

State Fact Sheets: Nuclear Power and the Clean Energy Future

PREPARED FOR

NUCLEAR MATTERS 

PREPARED BY



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This collection of fact sheets was prepared for Nuclear Matters by The Horinko Group to accompany the report *Nuclear Power and the Clean Energy Future* (Sept. 2016).

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APPENDIX A – FACT SHEET SOURCES AND METHODOLOGIES

Nuclear Power & Alabama's Clean Energy Future

Nuclear Power Plants

Alabama has 2 nuclear power plants:

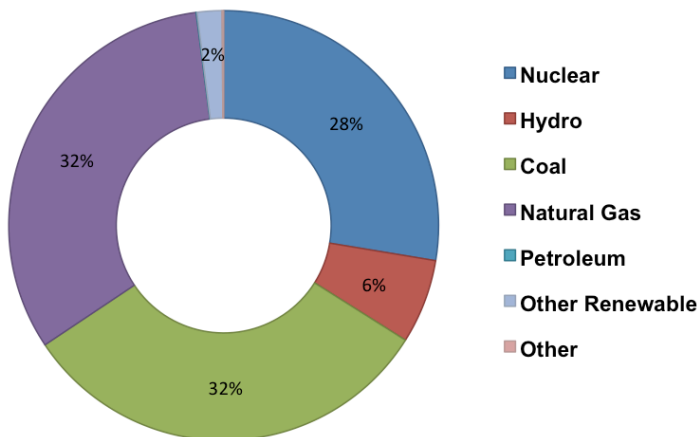
Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
Brown's Ferry	3,310	27.0	18.7
Joseph M Farley	1,757	14.3	9.9
State Totals	5,066	41.3	28.6

Basic Facts & Statistics

- ✓ Nuclear energy in Alabama provides **41.3 million MWh** of electricity per year—enough to power **3.8 million homes**.
- ✓ Nuclear power provides **nearly one-third** of Alabama's electricity.

Nuclear energy provides **81%** of Alabama's carbon-free electricity

2014 Electricity Generation by Source



Clean Energy

- ✓ Nuclear power the **largest source** of carbon-free electricity in Alabama.
- ✓ Alabama's nuclear power avoids at least **28.6 million tons** of CO₂ per year.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, Alabama would lose **41.3 million MWh** of carbon-free electricity annually.

The resulting **28.6 million tons** of CO₂ per year **are over 150%** of the state's carbon-reduction goal.

The social cost of the additional CO₂ is **\$4.58 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	1,518	75.6	
Interim Period 2022-2029	1,157	62.2	63.1
Final Goal 2030 and Beyond	1,018	56.9	57.6

Best leverages clean nuclear power



Sources: EIA and EPA. This Fact Sheet was prepared for Nuclear Matters by The Horinko Group to accompany the report, Nuclear Power and the Clean Energy Future (Sept. 2016). Appendix 1 to the Report provides a complete description of methodology and sources. Appendix A to the Fact Sheets provides additional information specific to the Fact Sheets. Note: Due to rounding, values in the Nuclear Power Plants table may not sum to totals. Labels on the Electricity Generation chart are displayed for sources representing 2% or more of total state generation.

Nuclear Power & Arizona's Clean Energy Future

Nuclear Power Plants

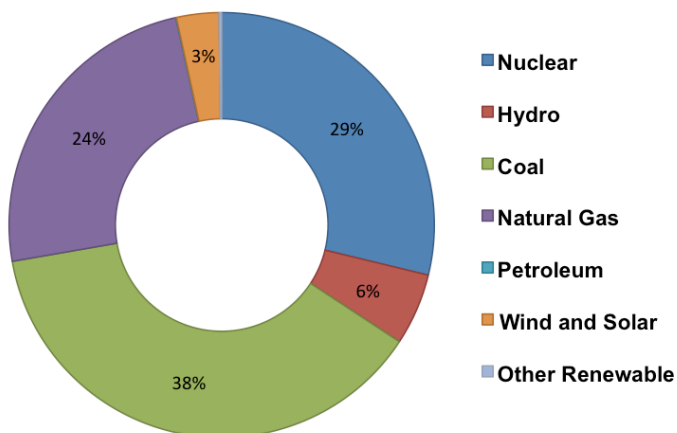
Arizona has one nuclear power plant:

Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
Palo Verde (State Totals)	3,937	32.1	22.6

Basic Facts & Statistics

- ✓ Nuclear energy in Arizona provides **32.1 million MWh** of electricity per year—enough to power **2.9 million homes**.
- ✓ Nuclear power is the **second largest source** of electricity in Arizona.

2014 Electricity Generation by Source



Nuclear energy provides **77%** of Arizona's carbon-free electricity

Clean Energy

- ✓ Nuclear energy is the **largest source** of carbon-free electricity in Arizona.
- ✓ Arizona's nuclear power avoids at least **22.6 million tons** of CO₂ per year.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, Arizona would lose **32.1 million MWh** of carbon-free electricity annually.

The resulting **22.6 million tons** of CO₂ per year **are more than two times** the state's carbon-reduction goal.

The social cost of the additional CO₂ is **\$3.62 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	1,552	40.5	
Interim Period 2022-2029	1,173	33.1	34.5
Final Goal 2030 and Beyond	1,031	30.2	32.4

Best leverages clean nuclear power



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Nuclear Power & Arkansas's Clean Energy Future

Nuclear Power Plants

Arkansas has one nuclear power plant:

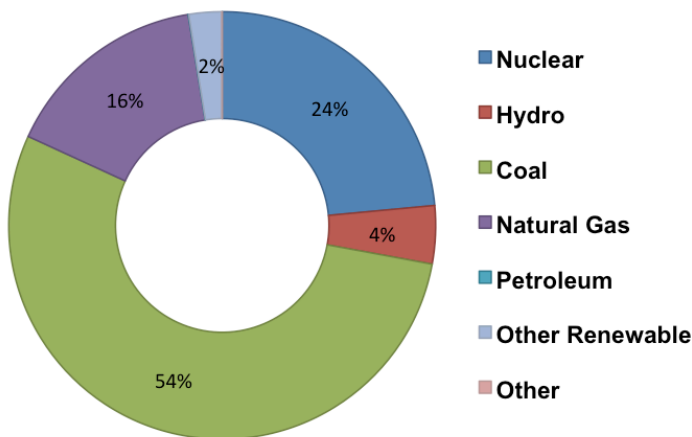
Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
Arkansas Nuclear One (State Totals)	1,820	13.4	10.4

Basic Facts & Statistics

- ✓ Nuclear energy in Arkansas provides **13.4 million MWh** of electricity per year—enough to power over **1.2 million homes**.
- ✓ Nuclear energy is the second-largest source of power in Arkansas, providing **24%** of the state's electricity.

Nuclear energy provides **84%** of Arkansas's carbon-free electricity

2014 Electricity Generation by Source



Clean Energy

- ✓ Nuclear is the **largest source** of Arkansas's carbon-free power.
- ✓ Arkansas's nuclear power avoids at least **10.4 million tons** of CO₂ per year.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, Arkansas would lose **13.4 million MWh** of carbon-free electricity annually.

The resulting **10.4 million tons** of CO₂ per year **are over 100%** of the state's carbon-reduction goal.

The social cost of the additional CO₂ is **\$1.66 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	1,779	39.9	
Interim Period 2022-2029	1,304	33.7	34.1
Final Goal 2030 and Beyond	1,130	30.3	30.7

Best leverages clean nuclear power



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Nuclear Power & California's Clean Energy Future

Nuclear Power Plants

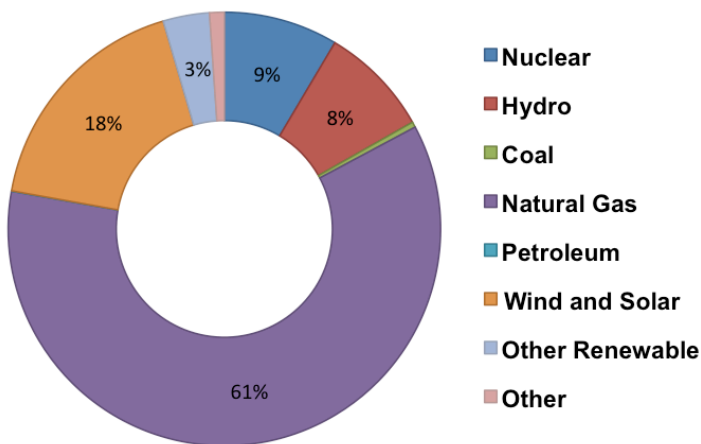
California has one nuclear power plant:

Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
Diablo Canyon (State Totals)	2,240	17.8	6.3

Basic Facts & Statistics

- ✓ Nuclear energy in California provides **17.8 million MWh** of electricity per year—enough to power over **1.6 million homes**.
- ✓ Nuclear power is a critical part of California's diverse electricity generation portfolio.

2014 Electricity Generation by Source



Nuclear energy provides **one-quarter** of California's carbon-free electricity

Clean Energy

- ✓ Nuclear power is tied with hydro as the largest source of carbon-free electricity in California.
- ✓ California's nuclear power avoids at least **6.3 million tons** of CO₂ per year.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, California would lose **17.8 million MWh** of carbon-free electricity annually.

The resulting **6.3 million tons** of CO₂ per year would make it harder to comply with the state's carbon-reduction goal.

