

GAIN Overview – ANL Visit

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GAIN's Areas of Expertise

- Department of Energy Office of Nuclear Energy initiative
- Focus on initiating and completing projects that support commercial deployment of advanced reactors and technologies

HIGHLIGHTS

Industry Focus

- Vouchers for private companies to access U.S. Department of Energy national laboratories
- Legacy nuclear program documents and data
- Industry research and reports



State and Community Focus

- Vouchers for states and non-profits
- Nuclear industry facts and statistics for the current fleet and advanced reactors
- Customized service for state and community energy needs



2025 state nuclear legislation trends



Construction Work in Progress/Advanced Rate Recovery

- Indiana
- Arkansas
- North Carolina
- Missouri



Direct Support for the Nuclear Industry and Nuclear Projects

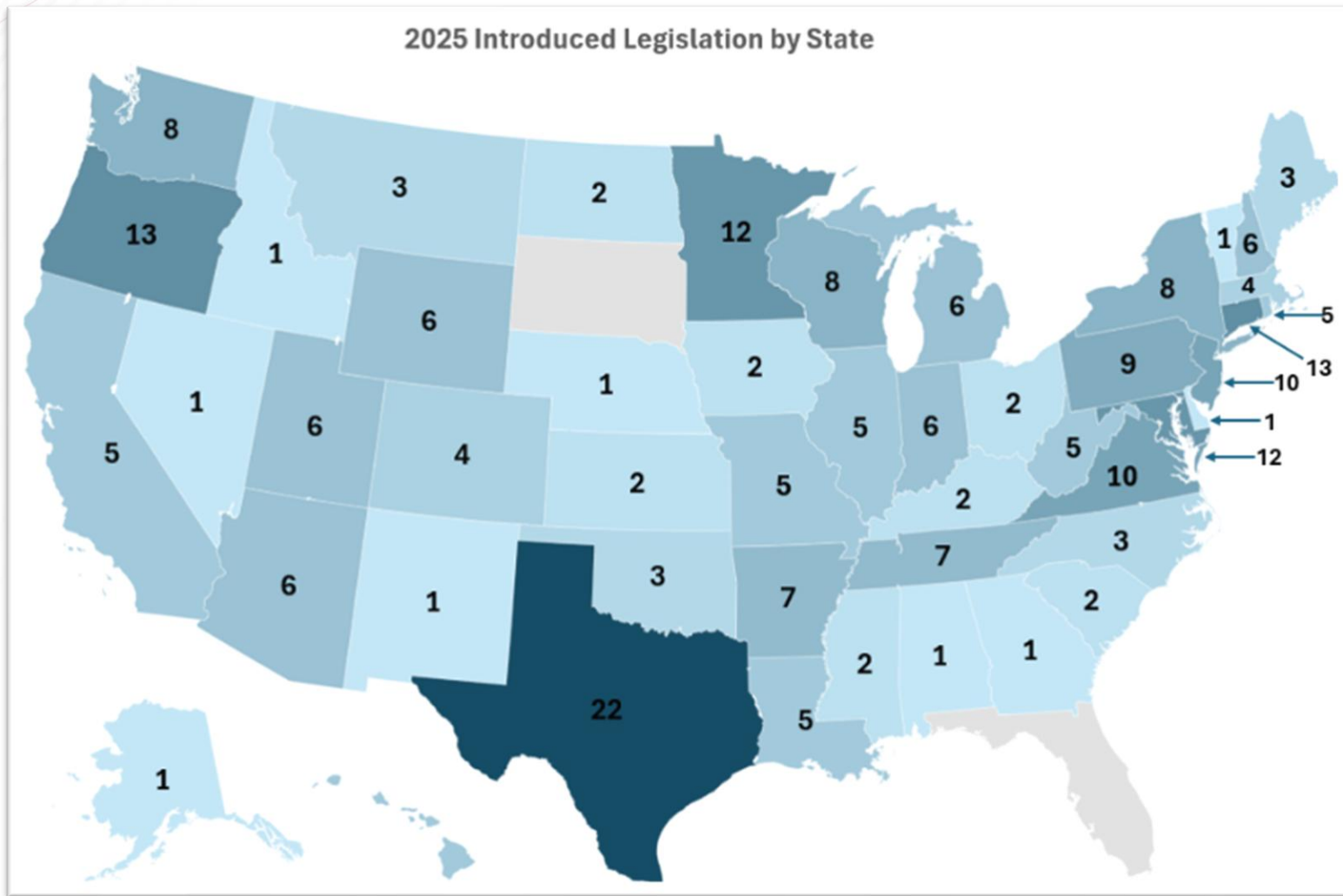
- Texas
- Tennessee
- Utah
- Kentucky
- New Jersey
- Mississippi



