Constellation

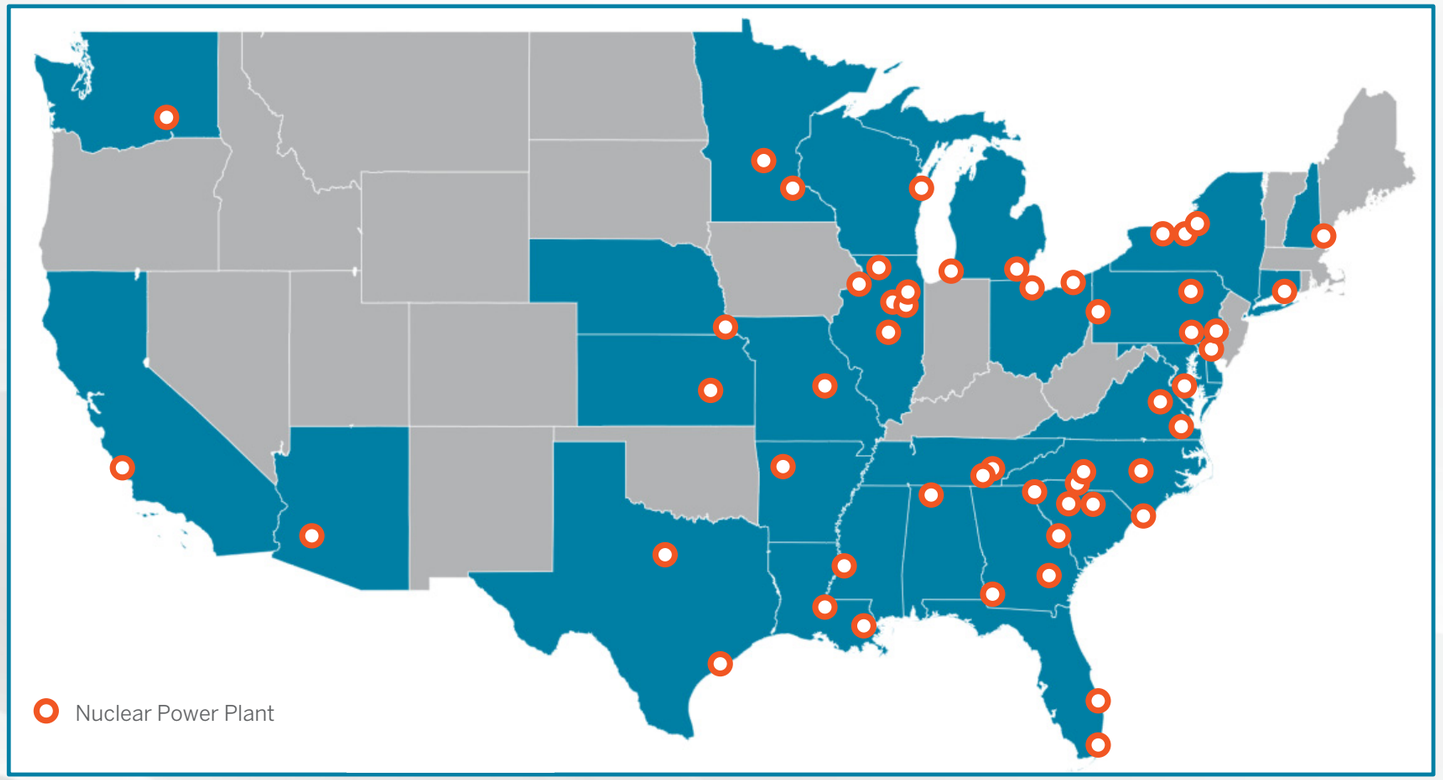
Nuclear 101

October 2023

Constellation

Nuclear Overview

Nuclear Power in the United States



92.6%
capacity factor

475K
direct and indirect jobs

45.5%
of carbon free electricity in the US

470M
metric tons of carbon emissions avoided in 2022

~18%
of U.S. electricity generation

104.8%
wage premium compared to national median pay (1)

93 Reactors

53 Plants

28 States

Source: https://nei.org/resources/fact-sheets/u-s-nuclear-plants
(1) www.usenergyjobs.org; Wages, Benefits and Change; https://static1.squarespace.com/static/5a98cf80ec4eb7c5cd928c61/t/606d1178a0ee8f1a53e66206/1617760641036/

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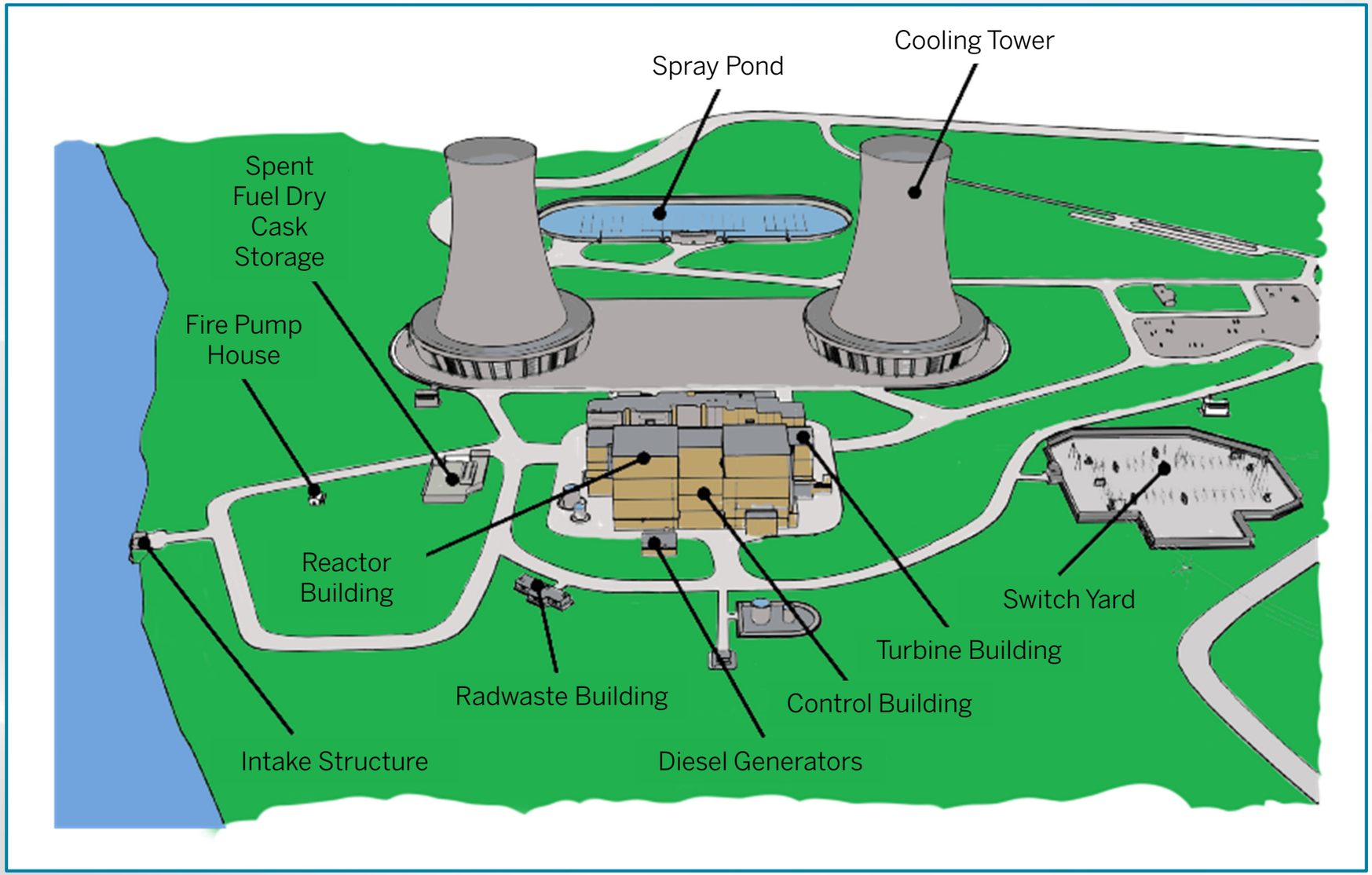
Illustrative Example of a Nuclear Site



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There Are Two Types of Light Water Reactors in Commercial Operation in the U.S.

Pressurized Water Reactors (PWR)

- The core inside the reactor vessel creates heat
- Pressurized water in the primary coolant loop carries the heat to the steam generator
- Inside the steam generator, heat from the primary coolant loop vaporizes the water in a secondary loop, producing steam
- The steamline directs the steam to the main turbine, causing it to turn the turbine generator, which produces electricity

Boiling Water Reactors (BWR)

- The core inside the reactor vessel creates heat
- A steam-water mixture is produced when very pure water (reactor coolant) moves upward through the core, absorbing heat
- The steam-water mixture leaves the top of the core and enters the two stages of moisture separation where water droplets are removed before the steam is allowed to enter the steamline
- The steamline directs the steam to the main turbine, causing it to turn the turbine generator, which produces electricity

Constellation owns and operates 14 BWR reactors

Constellation owns and operates 7 PWR reactors

Nine Mile Point Clean Energy Center

Source: https://www.nrc.gov/reactors/power.html

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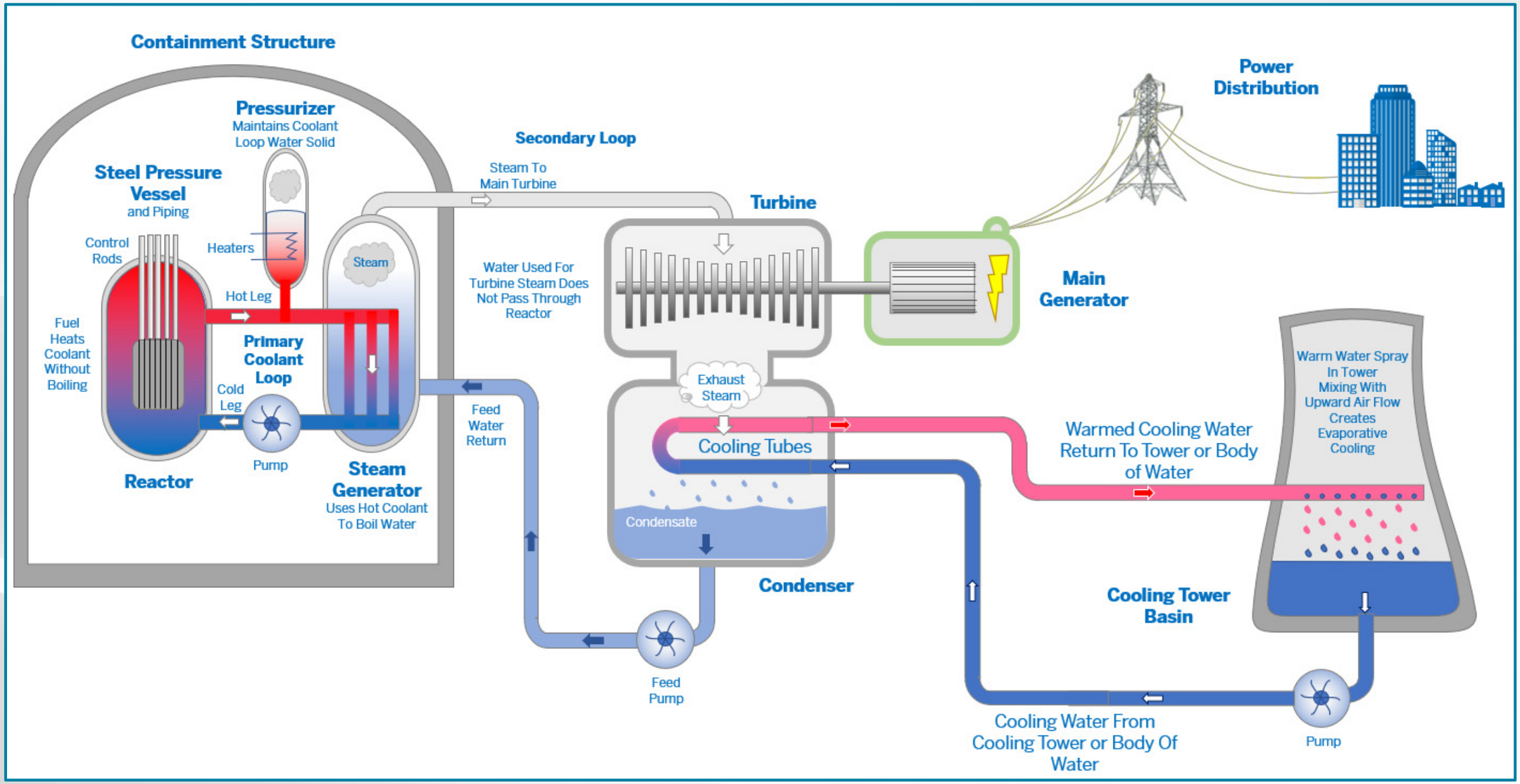
How Pressurized Water Reactors Generate Power



