

The Forum for America's Ideas

STATE LEGISLATIVE ACTION: AT-RISK NUCLEAR POWER

PENNSYLVANIA SENATE COMMITTEE ON CONSUMER PROTECTION AND PROFESSIONAL LICENSURE

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NATIONAL CONFERENCE *of* STATE LEGISLATURES

Who We Are

□ Bipartisan Organization:

- Serves the 7,383 legislators and 30,000+ legislative staff of the nation's 50 states, commonwealths and territories

□ Activities

- Research and information on topics of interest to the states
- Technical assistance and training
- Opportunities for policymakers to exchange ideas
- Lobbying at the federal level for states' interests



Outline



- U.S. Nuclear Power
- Market dynamics
- Legislative trends
- State action on nuclear power
- ZECs
- Policy comparisons



Tracking the Issue



**State Options to Keep
Nuclear in the Energy Mix**

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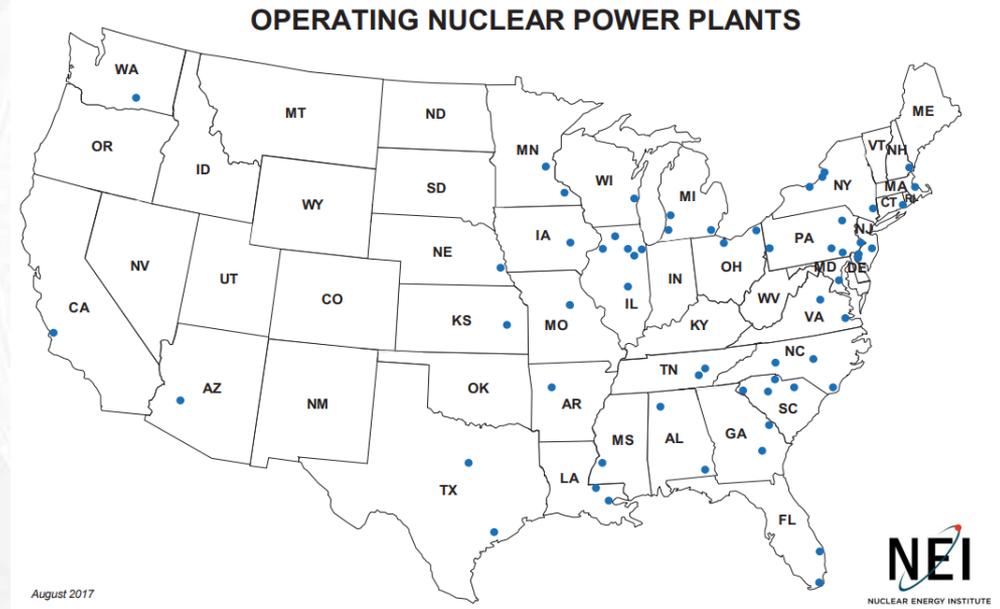
- Following policy discussions across states since 2015
- Published comprehensive report in 2017
- Continues to be an area of focus



