State of Nuclear

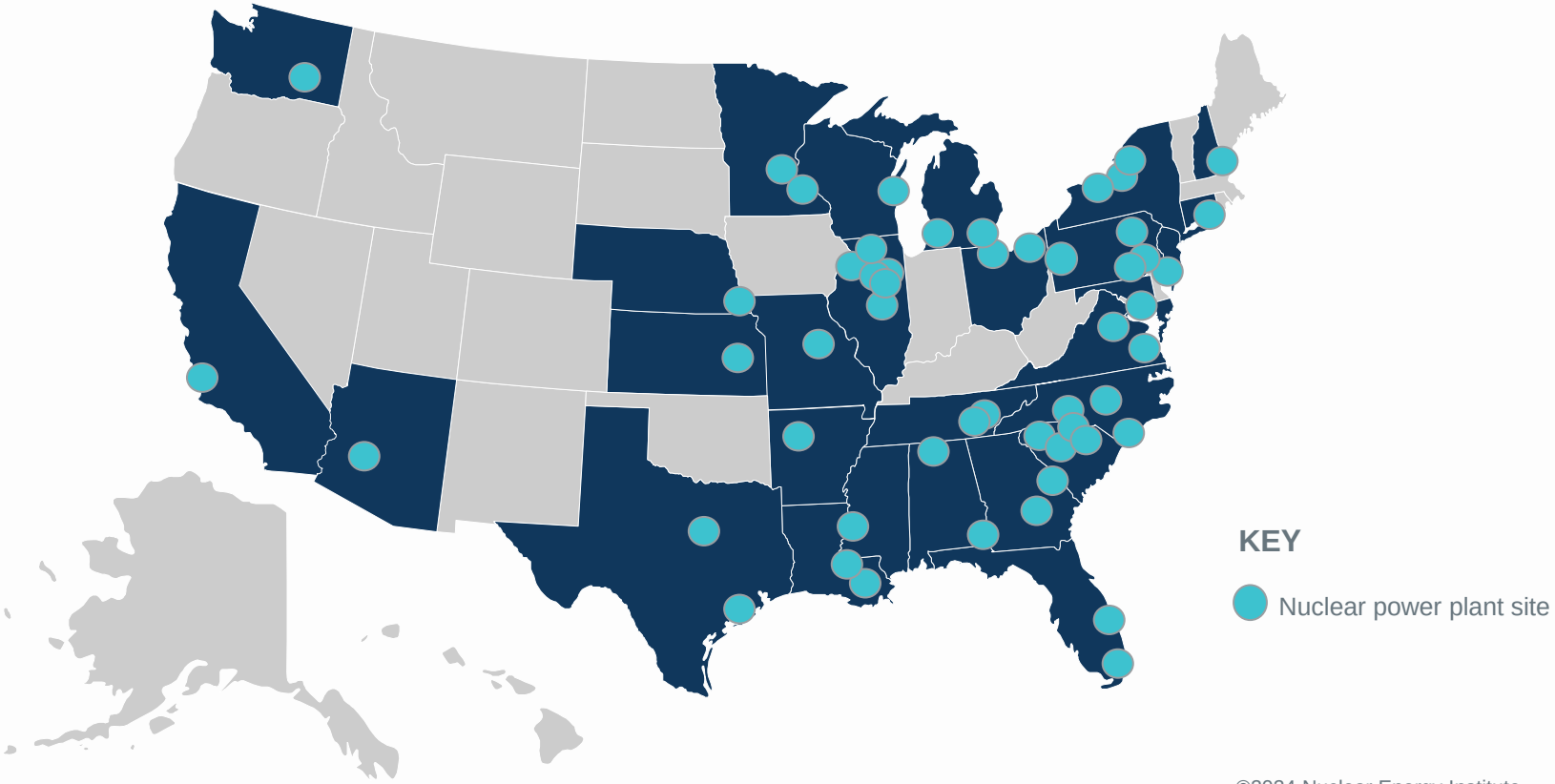
NASUCA Annual Meeting

November 12, 2024

Kristy Hartman
Director, Stakeholder Strategy & Engagement

NUCLEAR ENERGY INSTITUTE

94 reactors at 53 plant sites in the U.S.