Tax Credit Incentives for Generation and Manufacturing

- Indiana
- Maryland
- Michigan
- Pennsylvania
- Texas
- Washington

Advanced reactor legislation introduced in 2025

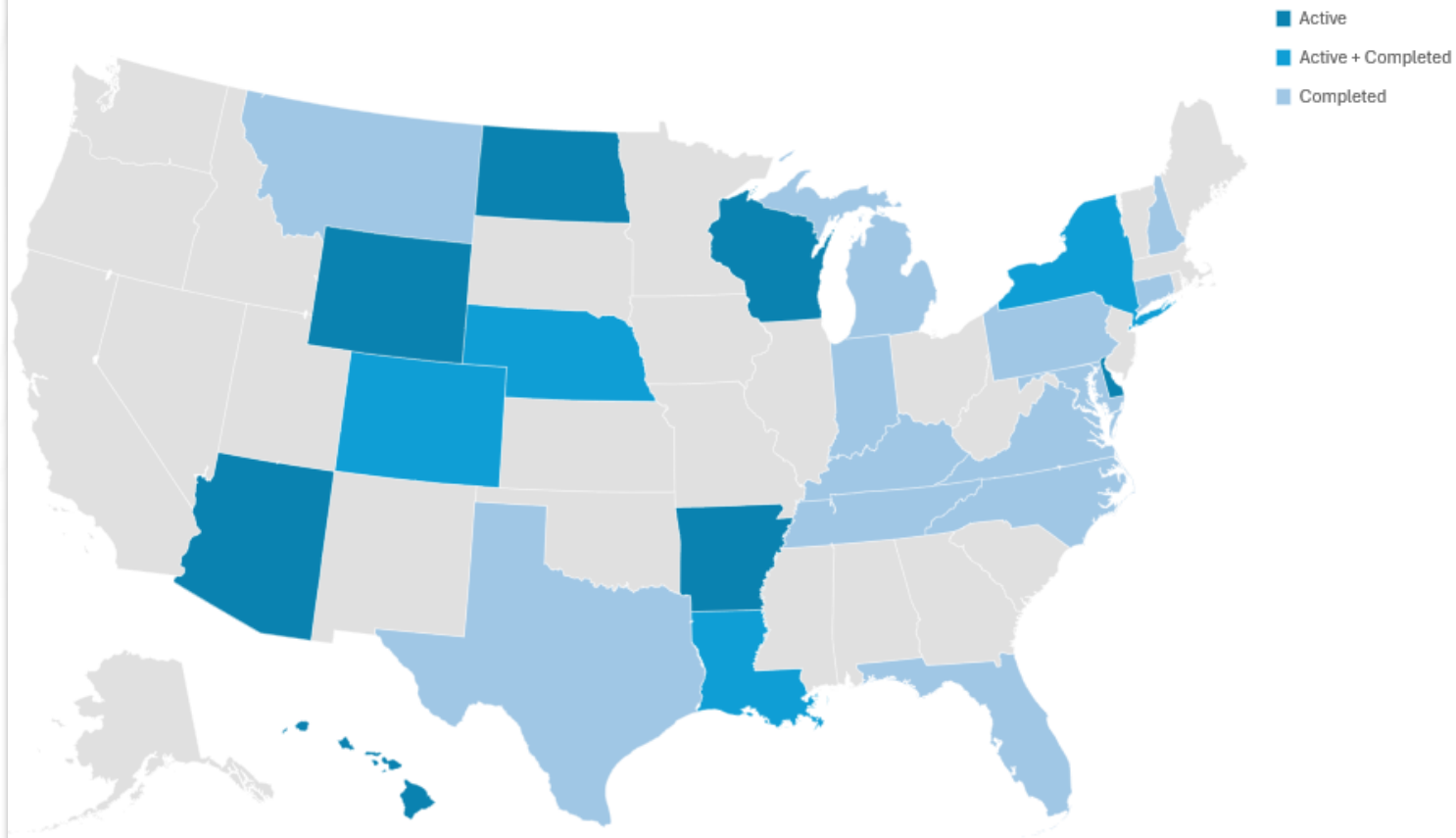


48 states
with at least one bill introduced

California, Massachusetts, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, and Wisconsin are still in session.

State nuclear feasibility studies and working groups

Nuclear Feasibility Study Status






















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feasibility studies covering a range of topics including policy, technical, and economic analyses

- 20 studies have been completed
- 2 pending completion by end of 2025
- 8 pending completion by end of 2026 or later
- There are active working groups in *Arizona, Hawaii, Idaho, Louisiana, Ohio, Oklahoma, Tennessee, and Virginia*
- There are active regulatory dockets in *Arizona, Kentucky, and Oklahoma*

Feasibility Study Categories Covered by State

