

DOE OFFICE OF INDIAN ENERGY

New Mexico Renewable Energy Overview



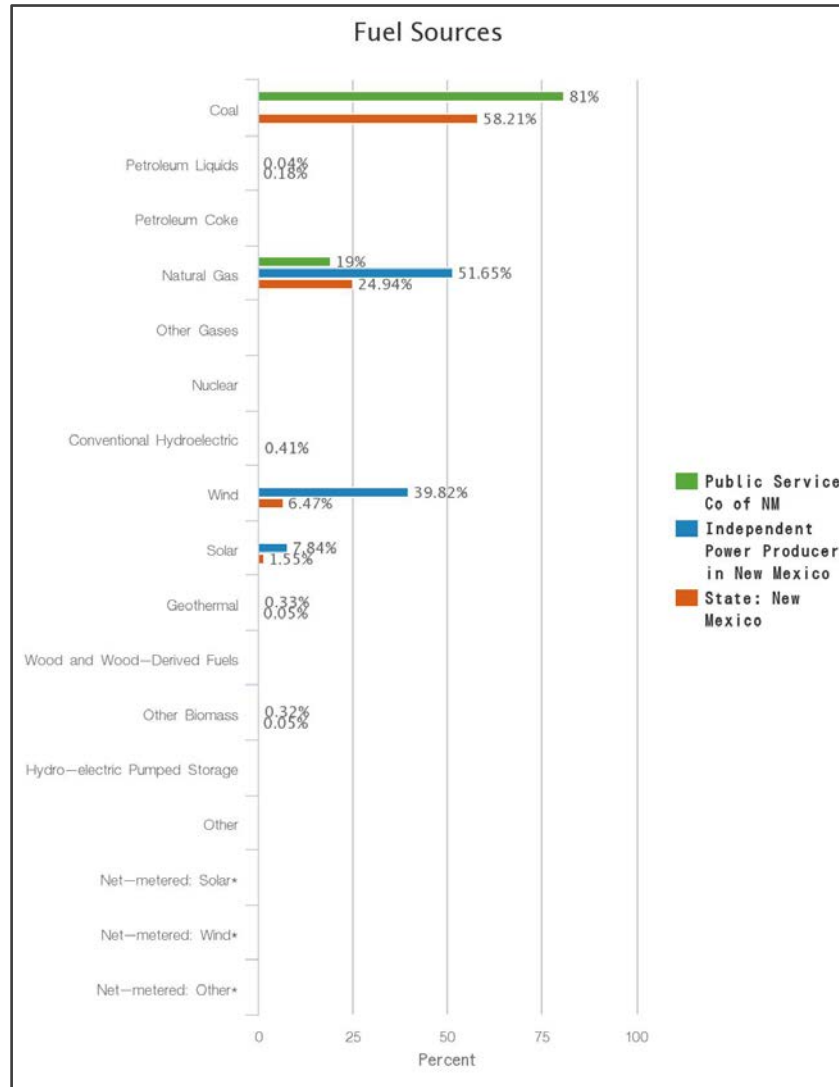
U.S. DEPARTMENT OF
ENERGY

Office of
Indian Energy

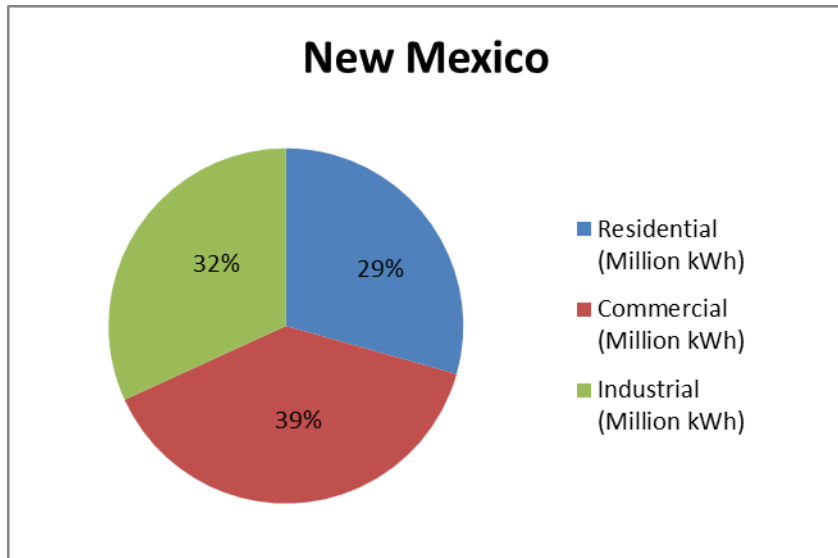
Fuel Source Mix for Electricity in New Mexico

Ranking for entire state
(2013 data)