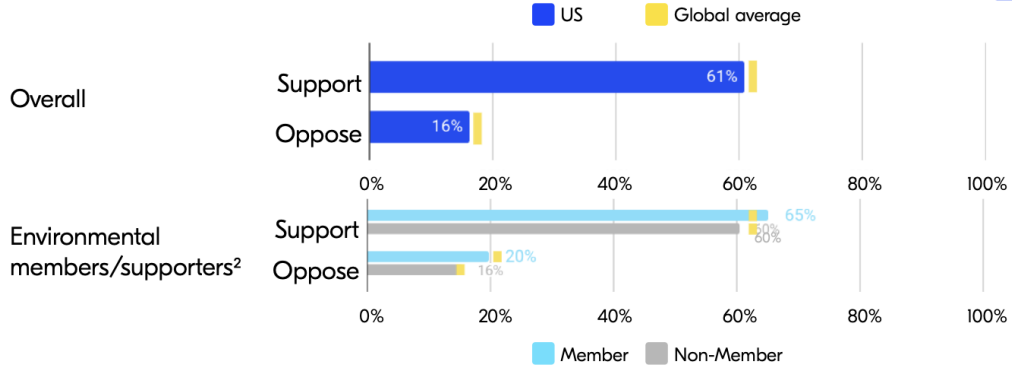


Updated: July 2024

Strong Public Support for Nuclear Energy

US

Support vs. opposition[1]



n=4,250

Support by...

Gender

Men	73%
Women	50%

Age

18-34	58%
35-54	62%
55+	62%

Income

Low income (under 50k USD)	52%
Medium income (50k-100k USD)	60%
High income (100k+ USD)	70%

Political Affiliation

Democrat	61%
Independent	60%
Republican	66%

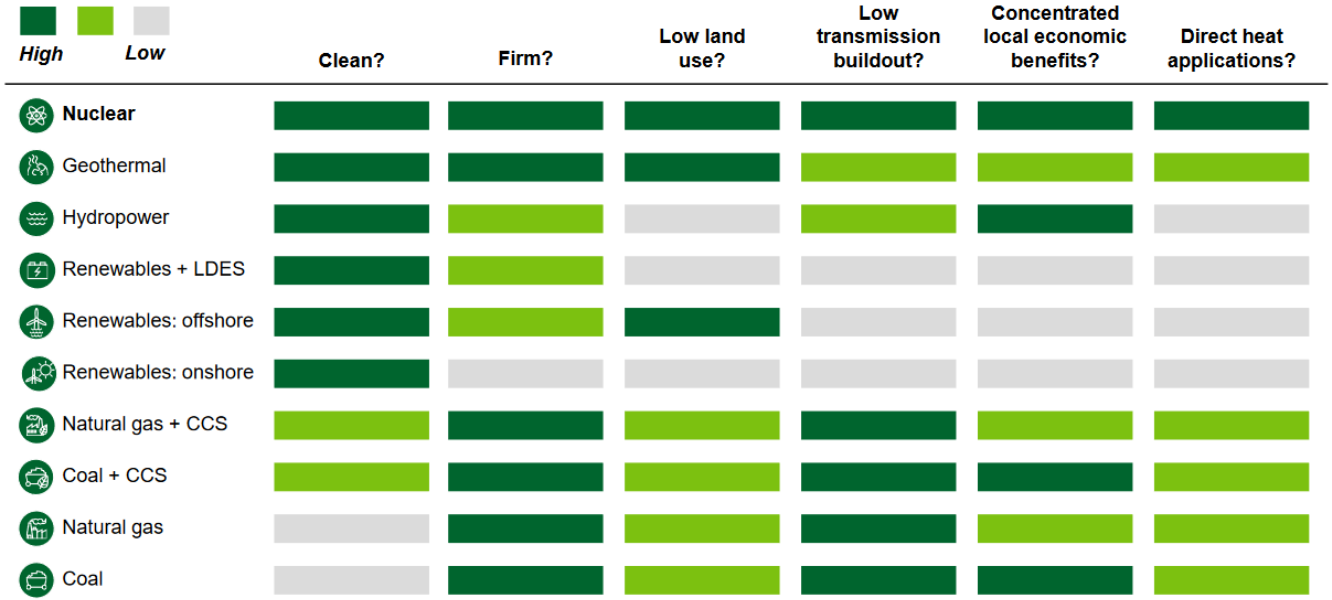
Top 5 nuclear sentiments[3] (% agree)