 Current Fleet License Extension	 Moratorium Repeals/Exemptions	 Classifying Nuclear	 Feasibility Study/Working Groups	 Establishment of Authorities	 Promoting Development	 Adding Nuclear to existing sites	 Workforce Development	 Supply Chain	 Financial Incentives
Pennsylvania Washington	Connecticut	New Hampshire	Indiana New York North Dakota	Kentucky Texas	Indiana Louisiana Texas Virginia	Kentucky Maryland	Indiana Kentucky Maryland New Hampshire New York Tennessee Texas Virginia	Indiana Kentucky Maryland New Hampshire New York Tennessee Texas Virginia	Indiana Louisiana Michigan New Hampshire New York Tennessee Texas
 Federal Resources	 System-Wide (Framework) Cost	 Advanced Rate Recovery	 Design Suitability/Standardization	 Siting	 Regulatory	 Permitting Pathways	 Consortia	 Community Engagement/Education	
Connecticut Louisiana Virginia	Louisiana Washington	Texas	Indiana New York	Louisiana Nebraska New York Virginia	Connecticut Indiana Louisiana	Colorado Indiana Louisiana Michigan Texas	Louisiana Michigan	Indiana Louisiana Michigan Nebraska New Hampshire New York Texas	

Note: 22 Categories identified – 19 have had actions take

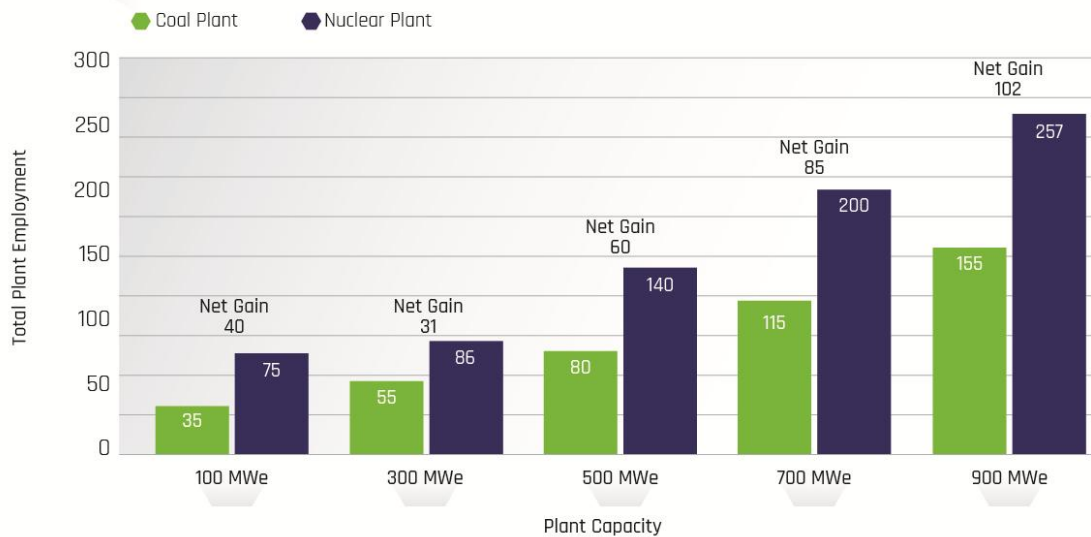
Top Recommendations from the Feasibility Studies