The social cost of the additional CO₂ is **\$1.01 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	963	46.1	
Interim Period 2022-2029	907	51.0	53.9
Final Goal 2030 and Beyond	828	48.4	52.8

Best leverages clean nuclear power



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Nuclear Power & Connecticut's Clean Energy Future

Nuclear Power Plants

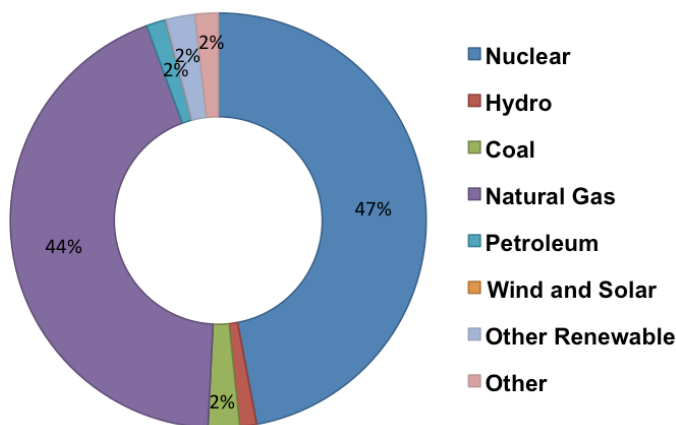
Connecticut has one nuclear power plant:

Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
Millstone (State Totals)	2,123	16.8	7.2

Basic Facts & Statistics

- ✓ Nuclear energy in Connecticut provides **16.8 million MWh** of electricity per year—enough to power over **1.5 million homes**.
- ✓ Nuclear power is the **largest source** of electricity in Connecticut.

2014 Electricity Generation by Source



Nuclear energy provides **97%** of Connecticut's carbon-free electricity

Clean Energy

- ✓ Nuclear energy provides **nearly all** of Connecticut's carbon-free power.
- ✓ Connecticut's nuclear power avoids at least **7.2 million tons** of CO₂ per year.
- ✓ Connecticut is a member of RGGI, which trades carbon credits on a mass basis.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, Connecticut would lose **16.8 million MWh** of carbon-free electricity annually.

The resulting **7.2 million tons** of CO₂ per year exceed the state's mass and new-source complement final goal.

The social cost of the additional CO₂ is **\$1.15 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	846	6.7	
Interim Period 2022-2029	852	7.2	7.4
Final Goal 2030 and Beyond	786	6.9	7.1

Best leverages clean nuclear power



Sources: EIA and EPA. This Fact Sheet was prepared for Nuclear Matters by The Horinko Group to accompany the report, Nuclear Power and the Clean Energy Future (Sept. 2016). Appendix 1 to the Report provides a complete description of methodology and sources. Appendix A to the Fact Sheets provides additional information specific to the Fact Sheets. Note: Due to rounding, values in the Nuclear Power Plants table may not sum to totals. Labels on the Electricity Generation chart are displayed for sources representing 2% or more of total state generation.

Nuclear Power & Florida's Clean Energy Future

Nuclear Power Plants

Florida has 2 nuclear power plants:

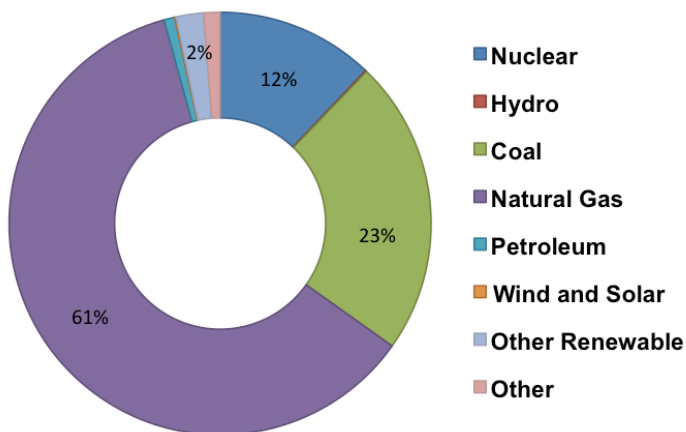
Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
St. Lucie	1,968	15.5	9.1
Turkey Point	1,604	12.0	7.0
State Totals	3,572	27.5	16.1

Basic Facts & Statistics

- ✓ Nuclear energy in Florida provides **27.5 million MWh** of electricity per year—enough to power over **2.5 million homes**.
- ✓ Nuclear power is a critical part of Florida's diverse electricity generation portfolio.

Nuclear energy provides **98%** of Florida's carbon-free electricity

2014 Electricity Generation by Source



Clean Energy

- ✓ Nuclear energy provides **nearly all** of Florida's carbon-free power.
- ✓ Florida's nuclear power avoids at least **16.1 million tons** of CO₂ per year.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, Florida would lose **27.5 million MWh** of carbon-free electricity annually.

The resulting **16.1 million tons** of CO₂ per year **are over 120%** of the state's carbon-reduction goal.

The social cost of the additional CO₂ is **\$2.57 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	1,247	118.4	
Interim Period 2022-2029	1,026	113.0	114.7
Final Goal 2030 and Beyond	919	105.1	106.6

Best leverages clean nuclear power



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Nuclear Power & Georgia's Clean Energy Future

Nuclear Power Plants

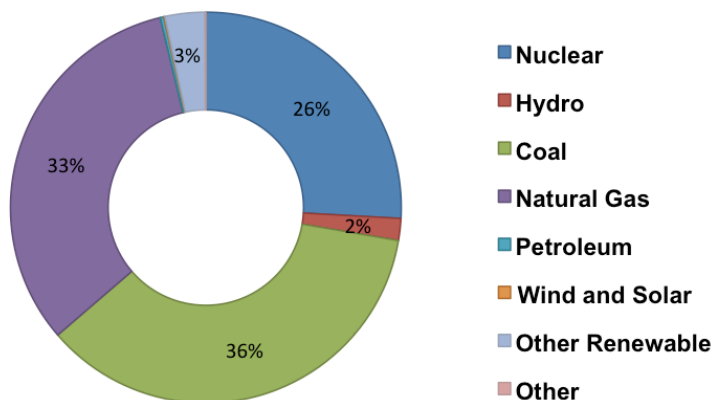
Georgia has 2 nuclear power plants:

Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
Edwin I Hatch	1,759	14.3	8.1
Vogtle	2,302	18.8	10.7
State Totals	4,061	33.1	18.8

Basic Facts & Statistics

- ✓ Nuclear energy in Georgia provides **33.1 million MWh** of electricity per year—enough to power over **3 million homes**.
- ✓ Two new reactors under construction will add over 2,200 MW of new zero-carbon capacity.

2014 Electricity Generation by Source



Nuclear power provides **93%** of Georgia's carbon-free electricity

Clean Energy

- ✓ Nuclear power provides **nearly all** of Georgia's carbon-free electricity.
- ✓ Georgia's nuclear power avoids at least **18.8 million tons** of CO₂ per year.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, Georgia would lose **33.1 million MWh** of carbon-free electricity annually.

The resulting **18.8 million tons** of CO₂ per year are **more than 100%** of the state's carbon-reduction goal.

The social cost of the additional CO₂ is **\$3 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	1,600	62.9	
Interim Period 2022-2029	1,198	50.9	51.6
Final Goal 2030 and Beyond	1,049	46.3	46.9

Best leverages clean nuclear power



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Nuclear Power & Illinois's Clean Energy Future

Nuclear Power Plants

Illinois has 6 nuclear power plants:

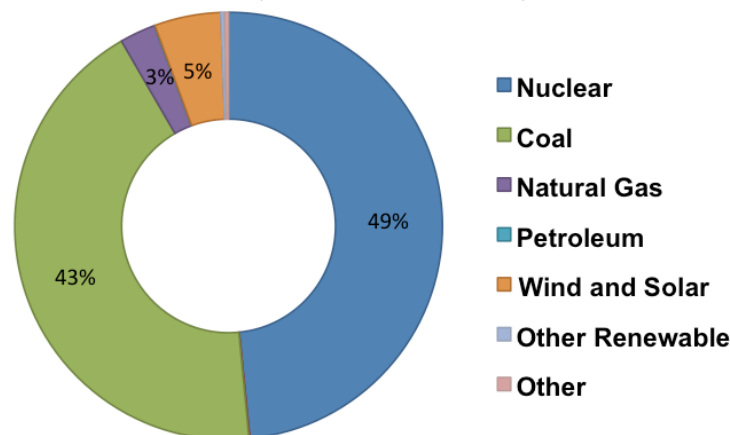
Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
Braidwood	2,330	19.9	17.0
Byron	2,300	19.4	16.6
Clinton	1,065	8.6	7.4
Dresden	1,779	15.2	13.0
La Salle	2,271	18.7	16.0
Quad Cities	1,819	15.5	13.2
State Totals	11,564	97.4	83.1

Basic Facts & Statistics

- ✓ Nuclear energy in Illinois provides **97.4 million MWh** of electricity per year—enough to power nearly **9 million homes**.
- ✓ Nuclear energy provides **half** of the state's electricity.

Nuclear energy is the **largest source** of power in Illinois

2014 Electricity Generation by Source



Clean Energy

- ✓ Nuclear power provides **91%** of Illinois's carbon-free electricity.
- ✓ Illinois's nuclear power avoids at least **83.1 million tons** of CO₂ per year.
- ✓ Illinois has a long-standing commitment to clean energy.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, Illinois would lose **97.4 million MWh** of carbon-free electricity annually.

The resulting **83.1 million tons** of CO₂ per year are **nearly 3 times** the state's carbon-reduction goal.

The social cost of the additional CO₂ is **\$13.3 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	2,208	96.1	
Interim Period 2022-2029	1,456	74.8	75.6
Final Goal 2030 and Beyond	1,245	66.5	67.2

Best leverages clean nuclear power



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Nuclear Power & Iowa's Clean Energy Future

Nuclear Power Plants

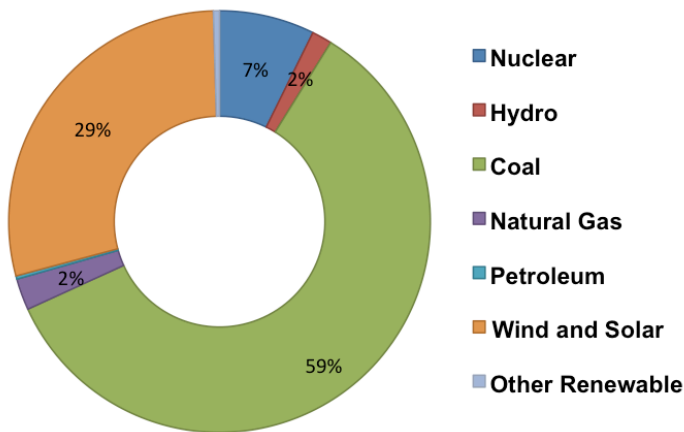
Iowa has one nuclear power plant:

Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
Duane Arnold (State Totals)	601	4.9	3.6

Basic Facts & Statistics

- ✓ Nuclear energy in Iowa provides **4.9 million MWh** of electricity per year—enough to power **450,000 homes**.
- ✓ Nuclear power is a critical part of Iowa's diverse electricity generation portfolio.

