gross profits increase steadily, so does the costs of running the business. Downside scenarios consist of lower margins and higher maintenance expenses, where upsides and management see higher top line and gross margins



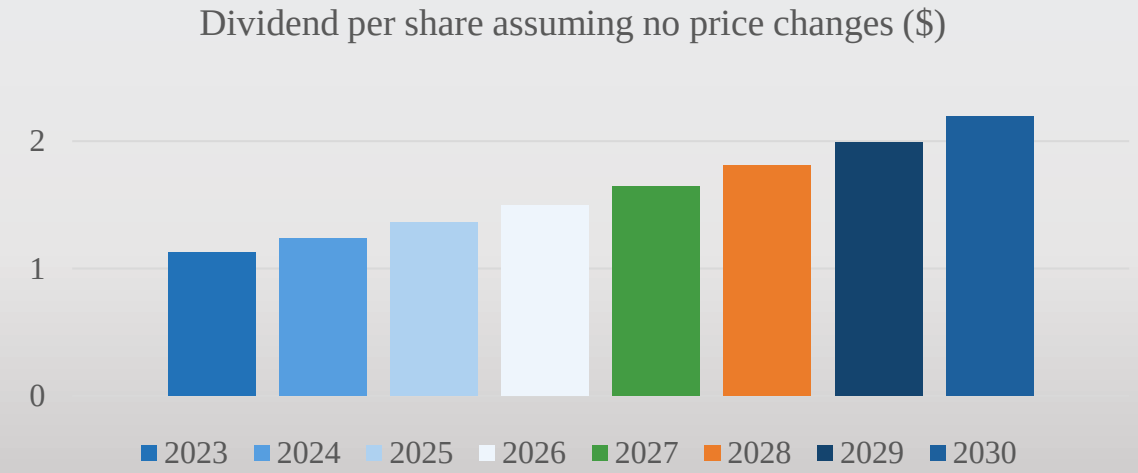
While our scenarios vary considerably, downside cases result in flat expectations, while upsides exhibit strong and steady growth

Constellation's Performance

Constellation is a high-performer, out-classing its industry and the S&P 500 since its inception



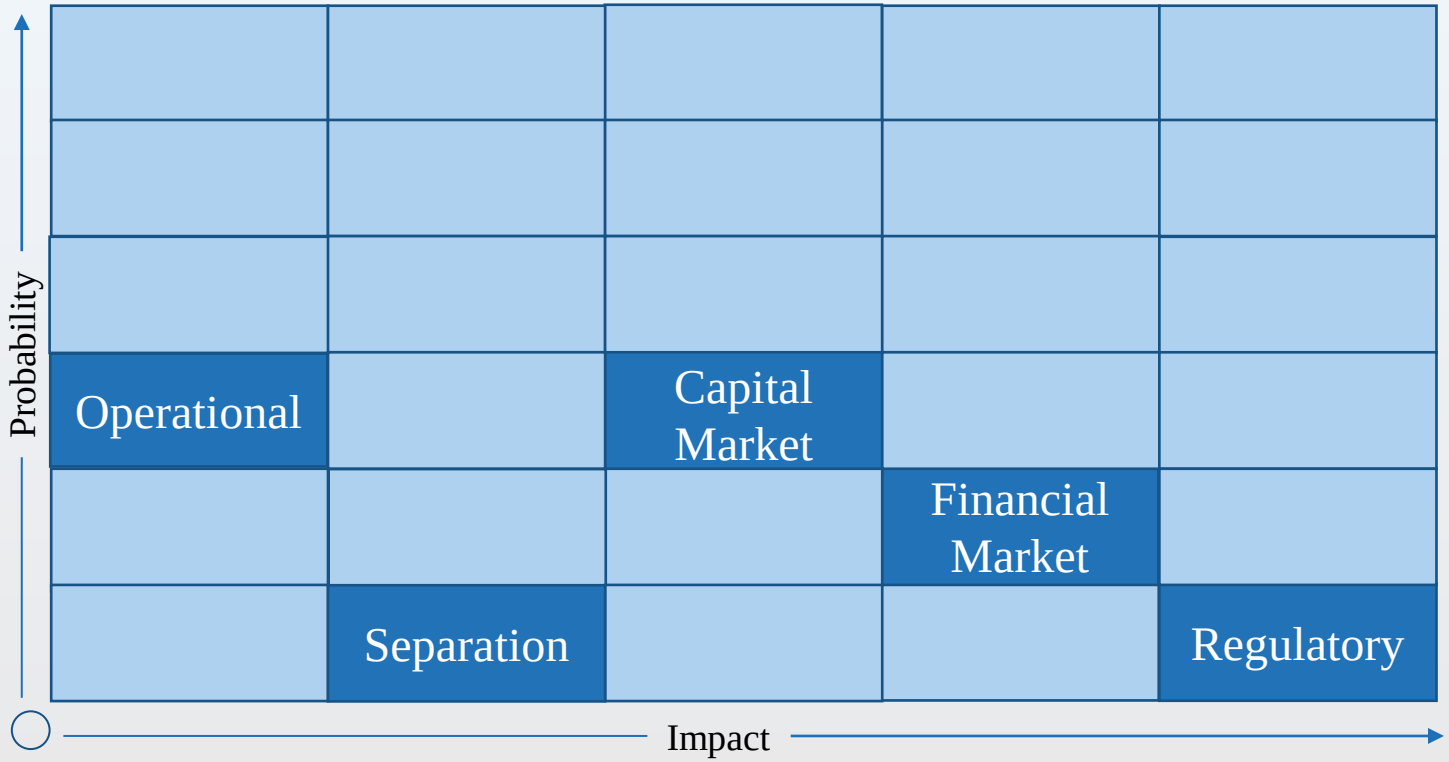
- Constellation Energy has **outperformed** both the S&P 500 (an important benchmark for the UTM Capital portfolio) and the US equal weight utilities index
- Constellation Energies performance has been strong through its spin-off in the midst of the COVID pandemic, and turbulent energy pricing, demonstrating its **robustness** against external economic forces
- We expect its performance to continue its stability through the medium term, and capitalize on the **accelerating demand** of its nuclear capacity and distribution
- Another strong performance measure that Constellation prides itself on is its ability to simultaneously provide a strong dividend. Its current yield is **1.44%**, with management guidance of a **10% increase** every year indefinitely
- We believe that Constellation's price has not yet fully reflected its dominant and strategic positioning
- As institutional investors seek to move funds into the growing generation space over the next 18-36 months, Constellation's share price will benefit from large sums of capital, as they are the clear ESG choice for pension funds, and other large managed funds



Agenda

Risks and Mitigants

Constellation is a highly defensive position with little that could take it off-course



Risks

Operational	Breakdown / disposal of nuclear waste risk
Capital Market	Volatility in price of resources (uranium)
Financial Market	Change in demand for electricity
Regulatory	Add-ons to acts/regulations on companies (other than inflation reduction act)
Separation	New expenses/losses from separation with Exelon by contract changes

Mitigants

Operational	There have been no breakdowns in their history, however accidental operational outage insurance for nuclear operators does exist
Financial Market	New EV market, demand will be steady/increasing. Constellation can switch output to hydrogen in the medium-term if forecasts shift downward
Capital Market	The price of uranium is volatile, but Constellation is not significantly impacted by geopolitical issues with hedging options available
Regulatory	Constellation has numerous regulatory professions in management, and will be able to navigate complicated regulatory changes with success
Separation	Management has close ties with Exelon, and has had a strong independent start with a strong customer and revenue base

Risk Analysis

Constellation is well-hedged against its major risk factors

	Description	Area Of Concern	Threat Assessment	Risk Level
Breakdown / critical nuclear incidents	Possible breakdown/ incidents from disposal of nuclear materials	Operational	No incidents to date, for any incident to happen, insurance covered (NEIL), each site is insured for up to $450mln	
Future Change in Regulations	Biden's Inflation Reduction Act, possible future changes	Legislative & Regulatory	Biden's budget has proposed corporate tax increases from 21-28%, not yet passed in senate yet	
Price Volatility of Uranium	Fluctuations due to geopolitical and availability issues	Capital Market	War seems to continue, but Constellation's uranium is supplied long-term and isn't affected by current issues. Possible hedge positions for uranium if price remains volatile	
Electricity Demand Changes	Increase in electricity price from unfavourable economic situation, climate change, attention to energy efficiency causing lower demand	Financial Market	New emerging sectors (electric vehicles, etc) and electricity is a commodity constantly in demand	
Separation Issues with Exelon	After the separation agreement from Exelon, the previous contracts/transaction agreements may cause extra expenses, lose access	Operational (Separation)	A short-term issue, will resolve in time, board members from Exelon can clarify future issues	

Agenda

Environmental, Social and Governance Analysis

Constellation prides itself on strong fundamental values and leading America into a more sustainable future

Metric	All Employees	Management
Female	2,389	320
People of Colour	2,030	229
Aged <30	1,293	49
Aged 30-50	6,399	1,187
Aged >50	4,004	758
Within 10 yrs of retirement	5,242	1,034
Total	11,696	1,994

Employees volunteered over 80,000 hrs in 2022 and donated more than $12.5 M to charitable causes

- ✓ Clean Energy Supply
- ✓ Technology Enablement and Commercialization
- ✓ Clean Customer Transformation

E

Constellation has a strong climate commitment with the following goals:

- **100%** of owned generation will be carbon-free by 2040
- **100%** reduction of operations-driven emissions by 2040
- **100%** of C&I customers provided with specific information on how to meet GHG reduction goals
- Technology enablement and commercialization, commitment to enable future technologies and business models needed to drive the clean energy economy

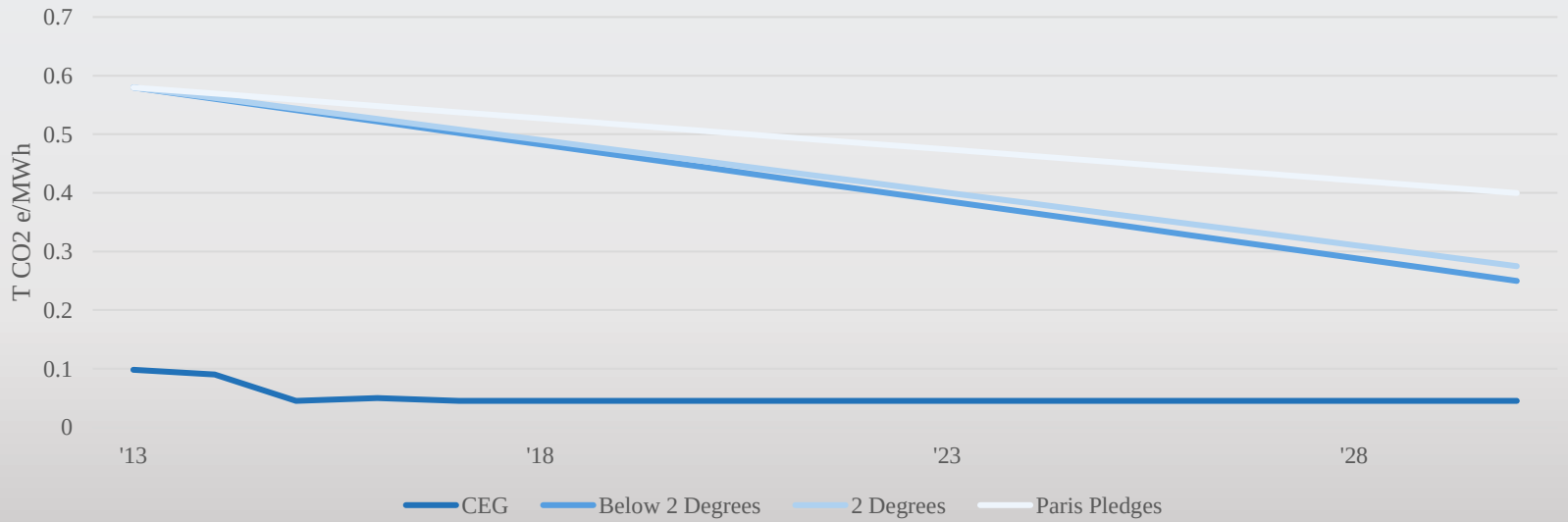
S

Constellation is committed to diversity, equity and inclusion as core values and to safe operations and environmental performance. Commitments include:

- Disclosing EEO1 data
- Conducting annual analysis through independent third-party on **gender and racial pay equity**
- Quarterly CEO review of DE&I dashboard
- Maintain **best safety record** in the industry
- Maintain strong safety culture

G

Constellation has a diverse Board of Directors with **90% of directors being independent**, including the Chair. Overall Board composition is **40% diverse** backgrounds, **30% female** and **20% racially diverse**. Executive compensation is independently reviewed, reflecting performance and incentive-based pay