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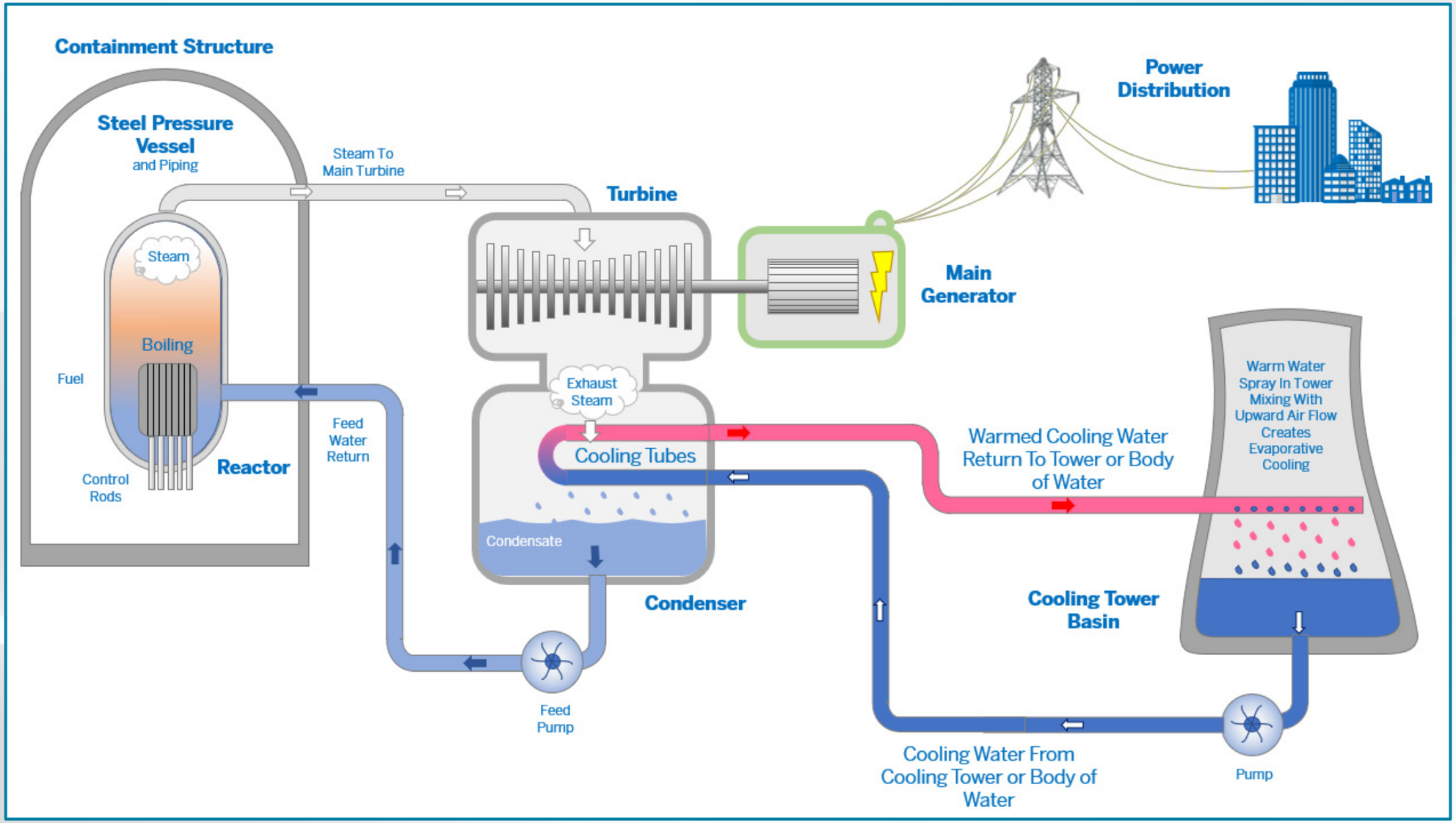
How Boiling Water Reactors Generate Power



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Significant Oversight of the Nuclear Power Industry and Culture of Continuous Improvement

The Nuclear Regulatory Commission (NRC)

Regulates commercial nuclear power plants and other uses of nuclear materials, through licensing, inspection and enforcement of its requirements

- The U.S. Nuclear Regulatory Commission (NRC) was created as an independent agency by Congress in 1974 to ensure the safe use of radioactive materials for beneficial civilian purposes while protecting people and the environment
- The NRC is headed by five Commissioners appointed by the President and confirmed by the Senate for five-year terms. One of them is designated by the President to be the Chair and official spokesperson of the Commission.
- Broad legal authority
  - Reasonable assurance of adequate protection of public health, safety, common defense and security
- Resident inspectors stationed at every plant

Institute of Nuclear Power Operations (INPO)

INPO is tasked with monitoring and evaluating appropriate safety standards

- INPO partners with members through a mix of integrated performance monitoring, evaluations, member support missions and peer reviews
- INPO:
  - accredits member training programs, ensuring they meet all regulatory standards
  - develops and shares operating experience, insights and continuous lessons learned to help each member achieve sustained excellence
  - Conducts regular assessments of each nuclear site to review licensee processes and performance to promote excellence
- All U.S. organizations that operate commercial nuclear power plants are members of INPO

Nuclear Energy Institute (NEI)

The Nuclear Energy Institute is the trade association for the nuclear technologies industry

- NEI's mission is to promote the use and growth of nuclear energy through efficient operations and effective policy
- Provides a unified industry voice before Congress, the executive branch, state and local legislatures, and federal regulators, as well as international organizations and venues, on key policy issues
- NEI is governed by a board of directors, which includes representatives from 20 nuclear utilities, major nuclear suppliers, advanced nuclear technology companies and other segments of NEI membership

Sources: www.nrc.gov/about-nrc; www.inpo.info; www.nei.org/about-nei

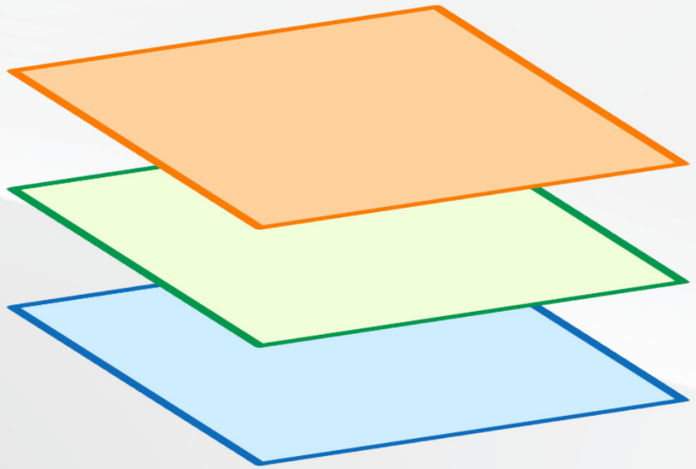
Constellation, Industry Groups and the NRC Work Together to Create a Robust Framework to Ensure Adequate Emergency Preparedness

NRC

- Constantly evaluates new threat scenarios and protections in emergency preparedness
- Reviews and approves emergency response plans and coordinates approval with the Federal Emergency Management Agency Resident Inspectors
- Quarterly Performance Measures
- NRC Inspection Teams

External

- Nuclear Safety Review Board
- American Nuclear Insurers
- Nuclear Electric Insurance Limited
- INPO
- World Association of Nuclear Operators



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- All nuclear energy facilities in America are required to develop and test detailed emergency response plans to protect the public, reviewed by the NRC
- Constellation invests millions of dollars every year to be prepared for man-made and natural disasters. We also train local first responders and emergency personnel.
- Regularly test emergency plans with local, state, and federal emergency response organizations
- Continuous monitoring and rigorous inspection
- Redundant safety systems
- Multiple layers of strict security

Constellation

The Nuclear Industry is Highly Collaborative

Cooperation in Nuclear

Lessons learned in the industry are quickly disseminated to other operators across the country

Safety Enhancements

Process Improvements

Precautionary Measures

FLEX Plan

- After the earthquake-related accident at Japan's Fukushima Daiichi facility in 2011, the **U.S. nuclear industry created the FLEX plan**, a major step in addressing the critical problems encountered in the incident – loss of power and reactor cooling capability
- In the FLEX plan, **vital back-up emergency equipment**—generators, battery packs, pumps, air compressors, and battery chargers—**is stored on site at each nuclear facility and at two regional secure, offsite locations across the country**. In a system with layers of built-in redundancy, FLEX provides yet another layer of backup power after a catastrophic event.

FitzPatrick Clean Energy Center

Constellation

Focus on Training, Safety, and Security

Extensive Training for Operators

- It takes two years to complete the training program to receive an operator's license
- Once licensed, operators continue training by spending one week in a control room simulator for every five weeks spent on shift in control room, equivalent to 8.5 weeks of training per year
- More continuous training than both pilots and physicians

Safety and Security is a Top Priority

- The U.S. Nuclear Regulatory Commission requires all nuclear plants to be able to withstand the most severe natural phenomena historically reported in a 200-mile area around each plant
- Well-armed paramilitary security force—and after September 11, 2001, multiple backup security systems—delivers layer upon layer of safety
- The nuclear energy industry maintains very strict security to prevent unauthorized persons from gaining access to critical equipment or approaching close enough to harm the facility either by land or air

Constellation

Firm Nuclear Power Plays a Unique Role in the Fight Against the Climate Crisis

Firm Carbon-Free
Nuclear power provides firm carbon-free electricity while displacing fossil fuels in applications requiring a continuous power supply

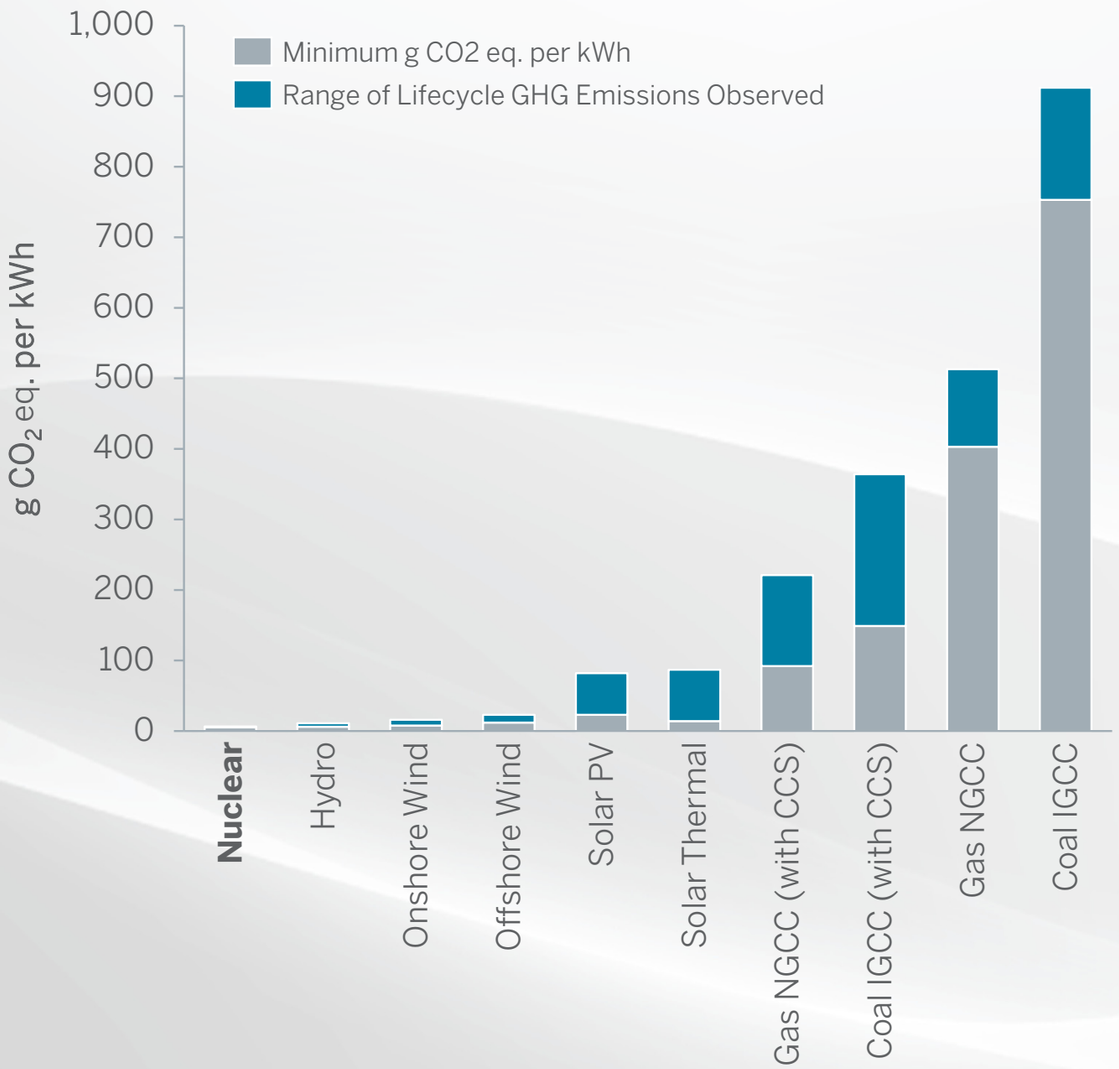
Resilient
Nuclear power has onsite fuel for 18-24 months, providing resilient and reliable power every season, no matter the weather

Variable Renewables
Nuclear power can support higher deployment of variable wind and solar generation without the need for backup capacity from fossil fuel generation

License Renewals
Second license renewals will extend carbon-free production to 80-years – more than 3 times the useful life of renewables and 2 times the useful life of coal

Constellation

Nuclear Has the Lowest GHG Lifecycle Emissions of Power Generators (1)

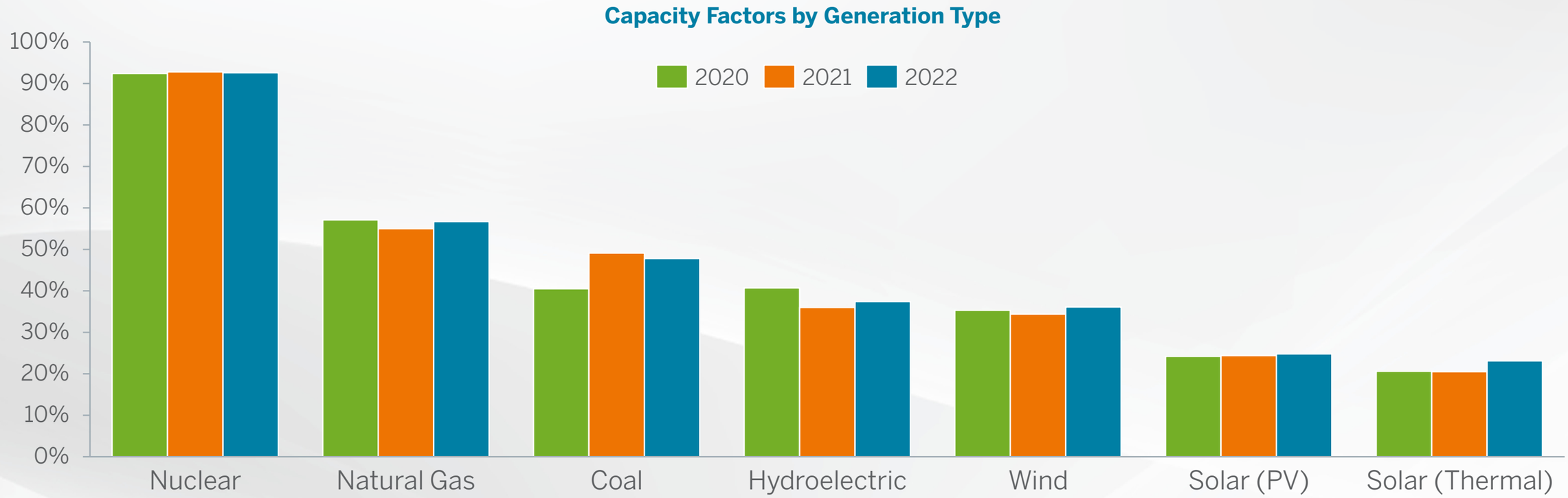


Dresden Clean Energy Center

(1) Source: https://unece.org/sites/default/files/2022-04/LCA_3_FINAL%20March%202022.pdf

Constellation

Nuclear is the Most Reliable Form of Generation (1)