2014 Electricity Generation by Source



Nuclear energy provides nearly **20%** of Iowa's carbon-free electricity

Clean Energy

- ✓ Nuclear is the **second largest source** of carbon-free electricity in Iowa after wind.
- ✓ Iowa's nuclear power avoids at least **3.6 million tons** of CO₂ per year.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, Iowa would lose **4.9 million MWh** of carbon-free electricity annually.

The resulting **3.6 million tons** of CO₂ per year is **nearly one-third** of the state's carbon-reduction goal.

The social cost of the additional CO₂ is **\$0.57 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	2,195	38.1	
Interim Period 2022-2029	1,505	28.3	28.6
Final Goal 2030 and Beyond	1,283	25.0	25.3

Best leverages clean nuclear power



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Nuclear Power & Kansas's Clean Energy Future

Nuclear Power Plants

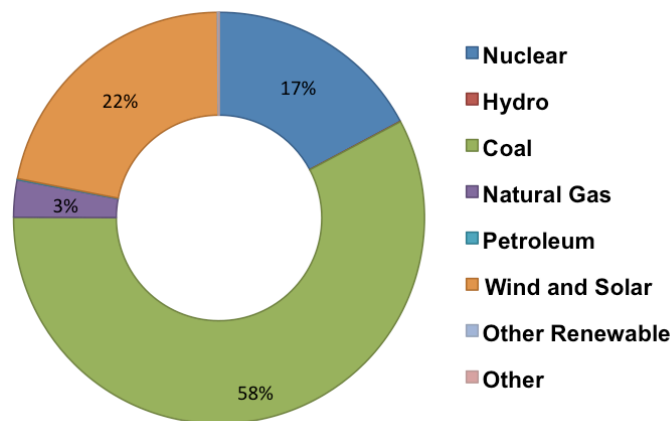
Kansas has one nuclear power plant:

Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
Wolf Creek (State Totals)	1,175	8.1	7.6

Basic Facts & Statistics

- ✓ Nuclear energy in Kansas provides **8.1 million MWh** of electricity per year—enough to power over **740,000 homes**.
- ✓ Nuclear power is a critical part of Kansas's diverse electricity generation portfolio.

2014 Electricity Generation by Source



Nuclear energy provides **44%** of Kansas's carbon-free electricity

Clean Energy

- ✓ Nuclear is the **second largest source** of carbon-free electricity in Kansas after wind.
- ✓ Kansas's nuclear power avoids at least **7.6 million tons** of CO₂ per year.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, Kansas would lose **8.1 million MWh** of carbon-free electricity annually.

The resulting **7.6 million tons** of CO₂ per year is **nearly two-thirds** of the state's carbon-reduction goal.

The social cost of the additional CO₂ is **\$1.21 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	2,319	34.4	
Interim Period 2022-2029	1,519	24.9	25.1
Final Goal 2030 and Beyond	1,293	22.0	22.2

Best leverages clean nuclear power



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Nuclear Power & Louisiana's Clean Energy Future

Nuclear Power Plants

Louisiana has 2 nuclear power plants:

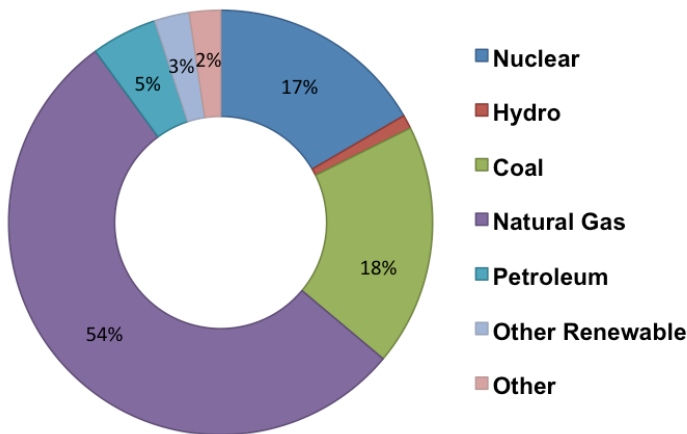
Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
River Bend	969	7.6	4.7
Waterford	1,164	9.0	5.5
State Totals	2,133	16.5	10.2

Basic Facts & Statistics

- ✓ Nuclear energy in Louisiana provides **16.5 million MWh** of electricity per year—enough to power over **1.5 million homes**.
- ✓ Nuclear energy provides **17%** of Louisiana's electricity.

Nuclear energy provides **94%** of Louisiana's carbon-free electricity

2014 Electricity Generation by Source



Clean Energy

- ✓ Nuclear energy provides **nearly all of** Louisiana's carbon-free electricity.
- ✓ Louisiana's nuclear power avoids at least **10.2 million tons** of CO₂ per year.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, Louisiana would lose **16.5 million MWh** of carbon-free electricity annually.

The resulting **10.2 million tons** of CO₂ per year is **over 130%** of the state's carbon-reduction goal.

The social cost of the additional CO₂ is **\$1.63 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	1,618	43.0	
Interim Period 2022-2029	1,293	39.3	39.8
Final Goal 2030 and Beyond	1,121	35.4	35.8

Best leverages clean nuclear power



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Nuclear Power & Maryland's Clean Energy Future

Nuclear Power Plants

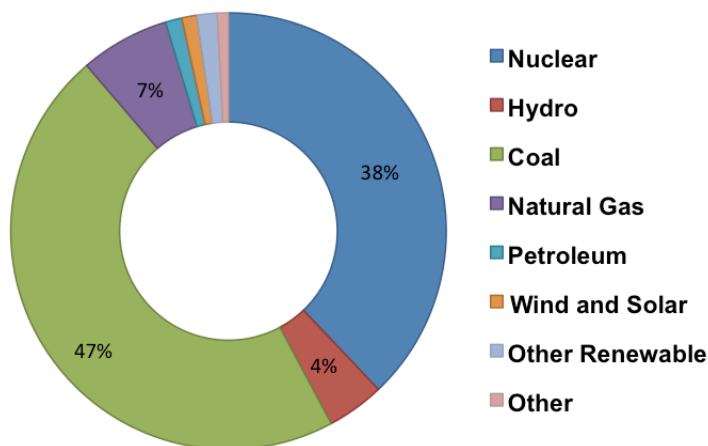
Maryland has one nuclear power plant:

Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
Calvert Cliffs (State Totals)	1,708	14.4	10.2

Basic Facts & Statistics

- ✓ Nuclear energy in Maryland provides **14.4 million MWh** of electricity per year—enough to power over **1.3 million homes**.
- ✓ Nuclear energy is the second-largest source of power in Maryland, providing **38%** of the state's electricity.

2014 Electricity Generation by Source



Nuclear energy provides **88%** of Maryland's carbon-free electricity

Clean Energy

- ✓ Nuclear energy is the **largest source** of carbon-free electricity in Maryland.
- ✓ Maryland's nuclear power avoids at least **10.2 million tons** of CO₂ per year.
- ✓ Maryland is a **member of RGGI**, which trades carbon credits on a mass basis.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, Maryland would lose **14.4 million MWh** of carbon-free electricity annually.

The resulting **10.2 million tons** of CO₂ per year is **over 175%** of the state's carbon-reduction goal.

The social cost of the additional CO₂ is **\$1.63 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	2,031	20.2	
Interim Period 2022-2029	1,510	16.2	16.4
Final Goal 2030 and Beyond	1,287	14.3	14.4

Best leverages clean nuclear power



Sources: EIA and EPA. This Fact Sheet was prepared for Nuclear Matters by The Horinko Group to accompany the report, Nuclear Power and the Clean Energy Future (Sept. 2016). Appendix 1 to the Report provides a complete description of methodology and sources. Appendix A to the Fact Sheets provides additional information specific to the Fact Sheets. Note: Due to rounding, values in the Nuclear Power Plants table may not sum to totals. Labels on the Electricity Generation chart are displayed for sources representing 2% or more of total state generation.

Nuclear Power & Massachusetts's Clean Energy Future

Nuclear Power Plants

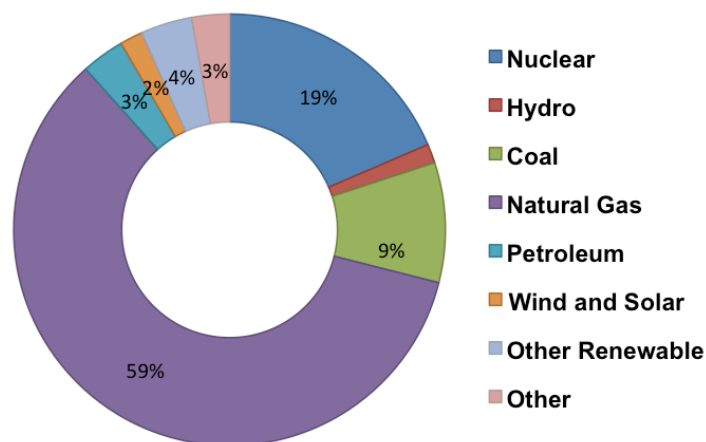
Massachusetts has one nuclear power plant:

Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
Pilgrim (State Totals)	678	5.0	2.0

Basic Facts & Statistics

- ✓ Nuclear energy in Massachusetts provides **5.0 million MWh** of electricity per year—enough to power over **460,000 homes**.
- ✓ Nuclear energy is the second-largest source of power in Massachusetts, providing **19%** of the state's electricity.

2014 Electricity Generation by Source



Nuclear energy provides **86%** of Massachusetts's carbon-free electricity

Clean Energy

- ✓ Nuclear energy is the **largest source** of carbon-free electricity in Massachusetts.
- ✓ Massachusetts's nuclear power avoids at least **2.0 million tons** of CO₂ per year.
- ✓ Massachusetts is a **member of RGGI**, which trades carbon credits on a mass basis.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, Massachusetts would lose **5.0 million MWh** of carbon-free electricity annually.