We need a way to produce more and more energy for our economy to keep growing	76%
We need to be building capacity for more energy, not just trying to use less	63%
We need nuclear energy in the mix, along with renewables, if we are to meet our climate goals	60%
Leaving nuclear waste behind is just wrong, however safe it is	59%
We should use advanced nuclear energy to reduce our dependence on other countries	58%

Source: Potential Energy, 2023, https://potentialenergycoalition.org/wp-content/uploads/NewNuclear_Report_May2023.pdf

DOE Pathways to Commercial Liftoff

Nuclear offers a unique value proposition for a net zero grid



Source: https://liftoff.energy.gov/advanced-nuclear/

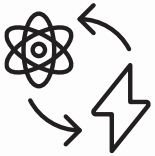
Recent Survey of NEI's U.S. Utilities

Nuclear power's potential role in meeting their company's decarbonization goals:

SLR/Power Uprates

>90% of fleet operating
80+ years
>50% power uprates
could provide 3 GWe
~3 new large reactors

GW



100 GWe of new nuclear opportunity by **2050s**

SMRs

Translates to roughly **300 SMR-scale plants**

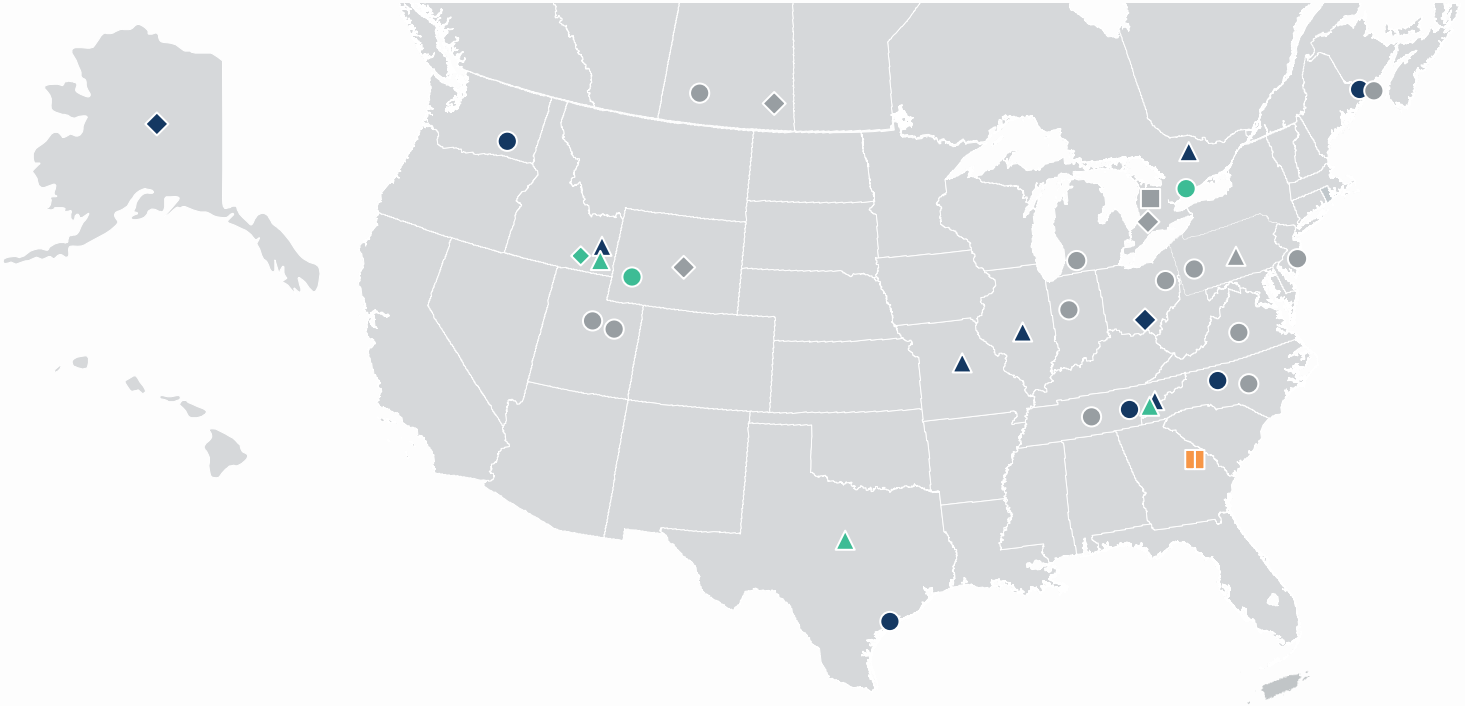
NEI utility member companies produce nearly half of all US electricity.