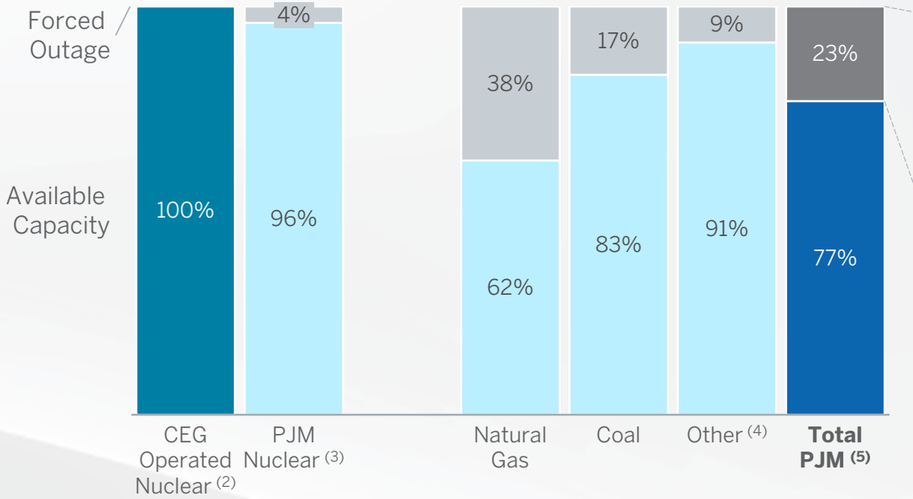
(1) Source: https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=table_6_07_a, and, https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=table_6_07_b

Constellation

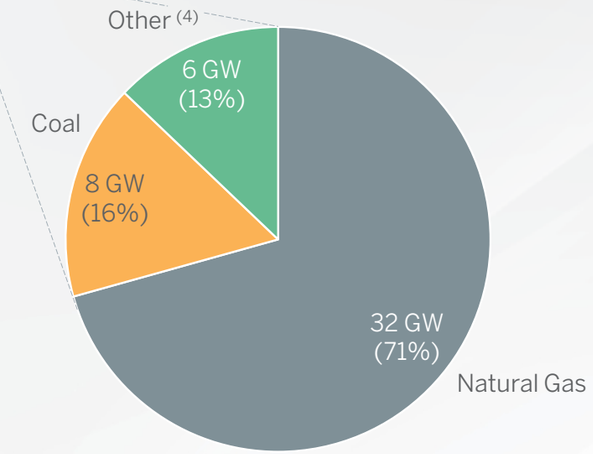
Nuclear Keeps the Lights On, Fossil Fails During PJM Grid Emergency

- Between December 23-25 2022, Winter Storm Elliott brought record-setting low temperatures to the PJM region, **threatening the reliability of the grid and safety of Americans**
- **Nuclear power provided the resiliency and reliability** needed by the grid to prevent catastrophic blackouts
- **Constellation's operated nuclear fleet ran at 100% during the event (1)**
- Fossil failed to perform. **23% of PJM capacity failed, nearly 90% of the outages were fossil.**
- PJM was forced to issue emergency conservation alerts, which were **followed by alerts from utilities, governors' offices, and media outlets**

Forced Outage vs. Available Capacity



Total Forced Outages (5)



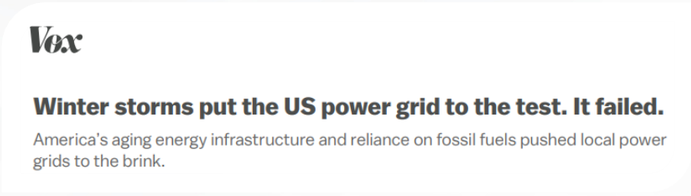

Bloomberg

Live Now Markets Economics Industries Technology Politics Wealth Pursuits Opinion Businessweek Equality

Green
Weather & Science

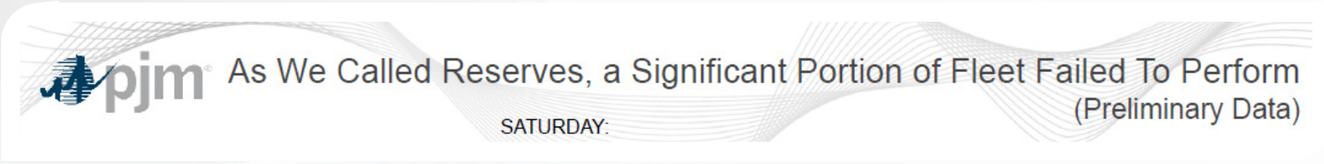
Deadly Winter Storm Exposes Deep Flaws of US Energy System

- Natural gas supplies plunged as wells froze, pipelines failed
- Millions faced temproary blackouts as extreme cold set in


Vox

Winter storms put the US power grid to the test. It failed.

America's aging energy infrastructure and reliance on fossil fuels pushed local power grids to the brink.

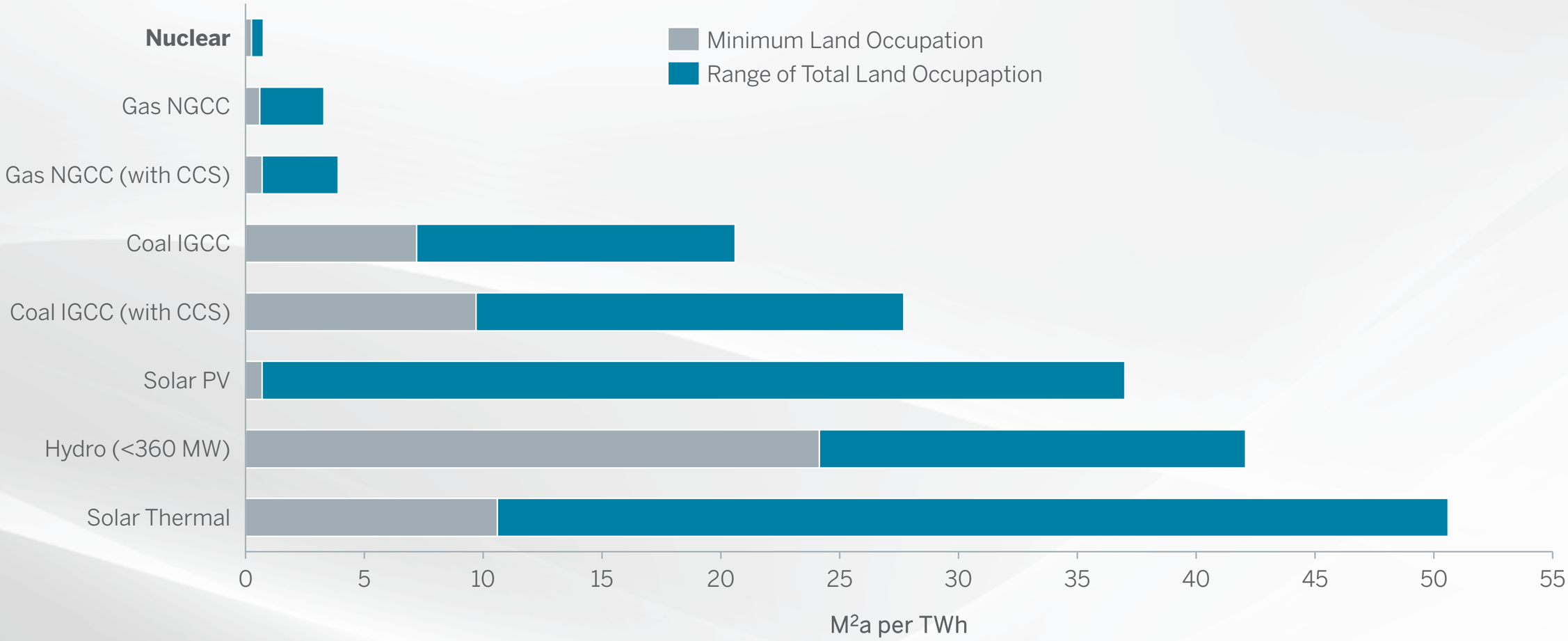

pjm As We Called Reserves, a Significant Portion of Fleet Failed To Perform
(Preliminary Data)

SATURDAY:

(1) Source: https://www.nrc.gov/reading-rm/doc-collections/event-status/reactor-status/2022/index.html
(2) Does not include minority ownership share of Salem, which Constellation does not operate
(3) Source: https://www.nei.org/news/2023/nuclear-saves-the-holiday-season
(4) Other includes nuclear, oil, wind, and solar
(5) Source: https://pjm.com/-/media/committees-groups/committees/mic/2023/20230111/item-0x---winter-storm-elliott-overview.ashx

Constellation

Nuclear Requires the Least Amount of Land of Any Generation Source (1)

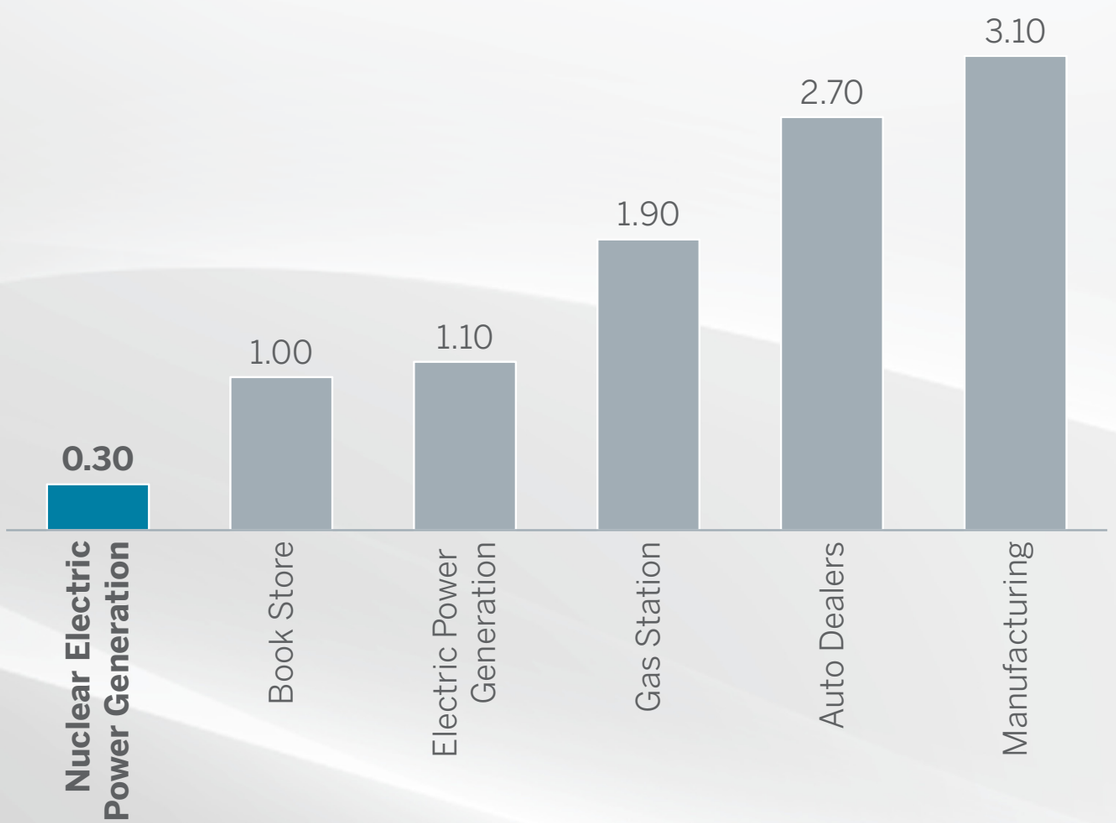


(1) https://unece.org/sites/default/files/2022-04/LCA_3_FINAL%20March%202022.pdf; https://unece.org/sites/default/files/2022-07/Corrigendum%20to%20UNECE%20LCA%20report%20-%20land%20use.pdf

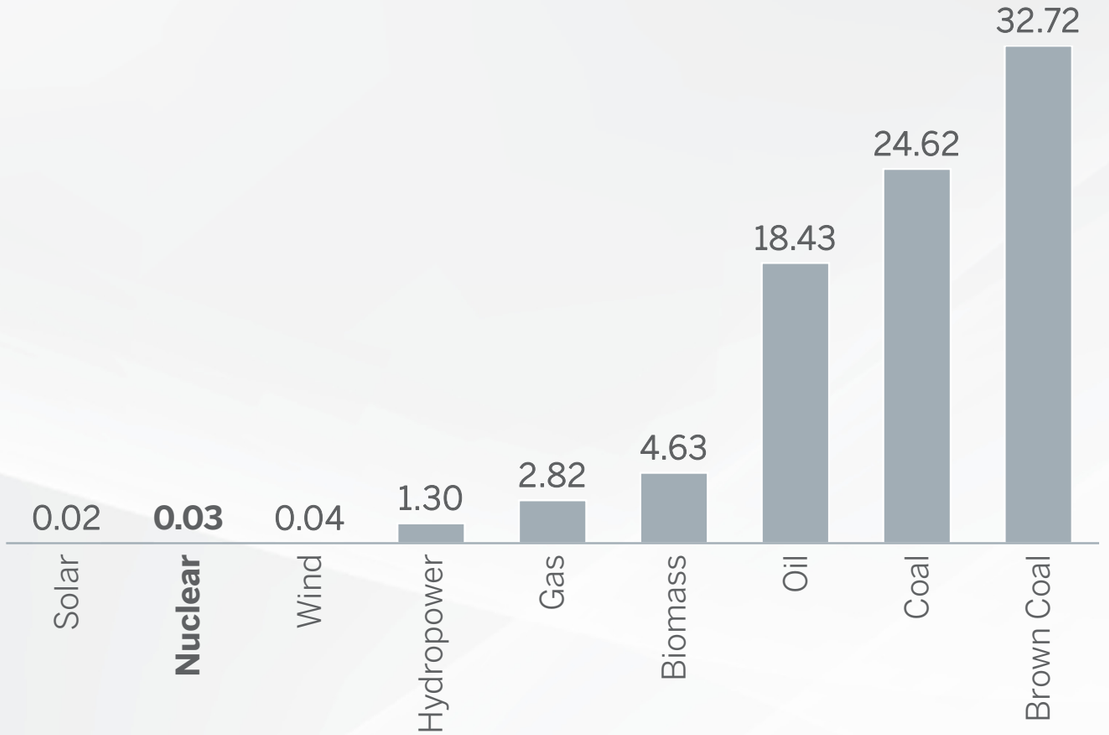
Constellation

Nuclear is One of the Safest Work Environments and Forms of Power Generation

Incidence Rates of Nonfatal Occupational Injuries and Illness per 100 Full-Time Equivalent Workers (1)



Nuclear Has One of the Lowest Mortality Rates per TWh of Electricity (2)