Agenda

Industry Breakdown

Constellation has broad vertical operations, touching many industries

Generation

Wind/Solar

- **Reliant** on regulation
- Builds electricity, not capacity

Hydro-Electric

- **Stifled** by regulation
- Limited locations for plants

Fossil Fuel

- Coal prices **permanently increasing**
- Clean coal in early development

Nuclear Electric

- Demand **skyrocketing**
- Production tax credits for hydrogen
- Heavily regulated

Other

- **Hard to compete** with traditional methods

Distribution & Sale

Power Transmission

- Smart grids rising in popularity
- Tax credit availability
- Rapidly **expanding infrastructure**, especially related to EVs

Natural Gas Distribution

- Large price declines from demand drops
- Industry expected to drive demand
- **Structural supply/demand mismatches**

Integrated utilities are those utility companies which generate, transmit, distribute, store, and sell its commodity

Constellation excels in power generation having most of its exposure in nuclear, with other operations in natural gas and renewables

Constellation is exploring the use of hydrogen generation with a pilot project, and is planning to explore all areas feasible to carbon-free energy

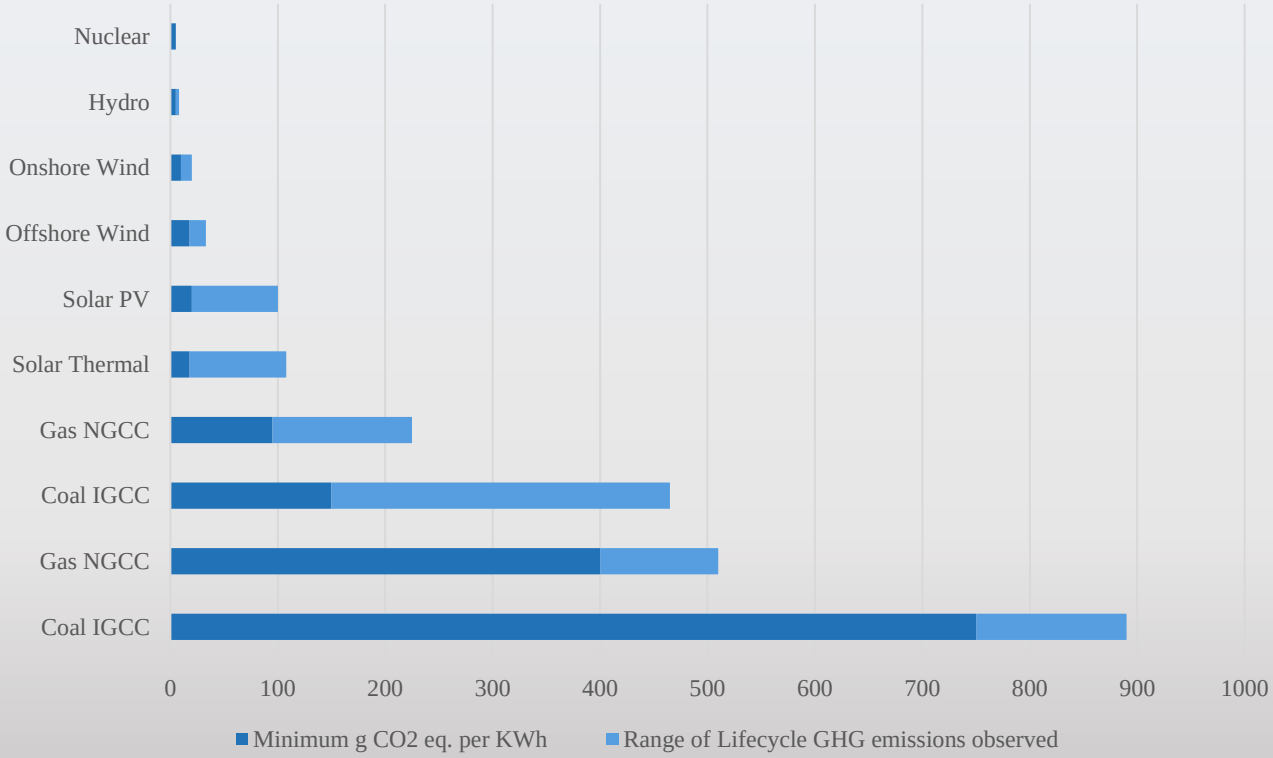
Constellation touches on all end-markets, being truly vertically integrated, serving a diverse set of customers

Nuclear Energy Primer

Nuclear Energy is the only viable solution to the increasing energy demands of the United States

- In terms of volume, nuclear energy is extremely dense and **produces less waste by volume** than any other type of energy. For context, all of the spent nuclear fuel produced in US from the dawn of the civilian nuclear era, when President Eisenhower gave his famous 1950s Atoms for Peace speech until now, all of it **could fit inside a Super Walmart**
- By comparison, a single coal plant generates as much waste by volume **in one hour** as the entire US nuclear power industry has produced during **its entire history**
- Nuclear plants with 80 yrs life will **outlive** all current carbon-free energy sources and **all sources** that will be built over the next 10 years

Life Cycle Emissions



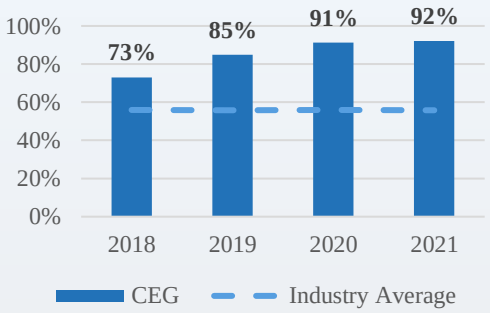
Without additional nuclear power generation added in the next 20 years, the clean energy transition becomes more difficult and expensive – **requiring $1.6trln of additional investment i**n advanced economies.
Without additional builds, advanced economies would be threatened by lack of energy security, and rising costs and emissions in power generation

In the United States in 2016, nuclear reactors had an **average capacity factor of 92.3%,** meaning they were producing energy 336/365 days in the year, compared to hydro's 138 days producing, wind's 127, or solar's 92

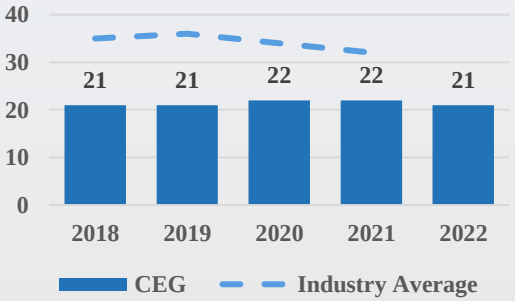
Nuclear reactor meltdowns, and "the worst possible accident at a nuclear power plant" is **less destructive** than other major industrial accidents

Nuclear waste disposal is **mainly a political problem**, not a technological one. Waste can be recycled and reused for hundreds of years given advancements in technology, and is **currently safely stored in casks** on grounds ready for use

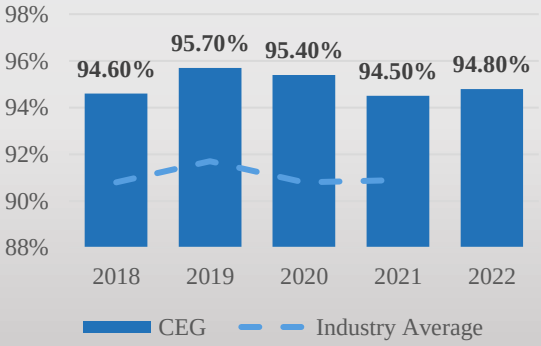
Nuclear Composite Operational Excellence



Average Nuclear Refueling Outage Days



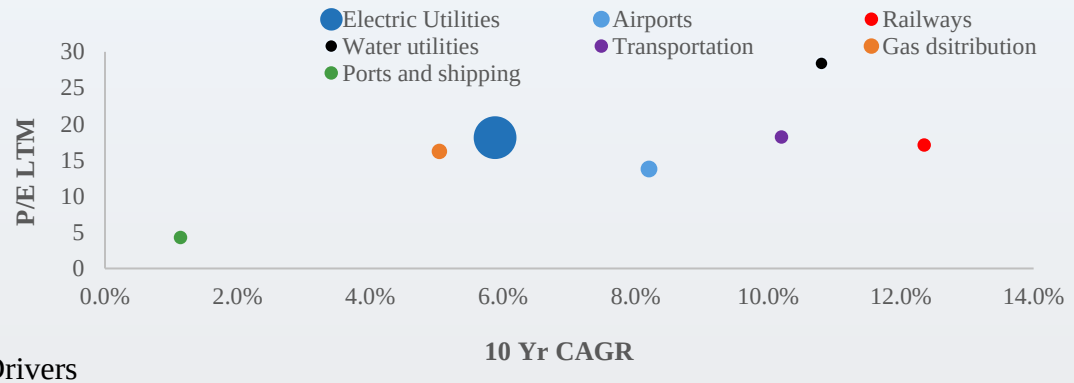
Nuclear Capacity Factor



Industry Analysis

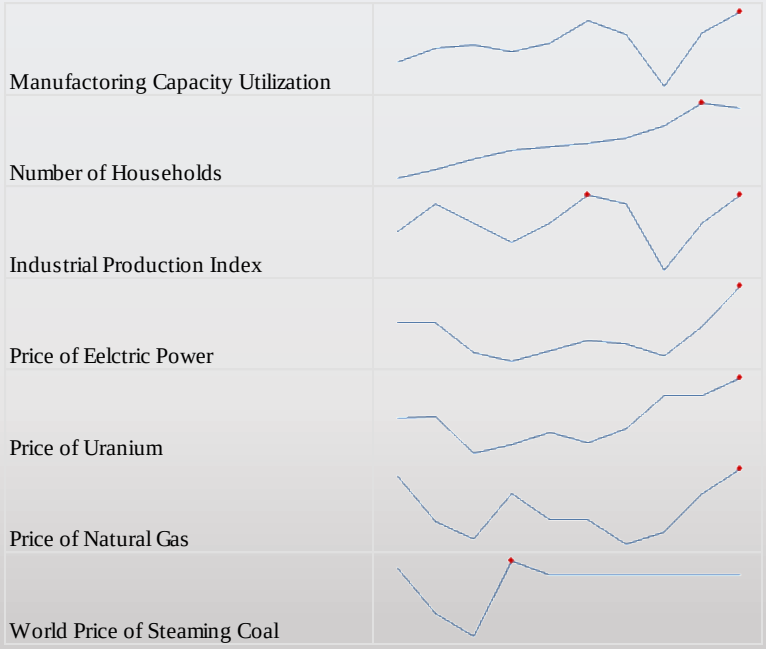
Electrical Utilities are Primed for an entry point

Cheap and Steady Growth



Drivers

The drivers of the electric utilities industry are all on strong upward trends over the past 10 years, with many period highs in the last year. As these factors increase, outlook for Constellation gets stronger. Input prices of uranium and steaming coal are also notable, but strong hedging practiced mitigate these risks



Nuclear Comes out on top

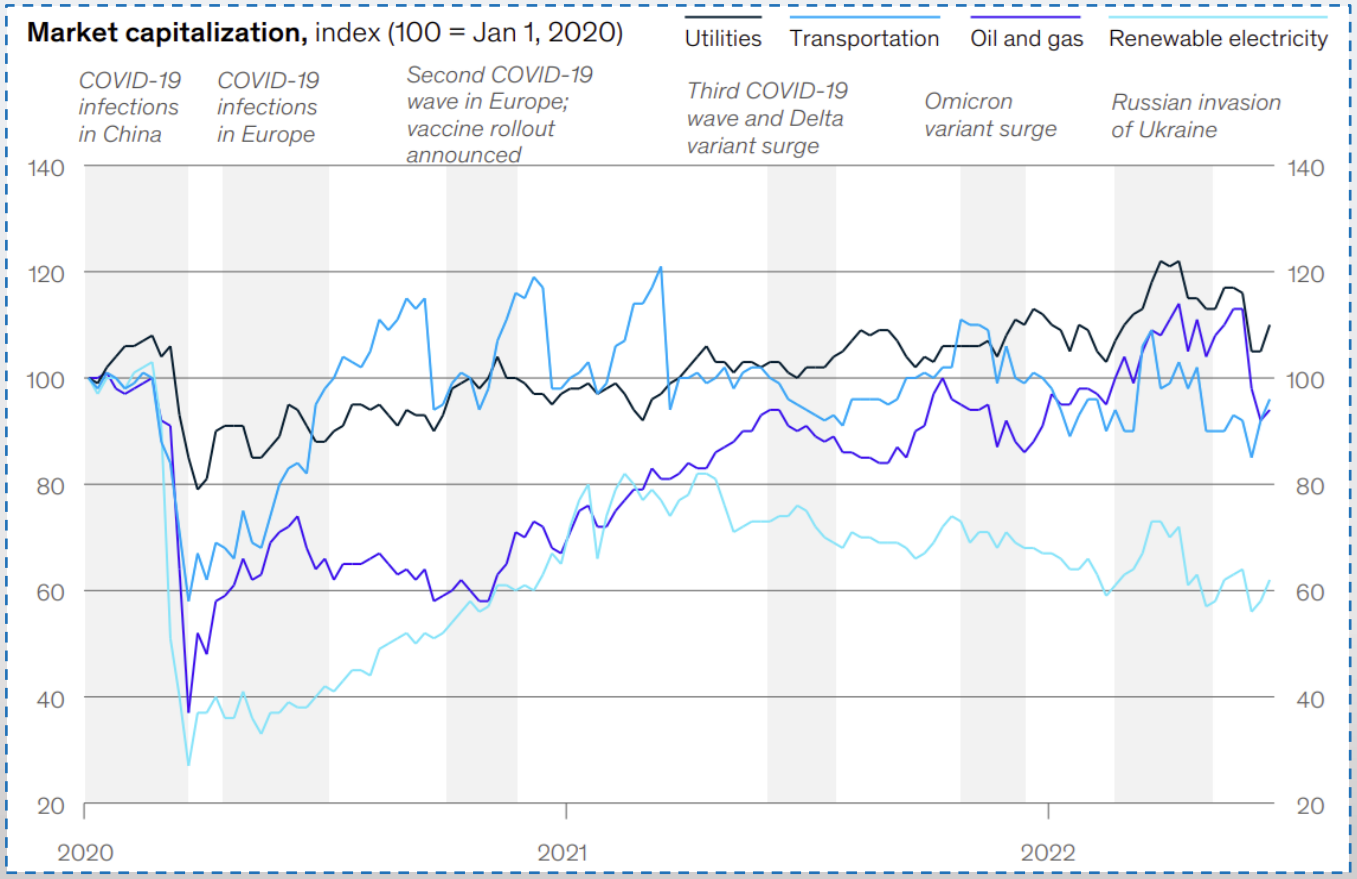
The United States leads world nuclear power generation. In the United states alone, we have:

$32.8 Bln Revenue

$4.5 Bln Profit

13% Margins

Most Infrastructure Sectors have returned to pre-COVID-19 levels, except for renewables

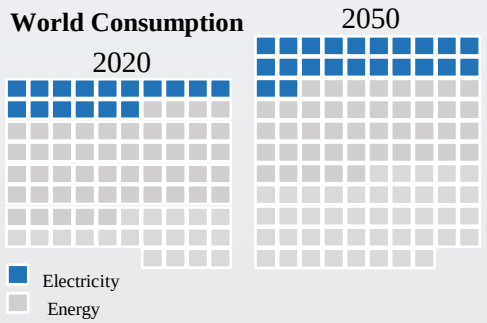


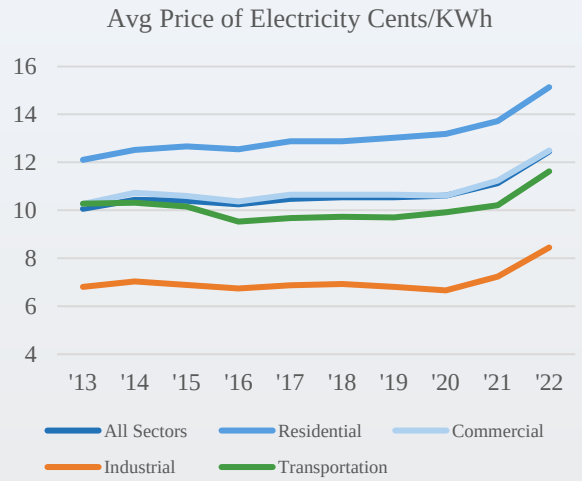
Integrated utilities

Constellation is a strong player in electrical utilities which avoids much the downside risk

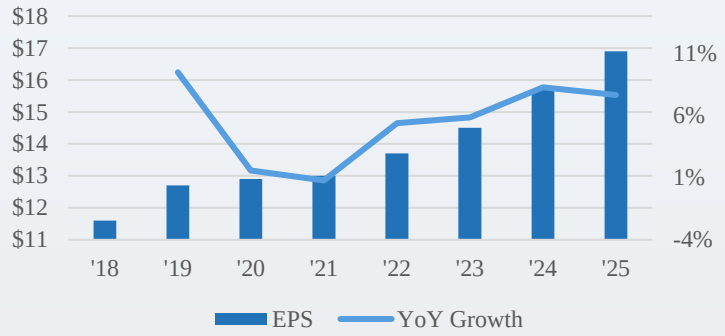
Overview

- Integrated Utilities generate energy for all sectors of the economy, storing and distributing it to its end users
- Between now and 2050, electricity demand is expected to increase steadily, alongside increasing prices – leading to a very reliable revenue growth across the industry

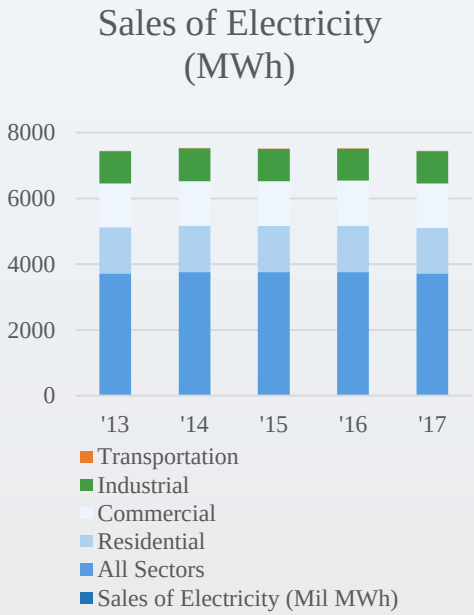




Revenue Forecasts

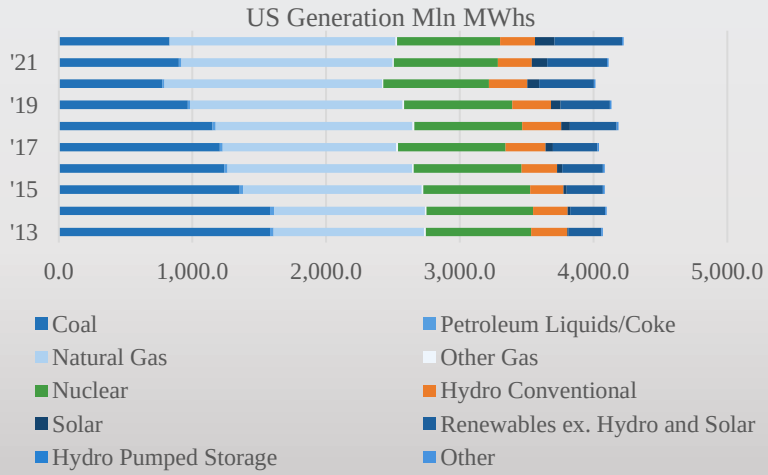


- EPS are expected to grow faster than revenues, as costs shrink, fuelling growth in the sector
- As transportation electrifies, it is becoming the next major source of demand for integrated electrical utilities

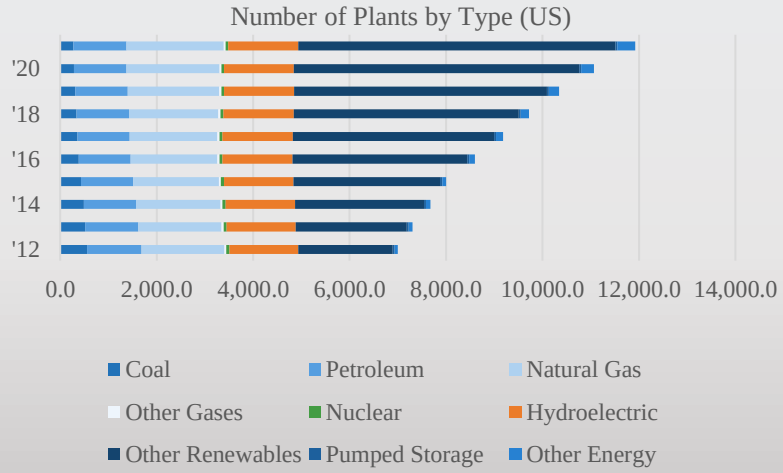


Key Players

Data



- As coal plants close, they are being largely replaced with renewable energy sources, dropping the capacity of the US energy grid, for a cost trade-off



Integrated Utilities – Renewables Generation – Nuclear Generation < 50%

Constellation plays on clean energy without foreign or material dependence

Overview

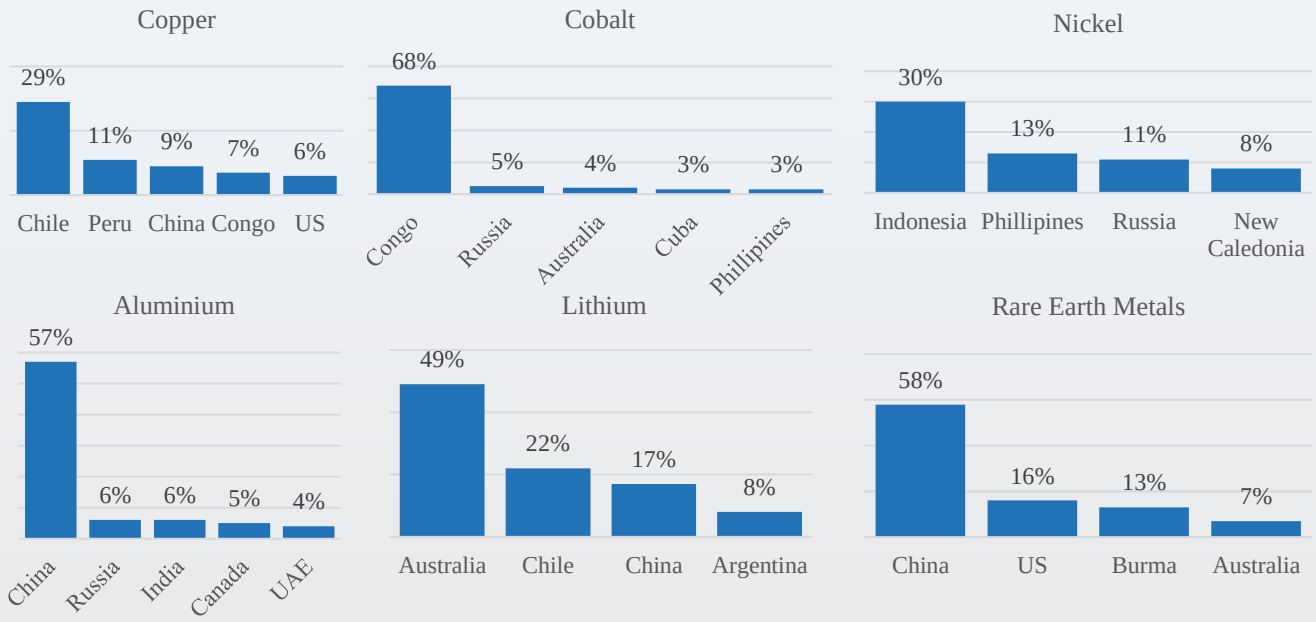
- Renewable power generation is characterized by its use of natural and non-depletable resources from the environment
- Solar and wind have become the cheapest power generation sources across the globe, but **cannot produce on-demand capacity**
- **New entrants threaten the space**, especially from big oil, as they pivot into new energy generation method
- Renewable energy infrastructure is **largely manufactured overseas** – mostly in China and India – causing domestic renewable power generation to be heavily reliant on these foreign countries. This reliance leads to **project delays and increased costs**
- Due to the reliance of components on these materials, prices have responded accordingly, with **lithium's price rising by 400% since 2021**

Market share of Renewable Generation	**2010**	**2020**	**2023**
	10%	20%	23%

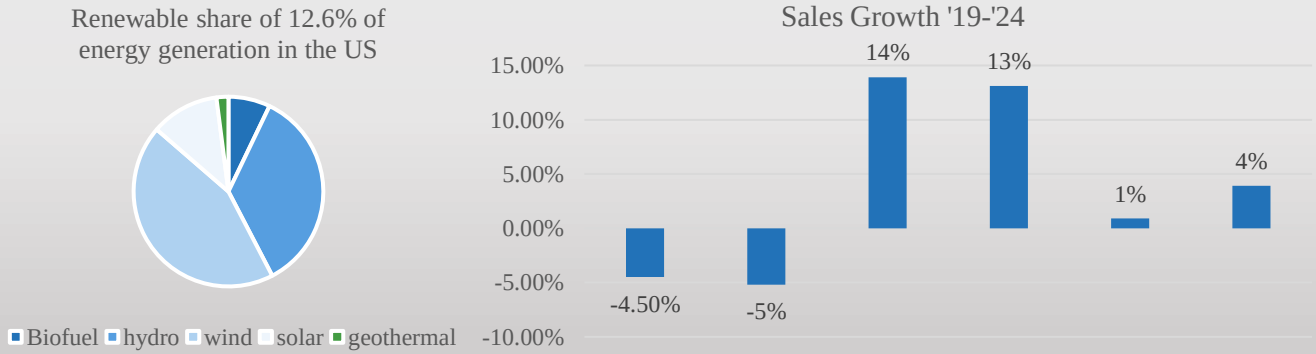
Solar and Wind Energy CAGR 2010-2020: 84% and 15%