Workforce Development	Supply Chain	Financial Incentives
<p>New York can develop apprenticeship and pre-apprenticeship programs to potentially alleviate construction and operating labor supply issues</p>	<p>New York has the opportunity to determine if state-level policies improve the supply chain and how shortages and the supply chain maturity impacts economic development.</p>	<p>Advocate for federal funding and policies to help speed deployment of nuclear technologies, including federal funding for domestic development of nuclear fuel and cost overrun insurance.</p>
<p>By launching the Tennessee Nuclear Energy Workforce Center, the state can implement a holistic, integrated approach to workforce development, training, and education, providing enough new workers necessary for the expanding nuclear industry.</p>	<p>Tennessee should strengthen nuclear industry incentives, e.g., tax credits, to attract additional supply chain assets and companies in support of the nuclear ecosystem.</p>	<p>Partnering with other states to reduce cost-risk for first-of-a-kind installations.</p>
		<p>Further federal assistance, e.g., loan guarantees or federal cost guarantees, would be essential for pursuing a first-of-a-kind plant, recognizing the public-good value of the learnings that would enable others to build plants.</p>

What does nuclear power addition offer a community?

- Nuclear can bring lasting jobs to a plant for 40-80 years
- There are both direct jobs created as well as indirect and induced jobs
- Many other technologies such as wind, solar, and gas bring limited jobs
- For every \$100 of electricity produced, \$50 of economic activity occurs in suppliers and support industries

Estimated Employment by Generation



Income for Community Population < 20,000

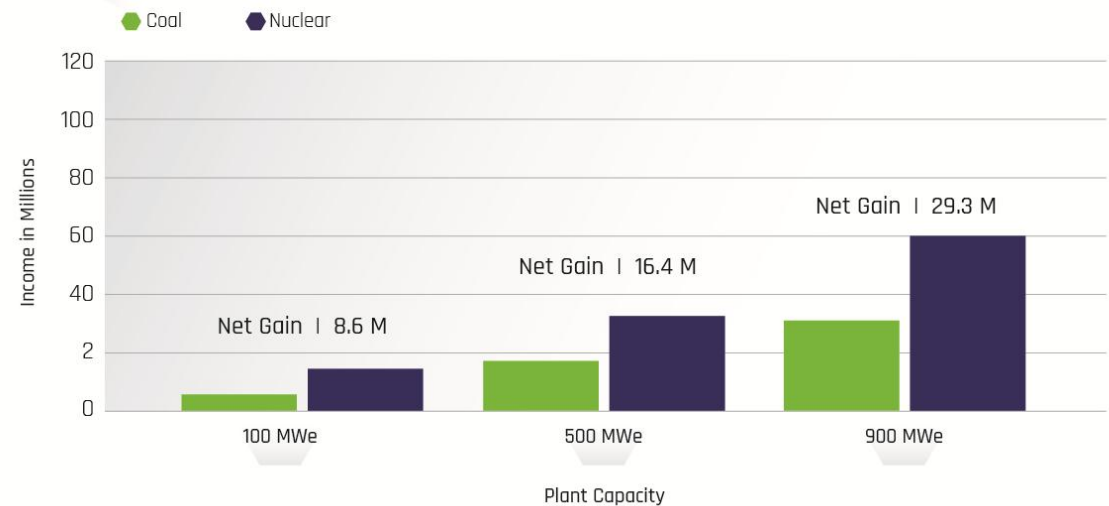


Figure 14: Nuclear provides high paying jobs and the most jobs on site per GW^{49,50}