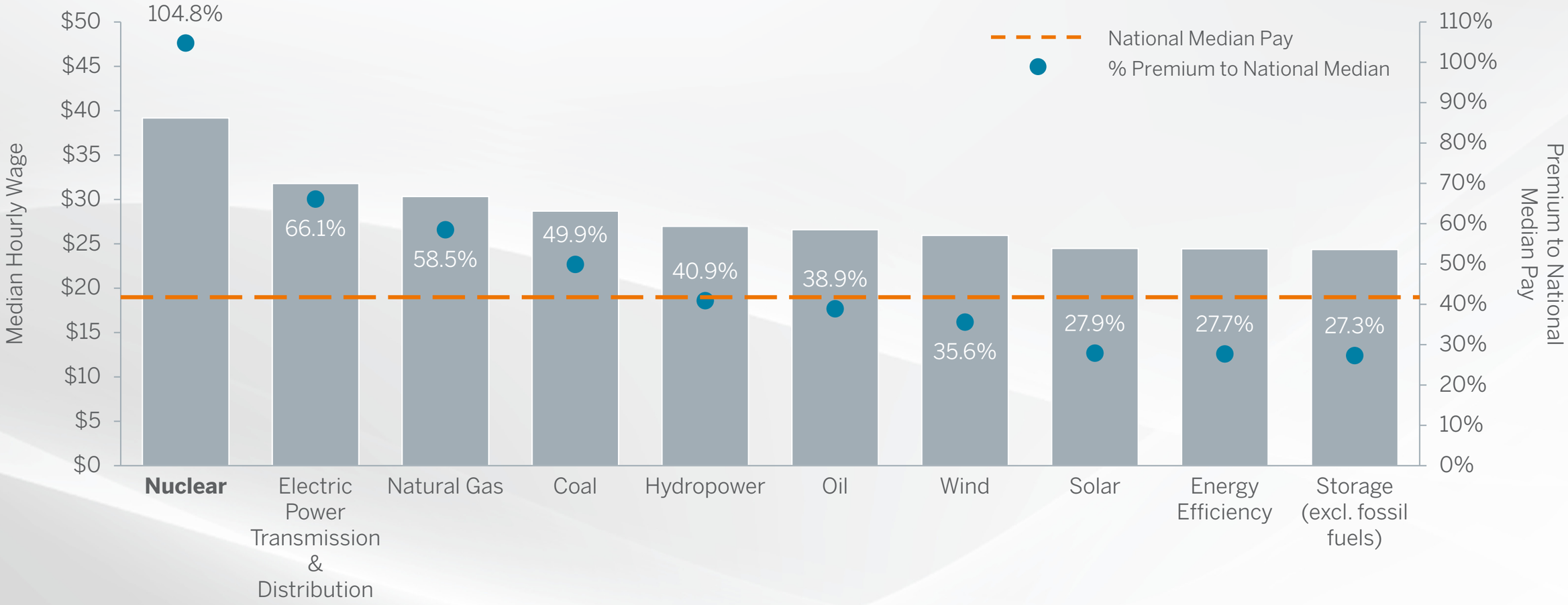
Working at a nuclear plant is three times safer than working at a book store

(1) Source: U.S. Bureau of Labor Statistics Incidence rates of nonfatal occupational injuries and illnesses by injury and case types, 2020. https://www.bls.gov/web/osh/summ1_00.htm#soii_n17_as_t1.f.1.

(2) Source: https://ourworldindata.org/grapher/death-rates-from-energy-production-per-twh; mortality rates are measured based on deaths from accidents and air pollution per terawatt-hour (TWh) of electricity

Constellation

The Nuclear Industry Has a Higher Median Hourly Wage Than Others in Energy and Pays Higher Than the National Median (1)



(1) www.usenergyjobs.org; Wages, Benefits and Change; https://static1.squarespace.com/static/5a98cf80ec4eb7c5cd928c61/t/606d1178a0ee8f1a53e66206/1617760641036/

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Annual Radiation Emissions from Nuclear Are Extremely Low

Putting radiation concerns in context of bananas:
Bananas contain a natural source of radiation from potassium-40 isotopes

Living within 50 Miles of a Nuclear Power Plant (1 Year)	< 1	
Airport Security Scan	2.5	
Dental X-Ray	50	
1 Day on Earth	100	

Flight from NY to LA	400	
Living in a Concrete, Stone or Brick Building (1 Year)	700	
6 Months of Eating Food	4,000	
CT Scan	100,000	

Source: https://www.universityofcalifornia.edu/news/what-know-you-go-bananas-about-radiation

Constellation

Process for Subsequent License Renewal

- Under the Atomic Energy Act, reactor licenses are limited to an initial period of 40 years. This was based on antitrust considerations, not limitations in the technology.
- NRC permits nuclear reactor licensees to renew license periods for an additional 20 years, from 40 to 60 years; NRC also allows for subsequent license renewal for an additional 20 years from 60 to 80 years
- The scope of a license renewal is narrowly limited to plant aging management and is not intended to be a complete relook at the plant's license
- Total process takes approximately four years
  - Process takes approximately 22 months to develop the license renewal application
  - NRC's review of license renewal application takes between 18 months to two years
    - Scope of review is limited to ensuring plant will take appropriate steps to mitigate effects of aging during license renewal period (i.e. Aging Management Programs)
- Applicant must also submit an environmental report used by NRC in development of an Environmental Impact Statement (EIS). NRC is required to do analysis under the National Environmental Policy Act (NEPA).
  - This environmental review is also limited in scope to matters for which there could be an environmental impact during the renewal period
  - NRC has generically determined that about 70% of the environmental issues associated with license renewal have little to no environmental impact, which is documented in a Generic EIS for License Renewal (GEIS). In April 2022, the Commission approved a plan to update the NRC's generic environmental analysis and regulations in 2024.
- NRC must offer the public an opportunity for an adjudicatory hearing on each license renewal application. Hearings can result in changes to the applicant's proposed Aging Management Programs, but this is extremely rare.

Constellation

Nuclear Uprates Allow an Operator to Increase the Maximum Power Level of a Plant

Nuclear Uprates

Nuclear uprating is the process of increasing the maximum power level at which a plant may operate

- **Measurement Uncertainty Recapture Uprates (MUR)** – The goal of a MUR, which generally involves the installation of new state-of-the-art flow measurement devices, is to achieve a thermal power increase of up to 1.7 percent, which results in an increase in electrical power output
- **Extended Power Uprates (EPU)** – The goal of an EPU, which usually requires significant modifications to major pieces of equipment, is to achieve a power increase approaching 20 percent of the original thermal power level
- **Stretch Power Uprates** –Stretch power uprates typically result in an increase in production capacity of up to 7 percent and are within the design capacity of the plant. Stretch power uprates usually involve changes to instrumentation setpoints but do not involve major plant modifications.
- **Thermal Efficiency Uprates** - The goal of a thermal efficiency uprate, which involves installation of higher efficiency equipment (e.g., turbines), is to achieve a power output increase for the same power input

45Y Credits

- The new Section 45Y PTC is a $27.50 /MWh technology neutral credit, growing with inflation, available for any new zero-carbon emitting power source
- The credit is available for a qualified facility starting 1/1/2025 and runs for a 10-year period after the facility is placed in service
- If a Section 45Y PTC is claimed for an uprate, the increased nuclear production from the uprate would not be eligible for the Section 45U nuclear PTC

Constellation Announced Projects

- Increasing nuclear output by ~135 MWs at Byron and Braidwood
- Anticipate uprate MWs to be phased in starting in 2026 with full implementation by 2029 based on timing of the turbine installations during planned refuel outages

Constellation

Nuclear Fuel Cycle – Front End (1)

Mining and Milling

- Uranium mining can be done through conventional methods (surface mining, open pits, underground) or non-conventional methods (in-situ recovery)
- Uranium milling process results in uranium concentrate (U_3O_8), commonly referred to as "yellowcake"

Conversion

- U_3O_8 is then converted to uranium hexafluoride (UF_6)
- UF_6 is a solid at room temperature but can be transformed to a gas at higher temperatures, which is required for enrichment

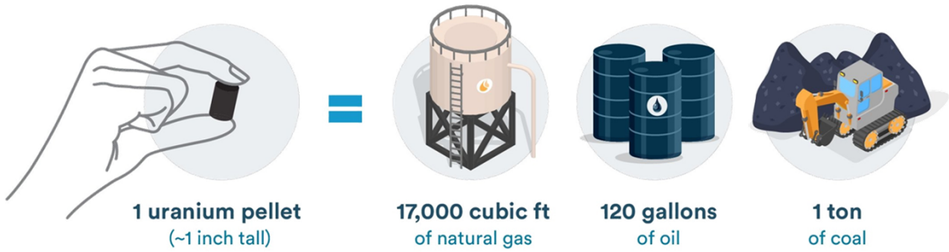
Enrichment

- When uranium is mined, milled and converted, only approximately 0.7% is U235, the uranium isotope needed for most commercial nuclear fuel
- Enrichment is the process in which the concentration of the U235 isotope in the uranium hexafluoride is increased from 0.7% to 3%-5%, which is the level used by most nuclear reactors

Fabrication

- Fabrication plants convert enriched uranium into uranium oxide (UO_2) powder and form that into small ceramic pellets
- These pellets are loaded into fuel rods and combined to form fuel bundles or assemblies, which are then shipped to reactors

Nuclear fuel is extremely dense compared to other fuel resources (2)



(1) Source: https://www.eia.gov/energyexplained/nuclear/the-nuclear-fuel-cycle.php
(2) Source: https://www.energy.gov/ne/articles/3-reasons-why-nuclear-clean-and-sustainable

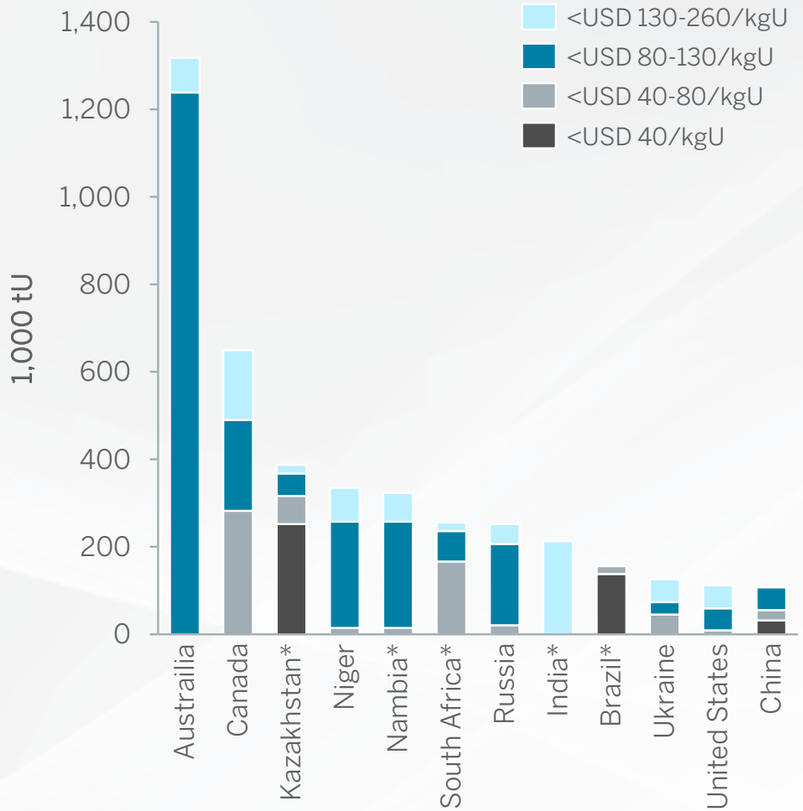
Constellation

Uranium is Relatively Abundant

Global Distribution of Identified Resources
(<USD 130/kgU as of 1 January 2021)

*Secretariat estimate or partial estimate

Distribution of Reasonably Assured Resources (RAR)



95% of the global distribution of identified conventional resources are spread across 16 countries

Source: NEA/IAEA (2023), Uranium 2022: Resources, Production and Demand, OECD Publishing, Paris, https://doi.org/10.1787/2c4e111b-en
Source: 95% represents <USD 130/kgU cost category as of 1 January 2019; Source: Uranium 2020:

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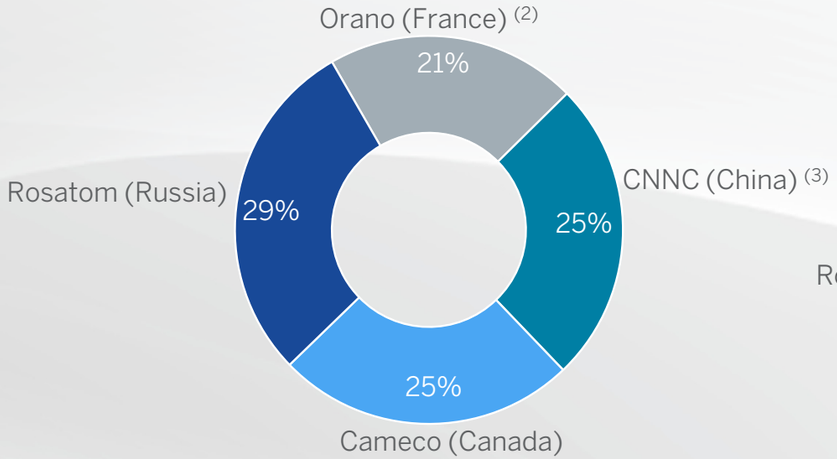
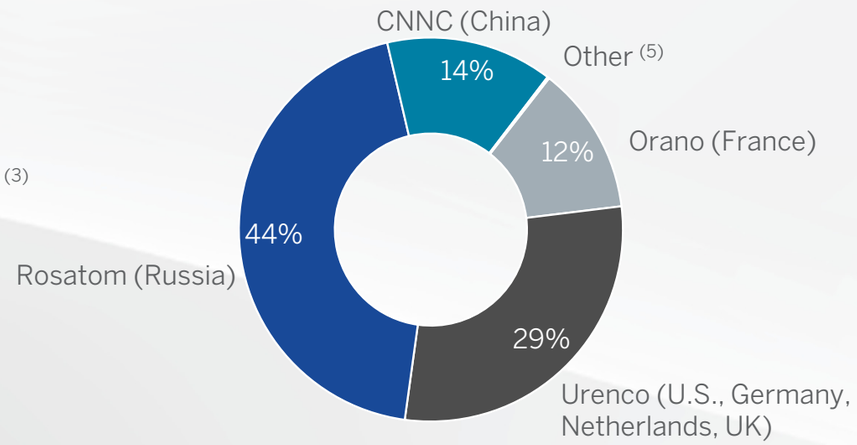
Conversion, Enrichment and Fabrication