Key Players

Dependence on Renewable Infrastructure by Input Material



Data



Integrated Utilities – Nuclear Generation > 50%

Constellation *is* nuclear power

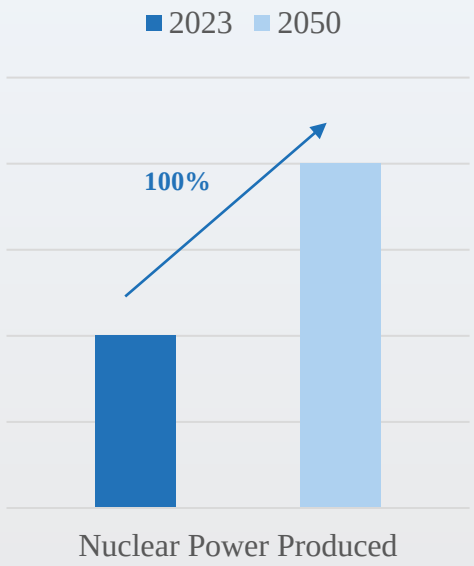
Overview

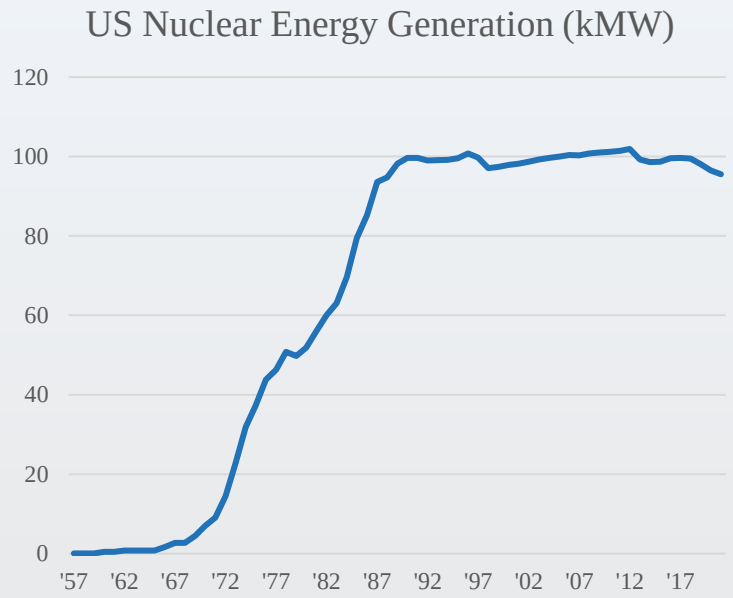
- Integrated utilities that focus on nuclear generation provide **strong capacity factor** for the grid, with very little downtime
- These utilities benefit greatly from ZECs and PTCs to subsidize their increased fixed costs, with **additional grants coming** for hydrogen production
- While nuclear generation was initially setup in the US in the 70s and 80s, it has not kept up with increasing demand, and is **currently underserving** the market
- Recent regulation has aimed at assisting the industry out of necessity and is expected to continue. The **first nuclear reactors in more than 30 years** are expected to finish construction in 2023

Key Figures

World Nuclear Share	Reactors in Operation
10.2%	20%

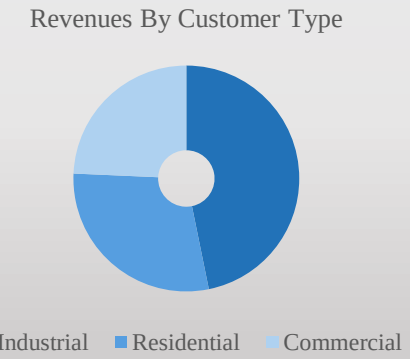
Nuclear Generation Figures





Key Players

Revenues By Segment



- Industrial clients rely on nuclear power for their energy needs in manufacturing, and other business markets. They pay the lowest amount per kilowatt hour through bulk pricing
- Residential customers require minimal power, relying more on other renewables but have a base need for base energy
- Commercial businesses also buy power in bulk, and are switching to renewables of all kinds

Industry Trends

The death of coal and regulatory changes are strong tailwinds at Constellation's back

Data

Death of Coal
The extraordinarily long death of coal is stable, if not short. The United States is a leader in moving towards other energy sources, even as coal hit an all-time high in demand thanks to China and India in 2021.

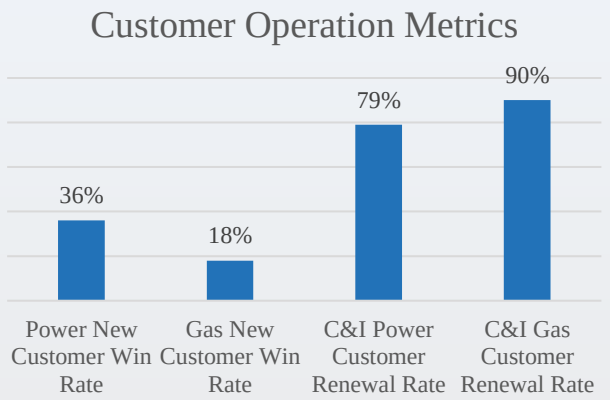
Technological Advanced Aid Production
The first new nuclear reactors in more than 30 years are set to complete construction in 2023 in Georgia. With the introduction of the Inflation Reduction Act, this is expected to usher in a new period of renewable energy generation.

Favourable Regulation
The Inflation Reduction Act, Bipartisan Infrastructure Bill, and others increasingly promote the production of clean energy, providing PTCs, ZECs, and other tax benefits to those helping to solve the climate crisis. This includes things like the Civil Nuclear Credit Program, providing $6 bln in reactor aid, $8 bln in hydrogen production aid, and $2.5 bln in support to demonstrate 2 new advanced reactors by 2028.

Industry Activity and Proof

CORE Growth;

- Executed the two largest deals yet
- Entered into six long-term power purchase agreements with new build renewable generators across three ISOs
- 1.65 TWs will be delivered annually to 12 customers in 12 states
- ~20 TWhs will be delivered over the life of the agreement



Year	Name	Status
2023	Vogtle	Built – not started operations
2023	Vogtle	Built – not started operations
-	Turkey Point	Planned
-	Turkey Point	Planned
-	North Anna	Planned
-	Naughton	Planned
-	Fermi	Planned
-	Clinch River	Planned

Industry trends look favourable to Constellation, with the death of coal being a major revenue driver

Industry Trends

Constellation capitalizes on customer demand for transparency and flexibility

Shifting power needs

Grid Modernization

An EY survey of 70k customers over the last 2 years found that consumers are leading the way to carbon neutral energy. Volatility in energy and outages add to the demand for clean-capacity energy

ESG Reporting

Increasing emphasis on ESG from corporations and governments, as they strive to reach goals and targets over the coming years.

Grid Flexibility

Grid failures during poor operating conditions for plants have begun to cause major issues for people as extreme weather events stop the sun from shining, the wind from blowing, or ices critical renewable infrastructure sources

Companies are responding with

Grid Modernization

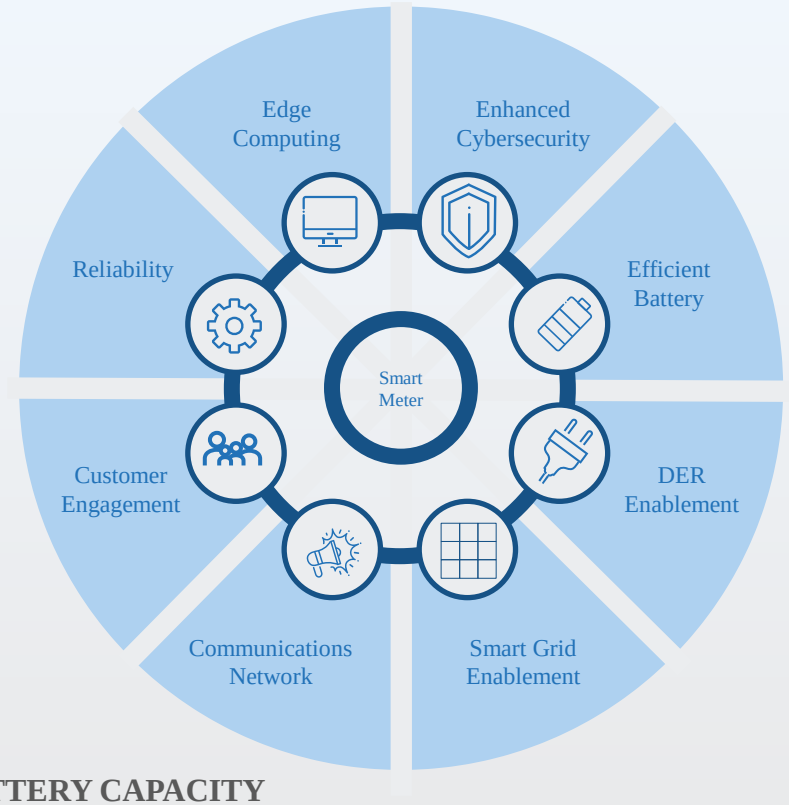
Utilities are beginning to roll out new AMI 2.0 meters, which features faster processors, more memory, modular communications, and longer lasting batteries. Residential meters are becoming computers which better understand the sources of energy, and its uses, enabling consumers to make better decisions about their carbon footprints and lifestyles

ESG Reporting

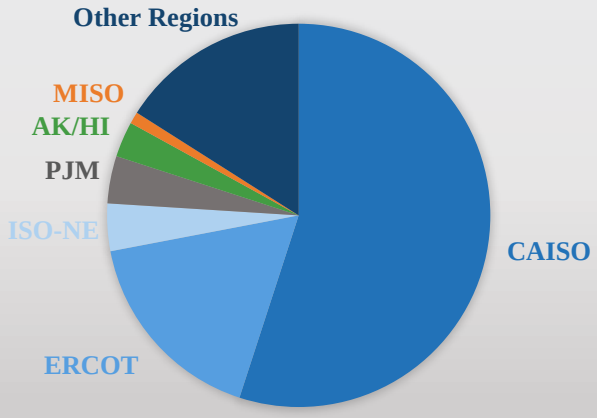
Most utility and power companies have made or are in the process of making their services more sustainable

Grid Flexibility

US battery storage is on the rise as events stemming from undersupply of capacity show themselves in events such as the supply issues in Texas this past summer, and legislation aims to improve efficiency



BATTERY CAPACITY



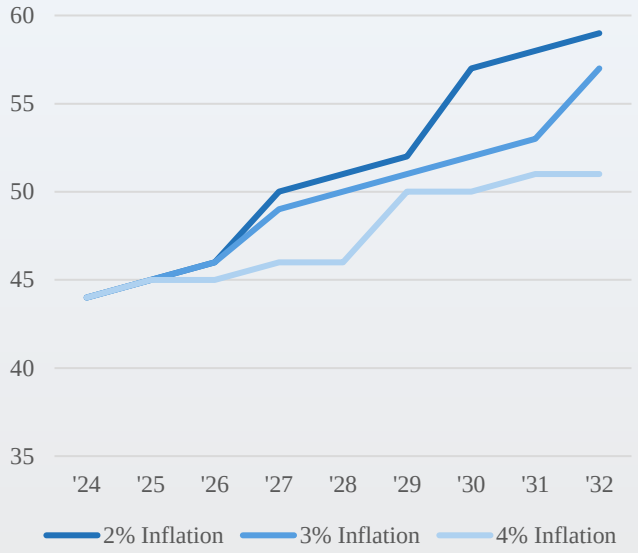
Industry Trends – Inflation Reduction Act

Constellation is a direct beneficiary of the Inflation Reduction Act Legislation

The Inflation Reduction Act (IRA) is the latest lever energy and utilities can pull to potentially speed up the pace of the cleaner energy transition. Nearly $370 billion in available tax credits, incentives or other financing could help to accelerate your investments in renewables, hydrogen, fleet electrification, adoption of technologies like carbon capture and storage, reduction of emissions or the exploration of new lines of business and partnerships. Beyond furthering your decarbonization efforts, the act's funding mechanisms, which include a 15% book-income alternative minimum tax (BMT) on corporate profits for the nation's largest companies and larger excise taxes, could profoundly affect the cost of doing business for energy and utility companies.

"U.S. President Biden recently signed the most significant climate legislation in American history: the Inflation Reduction Act. The Act (opens in a new tab/window) will invest in domestic energy production and manufacturing, and, by 2030, aims to reduce carbon emissions by roughly 40 percent. The legislation will set aside $369 billion over ten years to support renewable energy, pollution reduction, and environmental justice. It includes a comprehensive list of tax breaks for electric vehicles, heat pumps, batteries, nuclear power, clean hydrogen generation, wind and solar energy, and much more. This includes a $10 billion investment tax credit to build clean technology manufacturing facilities, including factories for wind turbines, solar panels, and electric vehicles (EVs)."