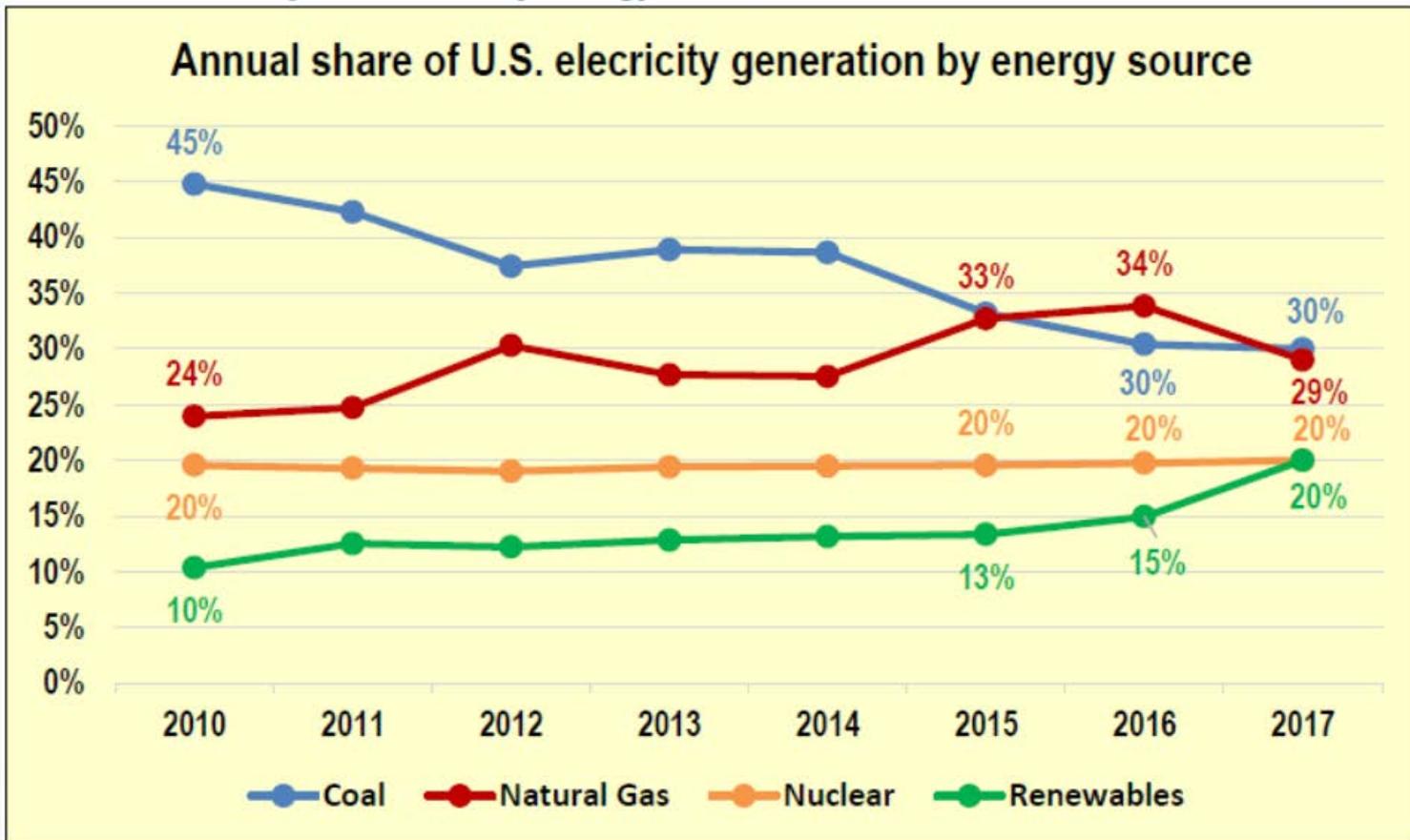
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Nuclear Power in the U.S.

- How many operating nuclear reactors are there in the U.S.?
- Reactors shut down?
- Reactors scheduled to shut down?
- 10-15 reactors at risk
- 1 new reactor
- 2 reactors under construction/2 reactors halted construction
- 82 reactors: 20-year license extension



U.S. Energy Mix



Source: Energy Information Administration Electricity Data Browser

(Note: For 2017, only data for first half of the year is included)



Market Dynamics

- Primary concern is market integrity
 - ▣ Protection of competitive prices
 - ▣ PJM has said that state policies have the potential to suppress prices
 - ▣ Price suppression impacts resource investment
- Market-based solutions
 - ▣ PJM has acknowledged the current disconnect between policy goals and market design
 - ▣ PJM has put forward proposals to accommodate state policies
 - ▣ The market-based solution is a price on carbon



2019 Legislative Trends

- **Focus on Clean Energy Initiatives**
 - ▣ California S.B. 100 (enacted)
 - ▣ New Mexico S.B. 489 (enacted)
 - ▣ Washington S.B. 5116 (pending)
 - ▣ Minnesota H.B. 700 (pending)
 - ▣ Illinois S.B. 2132 (pending)