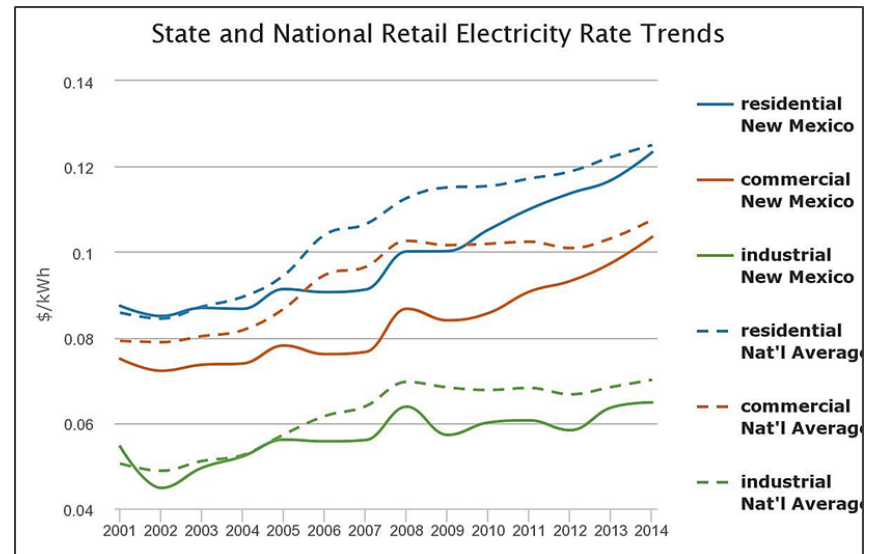
1. Coal (58%)
2. Nat Gas (25%)
3. Wind (6.5%)
4. Solar (1.5%)



Electricity Profile



Sector	Public Service Co of NM	New Mexico Avg.	Nat'l Avg.
Residential	0.1231	0.1250	0.1250
Commercial	0.1020	0.1035	0.1075
Industrial	0.0587	0.0701	0.0701



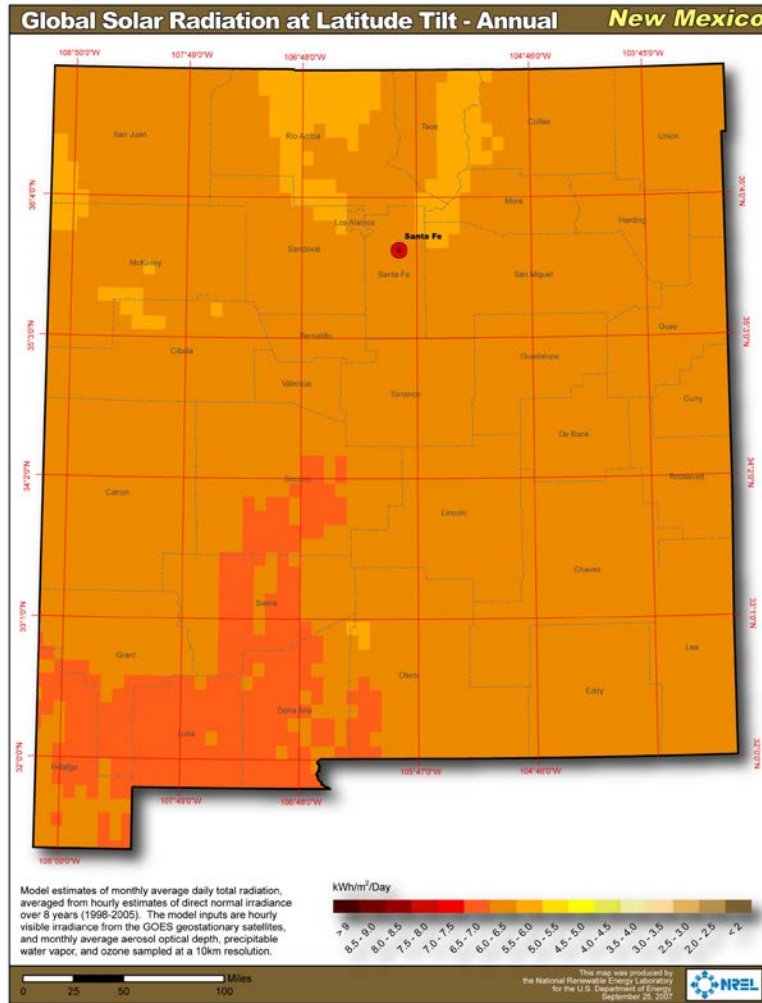
Cumulative Renewable Electricity Installed Capacity (MW) (2013) WEST

	Wind	PV*	CSP	Geothermal	Biomass	Hydropower	Total Renewables	Per capita Renewable Electricity watts/person
California	5,829	5,183	489	3,012	1,452	10,040	26,005	678
Washington	2,808	27	0	0	423	20,957	24,215	3,474
Oregon	3,153	63	0	33	409	8,243	11,900	3,028
Arizona	238	1,563	283	0	41	2,718	4,843	731
Idaho	973	2	0	18	148	2,541	3,682	2,264
Colorado	2,332	360	0	0	18	645	3,356	637
Montana	645	3	0	0	4	2,639	3,291	3,242
Nevada	152	424	64	626	3	1,052	2,322	832
Wyoming	1,410	1	0	0	0	303	1,714	2,942
New Mexico	778	257	0	0	7	82	1,123	538
Hawaii	206	358	7	51	270	26	919	654
Utah	325	16	0	52	13	262	668	230
Alaska	62	0	0	0	12	420	494	672