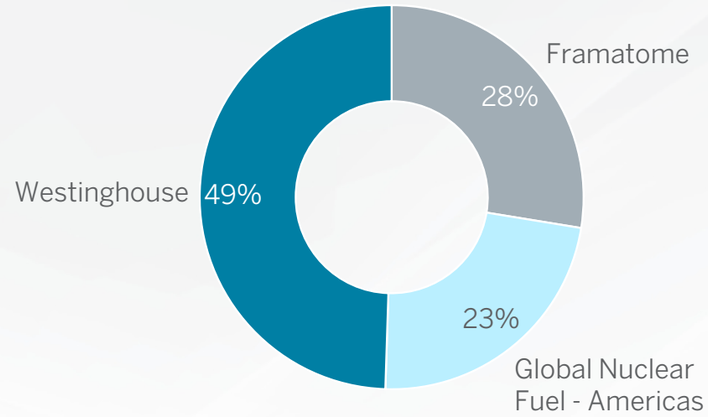
2022 Conversion
(% Total Capacity Utilization) (1)



Enrichment
(% Total Capacity)



Fabrication
(% U.S. Capacity) (6)



Note: ConverDyn (U.S.) (4) was not operating in 2022

Sources: World Nuclear Association: https://www.world-nuclear.org/information-library/nuclear-fuel-cycle/conversion-enrichment-and-fabrication.aspx and *The Nuclear Fuel Report, Global Scenarios for Demand and Supply Availability 2023-2040*

(1) Based on 2022 Total Capacity utilization
(2) Orano's conversion facility is in the process of production ramp-up, which is expected to be finalized in the coming years
(3) Estimated capacity according to the assumption that China will develop its conversion capacity to supply the needs of the domestic reactor fleet
(4) ConverDyn (U.S.) reduced capacity of its Metropolis plant in 2016 and then subsequently closed in 2017. In January 2021, it announced plans to restart the plant in 2023 after refurbishment. The plant restarted July 2023 and is ramping up production. When the plant is at its targeted production levels, it is anticipated to produce 14% of the global capacity utilization, with Cameco at 22%, CNNC at 21%, Orano at 18%, and Rosatom at 25%.
(5) Other includes JNFL (Japan), Resend (Brazil), Rattehallib (India), and Natanz (Iran)
(6) Represents capacity for assembling fuel rods of three U.S. fabricators; there is not substantial use of overseas fabricators

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Additional Western Uranium Enrichment Has Been Announced and has Strong Congressional Support

United States:

- **Urenco USA** – expansion announced in New Mexico, to increase capacity by 15%
- **Centrus** – commissioning its High-Assay, Low-Enriched Uranium (HALEU) demonstration project in Ohio

France:

- **Orano** – announced planned increase to its production capacity by 30%

U.S. House of Representatives:

- H.R. 1042 (McMorris Rodgers) Prohibiting Russian Uranium Imports Act (Energy & Commerce)
  - *Bill was approved and reported out by the House Energy & Commerce Committee by a vote of 29-21*
- H.R. 4394 (Fleischman) Energy & Water Development Appropriations Act for Fiscal Year 2024 (Appropriations)
- H.R. 5718 (Latta-Clyburn) Nuclear Fuel Security Act (Energy & Commerce)

United States Senate:

- S. 452 (Manchin) Nuclear Fuel Security Act (Energy & Natural Resources)
  - *Bill was approved and reported by the Energy & Natural Resources Committee*
  - *Bill was added to the National Defense Authorization Act (NDAA) by a vote of 96-3*
- S. 763 (Barrasso) Reduce Russian Uranium Imports Act (Energy & Natural Resources)
- S. 2226 (Reed) National Defense Authorization Act (Armed Services)

Constellation

Disposal of Nuclear Fuel is the Responsibility of the U.S. Government

- Under the Nuclear Waste Policy Act (NWPA) of 1982, DOE is responsible for the development of a permanent geologic repository for the disposal of spent nuclear fuel and high-level radioactive waste from existing nuclear plants

- As required by the NWPA, Constellation is a party to contracts with the DOE (the "Standard Contract") requiring DOE to take possession and dispose of Constellation's spent nuclear fuel

- Under the terms of the NWPA and Standard Contract, DOE was required to begin taking possession of spent nuclear fuel no later than January 1, 1998. The DOE failed to meet that deadline and effectively discontinued work on the geologic repository (Yucca Mountain) in 2010.

- Under several settlement agreements with DOE, DOE is required to reimburse Constellation for most of the costs associated with storage of spent nuclear fuel at our nuclear stations caused by DOE's breach

- Notwithstanding the fact that DOE is not actively pursuing Yucca Mountain, it continues to work on "consent based siting" of either a permanent repository or interim storage

Sources: Office of Nuclear Energy, U.S. Department of Energy, Nuclear Regulatory Commission, Scientific American

Constellation

Spent Nuclear Fuel is Safely and Securely Stored

We know where every ounce of nuclear fuel is located: 100% of spent nuclear fuel is contained, numbered, catalogued, tracked and isolated from the environment

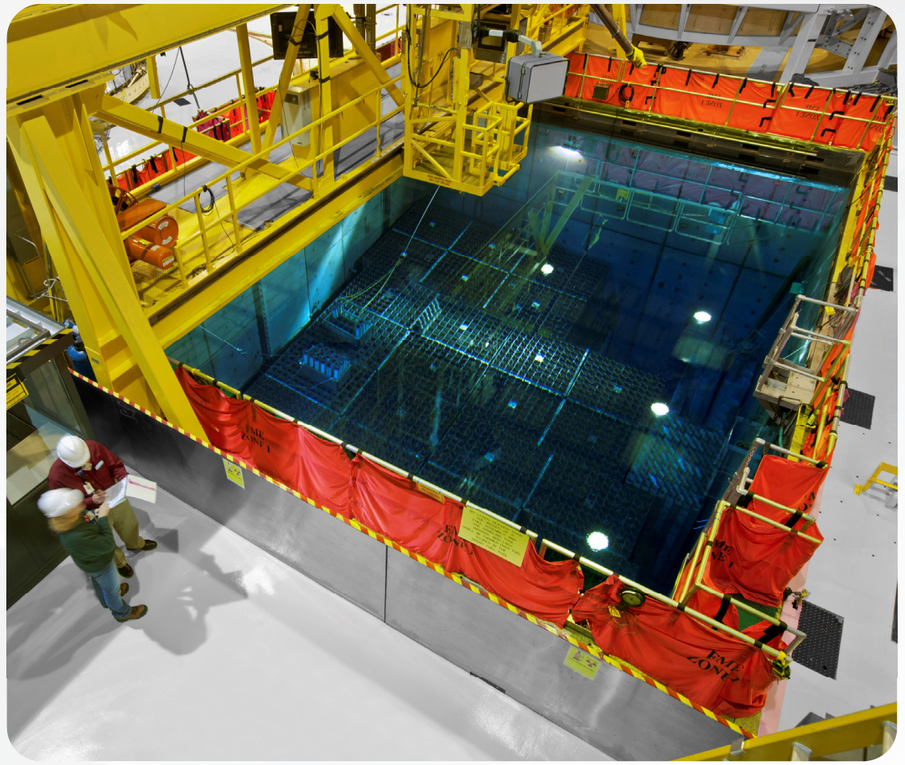
Strong oversight from U.S. Nuclear Regulatory Commission (NRC): Spent nuclear fuel is stored in compliance with stringent safety and security requirements and oversight from the NRC

Nuclear fuel produces less waste than other sources of energy:

- All of the spent nuclear fuel produced in the United States from the dawn of the civilian nuclear era, when President Eisenhower gave his 1953 Atoms for Peace speech until now, could fit inside of a Super Walmart
- A single coal plant generates as much spent fuel waste by volume in one hour as the entire nuclear power industry has during its history

Safely stored on our sites first in pools and then in dry cask storage:

- After spent fuel is cooled in pools, it is sealed in a metal or steel cylinder, surrounded by helium gas and then encapsulated in a metal or concrete outer shell, which is 20-30 inches thick to shield radiation
- Since the first casks were loaded in 1986, there has never been a release of radiation that affected the public or the environment (1)
- Radioactivity from the site must be less than 25 millirem per year at the site boundary – which is lower than the radioactivity from a chest x-ray
- Casks are designed to withstand earthquakes, projectiles, floods



The NRC has investigated the safety of long-term dry cask storage and concluded there to be minimal risk, even after 100 years (2)

Sources: Nuclear Regulatory Commission, Nuclear Energy Institute
(1) https://www.nrc.gov/reading-rm/doc-collections/fact-sheets/dry-cask-storage.html
(2) SECY-14-0072-Enclosure 2 - Generic Environmental Impact Statement for Continued Storage of Spent Nuclear Fuel. (https://www.nrc.gov/docs/ML1418/ML14188B749.pdf)

Constellation

Process for Decommissioning a Nuclear Plant

- Sites must be decommissioned within 60 years of permanently ceasing operations
- Nuclear plants, unlike many other generation sources, set aside funds to fund decommissioning at the end of life
- Plant owners must submit a cost estimate for decommissioning its plants to the NRC within 2 years of permanent cessation of operations
- Within 2 years of permanent cessation of operations, plant owners must submit a post-shutdown decommissioning activities report (PSDAR) to the NRC, which must include the site's planned option for decommissioning the unit
- NRC will make the PSDAR available for public comment and hold a public meeting
- Plant owners can begin decommissioning activities after 90 days of submitting the PSDAR and after submittal of certification of permanent cessation of operations and permanent removal of fuel
- Plant owners cannot access all the decommissioning funds until after submittal of the site-specific cost estimate to the NRC
- Plant owners can use one of two options to decommission the plants:
    - SAFSTOR (Safe Storage): facility is placed and maintained in a condition that allows it to be safely stored and subsequently decontaminated to levels that permits the property to be released. We can choose to end SAFSTOR at any point during the 60-year period and transition to DECON. Generally, sites must spend no more than 50 years in SAFSTOR and allow 10 years for the DECON stage of decommissioning.
    - DECON (Decontamination and Dismantlement): Radioactive equipment and structures are removed or decontaminated to a level that permits the property to be released for use shortly after cessation of operations
- Terminating the NRC license: As the DECON phase nears completion, the company must submit a license termination plan to the NRC at least two years before the proposed license termination date. The license termination plan is subject to public comment. After considering the public comments, the NRC will terminate the license if all work has followed the approved license termination plan and the final radiation survey shows the site is suitable for release.

Source: Nuclear Energy Institute

Nuclear Decommissioning Trust (NDT) Funds Are Established to Fund Each Unit's Decommissioning Liability

Managing NDTs

The Constellation Investment Office manages the investments of 26 units individually. With an objective of achieving an after-tax rate of return that, over the long term, will satisfy each nuclear unit's decommissioning liability, considering:

- **Decommissioning Regulations and Requirements**
- **Decommissioning Strategy/Horizon**
- **Company Risk Tolerance**
- **Tax Status of Trusts**
- **Regulated Status of Units**

Two Ways to Measure Liability for Each Unit

- **Regulatory Liability - NRC Minimum Funded Status**
  - Required per NRC regulations
  - Assumes a single decommissioning scenario
  - Underfunding can require company to pay or guarantee more, e.g., contributions to NDT trust, parent guarantee, letter of credit or surety bond.
  - Under NRC minimum funding guidelines, decommissioning assets earn a real rate of return and costs are in current dollars so there is no discounting of cash flows

- **GAAP Accounting Liability - Asset Retirement Obligation (ARO)**
  - The Fair Value of the decommissioning liability based upon a probability weighted, discounted cash flow model. Based on multiple-outcome scenarios
  - Discount rate is the Credit Adjusted Risk Free Rate

Currently Constellation has no units which are considered underfunded per NRC Regulations (1)

(1) The status report, filed with the NRC on March 23, 2023, demonstrated adequate decommissioning funding assurance as of December 31, 2022 for all units except for Peach Bottom Unit 1. As a former PECO plant, financial assurance for decommissioning Peach Bottom Unit 1 is provided by the NDT fund, collections from PECO customers, and the ability to adjust those collections in accordance with the approved PAPUC tariff

Constellation

Constellation

Policy Support for Nuclear Energy

Experts and Policy Makers Agree; Nuclear is Critical to Decarbonization

"Realizing nuclear power's full potential nationwide will not only protect air quality and mitigate the long-term effects of climate change, but can help low income households across the country save on their monthly energy bills," **Representative Ralph Norman (R-S.C.)**

"As our nation's largest source of reliable, carbon-free electricity, nuclear energy is critical to meeting our climate goals and maintaining our energy security" **Senator Tom Carper (D-Del.) April 2023**

"For the United States to maintain a geopolitical advantage and strong national defense, the ability to provide affordable and reliable energy to consumers, and meet climate goals of the 21st century, it is essential to advance the nuclear industry" **Representative Jeff Duncan (R-S.C.)**

"Investing in the next generation of carbon-free nuclear energy will lower emissions and head off threats to our national and energy security," **Senator Sheldon Whitehouse (D-R.I.) April 2023**

"The complexity of achieving economy-wide decarbonization requires a diverse set of solutions, and nuclear energy has an important role to play." **Clean Air Task Force U.S. Federal Policy Director, Evan Chapman April 2023**

"Without the nuclear retention incentive, electric power sector emissions would be 23-38% higher, up to 188 million metric tons more in 2031" **Rhodium Group, March 2021**

October 2021 NYSERDA Study: If New York plants are not relicensed to 80 years and the plants retire at the end of the current licenses, New York consumers would pay an additional $10 billion to reach New York's climate goals.