State Action on Nuclear Power



- Four states have acted in recent years to prevent the closure of nuclear plants operating at a loss
 - New York PSC
 - August 2016
 - Illinois General Assembly
 - December 2016
 - Connecticut General Assembly
 - October 2017
 - New Jersey Legislature
 - April 2018



Zero Emissions Credits (ZECs)

- ZECs: Payment for every MWh of carbon-free electricity



How it Works

State agency purchases ZECs from nuclear plants, based on electricity generated



Utilities purchase ZECs from state agency, based on their percent of electric load



Ratepayers billed, based on consumption



By the numbers...

□ Pennsylvania*

- 83 million MWh total
- 83 million MWh eligible
- \$6.68/MWh
- \$550 million
- 6 years
- 9 reactors

□ Illinois

- 96 million MWh total
- 14.2 million MWh eligible
- \$16.50/MWh
- \$235 million
- 10 years
- 3 reactors

□ New York

- 42.3 million MWh total
- 27.6 million MWh eligible
- \$17.48/MWh
- \$482 million
- 12 years
- 4 reactors

□ New Jersey

- 28.1 million MWh total
- 28.1 million MWh eligible
- \$10.70/MWh
- \$302 million
- 3-year cycles
- 3 reactors

* Based on Pennsylvania S.B. 510.



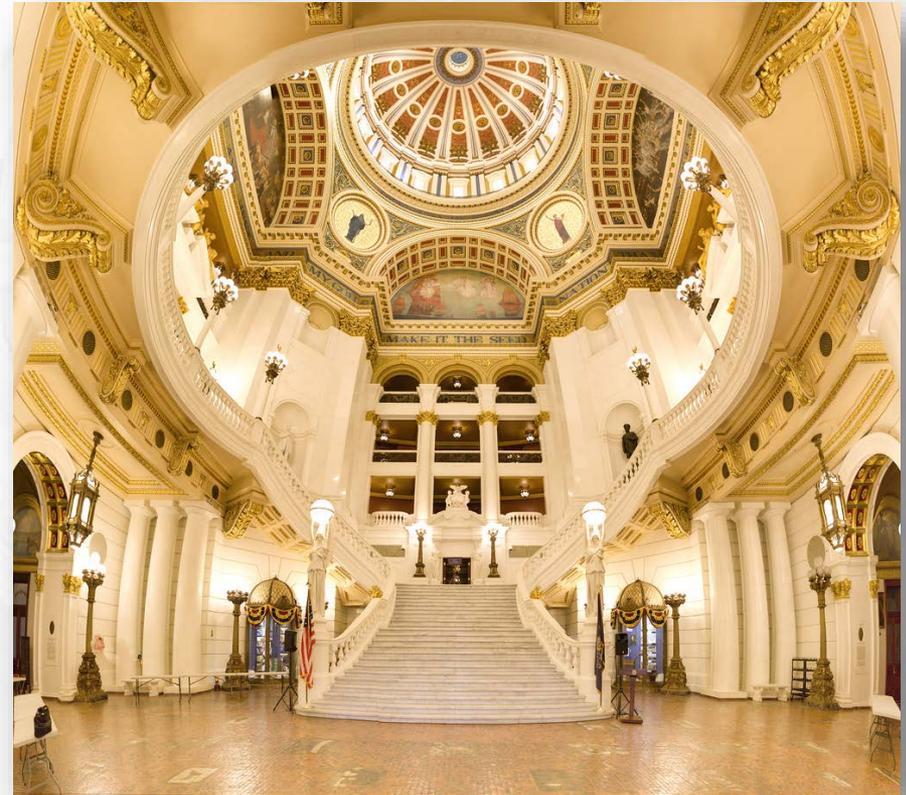
Key Considerations

- ❑ Eligibility requirements
- ❑ Price formation
- ❑ Ratepayer impact
- ❑ Necessity requirements