Generation type	Permanent jobs on site, jobs/GW	Industry wage median, \$/hour	Benefits concentrated in local community?
Nuclear	237 ~500	\$56	✓
Coal	107	\$49	✓
Natural gas	-30	\$49	✓
Wind	80	\$37	✗
Solar	-36	\$34	✗

Note 237 jobs is an estimate for SMRs; ~500 represents the current operating fleet of large reactors; coal and natural gas are both the value of "Fossil Fuel Electric Power Generation;" when they were measured separately in the 2020 USEER Wage Report, they were within ~5% of each other; hydropower onsite jobs per GW not available, but industry median wage was \$51/hour

GAIN nuclear feasibility studies



CORONADO GENERATING STATION

Location: St. John's AZ

Owner: Salt River Project (SRP)

Results:

- The site has ample, developable land for potential nuclear deployment.
- SRP will need to assess water availability, local ecology, and continue community engagement going forward.



GHENT GENERATING STATION

Location: Ghent, KY

Owner: Louisville Gas and Electric, Kentucky Utilities (LG&E, KU)

Results:

- The site is capable of hosting small and medium-sized reactors, but site topography and potential coal combustion residue will limit the amount of developable land, and therefore total capacity.

GAIN nuclear feasibility studies



SPRINGERVILLE GENERATING STATION

Location: Springerville, AZ

Owner: Tucson Electric Power

Scope: Extrapolating site analysis from neighboring site



COLSTRIP GENERATING STATION

Location: Colstrip, MT

Owner: Northwestern Energy

Scope: Assess the feasibility of different technology options at Colstrip Power Plant.

Baseline: Uninterrupted coal plant operations.

High-level investigation of site viability for nuclear deployment in NWE service territory

Legacy Documents Program

- Legacy document release process
- Legacy document research packages
- Acquisition and Preservation
 - Digitization
 - Database creation

GAIN LEGACY CONTACTS

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Rediscovering the Past,



to Power the Future!

What are legacy documents?



HISTORICAL DOCUMENTS

All nuclear legacy work from the last 70 years

APPLIED TECHNOLOGY DOCUMENTS

These are the documents most requested by industry. This marking was created by the DOE Office of Nuclear Energy in the 1970s to preserve the foreign-trade value of certain NE-funded work.



DATASETS

There is an increasing interest in having access to legacy datasets.

Nuclear Energy Voucher Program

- Vouchers competitively award access to DOE national laboratory facilities and staff
- **NOT** a financial award to businesses