"Without action to provide more support for nuclear power, global efforts to transition to a cleaner energy system will become drastically harder and more costly" **IEA, May 2019**

"As a zero-emissions baseload fuel source, I believe that maintaining our fleet and preventing closures of existing nuclear plants is critical to achieving emission reduction goals and ensuring a reliable grid," **Senator Joe Manchin (D-W.Va.) April 2021**

Decarbonizing energy is a significant undertaking that requires the use of all available low-carbon technologies. Analyses indicated that world's climates objectives will not be met if nuclear technologies are excluded." **UN Economic Commission for Europe August 2021**

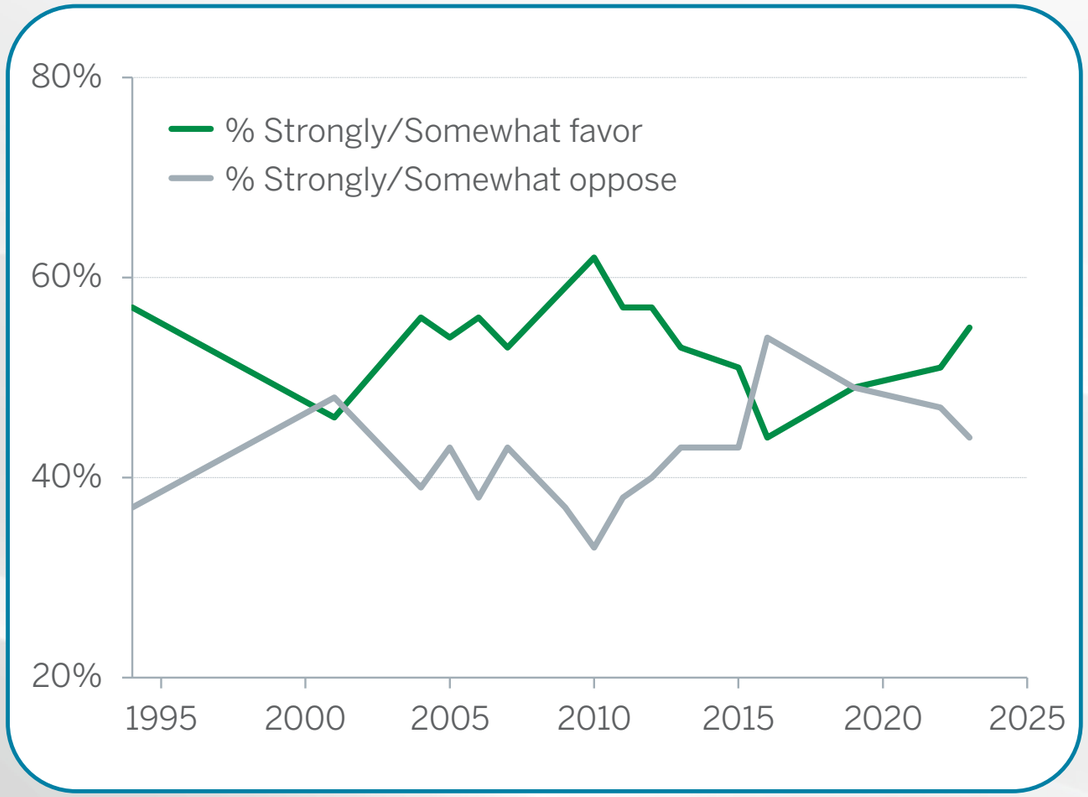
"We are not going to be able to achieve our climate goals if nuclear power plants shut down. We have to find ways to keep them operating," **Energy Secretary Jennifer Granholm June 2021**

"We support across the board policies that would give new nuclear plants the opportunity to compete in a marketplace against wind and solar and other forms of decarbonized energy." **Ken Kimmell, President of the Union of Concerned Scientists June 2020**

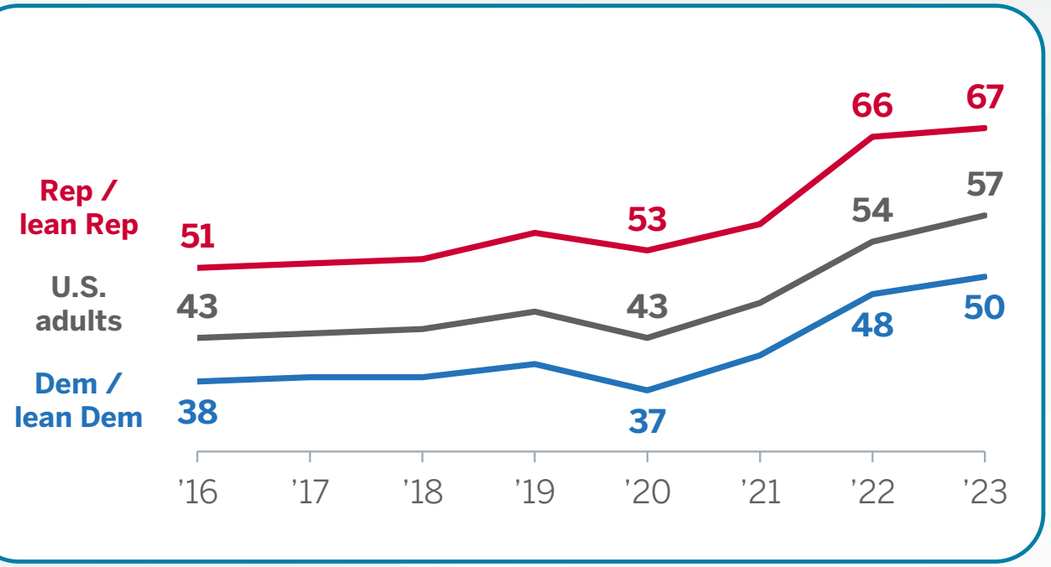
Constellation

Public Support for Nuclear Energy Highest in Decade

Americans' Opinions of Nuclear Energy, 1994-2023 (1)



Percentage of Adults Who Favor More Nuclear Power Plants (2)



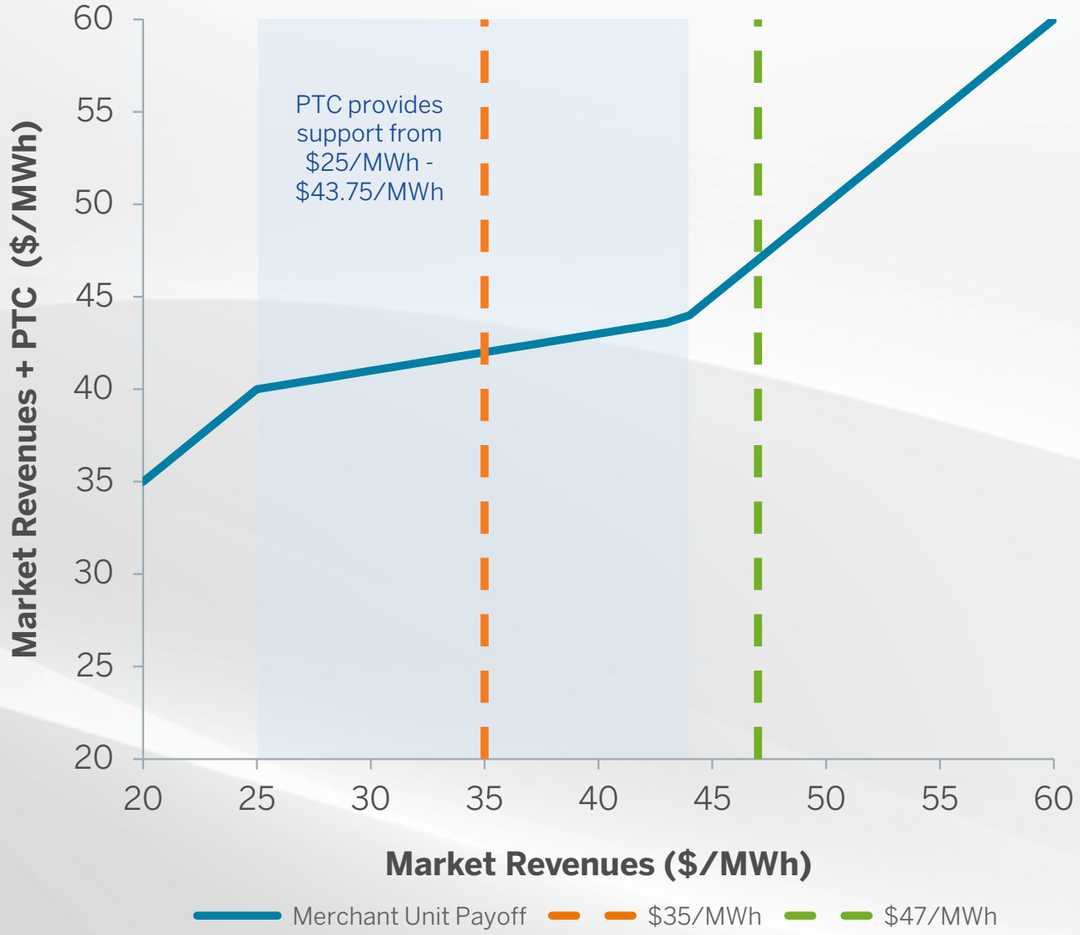
57%
of Americans believe we need nuclear to meet climate goals (3)

(1) https://news.gallup.com/poll/474650/americans-support-nuclear-energy-highest-decade.aspx
(2) "Growing share of Americans favor more nuclear power" Pew Research Center, Washington, D.C. (August 18, 2023) https://www.pewresearch.org/short-reads/2023/08/18/growing-share-of-americans-favor-more-nuclear-power
(3) "The World Wants New Nuclear" May 2023, https://www.replanet.ngo/_files/ugd/5caaac_3a0c021c58464c0091de86a7ac1e1bc1.pdf

Constellation

PTC Provides Support for Nuclear Units When Revenues Fall Below $43.75/MWh

Illustrative Payoff Dynamics for Non-State-Supported Units in 2024



- 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 from commodity markets
- The green line assumes revenues of $47.00/MWh and since it is above the $43.75/MWh PTC phase out units would not receive PTC value
- When revenues fall below the $43.75/MWh phase out, the PTC will provide support for the units
- Assuming revenues of $35.00/MWh, the orange line, we would expect units to receive $7.00/MWh PTC, bringing the total value the unit would receive to $42.00/MWh

Constellation

Inflation of Nuclear Production Tax Credit (PTC) (1)

PTC Overview

- The PTC is in effect beginning after 12/31/23 and through 12/31/32
- In the base year 2024, Constellation qualifies for the nuclear PTC up to $15.00/MWh; the PTC amount is reduced by 80% of gross receipts exceeding $25.00/MWh, phasing out completely after $43.75/MWh
- The nuclear PTC can be credited against taxes or monetized through sale to an unrelated taxpayer

PTC Inflation Adjustment

- Starting in 2025, the maximum PTC and gross receipts threshold are subject to an inflation adjustment based on the GDP price deflator for the preceding calendar year:

$$\text{Inflation Adjustment} = \frac{\text{GDP price deflator in preceeding year}}{\text{GDP price deflator in 2023}}$$

- Maximum PTC is rounded to nearest $2.50/MWh and gross receipts threshold is rounded to nearest $1.00/MWh

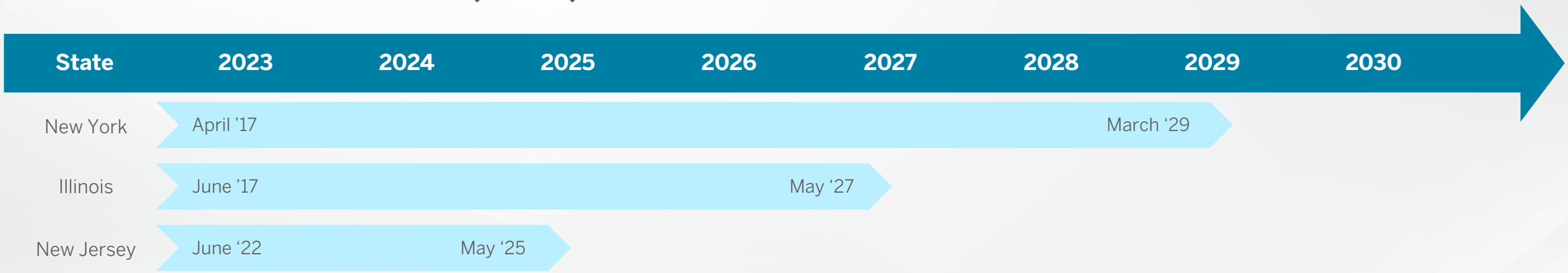
Example Assuming 2%, 3% and 4% Inflation (2)

	2% Inflation			3% Inflation			4% Inflation		
	Maximum PTC	Gross Receipts Threshold	Power Price At Which PTC=$0	Maximum PTC	Gross Receipts Threshold	Power Price At Which PTC=$0	Maximum PTC	Gross Receipts Threshold	Power Price At Which PTC=$0
2024	$ 15.00	$ 25.00	$ 43.75	$ 15.00	$ 25.00	$ 43.75	$ 15.00	$ 25.00	$ 43.75
2025	$ 15.00	$ 26.00	$ 44.75	$ 15.00	$ 26.00	$ 44.75	$ 15.00	$ 26.00	$ 44.75
2026	$ 15.00	$ 26.00	$ 44.75	$ 15.00	$ 27.00	$ 45.75	$ 15.00	$ 27.00	$ 45.75
2027	$ 15.00	$ 27.00	$ 45.75	$ 17.50	$ 27.00	$ 48.88	$ 17.50	$ 28.00	$ 49.88
2028	$ 15.00	$ 27.00	$ 45.75	$ 17.50	$ 28.00	$ 49.88	$ 17.50	$ 29.00	$ 50.88
2029	$ 17.50	$ 28.00	$ 49.88	$ 17.50	$ 29.00	$ 50.88	$ 17.50	$ 30.00	$ 51.88
2030	$ 17.50	$ 28.00	$ 49.88	$ 17.50	$ 30.00	$ 51.88	$ 20.00	$ 32.00	$ 57.00
2031	$ 17.50	$ 29.00	$ 50.88	$ 17.50	$ 31.00	$ 52.88	$ 20.00	$ 33.00	$ 58.00
2032	$ 17.50	$ 29.00	$ 50.88	$ 20.00	$ 32.00	$ 57.00	$ 20.00	$ 34.00	$ 59.00

(1) See H.R. 5376 for additional details; all numbers assume that prevailing wage requirements are satisfied
(2) Annual inflation adjustment is consistent with past published guidance for renewable energy credits, published annually

Constellation

Zero-Emission Credit (ZEC) Overview and Timelines



Program Elements	New York ZEC Program	Illinois ZEC Program	New Jersey ZEC Program
General Description	Under the state's clean energy standard, load serving entities must purchase Zero Emission Credits from NYSERDA who purchases them from the eligible nuclear plants.	Under Future Energy Jobs Act, utilities in the state contract with zero emission facilities to procure all of the Zero Emission Credits produced in a year by the facility.	Under the state's clean energy standard, utilities will purchase Zero Emission Certificates from certified nuclear plants in an amount equivalent to all of the output of the plant.
Eligibility	PSC selects units based on: • Impact on NY air quality based on PSC evaluation • Financial distress • Alternatives, customer impact, public interest	IPA selects units based on: • Impact on IL air quality based on a formula • Financial distress	BPU selects units based on: • Impact on NJ air quality based on bidder input • Financial distress • New application required for each 3-year period
Bidder Data provided	Multi-year costs, risks and revenue projections	6 year costs, risks and generation projection	3 year costs, risks and revenue projections. Air impacts.
Term	12 years (six 2-year periods)	10 years	3-year periods
ZEC Price	$17.48/MWh for 1st period (additional ~$2.30/period thereafter)	$16.50/MWh for 6 years (additional $1/year thereafter)	~$10/MWh through May 2025
Price Adjustment(s)	$39/MWh – Market Price Index RGGI price deduct	$31.40/MWh – Market Price Index	BPU will determine if there will be ZEC payments beyond May 1, 2025
Program Budget Cap	$480M per year initially	~$230M per year cost cap	~$270M per year initially