Where S.B. 510 Differs

- ❑ Tier III is not nuclear-specific
- ❑ Penalties for failure to operate
- ❑ Not tied to struggling facilities
- ❑ Designed to support the greatest MWh of carbon-free resources at lower costs



ZECs in the Courts

- ZEC programs in IL & NY have been upheld in federal courts
- Awaiting decision from U.S. Supreme Court on whether it will hear the case



Contact and Resources

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- [“State Options to Keep Nuclear in the Energy Mix”](#)
- [NCSL Environment and Energy Legislative Database](#)
- [State Restrictions on New Nuclear Power Facility Construction](#)
- [The News Reactor: NCSL’s Nuclear Newsletter](#)

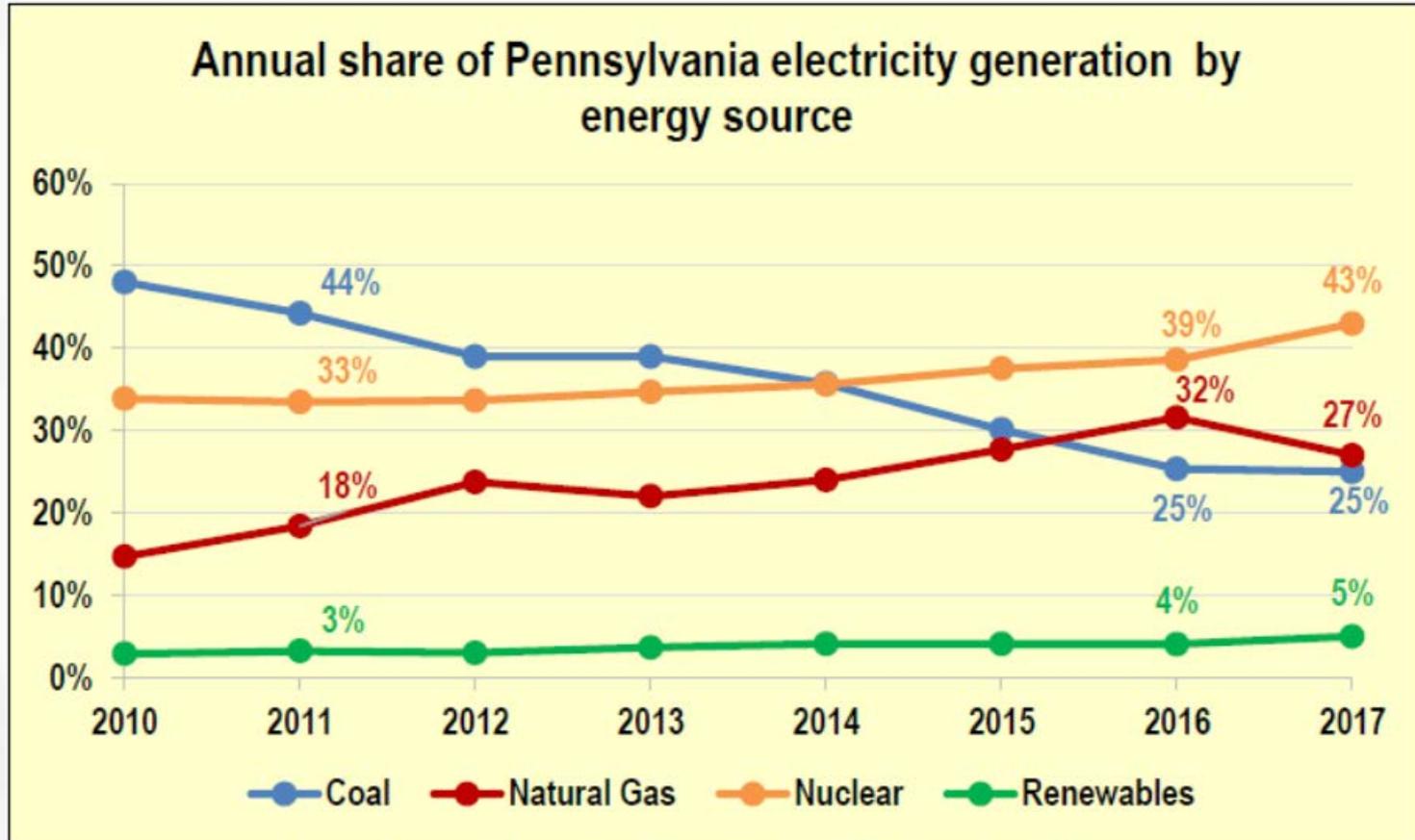


Background Information



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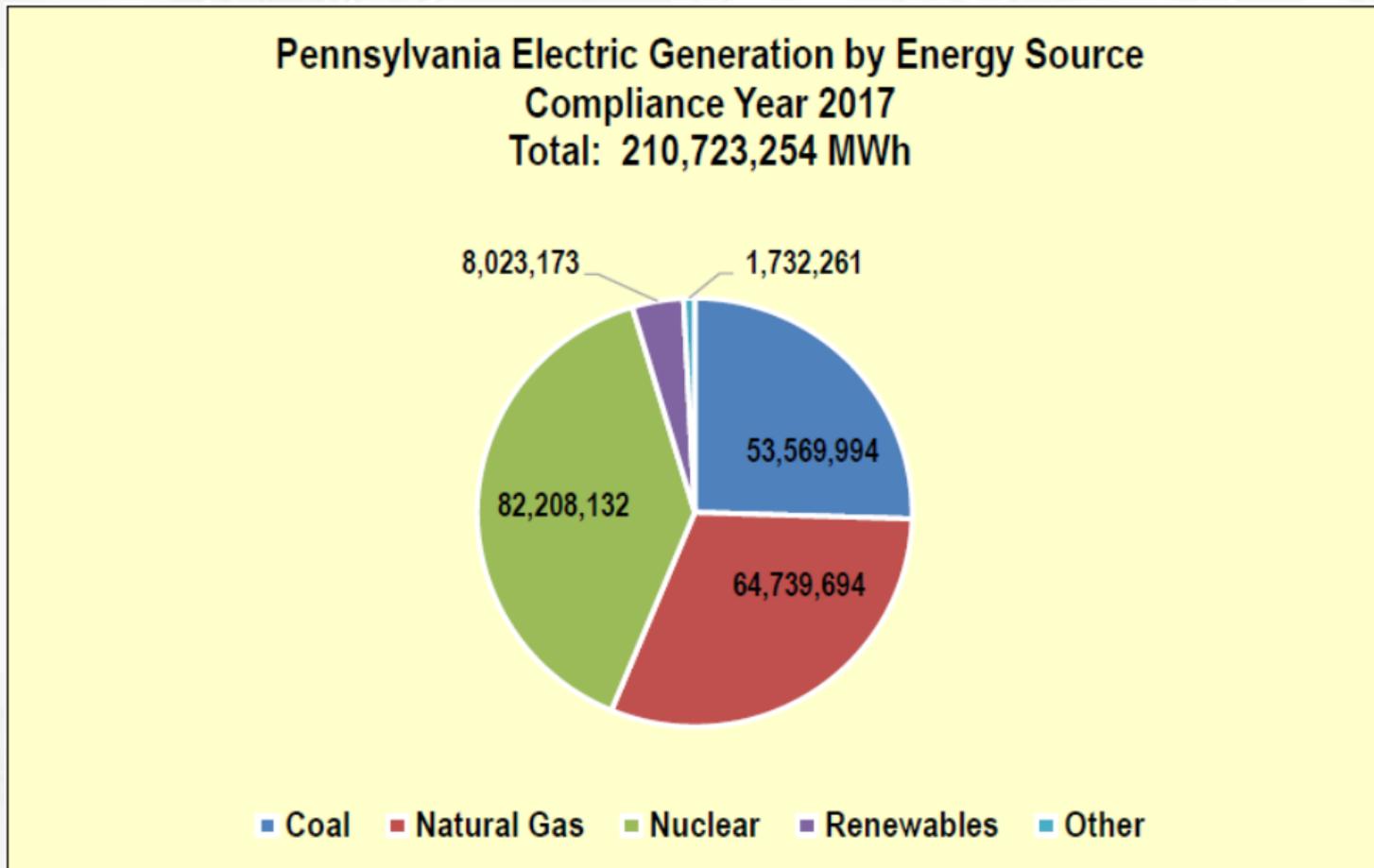
Pennsylvania's Energy Mix