VOUCHER VALUE

~\$50K – \$500K

*Voucher recipient is
responsible for 20%
cost share*



FOUR CYCLES PER YEAR



**AVAILABLE TO
MAJORITY
(>51%) U.S.
OWNED
COMPANIES**



STANDARD CRADA



**LIMIT TO ONE
APPLICATION
PER CYCLE**



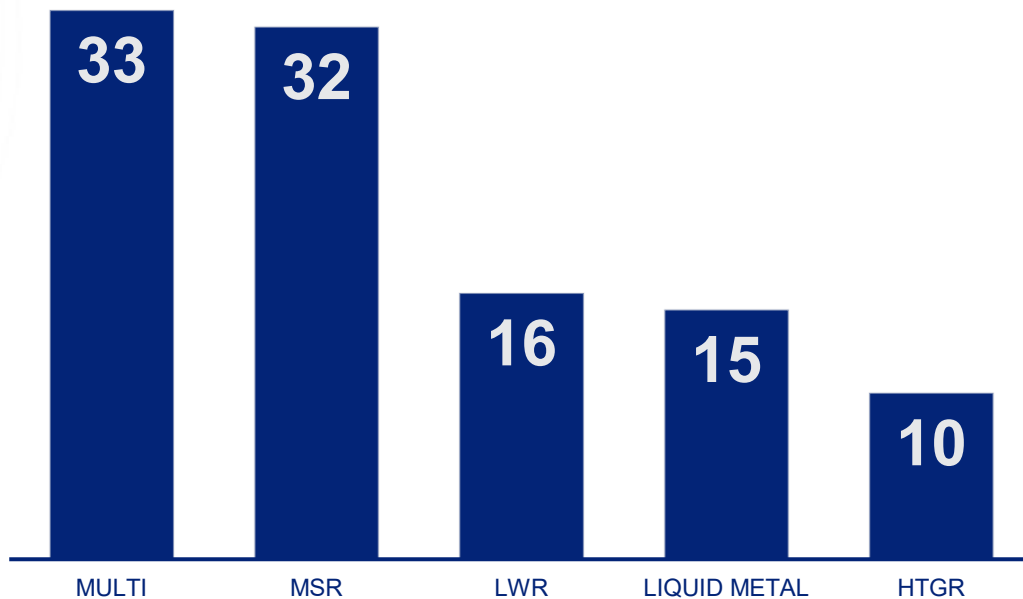
**ONE-YEAR
PERIOD OF
PERFORMANCE**

Voucher Statistics

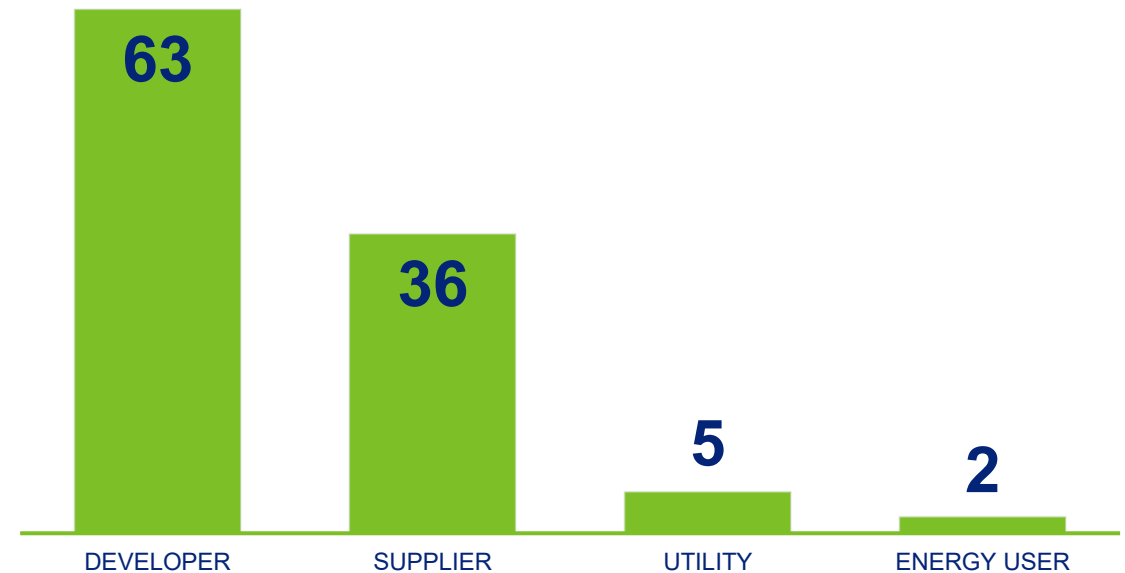
- GAIN's Nuclear Energy Voucher Program provides funding and access to the expertise and resources at the U.S. Department of Energy's national laboratory complex in order to accelerate the commercialization of nuclear technologies