Constellation

New York ZEC Price Determination

Tranche	Date	U.S. SCC "Central Value" ($/Short Ton)	Baseline RGGI Estimate ($/Short Ton)	Net CO_2 Externality ($/Short Ton)	Short Ton to MWh (Conversion Factor)	Adjusted SCC ($/MWh)	Reference Price ($/MWh)	Energy and Capacity Forecast Adjustment ($/MWh)	Upstate ZEC Price ($/MWh)
Tranche 1	4/1/2017-3/31/2019	$42.87	$10.41	$32.47	0.53846	$17.48	N/A	N/A	$17.48
Tranche 2	4/1/2019-3/31/2021	$46.79	$10.41	$36.38	0.53846	$19.59	$39.00	N/A	$19.59
Tranche 3	4/1/2021-3/31/2023	$50.11	$10.41	$39.71	0.53846	$21.38	$39.00	N/A	$21.38
Tranche 4	4/1/2023-3/31/2025	$54.66	$10.41	$44.26	0.53846	$23.83	$37.78	$5.56	$18.27
Tranche 5	4/1/2025-3/31/2027	$59.54	$10.41	$49.13	TBD	TBD	$37.78	TBD	TBD
Tranche 6	4/1/2027-3/31/2029	$64.54	$10.41	$54.13	TBD	TBD	$37.78	TBD	TBD

Constellation

Illinois Carbon Mitigation Credit (CMC) Overview and Timelines

Plant	State	Capacity (MW)
Braidwood	IL	2,386
Byron	IL	2,347
Dresden	IL	1,845

Program Elements	Illinois Carbon Mitigation Credits Program
Eligibility	• IL CMC program is similar to the IL ZEC program, except that ComEd is the only buyer and only PJM units are eligible • Bidders must submit financial projections to demonstrate financial need, and selection is based on air quality impacts in Illinois.
Term	5-energy years
Product	• A Carbon Mitigation Credit means the environmental attributes of 1 MWH of nuclear generation • Suppliers are selling environmental attributes only, not energy or capacity • Procurement quantity is 54.5 TWH per year (3 plants), with obligation to operate
CMC Price	• Suppliers bid an "all-in" price, not a fixed credit price – Supplier payment = Bid Price – Energy Index – Capacity Index – Other Subsidies (eg, PTC) – Energy Index = average day-ahead price at selected nuclear plants – Capacity Index = ComEd zone capacity price • Payment can be positive (to supplier) or negative (to buyer)
Bid Price Cap	$30.30/MWh, $32.50/MWh, $33.43/MWh, $33.50/MWh, $34.50/MWh (for the 5 years)

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Constellation's Nuclear Fleet

Constellation's Premier Nuclear Fleet is Fighting the Climate Crisis

Constellation's Nuclear Portfolio

Constellation's nuclear fleet is the nation's largest - owning and operating 21 reactors, with ownership interest in an additional two reactors

173 TWhs	94.8%	20,895 MWs
of clean, carbon-free nuclear generation	nuclear capacity factor	nuclear operating capacity

Nuclear Avoids Emissions and Contributes to Constellation's Low Intensity Rates

- **Nuclear is an emissions-free energy source** – in 2022, Constellation's nuclear fleet **avoided 123M metric tons of carbon emissions** (1)
- On a per MWh generated basis across our entire fleet in 2022, our measured emissions intensity rates for NO_X and SO_X were below the U.S. electric generation industry average (2), and we have lowered our NO_X and SO_X emission rates each by 36 percent since 2019

Calvert Cliffs Clean Energy Center

Note: Numbers reflect year end 2022
(1) Measured using the EPA Greenhouse Gas Emissions calculator https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator
(2) Based on the most recent Benchmarking Air Emissions Report, published September 2022: https://www.sustainability.com/thinking/benchmarking-air-emissions-100-largest-us-powerproducers/

Constellation

Constellation's Operated Nuclear Fleet

Constellation

Nuclear Fleet Overview

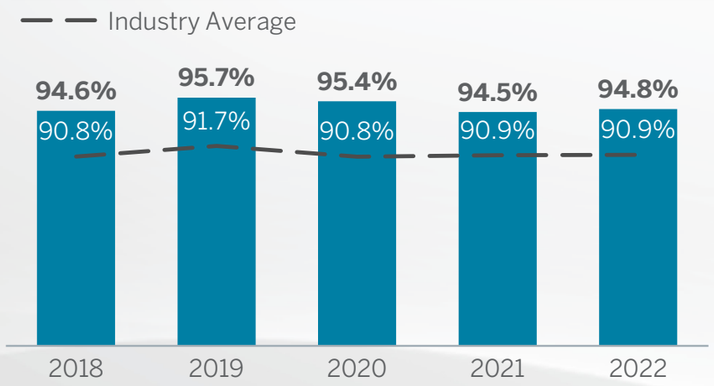
Plant Location	Type/Containment	License Extension Status	License Expiration [1]	Capacity (MW) [2]	Policy Support (Term)	Ownership	Spent Fuel Storage	2-Year Capacity Factor [3]
Braidwood, IL (Units 1 and 2)	Pressurized Water Reactor Concrete/Steel Lined	Renewed	Unit 1: 2046 Unit 2: 2047	2,386	CMC Jun '22 – May '27	Constellation: 100%	Dry Cask	Unit 1: 96.4% Unit 2: 94.0%
Byron, IL (Units 1 and 2)	Pressurized Water Reactor Concrete/Steel Lined	Renewed	Unit 1: 2044 Unit 2: 2046	2,347	CMC Jun '22 – May '27	Constellation: 100%	Dry Cask	Unit 1: 94.1% Unit 2: 97.8%
Calvert Cliffs, MD (Units 1 and 2)	Pressurized Water Reactor Concrete/Steel Lined	Renewed	Unit 1: 2034 Unit 2: 2036	1,789	N/A	Constellation: 100%	Dry Cask	Unit 1: 96.0% Unit 2: 95.9%
Clinton, IL (Unit 1)	Boiling Water Reactor Concrete/Steel Lined/Mark III	2027 [4]	Unit 1: 2027[5]	1,080	ZEC Jun '17 – May '27	Constellation: 100%	Dry Cask	Unit 1: 94.6%
Dresden, IL (Units 2 and 3)	Boiling Water Reactor Steel Vessel/Mark I	Renewed [4]	Unit 2: 2029 Unit 3: 2031	1,845	CMC Jun '22 – May '27	Constellation: 100%	Dry Cask	Unit 2: 94.8% Unit 3: 93.3%
Fitzpatrick, NY (Unit 1)	Boiling Water Reactor Steel Vessel/Mark I	Renewed	Unit 1: 2034	842	ZEC Apr '17 – Mar '29	Constellation: 100%	Dry Cask	Unit 1: 94.7%
LaSalle, IL (Units 1 and 2)	Boiling Water Reactor Concrete/Steel Lined/Mark II	Renewed	Unit 1: 2042 Unit 2: 2043	2,320	N/A	Constellation: 100%	Dry Cask	Unit 1: 96.3% Unit 2: 91.3%
Limerick, PA (Units 1 and 2)	Boiling Water Reactor Concrete/Steel Lined/Mark II	Renewed	Unit 1: 2044 Unit 2: 2049	2,315	N/A	Constellation: 100%	Dry Cask	Unit 1: 94.4% Unit 2: 95.8%
Nine Mile Point, NY (Units 1 and 2)	Boiling Water Reactor Steel Vessel /Mark I Concrete/Steel Vessel/Mark II	Renewed	Unit 1: 2029 Unit 2: 2046	1,676	ZEC Apr '17 – Mar '29	Unit 1: Constellation 100% Unit 2: Constellation: 82%, 18% LIPA	Dry Cask	Unit 1: 96.7% Unit 2: 94.4%
Peach Bottom, PA (Units 2 and 3)[6]	Boiling Water Reactor Steel Vessel/Mark I	Renewed	Unit 2: 2033 Unit 3: 2034	1,324	N/A	Constellation: 50% PSEG: 50%	Dry Cask	Unit 2: 93.3% Unit 3: 96.4%
Quad Cities, IL (Units 1 and 2)	Boiling Water Reactor Steel Vessel/Mark I	Renewed	Unit 1: 2032 Unit 2: 2032	1,403	ZEC Jun '17 – May '27	Constellation: 75% Mid-American Holdings: 25%	Dry Cask	Unit 1: 95.9% Unit 2: 95.8%
R.E. Ginna, NY (Unit 1)	Pressurized Water Reactor Concrete/Steel Lined	Renewed	Unit 1: 2029	576	ZEC Apr '17 – Mar '29	Constellation: 100%	Dry Cask	Unit 1: 89.3%
Salem, NJ (Units 1 and 2)	Pressurized Water Reactor Concrete/Steel Lined	Renewed	Unit 1: 2036 Unit 2: 2040	993	ZEC Jun '22 – May '25	Constellation: 42.59% PSEG: 57.41%	Dry Cask	Unit 1: 84.1% Unit 2: 87.4%

(1) Operating license renewal process takes approximately 4-5 years from commencement until completion of NRC review
(2) Net generation capacity is stated at estimated proportionate ownership share as of December 31, 2022 per Annual Form 10-K
(3) 2-Year capacity factor based on 2020-2021
(4) Constellation has notified the Nuclear Regulatory Commission (NRC) of intent to seek license renewals at Clinton and Dresden units
(5) In 2019, the NRC approved a change of the operating license expiration for Clinton from 2026 to 2027
(6) In February 2022, the NRC issued an order related to its review of our subsequent license renewal application for Peach Bottom and the NRC directed its staff to change the expiration dates for the licenses back to 2033 and 2034. We expect that the license expiration dates will be restored to 2053 and 2054, respectively.

Constellation

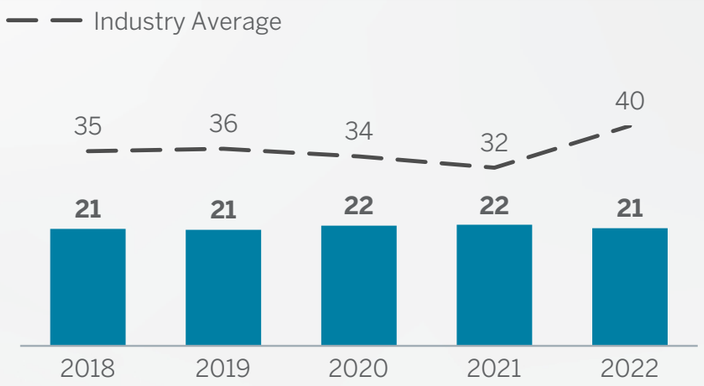
Strong Operations Deliver Reliable and Affordable Carbon-Free Power

Nuclear Capacity Factor (%) (1,2)



Ranking Among Major Operators (2-Yr) (3)	
2022	1
2021	1
2020	1
2019	1
2018	1

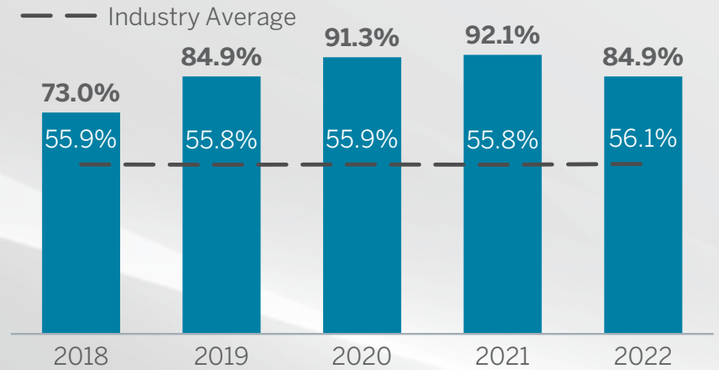
Average Nuclear Refueling Outage Days (2,4)



Ranking Among Major Operators (3)	
2022	1
2021	1
2020	1
2019	1
2018	1

Nuclear Composite Operational Excellence (5)

(Total of Rankings of 14 Indicators)



Ranking Among Major Operators (3)	
2022	1
2021	1
2020	1
2019	1
2018	2

4% Capacity Factor Above Industry Average (4)

X

Constellation Capacity (21 GWs) (2)

...**over 7.3 million MWhs of additional carbon-free** energy generated

...almost **5.2 million $mtCO_2$ avoided,** which is equivalent to removing **1.1 million cars** off the road (5)

Source: Constellation's internal benchmarking report

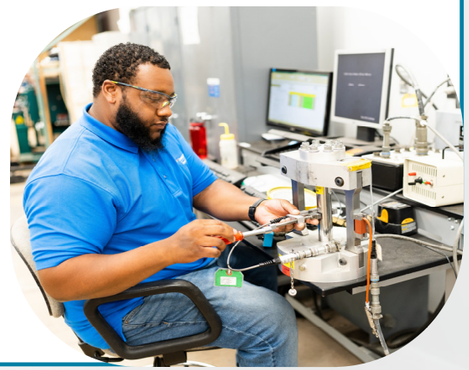
(1) Reflects Constellation's ownership share of CENG and other partially-owned units. Includes 100% ownership of CENG following closure of EDF Put on August 6, 2021.
(2) Excludes Salem. Constellation and Industry averages reflect Oyster Creek and TMI partial year operation in 2018 and 2019, respectively.
(3) Major nuclear operator is defined as one entity responsible for the operation of at least two sites and comprising of at least four units; Major Operator rankings reflect 100% ownership for Constellation.
(4) Refueling outage values are not adjusted for ownership
(5) Composite Operational Excellence Metric consists of 14 indicators in Production, Cost, and Safety. Value represents the percentage of the maximum available score by ranking of Major Operators across the 14 indicators.
(6) Power Dispatch Match is used to measure the responsiveness of a unit to the market, expressed as actual energy gross margin relative to total desired energy gross margin. Desired energy gross margin is measured by revenues less fuel costs and variable O&M when unit is dispatched. Wind Energy Capture represents actual energy produced by wind turbine generators of a wind farm, divided by the on-site measured total wind energy available. Solar Energy Capture represents actual energy produced by the sum of the Generating System Modules of a solar plant or group of solar plants, divided by total expected energy to be produced by the sum of the same Generating System Modules. Energy Capture for the combined wind and solar fleet is weighted by the relative site projected pre-tax variable revenue, with deductions made for certain excusable events that are non-controllable.