Advanced Nuclear Developer Members

Advanced Nuclear Deployment Plans

Projects that may be in operation by early 2030s

Updated 09/25/2024



Legend

- Considered project
- Planned project
- Under construction
- Operating
- Large (1,000 MWe)
- Small (<300 MWe)
- Micro-reactor (<50 MWe)
- University / Research / Test

Key Congressional Activities

Bipartisan Infrastructure Law
November 15, 2021

Advanced Reactor Demonstration Program (ARDP) Funding
$2.5B for two commercial demos

Nuclear Hydrogen Hub
$8B total

Civil Nuclear Credit Program
$6B to support financially challenged plants

Inflation Reduction Act
August 16, 2022

Production Tax Credit (PTC) for Operating Plants
Up to $15 per MWh

Technology-Inclusive PTC for Clean Electricity
$30 per MWh

Technology-Inclusive Investment Tax Credit (ITC) for Clean Electricity
30% + 10% in energy communities + 10% using U.S. components

Clean Hydrogen Credit
$3 per kilogram

118th Congress

Nuclear Fuel Security Act
LEU/HALEU domestic production authorizing legislation in FY 2024 NDAA (December 22, 2023)

FY 2024 Appropriations Legislation
$2.72 Billion for domestic fuel production (March 9, 2024)

Additional $800 Million for Small Modular Reactors (March 9, 2024)

40 Year Reauthorization of the Price-Anderson Indemnification Act (March 23, 2024)

ADVANCE Act
Increase regulatory efficiency & reduce regulatory costs (July 9, 2024)

State Action for Advanced Nuclear

Exploring Nuclear Technology with Studies, Working Groups, Commissions and Task Forces	Connecticut, **Florida**, **Indiana, Kansas, Kentucky, Louisiana**, Maryland, **Michigan**, Montana, Nebraska, New Hampshire, Ohio, Pennsylvania, Tennessee, and **Texas**
Recognizing Nuclear as a Clean Energy Resource	Idaho, Michigan, Minnesota, **North Carolina**, Tennessee, Utah, and **Virginia**
Removing Barriers and Signaling Support	Repealing Moratoriums: Connecticut, Illinois, Kentucky, Montana, West Virginia, and Wisconsin Regulatory Support: **Indiana,** Louisiana, **Mississippi, New York, North Carolina, and South Dakota**
Incentivizing Nuclear Technology and Supply Chain	Kentucky, Michigan, Tennessee, Virginia, Washington, and Wyoming

Current State Policies: https://www.nei.org/resources/reports-briefs/state-legislation-and-regulations
State Policy Options: https://www.nei.org/resources/reports-briefs/policy-options-for-states-to-support-new-nuclear

State of Play

Constellation to Launch Crane Clean Energy Center, Restoring Jobs and Carbon-Free Power to The Grid

...onstellation signs its largest-ever power purchase agreement with ...t, a deal that will restore TMI Unit 1 to service and keep it ...es; add approximately 835 megawatts of carbon-free ...rid; create 3,400 direct and indirect jobs and deliver ...billion in state and federal taxes

ENERGY

Google signs deal with nuclear company as data center power demand surges

Amazon Invests in X-energy to Support Advanced Small Modular Nuclear Reactors and Expand Carbon-Free Power

DOE names four companies to split $2.7 billion in future HALEU enrichment contracts

Department of Energy

Biden-Harris Administration Announces $900 Million to Build and Deploy Next-generation Nuclear Technologies

Next Steps

- Support for FOAK cost challenges
- New applications? New partnerships?
- Increasing state activities
- Regulatory reform

QUESTIONS?

By Third Way, GENSLER