Inflation Reduction Act Transformations

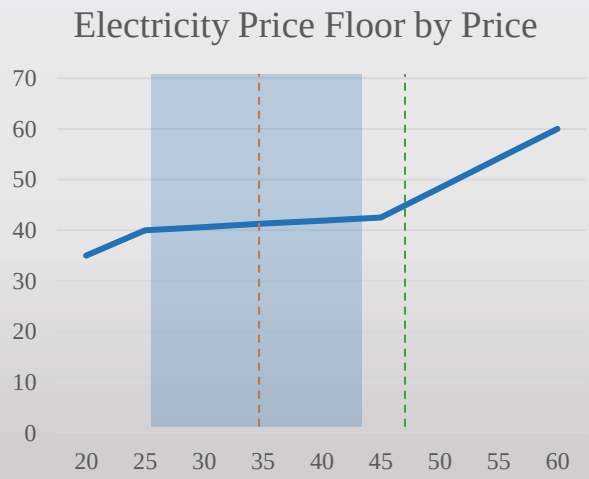


- Limits downside risk while providing upside opportunity
- Enables Nuclear fleet life extension
- Opprotunities to grow including H2, nuclear uprates, and wind repowering
- S&P Upside

	2% Inflation			3% Inflation			4% Inflation		
	Maximum PTC	Gross Threshold	Power Price for 0	Maximum PTC	Gross Threshold	Power Price for 0	Maximum PTC	Gross Threshold	Power Price for 0
2024	15	25	43.75	15	25	43.75	15	25	43.75
2025	15	26	44.75	15	26	44.75	15	26	44.75
2026	15	26	44.75	15	27	42.75	15	27	45.75
2027	15	27	45.75	17.5	27	48.88	17.5	28	49.88
2028	15	27	45.75	17.5	28	49.88	17.5	29	50.88
2029	17.5	28	49.88	17.5	29	50.88	17.5	30	51.88
2030	17.5	28	49.88	17.5	30	51.88	20	32	57
2031	17.5	29	50.88	17.5	31	52.88	20	33	58
2032	17.5	29	50.88	20	32	57	20	34	59

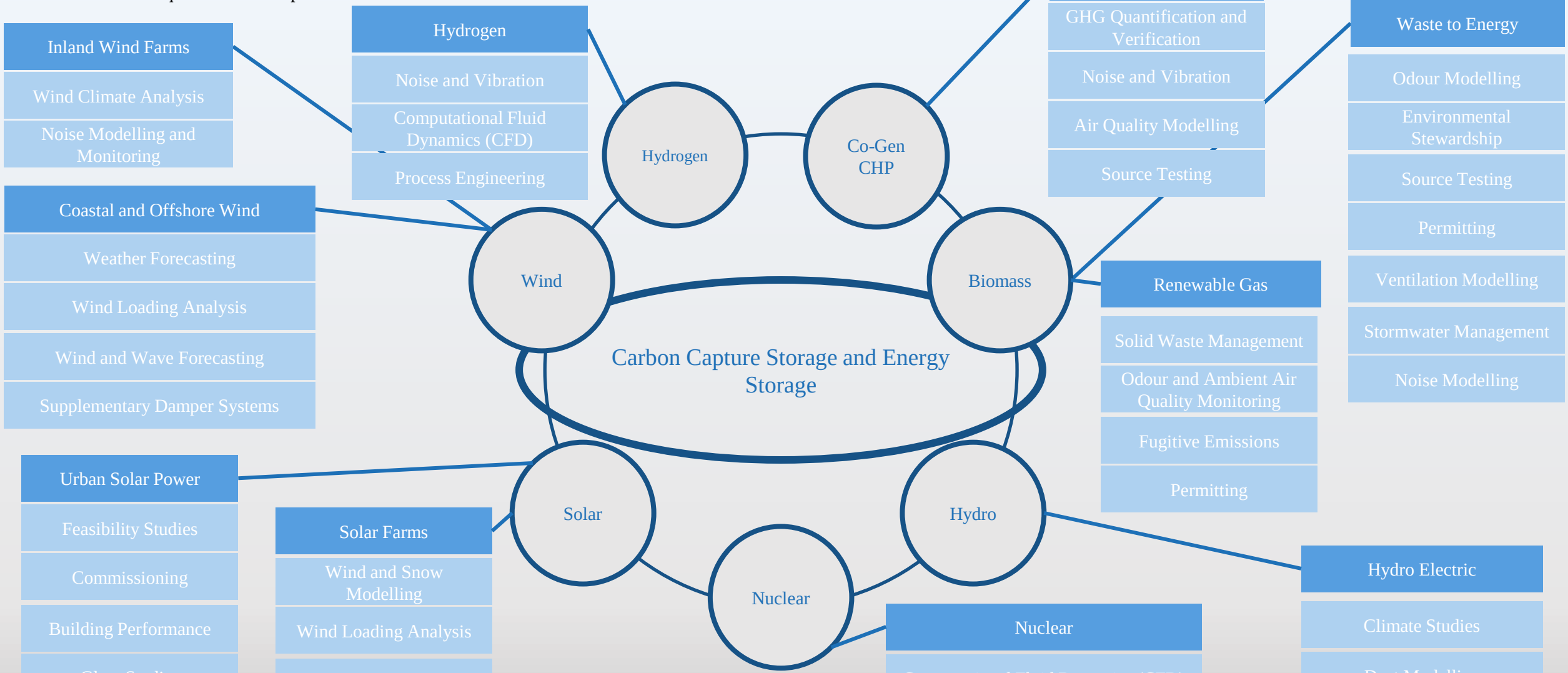
- The PTC provides support of up to $15.00/MWh for units when revenues are between $25.00/MWh and $43.75/MWh while preserving the ability of the unit to participate in upside commodity markets
- The green line assumes revenues of $47.00/MWh and would not receive PTC, while the orange line would receive $7.00/MWh support, giving a floor of $42.00/MWh

$$\text{Inflation Adjustment} = \frac{\text{GDP Price Deflator of Prev.Year}}{\text{GDP Price Deflator in 2023}}$$



Industry Trends – Inflation Reduction Act

Co – Requisites and Complements to the Inflation Reduction Act



Industry Analysis

The Nuclear generation space is highly conducive to profitability, with regulated margins for capacity sales

Competitive Rivalry

- The nuclear industry is highly regulated and has little competition, as companies are largely separated by geography and natural monopoly. Constellation currently dominates the Mid-Atlantic and Mid-West region of the United States

Threat of New Entry

The Nuclear Industry has a **high barrier to entry** because of the high upfront costs of power plants and the rigorous regulations by the government. Due to the high barrier to entry, there is a very low threat of new entrants however, there is somewhat of a threat from competitors expanding their energy facility capabilities.

Buyer Power

Constellation is a **customer facing business and sells ~32,000 MWs of power** to: distribution utilities, municipalities, cooperatives, and commercial, industrial, governmental, and residential customers in competitive markets across multiple geographic regions. Constellation serves approximately 2 million total customers, including approximately 217,000 commercial, industrial, and public sector customers. Its wholesale channel-to-market involves the sale of electricity among electric utilities and electricity marketers before it is eventually sold to end-use consumers.

Supplier Power

Uranium is the main input for Constellation and is purchased on **long term contracts with 50% of their uranium concentrate coming from a 4-year contract from 3 suppliers**. This protects Constellation from changes in supply and demand, fuel costs, market liquidity, weather conditions, governmental, regulatory and environmental policies, and other factors related to commodity goods. Supplier power is moderate, mostly based on global commodity prices, and Uranium is hedged by CEG, so there is virtually no supplier power over pricing of fuel inputs. Around 80% of CEGs spending goes to uranium.

Substitutes

There are **no viable substitutes for uranium** in nuclear power however Constellation also produces approximately 12 GW of natural gas, oil, hydroelectric, wind, and solar generation assets. The most viable substitute for energy generation in the Mid-West region would be wind power because the wind belt flows through states like Kansas, Missouri, and Nebraska, making the Midwest ideal for wind turbines.

Agenda

Returns by Valuation and Style

Constellation as a large-cap value company, has performed at the top of equity markets

10 Yr Annualized Returns

	Value	Blend	Growth
Large	10.3%	12.6%	14.1%
Mid	10.1%	11.0%	11.4%
Small	8.5%	9.0%	9.2%

2022 Returns

	Value	Blend	Growth
Large	-7.5%	-18.1%	-29.1%
Mid	-12.0%	-17.3%	-26.7%
Small	-14.5%	-20.4%	-26.4%

Since Market Peak (Feb 2020)

	Value	Blend	Growth
Large	17.5%	18.8%	14.6%
Mid	16.5%	14.3%	4.7%
Small	17.2%	7.9%	-3.0%

Since Market Low (March 2020)

	Value	Blend	Growth
Large	90%	79.4%	67.2%
Mid	105.9%	91.4%	62.9%
Small	106.1%	81.8%	57.6%

Large Cap Value Equities seem to be out-performing in the medium term…

Current P/E vs. 20 Yr Avg.

	Value	Blend	Growth
Large	13.9 / 13.7	13.9 / 13.7	13.9 / 13.7
Mid	13.4 / 14.4	15.3 / 16.3	21.0 / 20.3
Small	15.3 / 16.8	19.1 / 21.3	25.3 / 35.6

Current P/E as % of 20 Yr Avg.

	Value	Blend	Growth
Large	102%	107.6%	113.7%
Mid	92.6%	93.8%	103.3%
Small	90.7%	89.4%	71.2%

… but have maintained stable prices

Macro Variables Driving the Industry

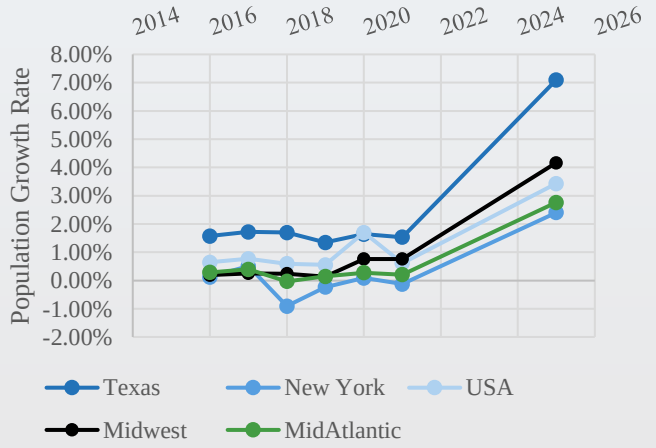
All of the relevant macro variables look favourable, with Constellation having asymmetrical exposure to pop. growth

Real GDP; $Blns, Seasonally Adjusted

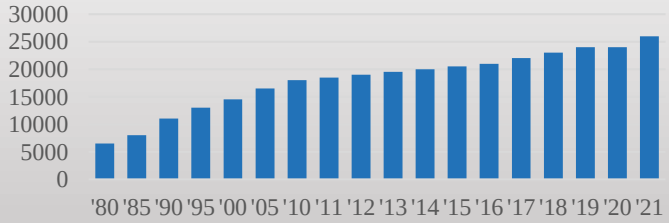
Productivity Growth and Expansion

- As the united states becomes more productive, **they require more energy**, creating a stable driver
- As the United States develops land at an accelerated pace, they **require more energy to expand their projects**, especially within the private sector

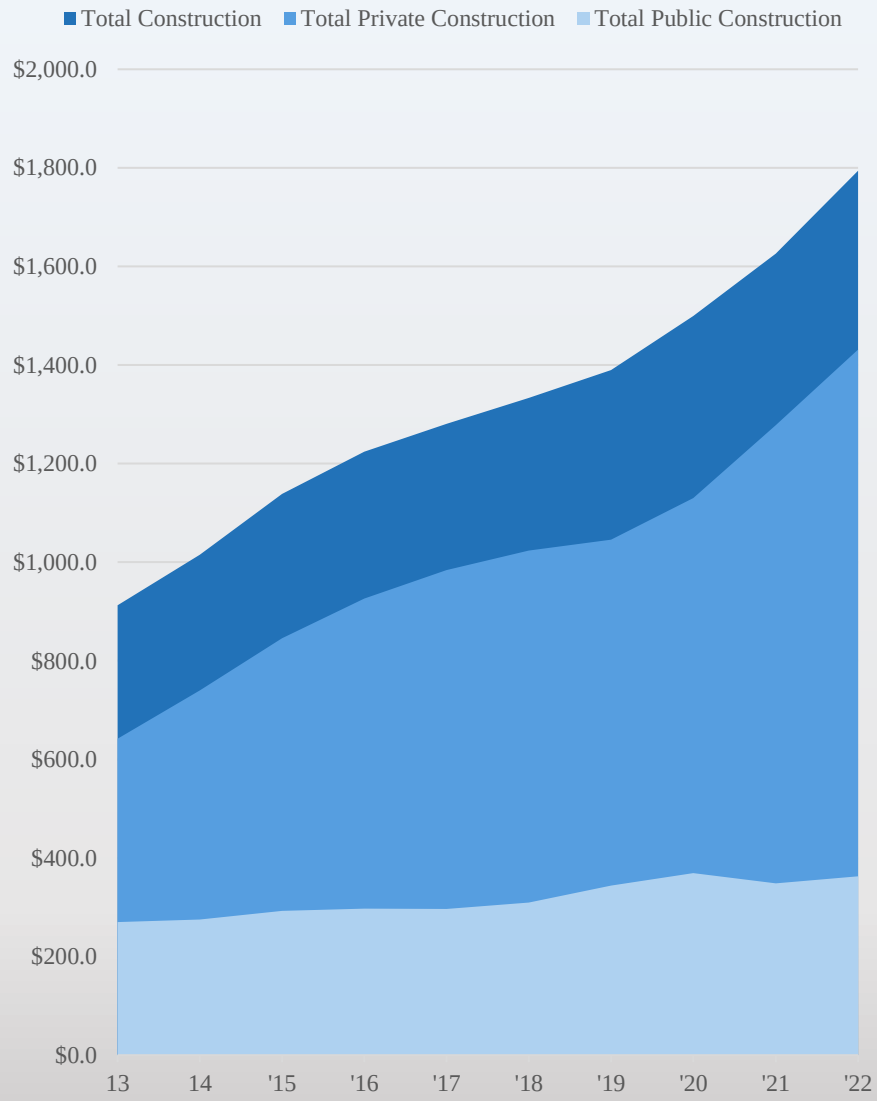
Slowing population growth in the west is **being outpaced** by growing energy usage.