Constellation

Constellation is Committed to Safe Operations

Safety Management Programs & Training

- Each business unit implements a robust safety management program, hazard identification procedures and training relevant to its operations
- INPO evaluates plant and industry safety and reliability
  - Continuous improvement over life of fleet with current performance at highest industry levels
- **Constellation Nuclear has led the industry with the lowest severe injury rate among major fleet operators for each of the last three years (1)**



Company-Wide Safety Culture

- Multiple levels of oversight to ensure continued safety including Safety Peer Group and executive-level Safety Council
- Comprehensive Safety Management Systems and targeted initiatives for high-risk areas
- Across Constellation, we conduct industry benchmarking, targeted self-assessments and performance monitoring
- **Regular and rigorous training at our operated sites**

200,000 hours

health and safety training received by employees in 2022

We operate all aspects of our businesses in a manner that protects the safety and health of our employees, contractors, customers and the general public

Note: Numbers reflect year end 2022

(1) Source: Constellation's internal benchmarking report

Constellation

Constellation's Nuclear Fleet Supports Our Communities

Constellation's nuclear plants are economic engines that inject billions directly into their state and local economies each year

- Paid nearly **$222 million** in local property taxes to fund school districts and other community priorities
- Paid nearly **$98 million** in state payroll taxes

Constellation's nuclear plants provide good-paying jobs in the states where we operate, including:

- Employing **~9,250** full-time workers including **~3,125** with unions
- Employing more than **10,000** temporary workers annually during refueling and maintenance outages
- Paid nearly **$1.4 billion** in payroll with average plant payroll of **~$116 million**
- Creating thousands of ancillary jobs in other business sectors through payroll spending, purchases and contracting activity

Constellation employees volunteer, lead tours and provide STEM opportunities

- Contributed more than **$4.6** million to charities that support their communities
- Volunteered **80,000** hours for local non-profit organizations in 2022

Constellation is committed to a diverse, inclusive and respectful workplace, where a wide range of ideas and experiences are welcomed

- Our nuclear workforce is **~30%** diverse
- Continue to attract, retain and advance a world-class workforce that effectively serves our customers and communities
- Partnering with local community colleges
- Collaborating with labor on apprentice diversity and other initiatives in support of the Building Trades Diversity Pledge

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Constellation's Nuclear Plants are Clean Energy Centers

Clean Energy Center

Hydrogen

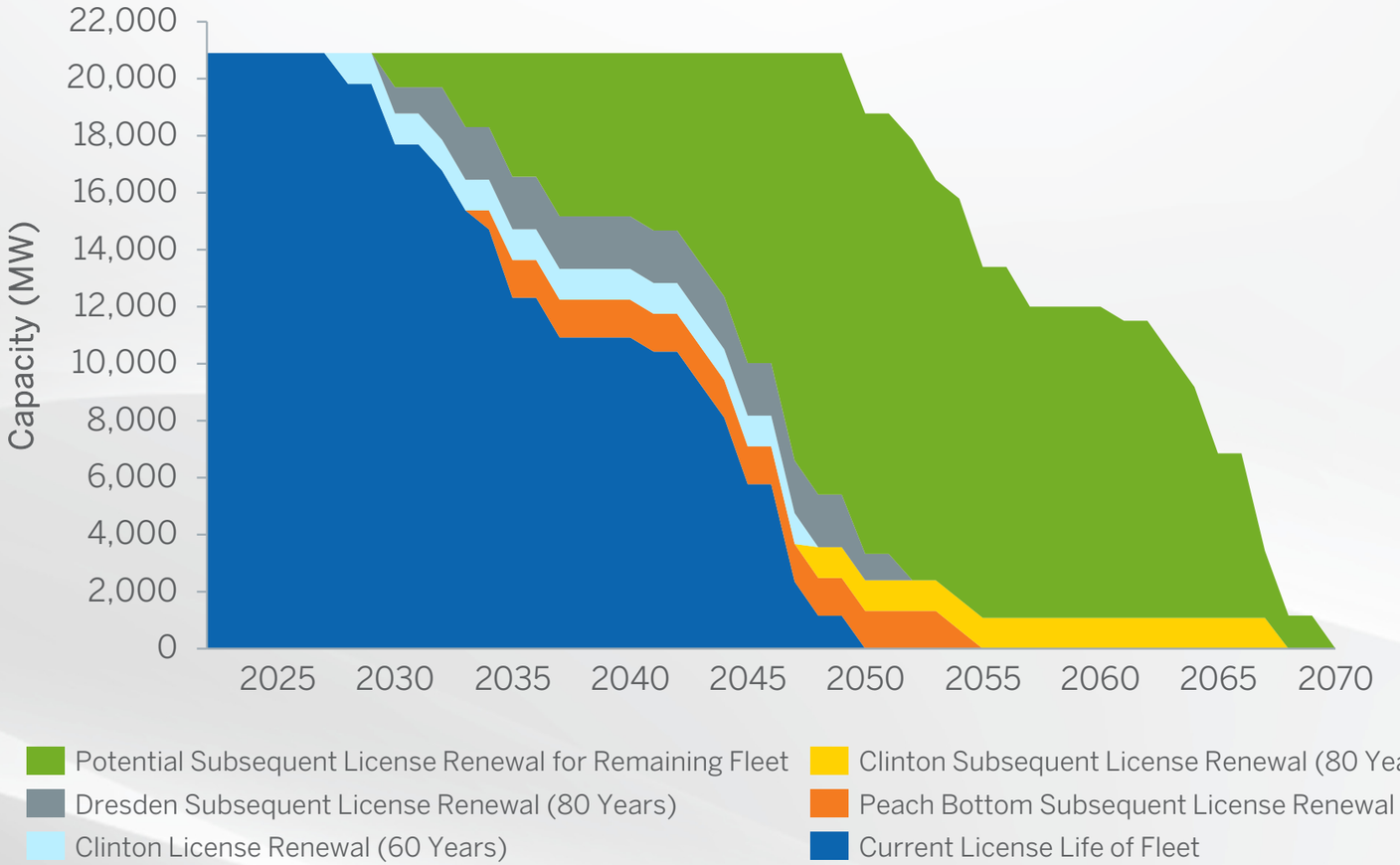
Data Center

Direct Air Capture

Flexible Grid Energy and Capacity (24/7)

Constellation

Extending the Life of our Nuclear Fleet to 80 years



Notified NRC of intent to file renewal for Clinton to 60 years

Notified NRC of intent to file renewal for Dresden to 80 years

Peach Bottom 2 & 3 renewed out to 80 years (1)

Potential Subsequent License Renewal for Remaining Fleet
Clinton Subsequent License Renewal (80 Years)
Dresden Subsequent License Renewal (80 Years)
Peach Bottom Subsequent License Renewal (80 Years) (1)
Clinton License Renewal (60 Years)
Current License Life of Fleet

Extending licenses of all United States nuclear plants to 80 years will create over 453 million people-hours of work in high-paying jobs across the country

(1) Reflects Peach Bottom's subsequent license renewal (SLR) that was previously granted by the NRC in March 2020, renewing the licenses out to 2053 and 2054. On February 24, 2022 the NRC issued orders in the Peach Bottom and Turkey Point adjudicatory proceedings (which had not been terminated even though the NRC had already issued the renewed licenses) finding that the NRC's environmental review was inadequate under the National Environmental Policy Act (NEPA). The Commission kept the SLRs in place but directed the staff to amend the Peach Bottom licenses to change the expiration dates to the initial renewed license period (2033 and 2034) until the NRC updates its generic environmental analysis and regulations, which is expected to be completed in 2024. Please refer to 2022 Annual Form 10-K for additional information.

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Constellation's Nuclear Fuel Hedging Strategy

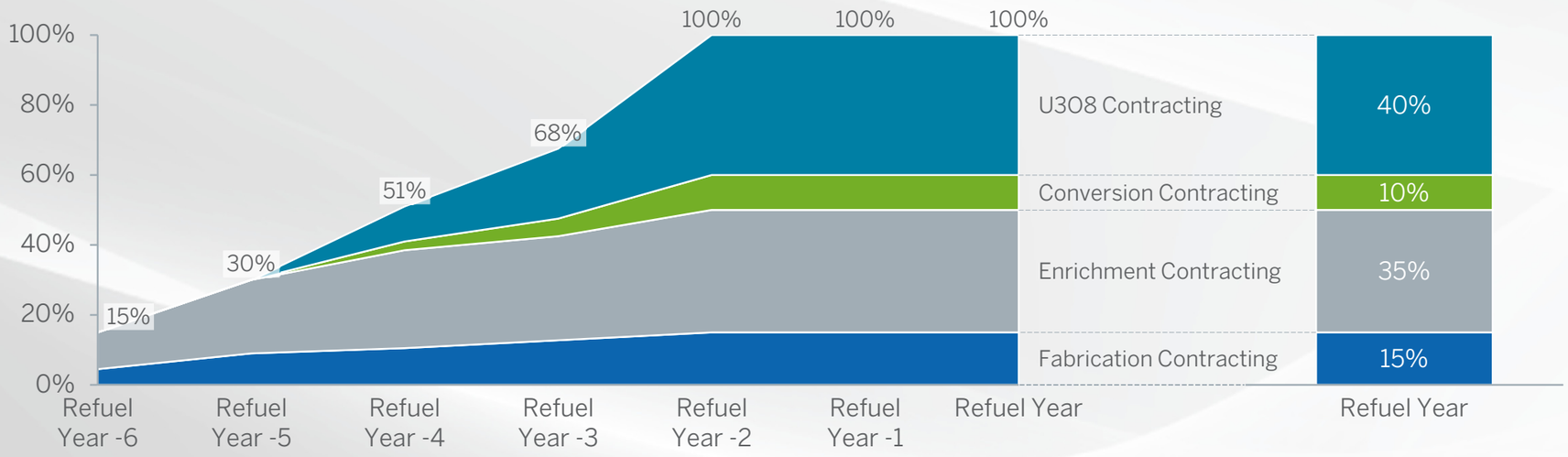
Operational Risk Management

- **Hedge well in advance** to secure supply and avoid near-term costs variability
- **Promote supplier diversity and competition** while managing levels of concentrated risk to our partners
- Appropriately size inventory holdings and forward contractual requirements to protect against supply disruptions and price shocks while allowing capital flexibility

Financial Risk Management

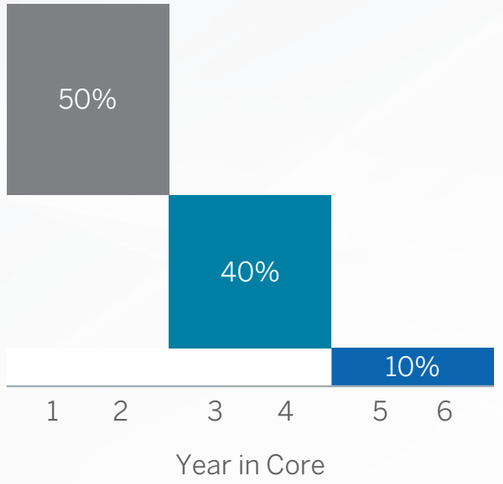
- Structure forward contracts to **control price risk**
- Establish metrics to **measure and forecast cost variability**
- **Allow flexibility** to pursue market opportunities and cost optimization
- Negotiate ceiling prices in market-related contracts and caps on references to inflation indexes
- Amortize fuel cost over the time the fuel is in the core

Constellation begins building contract book well in advance of refueling year



Cost by Fuel Cycle Component

New Fuel Cost Amortization Schedule



Nuclear fuel is ~20% of operating costs and uranium is 40% of fuel costs

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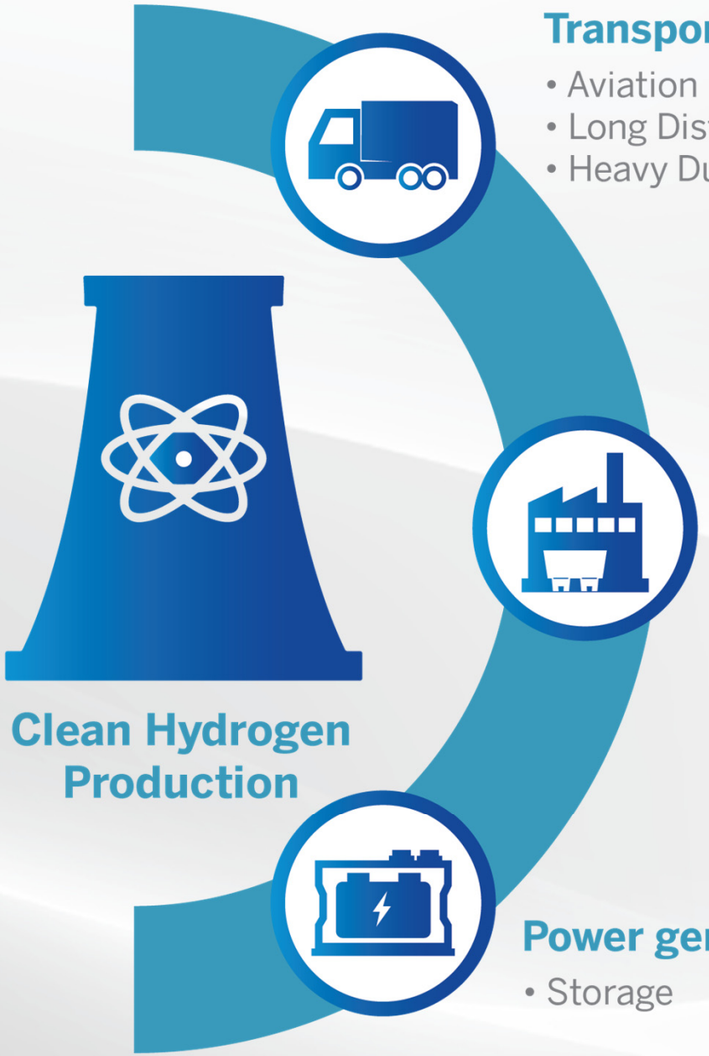
Technological Advancements

Clean Hydrogen Will Enable Decarbonization of Hard-to-Decarbonize Sectors



Clean Hydrogen Production

Transportation

- Aviation
- Long Distance Trucks and Buses
- Heavy Duty Machinery/Vehicles/Trucks

Industrial Sector

- Steel
- Refineries
- Chemicals (Ammonia & Methanol production)

Power generation

- Storage

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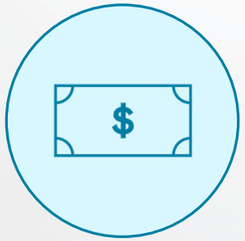
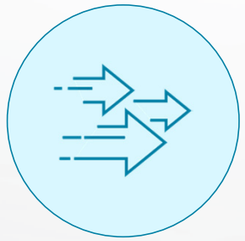
Zero-Emitting Nuclear is Prime Vehicle for Producing Hydrogen



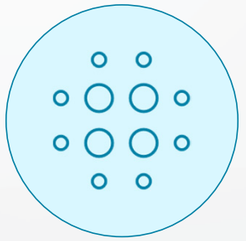
Superior Economics

Green hydrogen from nuclear currently beats hydrogen production from renewables on a levelized cost basis



Low barriers to implementation

Existing nuclear plants require no siting or permitting and offer a secure and steady production source



Scalable and iterative

Electrolyzer capacity can be modularly ramped onto nuclear assets from pilot stage to at-scale production – allowing iterative electrolyzer installation cost-downs and quick production scale-up with new offtakers

Advantageous end-uses

Certain end-uses benefit from high heat industrial process – such as synfuels – that create a synergistic relationship with nuclear sites

Enhanced criticality of nuclear assets

With increasing renewables intermittency, electrolyzers can also be used to add flexibility to nuclear assets to improve value in a decarbonizing world

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