The resulting **2.0 million tons** of CO₂ per year is **two times** the state's carbon-reduction goal.

The social cost of the additional CO₂ is **\$0.32 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	1,003	13.1	
Interim Period 2022-2029	902	12.7	13.0
Final Goal 2030 and Beyond	824	12.1	12.3

Best leverages clean nuclear power



Sources: EIA and EPA. This Fact Sheet was prepared for Nuclear Matters by The Horinko Group to accompany the report, Nuclear Power and the Clean Energy Future (Sept. 2016). Appendix 1 to the Report provides a complete description of methodology and sources. Appendix A to the Fact Sheets provides additional information specific to the Fact Sheets. Note: Due to rounding, values in the Nuclear Power Plants table may not sum to totals. Labels on the Electricity Generation chart are displayed for sources representing 2% or more of total state generation.

Nuclear Power & Michigan's Clean Energy Future

Nuclear Power Plants

Michigan has 3 nuclear power plants:

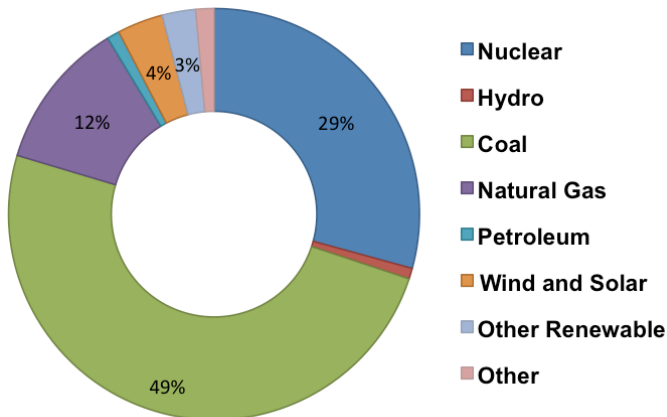
Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
Donald C Cook	2,069	16.5	13.1
Fermi	1,124	7.2	5.7
Palisades	789	6.1	4.8
State Totals	3,982	29.8	23.7

Basic Facts & Statistics

- ✓ Nuclear energy in Michigan provides **29.8 million MWh** of electricity per year—enough to power over **2.7 million homes**.
- ✓ Nuclear energy is the second-largest source of power in Michigan, providing **29%** of the state's electricity.

Nuclear energy provides
87% of Michigan's
carbon-free electricity

2014 Electricity Generation by Source



Clean Energy

- ✓ Nuclear energy is the **largest source** of carbon-free electricity in Michigan.
- ✓ Michigan's nuclear power avoids at least **23.7 million tons** of CO₂ per year.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, Michigan would lose **29.8 million MWh** of carbon-free electricity annually.

The resulting **23.7 million tons** of CO₂ per year is **over 100%** of the state's carbon-reduction goal.

The social cost of the additional CO₂ is **\$3.79 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	1,928	69.9	
Interim Period 2022-2029	1,355	53.1	53.7
Final Goal 2030 and Beyond	1,169	47.5	48.1

Best leverages clean nuclear power



Sources: EIA and EPA. This Fact Sheet was prepared for Nuclear Matters by The Horinko Group to accompany the report, Nuclear Power and the Clean Energy Future (Sept. 2016). Appendix 1 to the Report provides a complete description of methodology and sources. Appendix A to the Fact Sheets provides additional information specific to the Fact Sheets. Note: Due to rounding, values in the Nuclear Power Plants table may not sum to totals. Labels on the Electricity Generation chart are displayed for sources representing 2% or more of total state generation.

Nuclear Power & Minnesota's Clean Energy Future

Nuclear Power Plants

Minnesota has 2 nuclear power plants:

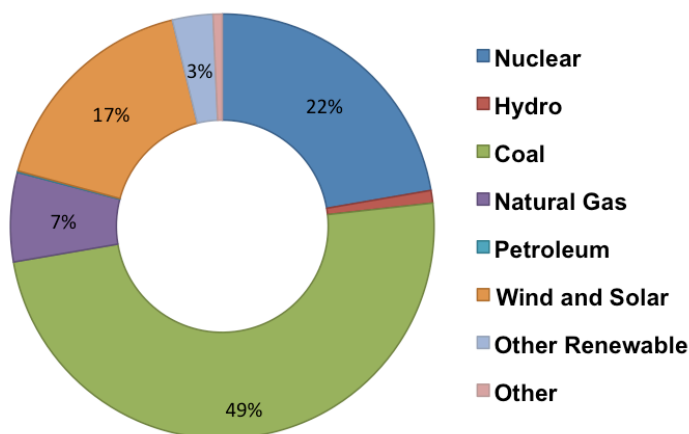
Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
Monticello	554	4.0	3.3
Prairie Island	1,040	7.8	6.5
State Totals	1,594	11.8	9.8

Basic Facts & Statistics

- ✓ Nuclear energy in Minnesota provides **11.8 million MWh** of electricity per year—enough to power **1.1 million homes**.
- ✓ Nuclear energy is the second-largest source of power in Minnesota, providing **22%** of the state's electricity.

Nuclear energy provides **55%** of Minnesota's carbon-free electricity

2014 Electricity Generation by Source



Clean Energy

- ✓ Nuclear energy is the **largest source** of carbon-free electricity in Minnesota.
- ✓ Minnesota's nuclear power avoids at least **9.8 million tons** of CO₂ per year.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, Minnesota would lose **11.8 million MWh** of carbon-free electricity annually.

The resulting **9.8 million tons** of CO₂ per year is **175%** of the state's carbon-reduction goal.

The social cost of the additional CO₂ is **\$1.57 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	2,033	28.3	
Interim Period 2022-2029	1,414	25.4	25.7
Final Goal 2030 and Beyond	1,213	22.7	22.9

Best leverages clean nuclear power



Sources: EIA and EPA. This Fact Sheet was prepared for Nuclear Matters by The Horinko Group to accompany the report, Nuclear Power and the Clean Energy Future (Sept. 2016). Appendix 1 to the Report provides a complete description of methodology and sources. Appendix A to the Fact Sheets provides additional information specific to the Fact Sheets. Note: Due to rounding, values in the Nuclear Power Plants table may not sum to totals. Labels on the Electricity Generation chart are displayed for sources representing 2% or more of total state generation.

Nuclear Power & Mississippi's Clean Energy Future

Nuclear Power Plants

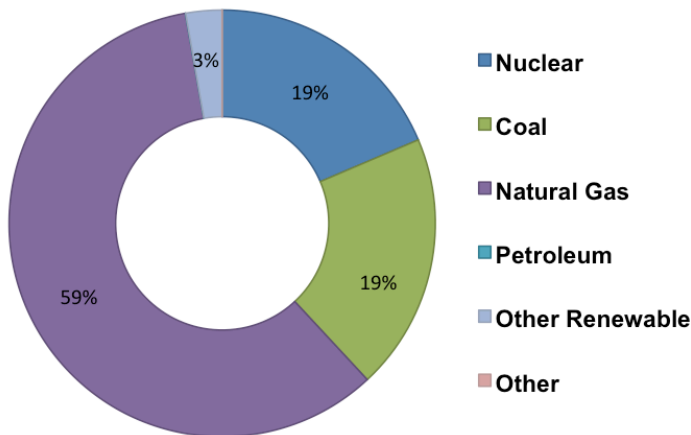
Mississippi has one nuclear power plant:

Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
Grand Gulf (State Totals)	1,409	10.9	6.0

Basic Facts & Statistics

- ✓ Nuclear energy in Mississippi provides **10.9 million MWh** of electricity per year—enough to power **1.0 million homes**.
- ✓ Nuclear energy is tied with coal as the second-largest source of power in Mississippi, providing **19%** of the state's electricity.

2014 Electricity Generation by Source



Nuclear energy provides **100%** of Mississippi's carbon-free electricity

Clean Energy

- ✓ Nuclear energy provides **all** of Mississippi's utility-scale carbon-free electricity.
- ✓ Mississippi's nuclear power avoids at least **6.0 million tons** of CO₂ per year.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, Mississippi would lose **10.9 million MWh** of carbon-free electricity annually.

The resulting **6.0 million tons** of CO₂ per year is **equal to ten times** the state's carbon-reduction goal.

The social cost of the additional CO₂ is **\$0.97 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	1,185	25.9	
Interim Period 2022-2029	1,061	27.3	27.7
Final Goal 2030 and Beyond	945	25.3	25.7

Best leverages clean nuclear power



Sources: EIA and EPA. This Fact Sheet was prepared for Nuclear Matters by The Horinko Group to accompany the report, Nuclear Power and the Clean Energy Future (Sept. 2016). Appendix 1 to the Report provides a complete description of methodology and sources. Appendix A to the Fact Sheets provides additional information specific to the Fact Sheets. Note: Due to rounding, values in the Nuclear Power Plants table may not sum to totals. Labels on the Electricity Generation chart are displayed for sources representing 2% or more of total state generation.

Nuclear Power & Missouri's Clean Energy Future

Nuclear Power Plants

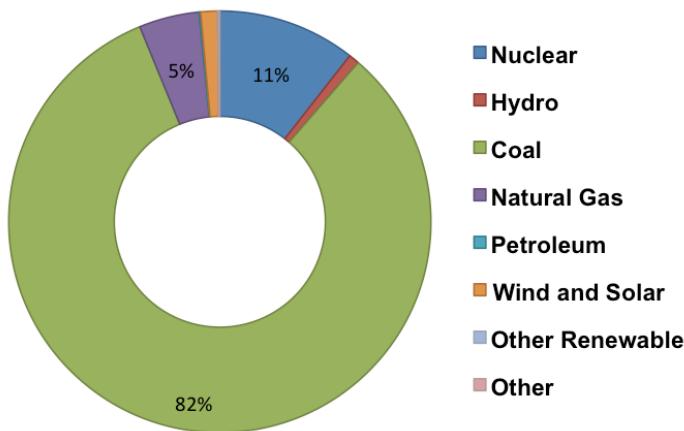
Missouri has one nuclear power plant:

Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
Callaway (State Totals)	1,193	9.4	9.1

Basic Facts & Statistics

- ✓ Nuclear energy in Missouri provides **9.4 million MWh** of electricity per year—enough to power over **850,000 homes**.
- ✓ Nuclear energy is the **second-largest source** of power in Missouri.