Net Consumption in the United States (TWhs)



National Construction $Blns

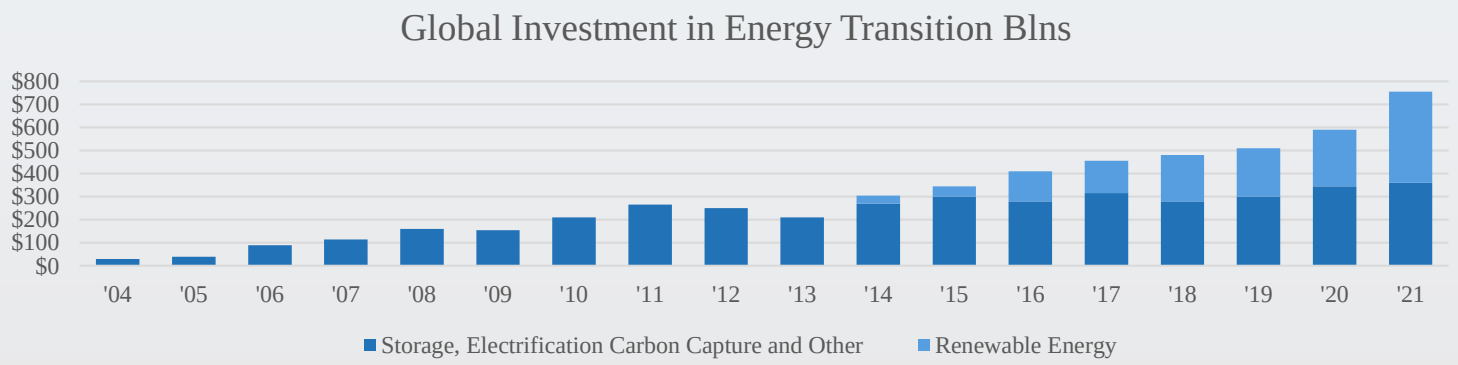


Macro Outlook

Constellation leads the energy transition in America

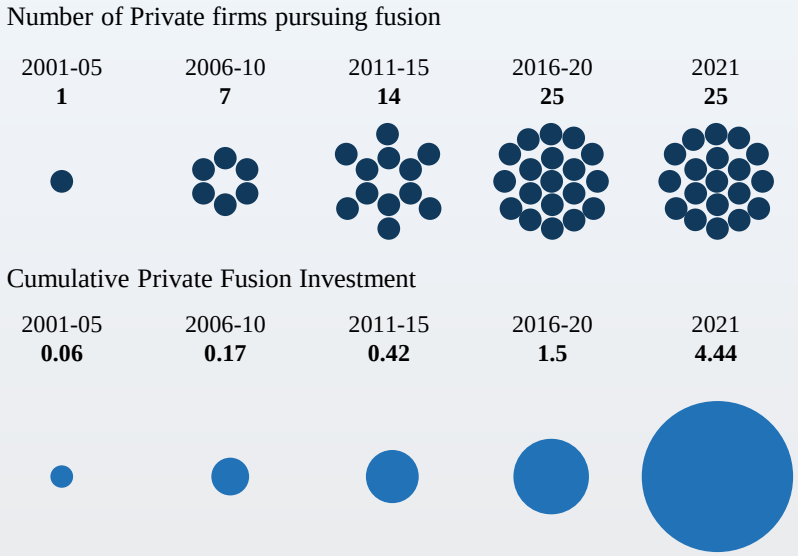
Oil Shifts: Short term demand growth for energy and utilities is pushing companies like **BP to slow down their low-carbon energy transition** in exchange for greater profitability and sales. This is **slowing competition** for clean utilities like Constellation

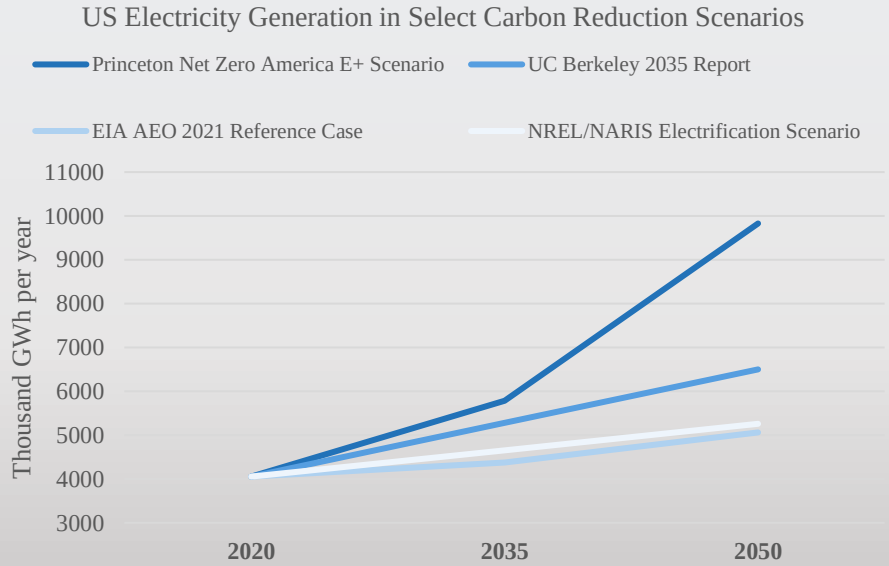
China Re-Open: With the ongoing re-opening of China underway, there has been a repricing of valuable resource inputs in metals like Nickel, Copper, Gold, etc. We expect **strong demand growth** in energy to correspond with the growth associated with China's re-opening



Government initiatives for energy infrastructure: During this historical period, governments in both developed and developing countries have focused on **building and maintaining a strong energy infrastructure**. This has driven the demand for more power generation. According to the International Energy Agency (IEA), in 2017, the global power sector **attracted $700 billion** in capital investment. As of 2017, the Asia-Pacific region was the leading region, with $1.67 trillion worth of investment in pipeline power generation construction projects, followed by the Middle East and Africa with $1.16 trillion each. Pipeline power generation projects in Europe and the Americas were valued at $921 billion and $931 billion, respectively. Government investment in power generation projects is driving the growth of this market to some extent.

Private Investment in fusion energy has surged over the last 20 years, with value nearly tripling in 2021



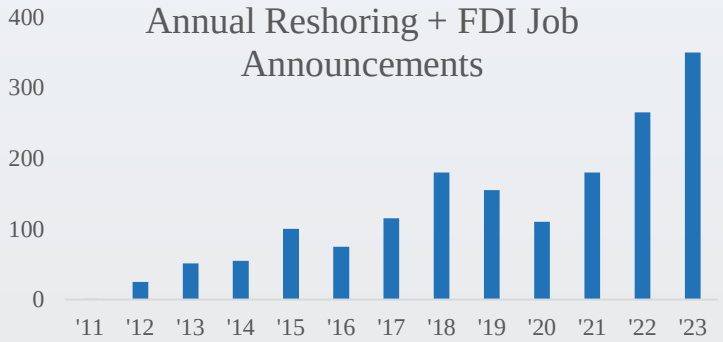


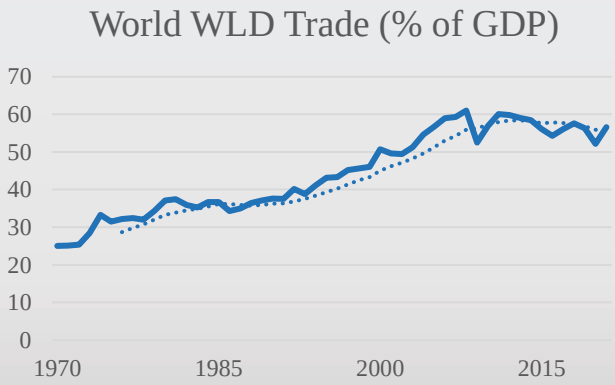
Macro Themes

Constellation is the clear choice given recent macro themes in America

"Reshoring"

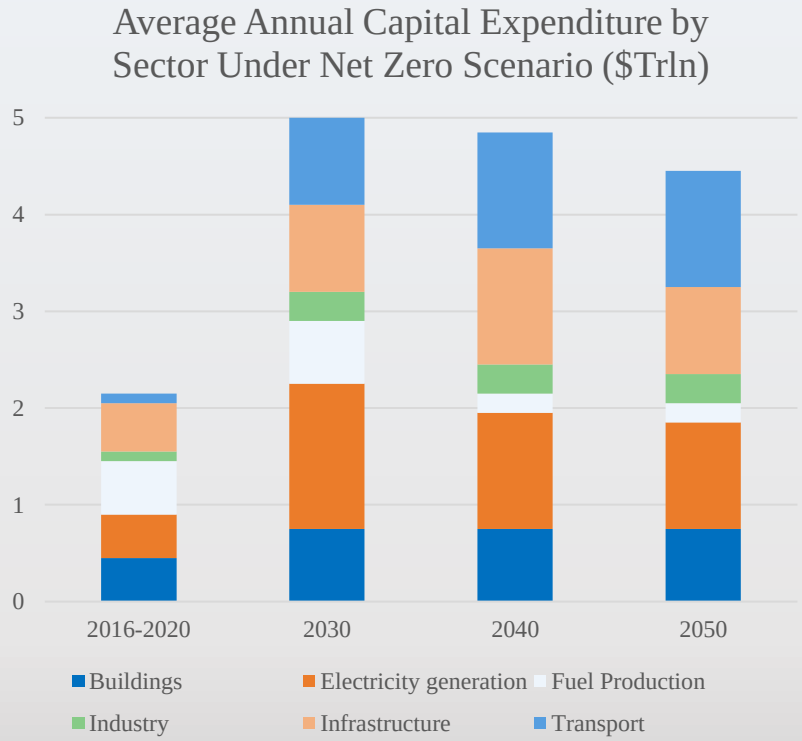
As global tensions rise, the deglobalization push includes re-shoring of industries, **reducing energy dependency on other nations**, and **providing additional infrastructure** for those on home soil. Global trade peaked **more than a decade ago.**





ESG and Climate Change Investment

As countries move towards their decarbonization goals, they will need to **increase spending**, and it will need to expand drastically over the next 10 years.
The net zero transition will require e**xtensive capital expenditure.**

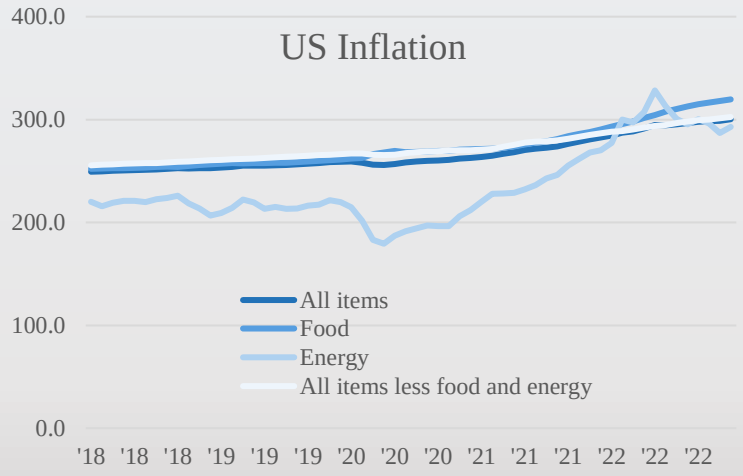


CEG is Inflation Insensitive

Drivers of inflation include
- Deglobalization
- Decarbonization
- Fiscal and Monetary Policy
- Among others