Voucher Awards by Reactor Type

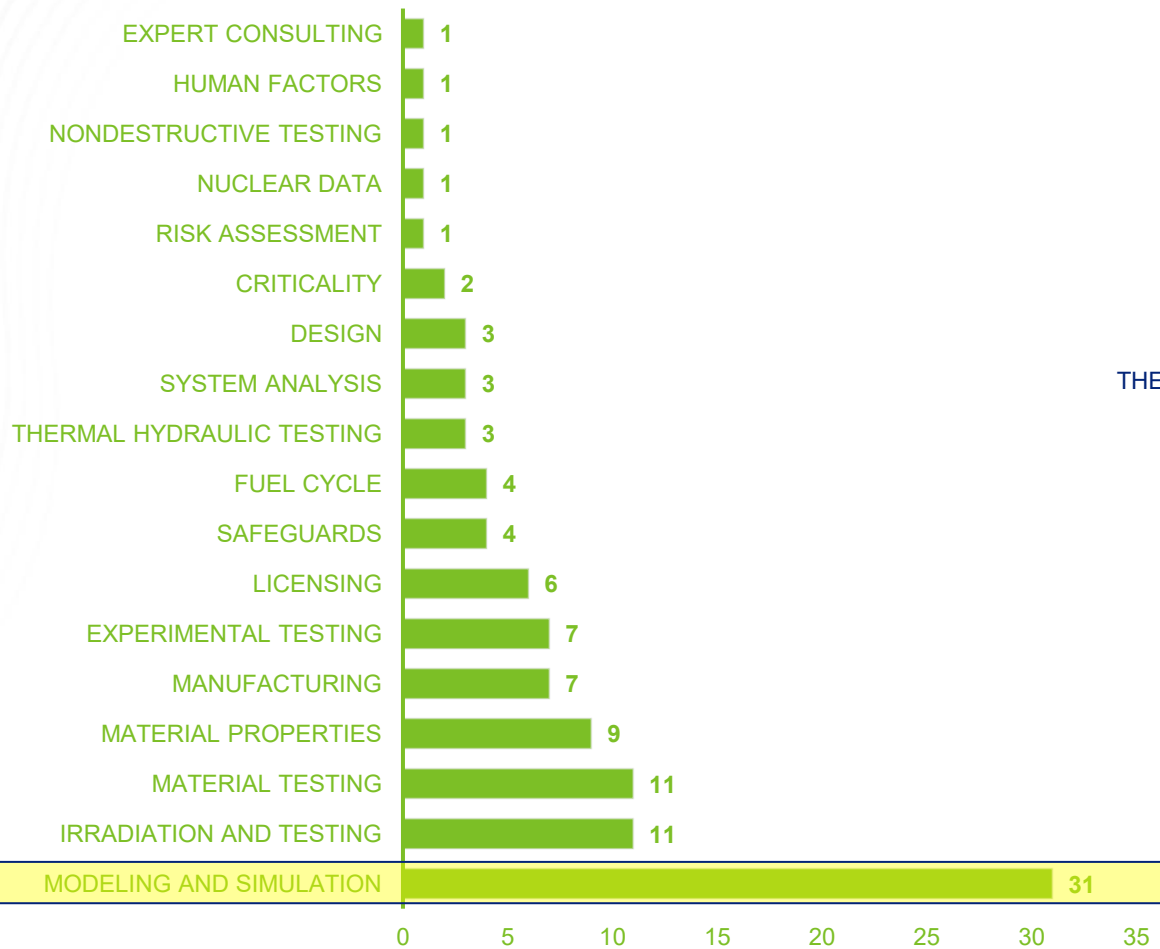


Voucher Awards by Company Type

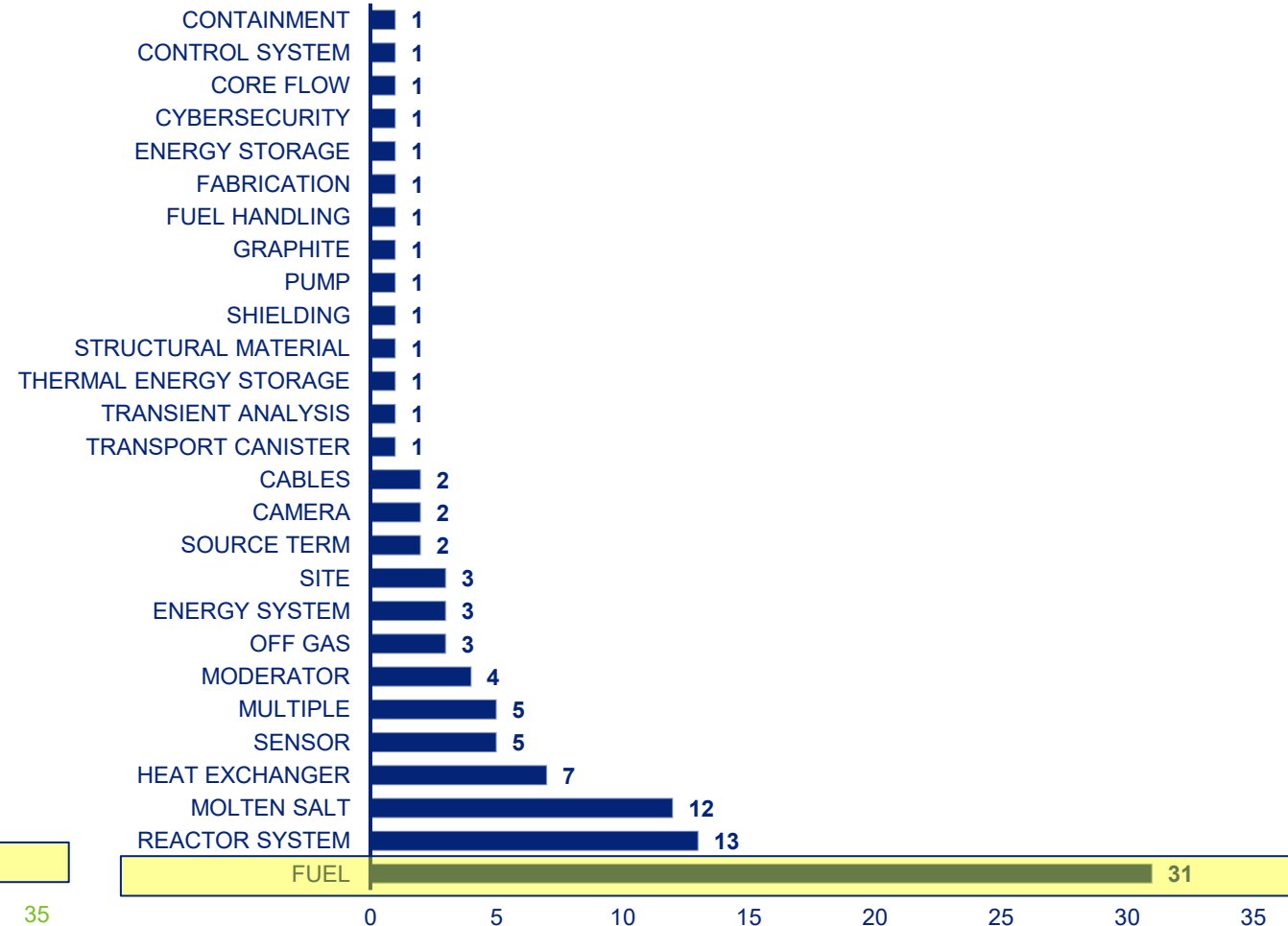


Voucher Statistics – Work Areas

Voucher Awards by Work Type

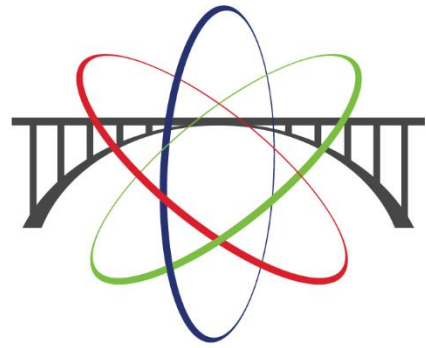


Voucher Awards by Component Type



Voucher Pitfalls

- Neutron Irradiation Testing and PIE
- Building Infrastructure
- Industry generic work scope
- Not knowing how to move forward with the information
- Asking for work scopes that can be done by private industry
- University Involvement



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Innovation in Nuclear



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