2014 Electricity Generation by Source



Nuclear energy provides **83%** of Missouri's carbon-free electricity

Clean Energy

- ✓ Nuclear energy is the **largest source** of carbon-free electricity in Missouri.
- ✓ Missouri's nuclear power avoids at least **9.1 million tons** of CO₂ per year.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, Missouri would lose **9.4 million MWh** of carbon-free electricity annually.

The resulting **9.1 million tons** of CO₂ per year is **more than 40%** of the state's carbon-reduction goal.

The social cost of the additional CO₂ is **\$1.46 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	2,008	78.0	
Interim Period 2022-2029	1,490	62.6	63.2
Final Goal 2030 and Beyond	1,272	55.5	56.0

Best leverages clean nuclear power



Sources: EIA and EPA. This Fact Sheet was prepared for Nuclear Matters by The Horinko Group to accompany the report, Nuclear Power and the Clean Energy Future (Sept. 2016). Appendix 1 to the Report provides a complete description of methodology and sources. Appendix A to the Fact Sheets provides additional information specific to the Fact Sheets. Note: Due to rounding, values in the Nuclear Power Plants table may not sum to totals. Labels on the Electricity Generation chart are displayed for sources representing 2% or more of total state generation.

Nuclear Power & Nebraska's Clean Energy Future

Nuclear Power Plants

Nebraska has 2 nuclear power plants:

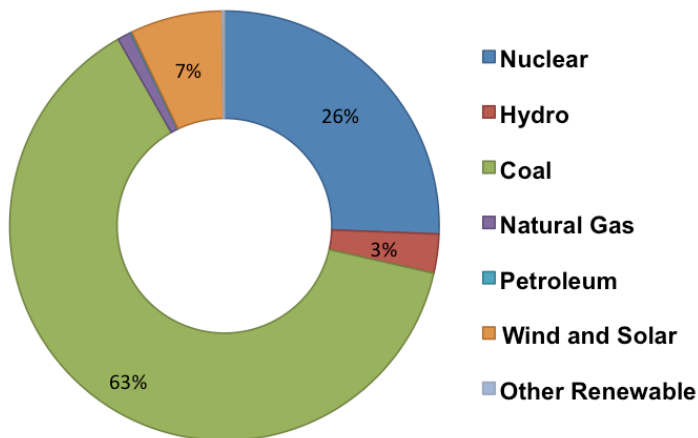
Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
Cooper	764	6.5	6.3
Fort Calhoun	479	2.6	2.5
State Totals	1,243	9.1	8.8

Basic Facts & Statistics

- ✓ Nuclear energy in Nebraska provides **9.1 million MWh** of electricity per year—enough to power over **830,000 homes**.
- ✓ Nuclear energy is the **second-largest source** of power in Nebraska, providing **26%** of the state's electricity.

Nuclear energy provides **72%** of Nebraska's carbon-free electricity

2014 Electricity Generation by Source



Clean Energy

- ✓ Nuclear energy is the **largest source** of carbon-free electricity in Nebraska.
- ✓ Nebraska's nuclear power avoids at least **8.8 million tons** of CO₂ per year.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, Nebraska would lose **9.1 million MWh** of carbon-free electricity annually.

The resulting **8.8 million tons** of CO₂ per year is **nearly 100%** of the state's carbon-reduction goal.

The social cost of the additional CO₂ is **\$1.40 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	2,161	27.1	
Interim Period 2022-2029	1,522	20.1	20.9
Final Goal 2030 and Beyond	1,296	18.3	18.5

Best leverages clean nuclear power



Sources: EIA and EPA. This Fact Sheet was prepared for Nuclear Matters by The Horinko Group to accompany the report, Nuclear Power and the Clean Energy Future (Sept. 2016). Appendix 1 to the Report provides a complete description of methodology and sources. Appendix A to the Fact Sheets provides additional information specific to the Fact Sheets. Note: Due to rounding, values in the Nuclear Power Plants table may not sum to totals. Labels on the Electricity Generation chart are displayed for sources representing 2% or more of total state generation.

Nuclear Power & New Hampshire's Clean Energy Future

Nuclear Power Plants

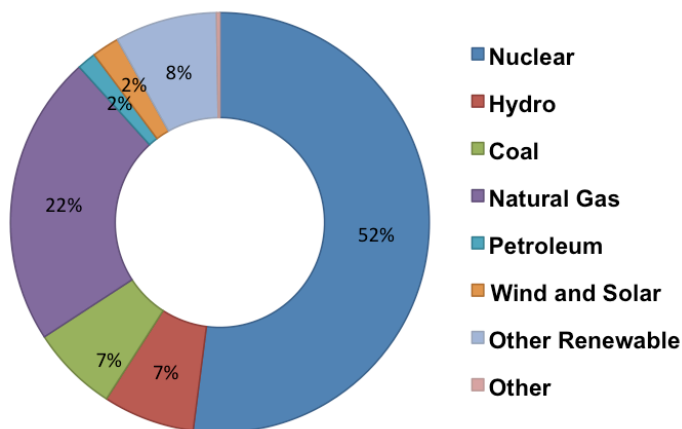
New Hampshire has one nuclear power plant:

Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
Seabrook (State Totals)	1,246	10.2	3.2

Basic Facts & Statistics

- ✓ Nuclear energy in New Hampshire provides **10.2 million MWh** of electricity per year—enough to power over **930,000 homes**.
- ✓ Nuclear energy is the **largest source** of power in New Hampshire, providing over **50%** of the state's electricity.

2014 Electricity Generation by Source



Nuclear energy provides **85%** of New Hampshire's carbon-free electricity

Clean Energy

- ✓ Nuclear energy is the **largest source** of carbon-free electricity in New Hampshire.
- ✓ New Hampshire's nuclear power avoids at least **3.2 million tons** of CO₂ per year.
- ✓ New Hampshire is a **member of RGGI**, which trades carbon credits on a mass basis.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, New Hampshire would lose **10.2 million MWh** of carbon-free electricity annually.

The resulting **3.2 million tons** of CO₂ per year is **over 5 times** the state's carbon-reduction goal.

The social cost of the additional CO₂ is **\$0.52 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	1,119	4.6	
Interim Period 2022-2029	947	4.2	4.3
Final Goal 2030 and Beyond	858	4.0	4.1

Best leverages clean nuclear power



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Nuclear Power & New Jersey's Clean Energy Future

Nuclear Power Plants

New Jersey has 3 nuclear power plants:

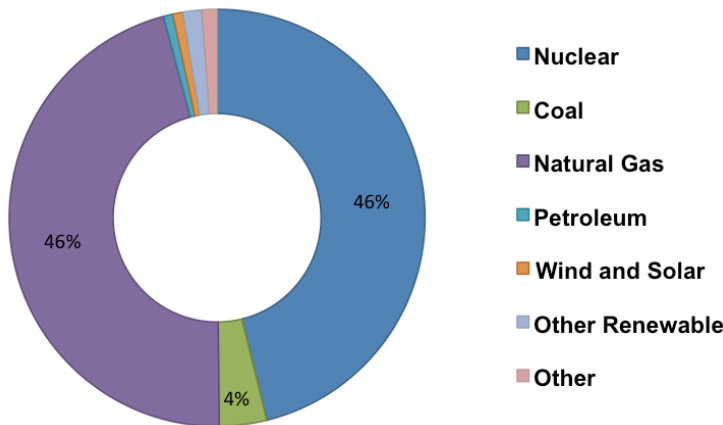
Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
Oyster Creek	610	5.1	2.5
PSEG Hope Creek	1,172	9.6	4.7
PSEG Salem	2,328	18.0	8.8
State Totals	4,110	32.7	16.0

Basic Facts & Statistics

- ✓ Nuclear energy in New Jersey provides **32.7 million MWh** of electricity per year—enough to power **3 million homes**.
- ✓ Nuclear energy is tied with natural gas as the **largest source** of power in New Jersey, providing **46%** of the state's electricity.

Nuclear energy provides **99%** of New Jersey's carbon-free electricity

2014 Electricity Generation by Source



Clean Energy

- ✓ Nuclear energy provides **nearly all** of New Jersey's carbon-free electricity.
- ✓ New Jersey's nuclear power avoids at least **16.0 million tons** of CO₂ per year.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, New Jersey would lose **32.7 million MWh** of carbon-free electricity annually.

The resulting **16.0 million tons** of CO₂ per year is nearly equal to the state's entire mass and new-source complement final goal.

The social cost of the additional CO₂ is **\$2.57 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	1,091	15.2	
Interim Period 2022-2029	885	17.4	17.7
Final Goal 2030 and Beyond	812	16.6	16.9

Best leverages clean nuclear power



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Nuclear Power & New York's Clean Energy Future

Nuclear Power Plants

New York has 4 nuclear power plants:

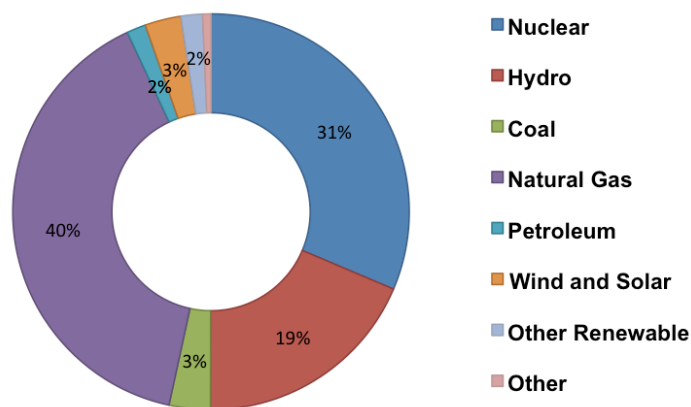
Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
Fitzpatrick	852	6.7	3.0
Ginna	582	4.8	2.2
Indian Point	2,061	16.9	7.6
Nine Mile Point	1,937	15.7	7.1
State Totals	5,431	44.1	19.9

Basic Facts & Statistics

- ✓ Nuclear energy in New York provides **44.1 million MWh** of electricity per year—enough to power over **4 million homes**.
- ✓ Nuclear energy is the second-largest source of power in New York, providing **31%** of the state's electricity.