The sticky inflation hypothesis and "higher for longer" concepts keep i**nflation steadily higher** than we have seen in the past

Constellation is **inflation insensitive** as energy prices, ZEC credits and operations are inflation indexed

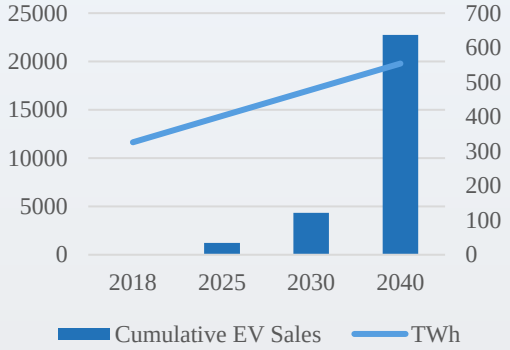


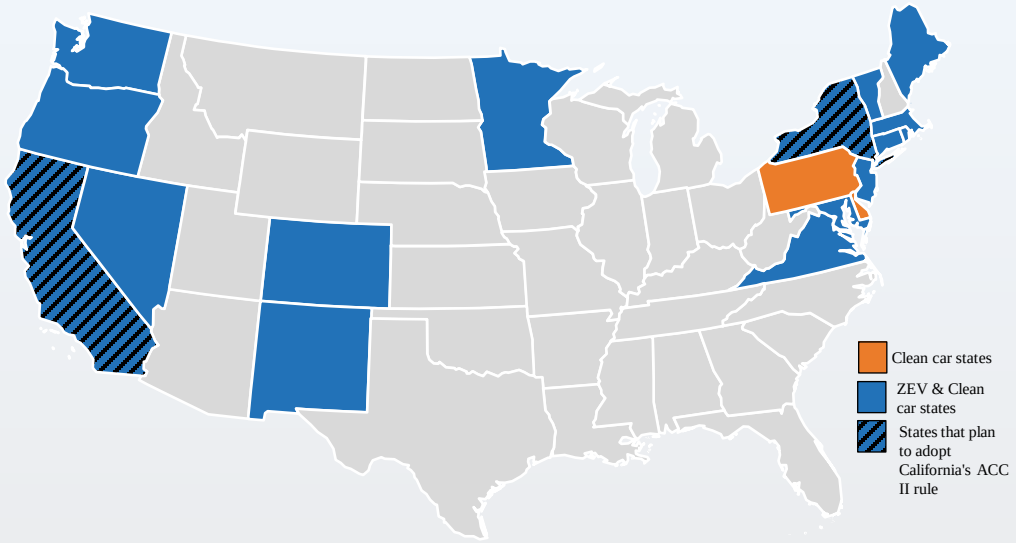
Governments' growing focus on de-carbonization and on-shoring will require significant capital investment, with additional impetus from investors prioritization of climate change and ESG considerations

Highlighted Trend: Expansion of Power Grid and Transportation Electrification

Constellation is the clear choice for servicing the expanding electricity demand for EVs

Utilities are expected to accelerate their EV infrastructure as **US EV market share exceeded 6% of new car sales in 2022** and strive towards ambitious goals





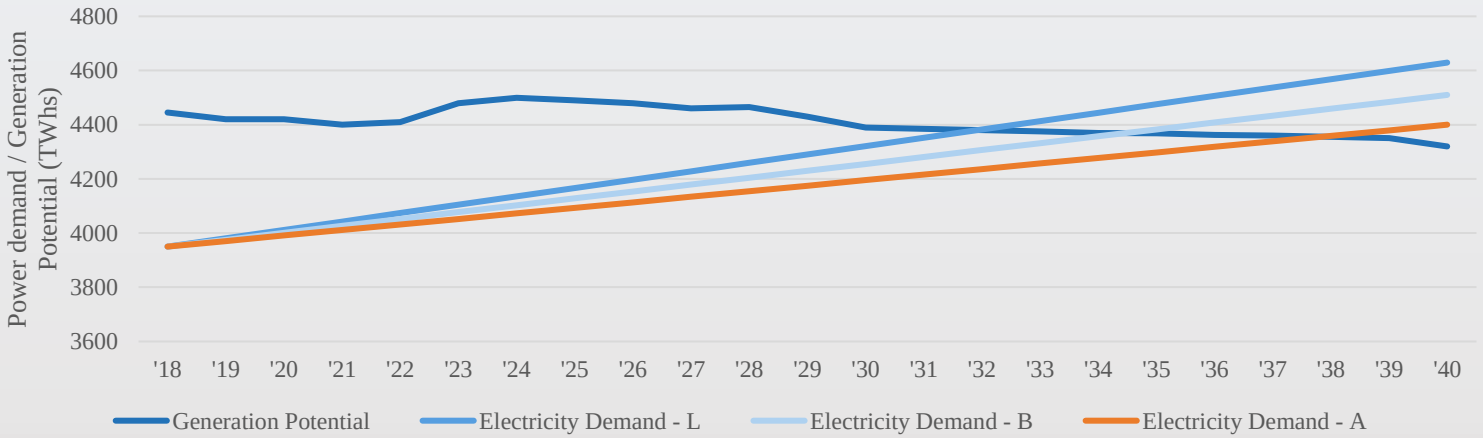
Key priorities include:

- **Supporting** charging infrastructure
- **Upgrading** distribution assets for increased load
- **Preparing** to manage new load with EV rates to encourage off-peak charging

With focus areas of:

- Vehicle grid **integration**
- Charging **infrastructure buildout**
- Medium and heavy-duty **vehicle uptake**

Charge Points are estimated to be **concentrated in homes**, requiring massive grid expansion, as they also act as their own computers, have LED screens and use their own power – will be target for advertisers



Charging Infrastructure

Networks are composed of individual charging stations, representing single-car charging points on a wider area

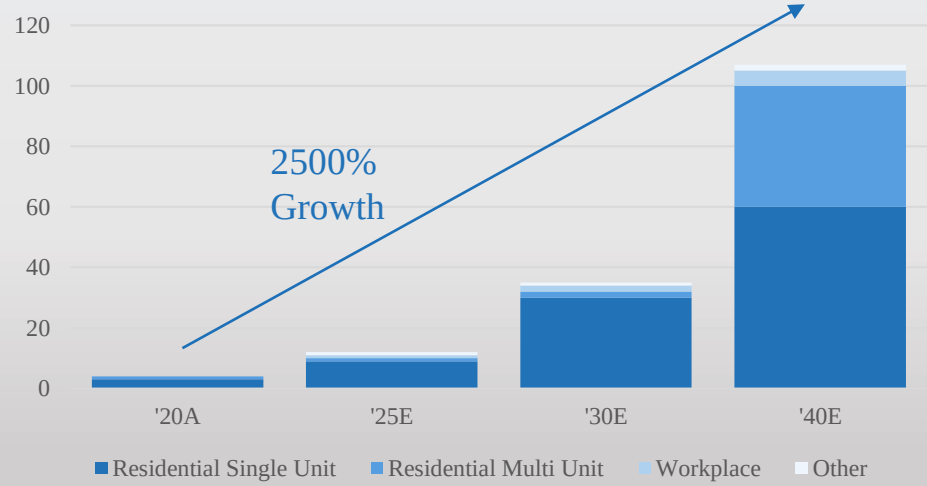
Charge Point Forecast

Today there are 4 million points in the US, becoming 10 times that by 2030. Estimates place 27 million EVs by 2030 and 65 million more by 2040

Segment Growth

In the next decade, we will likely see at-work and on-the-go stations begin to pop up. Anticipated to be 17% by 2030

EV Charge Points (Mlns)



EVs expected to add **7%** to **overall electricity demand** across the United States alone by 2040

Utilities beginning to explore business innovations like EV-specific dynamic pricing, decentralized storage units, and smart charging

EV integration is largely seen as **a revenue opportunity** rather than a CapEx spend

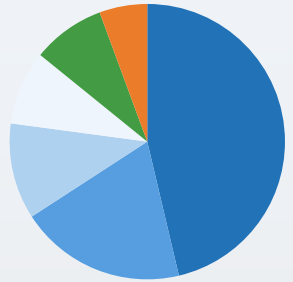
Aggressive scenarios include a **capacity gap** between what is required by EVs and what can be currently provided without significant power grid expansion. These gaps vary widely in estimates

Highlighted Trend: Expansion of Power Grid and Capacity vs. Electricity

Constellation is a near pure-play to capacity supply, as it begins its demand mismatch in the near future

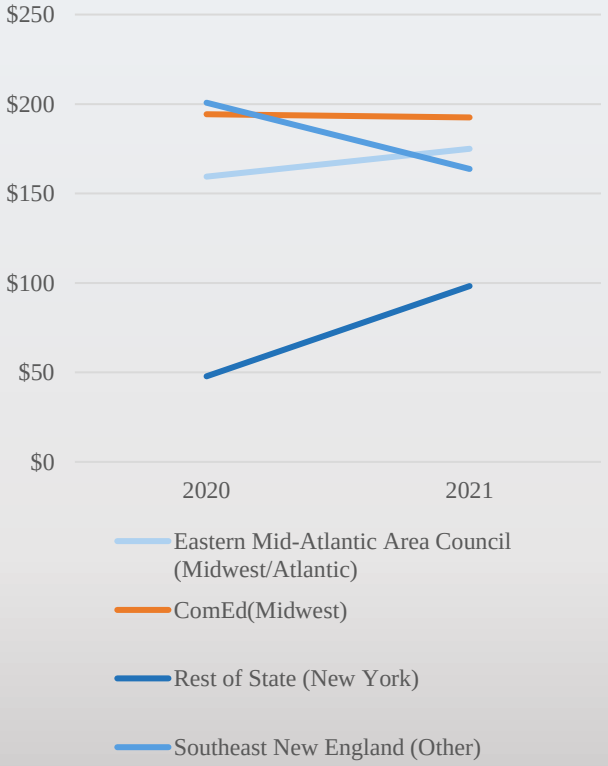
With the increase in renewable generation added to the grid each year, energy prices and capacity prices have generally trended lower, while ancillary prices and **resource adequacy prices have remained more stable and/or increased**. In most cases, the renewable energy added to the grid has been **to replace** fossil energy, but **not capacity**. In other words, the system **needs MWhrs more than MWs**. This trend will eventually lead to a scenario where on demand carbon-free capacity is needed and will be valued at a premium to intermittent resources, such as wind and solar. The state and federal levels' push to keep nuclear generation operating is a **clear sign** that many stakeholders recognize the value of on demand carbon-free generation.