Source: Energy Information Administration Electricity Data Browser
(Note: For 2017, only data for first half of the year is included)



Pennsylvania – Electric Generation 2017



Source: PA Public Utility Commission

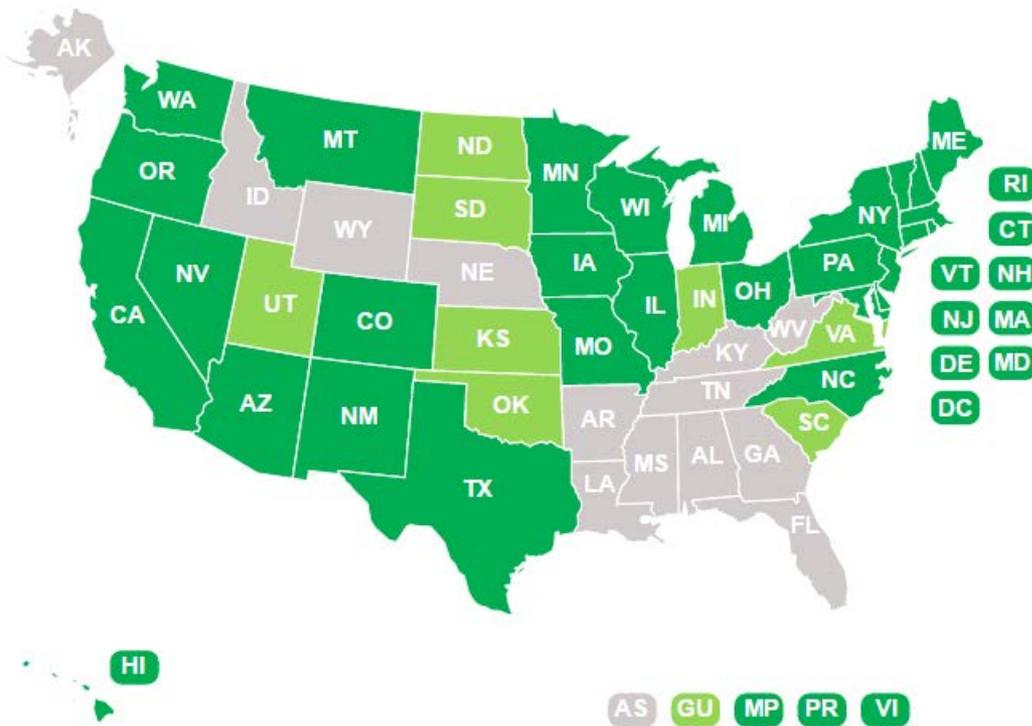


Renewable Portfolio Standards

States and territories with Renewable Portfolio Standards

States and territories with a voluntary renewable energy standard or target

States and territories with no standard or target



- Twenty-nine states and D.C. have mandatory RPS requirements
- New 100 percent renewables mandates

Source: NCSL, 2018



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PA Nuclear Information

- Represent 93% of state's carbon-free electricity
- 5 nuclear plants w/ 9 reactors
 - ▣ Beaver Valley 1&2
 - ▣ Limerick 1&2
 - ▣ Peach Bottom 2&3
 - ▣ Susquehanna 1&2
 - ▣ Three Mile Island 1
 - The state's only single-reactor plant
- 9,781 MWe combined
 - ▣ IL has 11 reactors w/ 11,564 MWe capacity
- 36% nuclear; 36% coal; 24% gas
- PA produces more than 5% of total US electricity
- Nuclear plants employ 4,900 workers
- More than 500 companies work in nuclear energy in the state