Nuclear energy provides **59%** of New York's carbon-free electricity

2014 Electricity Generation by Source



Clean Energy

- ✓ Nuclear power provides **59%** of New York's carbon-free power.
- ✓ New York's nuclear power avoids at least **19.9 million tons** of CO₂ per year.
- ✓ New York is a **member of RGGI**, which trades carbon credits on a mass basis.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, New York would lose **44.1 million MWh** of carbon-free electricity annually.

The resulting **19.9 million tons** of CO₂ per year are **nearly 6 times** the state's carbon-reduction goal.

The social cost of the additional CO₂ is **\$3.18 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	1,140	34.6	
Interim Period 2022-2029	1,025	33.6	34.1
Final Goal 2030 and Beyond	918	31.3	31.7

Best leverages clean nuclear power



Sources: EIA and EPA. This Fact Sheet was prepared for Nuclear Matters by The Horinko Group to accompany the report, Nuclear Power and the Clean Energy Future (Sept. 2016). Appendix 1 to the Report provides a complete description of methodology and sources. Appendix A to the Fact Sheets provides additional information specific to the Fact Sheets. Note: Due to rounding, values in the Nuclear Power Plants table may not sum to totals. Labels on the Electricity Generation chart are displayed for sources representing 2% or more of total state generation.

Nuclear Power & North Carolina's Clean Energy Future

Nuclear Power Plants

North Carolina has 3 nuclear power plants:

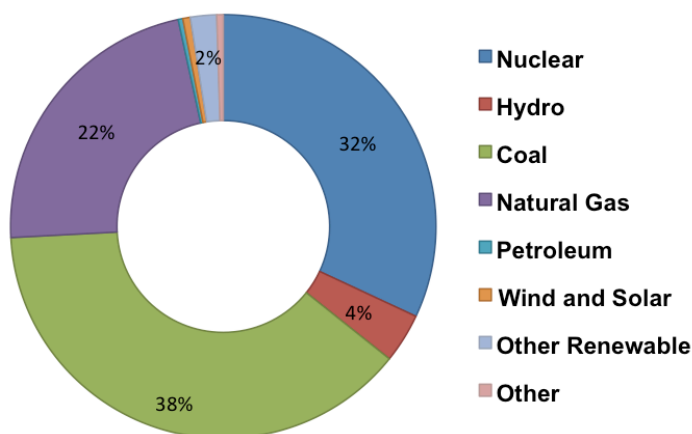
Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
Brunswick	1,870	15.0	9.6
Harris	928	7.4	4.7
McGuire	2,297	18.7	11.9
State Totals	5,094	41.1	26.2

Basic Facts & Statistics

- ✓ Nuclear energy in North Carolina provides **41.1 million MWh** of electricity per year—enough to power **3.8 million homes**.
- ✓ Nuclear energy is the **second-largest source** of power in North Carolina, providing **32%** of the state's electricity.

Nuclear energy provides **88%** of North Carolina's carbon-free electricity

2014 Electricity Generation by Source



Clean Energy

- ✓ Nuclear energy is the **largest source** of carbon-free electricity in North Carolina.
- ✓ North Carolina's nuclear power avoids at least **26.2 million tons** of CO₂ per year.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, North Carolina would lose **41.1 million MWh** of carbon-free electricity annually.

The resulting **26.2 million tons** of CO₂ per year is **over 3.5 times** the state's carbon-reduction goal.

The social cost of the additional CO₂ is **\$4.19 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	1,780	58.6	
Interim Period 2022-2029	1,311	57.0	57.7
Final Goal 2030 and Beyond	1,136	51.3	51.9

Best leverages clean nuclear power



Sources: EIA and EPA. This Fact Sheet was prepared for Nuclear Matters by The Horinko Group to accompany the report, Nuclear Power and the Clean Energy Future (Sept. 2016). Appendix 1 to the Report provides a complete description of methodology and sources. Appendix A to the Fact Sheets provides additional information specific to the Fact Sheets. Note: Due to rounding, values in the Nuclear Power Plants table may not sum to totals. Labels on the Electricity Generation chart are displayed for sources representing 2% or more of total state generation.

Nuclear Power & Ohio's Clean Energy Future

Nuclear Power Plants

Ohio has 2 nuclear power plants:

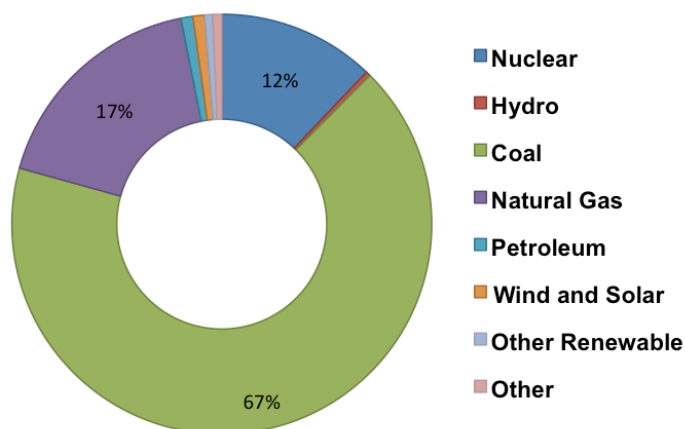
Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
Davis Besse	894	7.1	6.2
Perry	1,240	9.5	8.2
State Totals	2,134	16.6	14.4

Basic Facts & Statistics

- ✓ Nuclear energy in Ohio provides **16.6 million MWh** of electricity per year—enough to power over **1.5 million homes**.
- ✓ Nuclear energy provides **12%** of Ohio's electricity.

Nuclear energy provides **91%** of Ohio's carbon-free electricity

2014 Electricity Generation by Source



Clean Energy

- ✓ Nuclear energy provides **nearly all** of Ohio's carbon-free electricity.
- ✓ Ohio's nuclear power avoids at least **14.4 million tons** of CO₂ per year.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, Ohio would lose **16.6 million MWh** of carbon-free electricity annually.

The resulting **14.4 million tons** of CO₂ per year is **over 50%** of the state's carbon-reduction goal.

The social cost of the additional CO₂ is **\$2.31 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	1,900	102.2	
Interim Period 2022-2029	1,383	82.5	83.5
Final Goal 2030 and Beyond	1,190	73.8	74.6

Best leverages clean nuclear power



Sources: EIA and EPA. This Fact Sheet was prepared for Nuclear Matters by The Horinko Group to accompany the report, Nuclear Power and the Clean Energy Future (Sept. 2016). Appendix 1 to the Report provides a complete description of methodology and sources. Appendix A to the Fact Sheets provides additional information specific to the Fact Sheets. Note: Due to rounding, values in the Nuclear Power Plants table may not sum to totals. Labels on the Electricity Generation chart are displayed for sources representing 2% or more of total state generation.

Nuclear Power & Pennsylvania's Clean Energy Future

Nuclear Power Plants

Pennsylvania has 5 nuclear power plants:

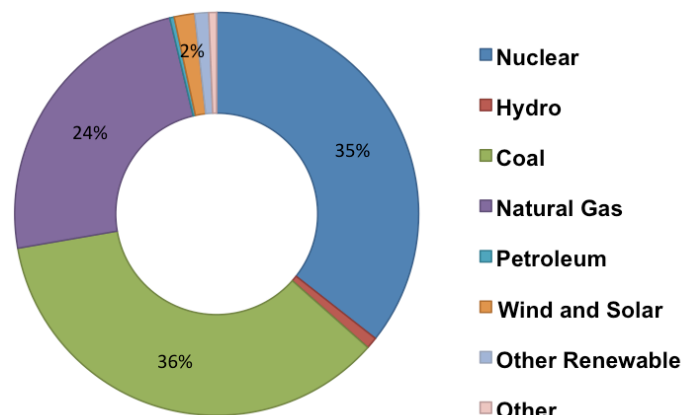
Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
Beaver Valley	1,834	14.7	10.9
Limerick	2,242	19.2	14.2
Peach Bottom	2,382	19.2	14.2
TalenEnergy	2,520	19.4	14.4
Three Mile Island	803	6.9	5.1
State Totals	9,780	79.3	58.9

Basic Facts & Statistics

- ✓ Nuclear energy in Pennsylvania provides **79.3 million MWh** of electricity per year—enough to power over **7 million homes**.
- ✓ Nuclear energy provides more than **one-third** of the state's total electricity.

Nuclear energy provides **93%** of Pennsylvania's carbon-free electricity

2014 Electricity Generation by Source



Clean Energy

- ✓ Nuclear power provides **93%** of Pennsylvania's carbon-free power.
- ✓ Pennsylvania's nuclear power avoids at least **58.9 million tons** of CO₂ per year.
- ✓ Pennsylvania has a long-standing commitment to clean energy.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, Pennsylvania would lose **79.3 million MWh** of carbon-free electricity annually.

The resulting **58.9 million tons** of CO₂ per year are **over two times** the state's carbon-reduction goal.

The social cost of the additional CO₂ is **\$9.43 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	1,682	116.7	
Interim Period 2022-2029	1,258	99.3	100.6
Final Goal 2030 and Beyond	1,095	89.8	90.9

Best leverages clean nuclear power



Sources: EIA and EPA. This Fact Sheet was prepared for Nuclear Matters by The Horinko Group to accompany the report, Nuclear Power and the Clean Energy Future (Sept. 2016). Appendix 1 to the Report provides a complete description of methodology and sources. Appendix A to the Fact Sheets provides additional information specific to the Fact Sheets. Note: Due to rounding, values in the Nuclear Power Plants table may not sum to totals. Labels on the Electricity Generation chart are displayed for sources representing 2% or more of total state generation.