Electrical Generation in the US by Fuel Type

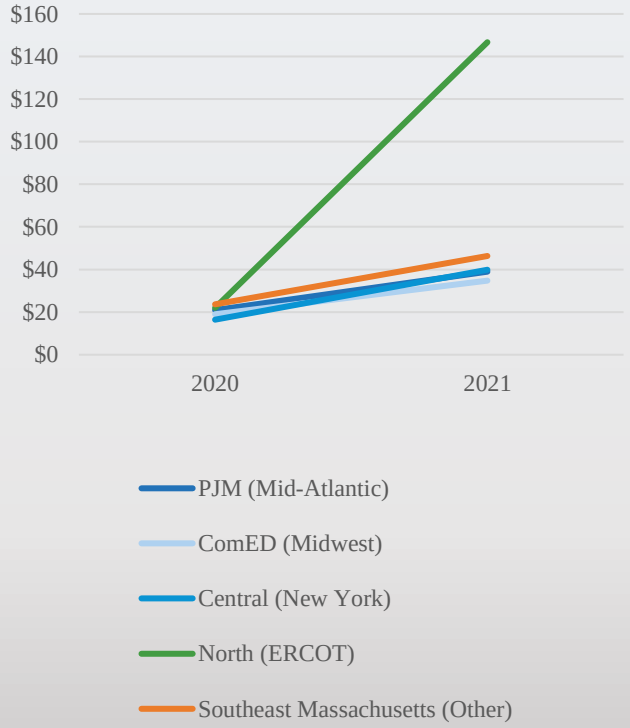


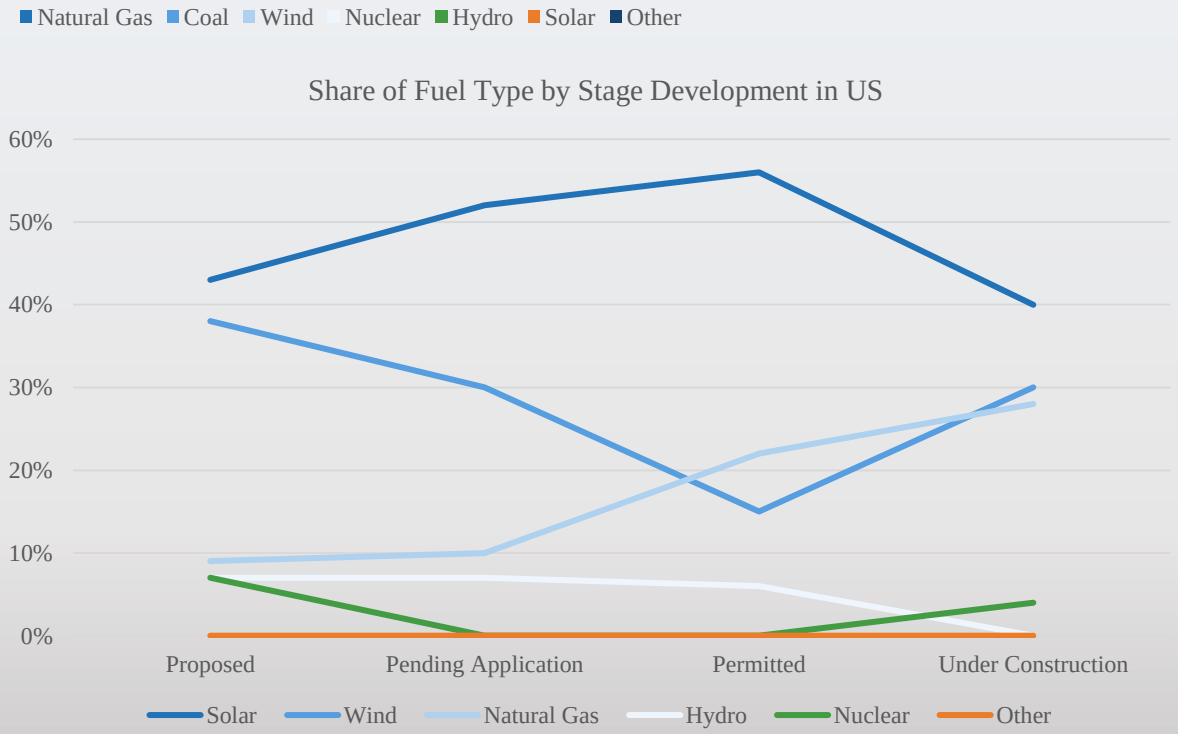
- Electrical Generation in the US is currently focused on MW production, with low-capacity factors
- There is a lack of increased development of high-capacity generators, leading to a future mismatch of on-demand energy production

Capacity Prices



Electricity Prices





Agenda

Investment Thesis

Competitive Advantage

Constellation has a very clear **infrastructure advantage** over other existing nuclear power generators. This competitive advantage is n**on-replicable** as regulation prevents easy access to the industry and capital requirements prevent all but the largest companies from joining.

Exposure to Nuclear

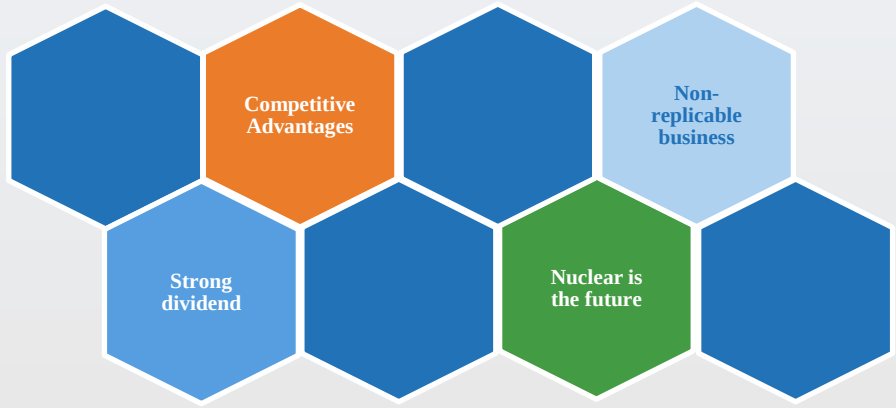
Constellation is positioned at the **forefront of nuclear power generation,** and de-carbonization of the rapidly expanding power grid.
Nuclear is the clear choice of carbon neutral capacity generation for the United States moving forward into the growing energy usage era.

Defensive Play

Constellation has a **unique spread** across the continental United States, diversifying its revenue, and end-customer.

In summary, our thesis contains these main points:

- Competitive Advantage
  - **Strong Free Cash Flows** through
    - Disciplined Operations
    - Diverse customer base, serving **75% of the Fortune 500**
    - Focus on cost structures
- Nuclear is the future
  - Its assets are **critical to meeting climate goals** set by governments and corporation across the US
  - Plants can run for **80 years**, longer than any other asset
  - Owns nearly **25% of the US nuclear fleet, producing double the next highest competitor**
- Its **price does not reflect its position** relative to its peers, or position to take advantage of future growth
- The business in **non-replicable**
- **Main option for institutional investors** too add to their energy exposure
- **$180M annual dividend, growing at 10%**



Constellation Energy provides an **asymmetrical payoff structure** over the medium to long term, because it is **undervalued** at its current price. The downside is covered extremely well through hedging practices and regulation, and they have the most exposure in the industry to the power source of the future.

Agenda

Fit into UTM Capital's Portfolio

Constellation is a clear addition which reduces volatility, and increases upside potential

Without Constellation Energy

Exposures

1 Yr Performance

Annual Dividend: $**68.53**
Capital Gains: -$**78.53**
Total Return: -**0.18%**

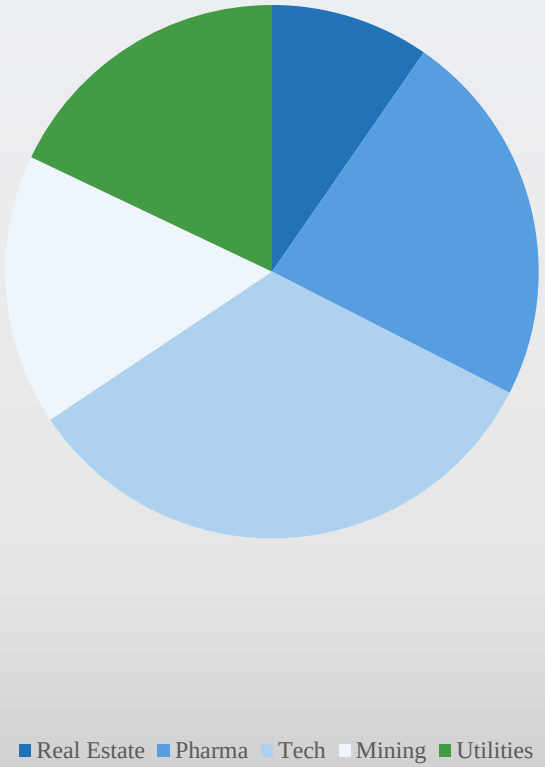
Sharpe Ratio: **0.00**
Treynor Ratio: **-0.02**

Risk

Standard Deviation: **13.55**
99% 1 Day VaR: **0.05**
99% ES: **0.06**

With 18% weighting in Constellation Energy

Exposures



1 Yr Performance

Annual Dividend: $**85.33**
Capital Gains: $**569.47**
Total Return: **9.79%**

Sharpe Ratio: **0.00**
Treynor Ratio: **0.04**

Risk

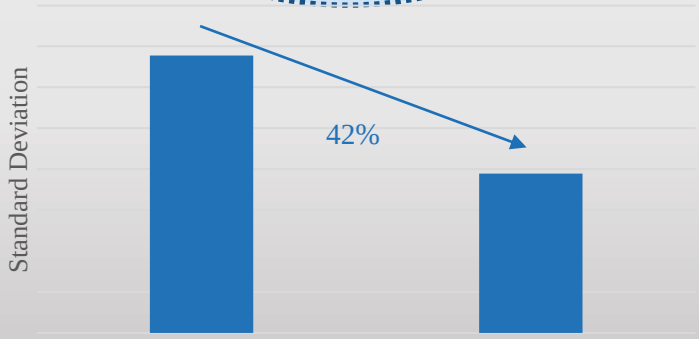
Standard Deviation: **7.79**
99% 1 Day VaR: **0.03**
99% ES: **0.04**

Formal Recommendation

UTM Capital should purchase 15 shares of $CEG at its current price because:

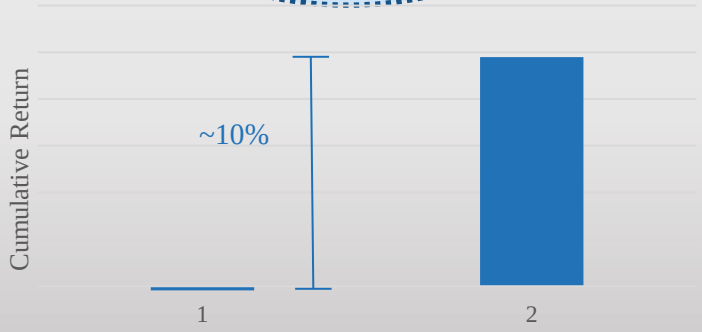
It de-risks the portfolio;

In the past year, would have brought volatility down by **~42%**



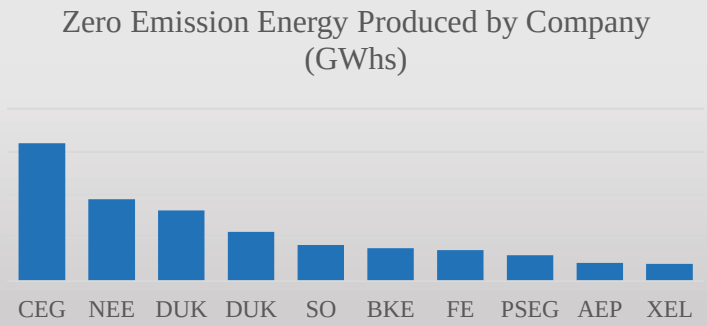
It provides strong shareholder returns;

In the past year, would have increased returns by **~10pp**



It has large exposure to the nuclear growth thesis;

Owns 25% of the US nuclear fleet, producing twice as much as the next highest competitor



Agenda

Agenda

Appendix

Without CEG

Basic Info											Total Returns			1 Year		
Company	Ticker	Shares	Average Price	Weight	Total Value	Dividend	Cap Gain	Beta	Industry/Sector	Sector		Dividend	Cap Gain	Total Return 1yr		
American home for rent	AMH-US	18	35.85	10%	$ 645.30	2.80%	-15%	0.67	Real Estate	Real Estat	10%	$ 18.07	-$ 96.80		Total Cumulative Re	-0.18%
Bristol myers squib	BMY	23	66.48	31%	$ 1,529.04	3.30%	9%	0.45	Pharma	Pharma	31%	$ 50.46	$ 137.61		Average Return	$ 0.00
Walt Disney Company	DIS	7	106.78	12%	$ 747.46	0	-14%	1.30	Tech	Tech	45%	$ -	-$ 104.64		Standard Deviation	$ 13.55
Enphase	ENPH	6	144.42	28%	$ 866.52	0	74%	1.48	Tech	Mining	14%	$ -	$ 641.22		99% 1 day VaR	-$ 0.05
MP materials	MP	31	35.47	14%	$ 1,099.57	0	-29%	2.79	Mining		100%	$ -	-$ 318.88		Shortfall	-$ 0.06
Block	SQ	4	150.47	5%	$ 601.88	0	-56%	2.35	Tech			$ -	-$ 337.05		Sharpe Ratio	0.000044
					$ 5,489.77			1.285				$ 68.53	-$ 78.53	-$ 10.00	Treynor Ratio	-0.03239066

With CEG

		Basic Info								total return				1 Year		
Company	Ticker	Shares	Average Price	Total Value	Weight	Industry/Sector	Sector		Beta	Dividend Yield	Dividend Annua	Cap Gain %	Cap Gain	total Return - 1 yr		
American home for rent	AMH-US	18	35.85	645.3	10%	Real Estate	Real Estat	10%	0.67	2.80%	$ 18.07	-15%	-$ 96.80		total Cumulative ret	9.79%
Bristol myers squib	BMY	23	66.48	1529.04	23%	Pharma	Pharma	23%	0.45	3.30%	$ 50.46	9%	$137.61		Average Return	$ 0.00
walt disney company	DIS	7	106.78	747.46	11%	Tech	Tech	33%	1.30	0	$ -	-14%	-$104.64		Standard Deviation	$ 7.79
enphase	ENPH	6	144.42	866.52	13%	Tech	Mining	16%	1.48	0	$ -	74%	$641.22		99% 1 day VaR	-$ 0.03
MP materials	MP	31	35.47	1099.57	16%	Mining	Utilities	18%	2.79	0	$ -	-29%	-$318.88		Shortfall	-$ 0.04
Block	SQ	4	150.47	601.88	9%	Tech			2.35	0	$ -	-56%	-$337.05		Sharpe Ratio	0.00004817
Constellation energy	CEG	15	80	1200	18%	Utility			1.01	1.40%	$ 16.80	54%	$648.00		Treynor Ratio	0.04284419
				6689.77					1.35562		$ 85.33		$569.47	$ 654.80		

Appendix

CEG - Valuation.xlsx

CEG -Comparable Companies Model.xlsx