Nuclear Power & South Carolina's Clean Energy Future

Nuclear Power Plants

South Carolina has 4 nuclear power plants:

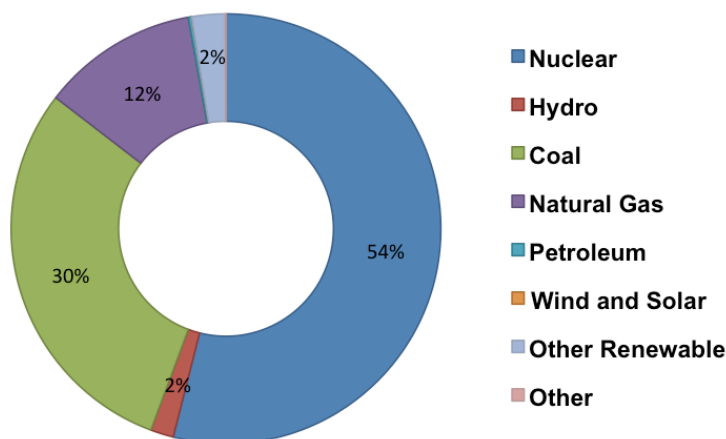
Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
Catawaba	2,290	18.8	11.3
H B Robinson	741	5.7	3.4
Oconee	2,554	21.4	12.8
V C Summer	971	7.4	4.5
State Totals	6,556	53.3	32.0

Basic Facts & Statistics

- ✓ Nuclear energy in South Carolina provides **53.3 million MWh** of electricity per year—enough to power nearly **5 million homes**.
- ✓ Two new reactors under construction will add over 2,200 MW of new zero-carbon capacity.

Nuclear is the **largest source** of electricity in South Carolina

2014 Electricity Generation by Source



Clean Energy

- ✓ Nuclear power provides **97%** of South Carolina's carbon-free power.
- ✓ South Carolina's nuclear power avoids at least **32 million tons** of CO₂ per year.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, South Carolina would lose **53.3 million MWh** of carbon-free electricity annually.

The resulting **32 million tons** of CO₂ per year are **more than 3 times** the state's carbon-reduction goal.

The social cost of the additional CO₂ is **\$5.12 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	1,791	35.9	
Interim Period 2022-2029	1,338	29.0	29.3
Final Goal 2030 and Beyond	1,156	26.0	26.3

Best leverages clean nuclear power



Sources: EIA and EPA. This Fact Sheet was prepared for Nuclear Matters by The Horinko Group to accompany the report, Nuclear Power and the Clean Energy Future (Sept. 2016). Appendix 1 to the Report provides a complete description of methodology and sources. Appendix A to the Fact Sheets provides additional information specific to the Fact Sheets. Note: Due to rounding, values in the Nuclear Power Plants table may not sum to totals. Labels on the Electricity Generation chart are displayed for sources representing 2% or more of total state generation.

Nuclear Power & Tennessee's Clean Energy Future

Nuclear Power Plants

Tennessee has 2 nuclear power plants:

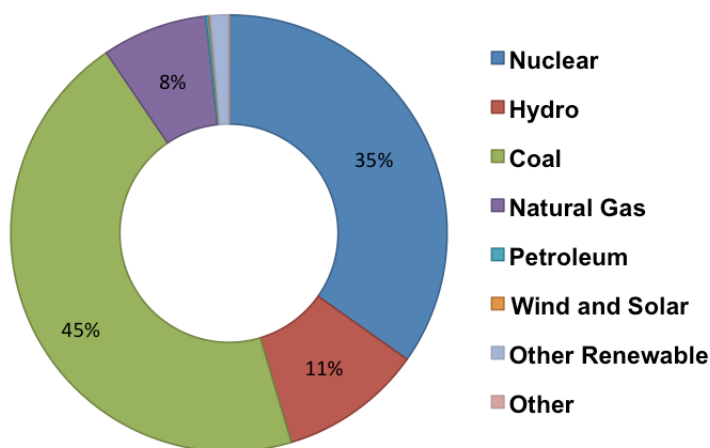
Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
Sequoyah	2,278	18.0	13.6
Watts Bar	1,123	9.1	6.9
State Totals	3,401	27.0	20.5

Basic Facts & Statistics

- ✓ Nuclear energy in Tennessee provides **27.0 million MWh** of electricity per year—enough to power **2.5 million homes**.
- ✓ Nuclear energy is the **second-largest source** of power in Tennessee, providing **35%** of the state's electricity.

Nuclear energy provides **77%** of Tennessee's carbon-free electricity

2014 Electricity Generation by Source



Clean Energy

- ✓ Nuclear energy is the **largest source** of Tennessee's carbon-free electricity.
- ✓ Tennessee's nuclear power avoids at least **20.5 million tons** of CO₂ per year.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, Tennessee would lose **27.0 million MWh** of carbon-free electricity annually.

The resulting **20.5 million tons** of CO₂ per year is **over 150%** of the state's carbon-reduction goal.

The social cost of the additional CO₂ is **\$3.28 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	2,015	41.2	
Interim Period 2022-2029	1,411	31.8	32.1
Final Goal 2030 and Beyond	1,211	28.3	28.7

Best leverages clean nuclear power



Sources: EIA and EPA. This Fact Sheet was prepared for Nuclear Matters by The Horinko Group to accompany the report, Nuclear Power and the Clean Energy Future (Sept. 2016). Appendix 1 to the Report provides a complete description of methodology and sources. Appendix A to the Fact Sheets provides additional information specific to the Fact Sheets. Note: Due to rounding, values in the Nuclear Power Plants table may not sum to totals. Labels on the Electricity Generation chart are displayed for sources representing 2% or more of total state generation.

Nuclear Power & Texas's Clean Energy Future

Nuclear Power Plants

Texas has 2 nuclear power plants:

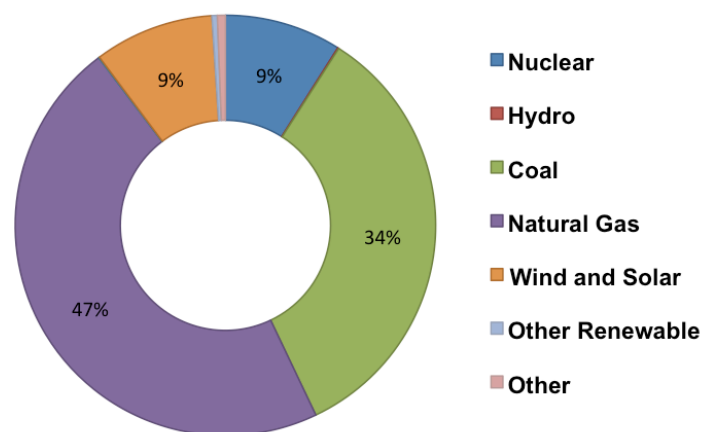
Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
Comanche Peak	2,400	19.7	14.9
South Texas Project	2,560	19.3	14.6
State Totals	4,960	39.0	29.5

Basic Facts & Statistics

- ✓ Nuclear energy in Texas provides **39 million MWh** of electricity per year—enough to power over **3.5 million homes**.
- ✓ Nuclear power is a critical part of Texas's diverse electricity generation portfolio.

Nuclear energy provides nearly **half** of Texas's carbon-free electricity

2014 Electricity Generation by Source



Clean Energy

- ✓ Nuclear power is tied with wind as the largest clean energy source, but only nuclear energy provides around-the-clock power.
- ✓ Texas's nuclear power avoids at least **29.5 million tons** of CO₂ per year.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, Texas would lose **39 million MWh** of carbon-free electricity annually.

The resulting **29.5 million tons** of CO₂ per year are nearly **60%** of the state's carbon-reduction goal.

The social cost of the additional CO₂ is **\$4.72 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	1,566	240.7	
Interim Period 2022-2029	1,188	208.1	213.4
Final Goal 2030 and Beyond	1,042	189.6	198.1

Best leverages clean nuclear power



Sources: EIA and EPA. This Fact Sheet was prepared for Nuclear Matters by The Horinko Group to accompany the report, Nuclear Power and the Clean Energy Future (Sept. 2016). Appendix 1 to the Report provides a complete description of methodology and sources. Appendix A to the Fact Sheets provides additional information specific to the Fact Sheets. Note: Due to rounding, values in the Nuclear Power Plants table may not sum to totals. Labels on the Electricity Generation chart are displayed for sources representing 2% or more of total state generation.

Nuclear Power & Virginia's Clean Energy Future

Nuclear Power Plants

Virginia has 2 nuclear power plants:

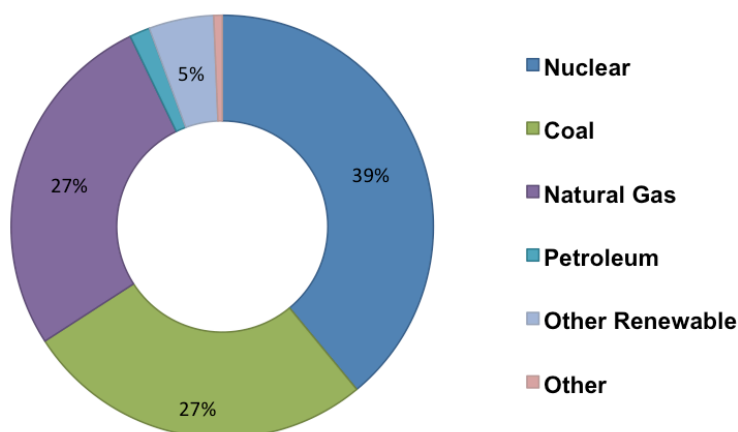
Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
North Anna	1,892	15.7	7.5
Surry	1,676	13.5	6.5
State Totals	3,568	29.2	14.0

Basic Facts & Statistics

- ✓ Nuclear energy in Virginia provides **29.2 million MWh** of electricity per year—enough to power **2.7 million homes**.
- ✓ Nuclear energy is the **largest source** of power in Virginia, providing **39%** of the state's electricity.

Nuclear energy provides
100% of Virginia's
carbon-free electricity

2014 Electricity Generation by Source



Clean Energy

- ✓ Nuclear energy provides **all** of Virginia's utility-scale carbon-free electricity.
- ✓ Virginia's nuclear power avoids at least **14.0 million tons** of CO₂ per year.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, Virginia would lose **29.2 million MWh** of carbon-free electricity annually.

The resulting **14.0 million tons** of CO₂ per year is over half of Virginia's mass and new-source complement final goal.

The social cost of the additional CO₂ is **\$2.24 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	1,477	27.4	
Interim Period 2022-2029	1,047	29.6	30.0
Final Goal 2030 and Beyond	934	27.4	27.8

Best leverages clean nuclear power



Sources: EIA and EPA. This Fact Sheet was prepared for Nuclear Matters by The Horinko Group to accompany the report, Nuclear Power and the Clean Energy Future (Sept. 2016). Appendix 1 to the Report provides a complete description of methodology and sources. Appendix A to the Fact Sheets provides additional information specific to the Fact Sheets. Note: Due to rounding, values in the Nuclear Power Plants table may not sum to totals. Labels on the Electricity Generation chart are displayed for sources representing 2% or more of total state generation.

Nuclear Power & Washington's Clean Energy Future

Nuclear Power Plants

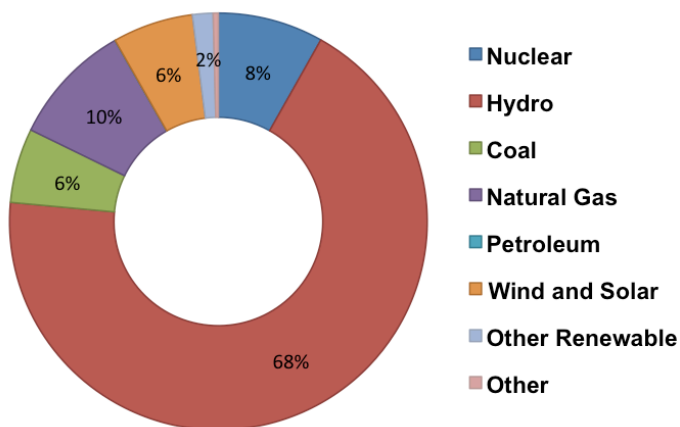
Washington has one nuclear power plant:

Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
Columbia (State Totals)	1,158	8.7	2.8

Basic Facts & Statistics

- ✓ Nuclear energy in Washington provides **8.7 million MWh** of electricity per year—enough to power nearly **800,000 homes**.
- ✓ Nuclear energy is a critical part of Washington's diverse electricity generation portfolio.

2014 Electricity Generation by Source



Nuclear energy provides **10%** of Washington's carbon-free electricity

Clean Energy

- ✓ Nuclear energy is the **second-largest source** of carbon-free power in Washington after hydro.
- ✓ Washington's nuclear power avoids at least **2.8 million tons** of CO₂ per year.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, Washington would lose **8.7 million MWh** of carbon-free electricity annually.

The resulting **2.8 million tons** of CO₂ per year is over one-quarter of Washington's mass and new-source complement final goal.

The social cost of the additional CO₂ is **\$0.44 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	1,566	7.4	
Interim Period 2022-2029	1,111	11.7	12.2
Final Goal 2030 and Beyond	983	10.7	11.6

Best leverages clean nuclear power



Sources: EIA and EPA. This Fact Sheet was prepared for Nuclear Matters by The Horinko Group to accompany the report, Nuclear Power and the Clean Energy Future (Sept. 2016). Appendix 1 to the Report provides a complete description of methodology and sources. Appendix A to the Fact Sheets provides additional information specific to the Fact Sheets. Note: Due to rounding, values in the Nuclear Power Plants table may not sum to totals. Labels on the Electricity Generation chart are displayed for sources representing 2% or more of total state generation.

Nuclear Power & Wisconsin's Clean Energy Future

Nuclear Power Plants

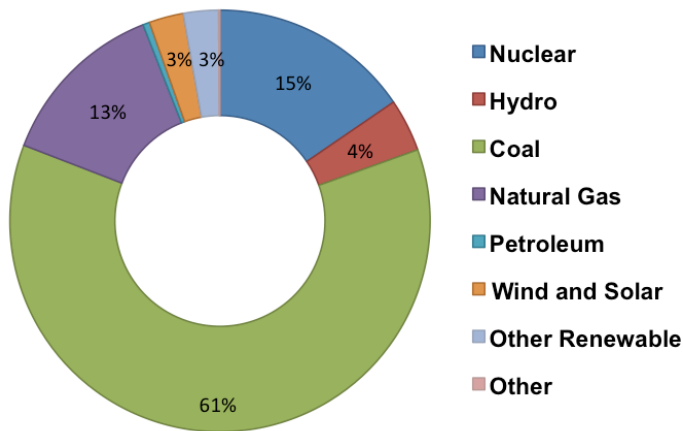
Wisconsin has one nuclear power plant:

Facility	Summer Capacity (MW)	Avg. Annual Electricity Generation (million MWh/year)	Avoided CO ₂ (million tons/year)
Point Beach (State Totals)	1,193	9.7	9.4

Basic Facts & Statistics

- ✓ Nuclear energy in Wisconsin provides **9.7 million MWh** of electricity per year—enough to power nearly **900,000 homes**.
- ✓ Nuclear energy is the **second-largest source** of power in Wisconsin.

2014 Electricity Generation by Source



Nuclear energy provides **70%** of Wisconsin's carbon-free electricity

Clean Energy

- ✓ Nuclear energy is the **largest source** of carbon-free power in Wisconsin.
- ✓ Wisconsin's nuclear power avoids at least **9.4 million tons** of CO₂ per year.

Clean Power Plan Goals

Nuclear Energy's Critical Role

Without nuclear energy, Wisconsin would lose **9.7 million MWh** of carbon-free electricity annually.

The resulting **9.4 million tons** of CO₂ per year is **over two-thirds** of the state's carbon-reduction goal.

The social cost of the additional CO₂ is **\$1.51 billion** in 2020 (in 2011 dollars at a 3% discount rate).

EPA Clean Power Plan Goals	Rate-Based	Mass-Based	Mass and New Source Complement
	CO ₂ Rate (lbs/Net MWh)	CO ₂ (million tons/year)	CO ₂ (million tons/year)
2012 Baseline	1,996	42.3	
Interim Period 2022-2029	1,364	31.3	31.6
Final Goal 2030 and Beyond	1,176	28.0	28.3

Best leverages clean nuclear power



Sources: EIA and EPA. This Fact Sheet was prepared for Nuclear Matters by The Horinko Group to accompany the report, Nuclear Power and the Clean Energy Future (Sept. 2016). Appendix 1 to the Report provides a complete description of methodology and sources. Appendix A to the Fact Sheets provides additional information specific to the Fact Sheets. Note: Due to rounding, values in the Nuclear Power Plants table may not sum to totals. Labels on the Electricity Generation chart are displayed for sources representing 2% or more of total state generation.

APPENDIX A - FACT SHEET SOURCES AND METHODOLOGIES

This collection of fact sheets was prepared for Nuclear Matters by The Horinko Group to accompany the report *Nuclear Power and the Clean Energy Future* (Sept. 2016) (“the Report”). Appendix 1 to the Report provides a complete description of methodology and sources.

The fact sheets depict detailed information for each state, drawn from the same sources and calculations used throughout the Report. The following notes provide more detail and are organized by fact sheet heading. Note that, as in the Report, “tons” refers to short tons.

1. Table: Nuclear Power Plants

Source: EIA, Monthly Nuclear Utility Generation by State and Reactor (Dec. 2013, Dec. 2014, and Dec. 2015). Notes:

- Summer capacity values are as provided by EIA.
- Average annual electricity generation covers the three-year period from 2013-2015. As of the date of this publication, EIA designates data for 2014 and 2015 as preliminary. For the State of Wisconsin, the calculation is a two-year historic average over 2014 and 2015 because the Kewaunee nuclear power plant closed in May 2013.
- Avoided CO₂ emissions are calculated by multiplying annual generation by EPA’s 2020 modeled emission rate for each state (without CPP). For more details on this approach please see the Report Appendix I Section 1.
- Due to rounding, some values may not sum to totals.

2. Basic Facts & Statistics

Sources: EIA, Monthly Nuclear Utility Generation by State and Reactor (Dec. 2013, Dec. 2014, and Dec. 2015); EIA, Frequently Asked Questions, How much electricity does an American home use? (Oct. 21, 2015). Notes:

- Nuclear power under construction assumes AP1000 reactors with net 1117 MW capacity.

3. Chart: 2014 Electricity Generation by Source

Source: EIA, State Historical Tables for 2014 (rev. Nov. 2015). Notes:

- “Other renewable” includes the sum of EIA reported categories “Other biomass” and “Wood and wood derived fuels”
- “Other” includes the sum of EIA reported categories “Other gases” and “Other”
- “Hydroelectric” includes both conventional and pumped-storage. Because the electricity used for pumped hydro exceeds that produced by total hydro in New Jersey and Virginia, hydro production in those states produces a negative value and is excluded from the charts.
- Labels are displayed for electricity fuel sources representing 2% or more of total generation.

4. Percentage Carbon-Free Electricity

Source: EIA, State Historical Tables for 2014 (rev. Nov. 2015). Notes:

- Carbon-free energy includes nuclear, wind, solar (PV and concentrated), geothermal, and hydroelectric (including conventional and pumped).

5. Clean Energy

Source: EIA, State Historical Tables for 2014 (rev. Nov. 2015). Notes:

- Carbon-free energy includes nuclear, wind, solar (PV and concentrated), geothermal, and hydroelectric.
- Avoided CO₂ emissions calculated as in item 1 above.

6. Table: EPA's Clean Power Plan Goals

Source: CPP Final Rule.

7. Nuclear Energy's Critical Role

Sources: EIA, Monthly Nuclear Utility Generation by State and Reactor (Dec. 2013, Dec. 2014 and Dec. 2015); Notes:

- Calculations as described throughout; social cost of carbon is calculated using 2011 at a 3% discount rate. For more detail see the Report Appendix 1 Section II.
- Values relating to meeting CPP goals calculate necessary mass reductions using 2012 mass baseline and final mass-based goal.



THE HORINKO GROUP

1001 Pennsylvania Avenue NW, Suite 7115

Washington, DC 20004

202-955-6202

info@thehorinkogroup.org

www.thehorinkogroup.org