Renewable Portfolio Standard (RPS)

- **Eligible Technologies:** Geothermal Electric, Solar Thermal Electric, Solar Photovoltaics, Wind (All), Biomass, Hydroelectric, Landfill Gas, Wind (Small), Anaerobic Digestion, Fuel Cells using Renewable Fuels Zero Emission Technology
- **Applicable Sectors:** Investor-Owned Utility, Cooperative Utilities
- **Standard:** Investor-owned utilities; 20% by 2020; Rural electric cooperatives: 10% by 2020
- **Technology Minimum:** For IOUs in 2020:
 - Solar: 20% of RPS requirement (4% of sales)
 - Wind: 30% of RPS requirement (6% of sales)
 - Other renewables: 5% of RPS requirement (1% of sales)
 - Distributed Renewables: 3% of RPS requirement (0.6% of sales)
- **Certain cost containment mechanisms built in**

Solar Resources in New Mexico



Installed Solar Capacity GTM Report

State	Rank			Installations (MW _{dc})		
	Cumulative	2014	Q1 2015	Cumulative	2014	Q1 2015
California	1	1	1	9,439	3,549	718
Nevada	5	3	2	822	339	97
New York	8	7	3	456	147	59
North Carolina	4	2	4	1,011	397	58
Massachusetts	6	4	5	806	308	55
Texas	10	8	6	379	129	49
New Jersey	3	6	7	1,489	240	38
Arizona	2	5	8	1,818	247	32
New Mexico	11	10	9	355	88	31
Maryland	13	12	10	242	73	27
Hawaii	7	9	11	466	107	26
Georgia	14	17	12	180	45	19
Connecticut	16	16	13	147	56	17
Colorado	9	13	14	412	67	13
Vermont	22	18	15	79	38	9
Louisiana	23	19	16	71	31	6
Florida	15	20	17	164	22	5
Oregon	21	25	18	89	8	4
Washington	26	22	19	42	14	4
Missouri	18	11	20	115	73	3
Washington, D.C.	31	31	21	13	3	3
Utah	27	23	22	32	10	3
Virginia	30	29	23	14	6	3
Pennsylvania	12	24	24	247	10	2
Minnesota	28	28	25	22	6	2
Ohio	20	21	26	104	15	2
Tennessee	17	15	27	131	56	1
Delaware	24	26	28	62	7	1
New Hampshire	33	30	29	8	3	1
Indiana	19	14	30	113	59	1
Wisconsin	29	32	30	20	2	1
Illinois	25	27	32	55	6	1
South Carolina	32	33	33	12	1	0

- Cumulative—New Mexico ranks 11th with 355 MW_{dc} of PV installed.
- 10th for 2014 (88 MW_{dc})
- 9th for Q1 2015 installed capacity(31 MW_{dc})
- 4,775 Installations
 - 4388 residential
 - 363 commercial
 - 24 utility

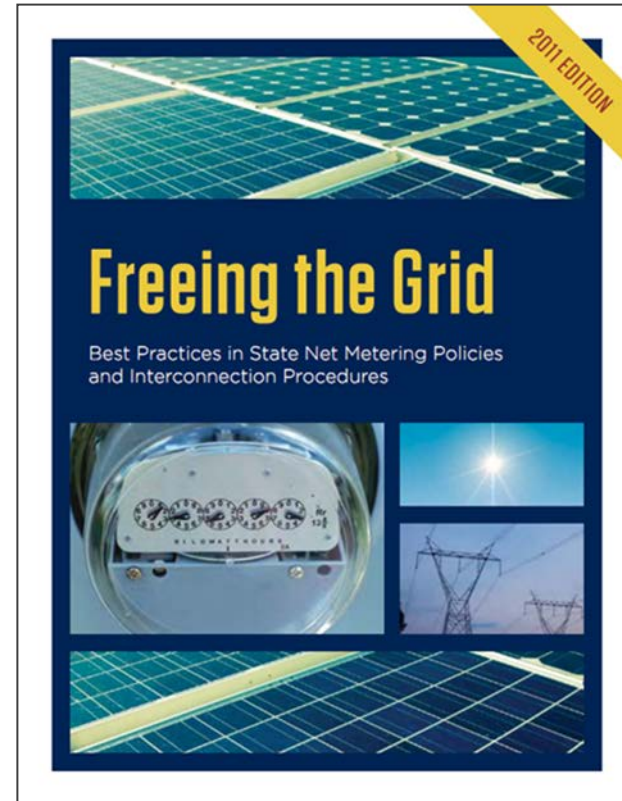
Interconnection and Net Metering (Freeing the Grid Rating)

Interconnection - Grade A

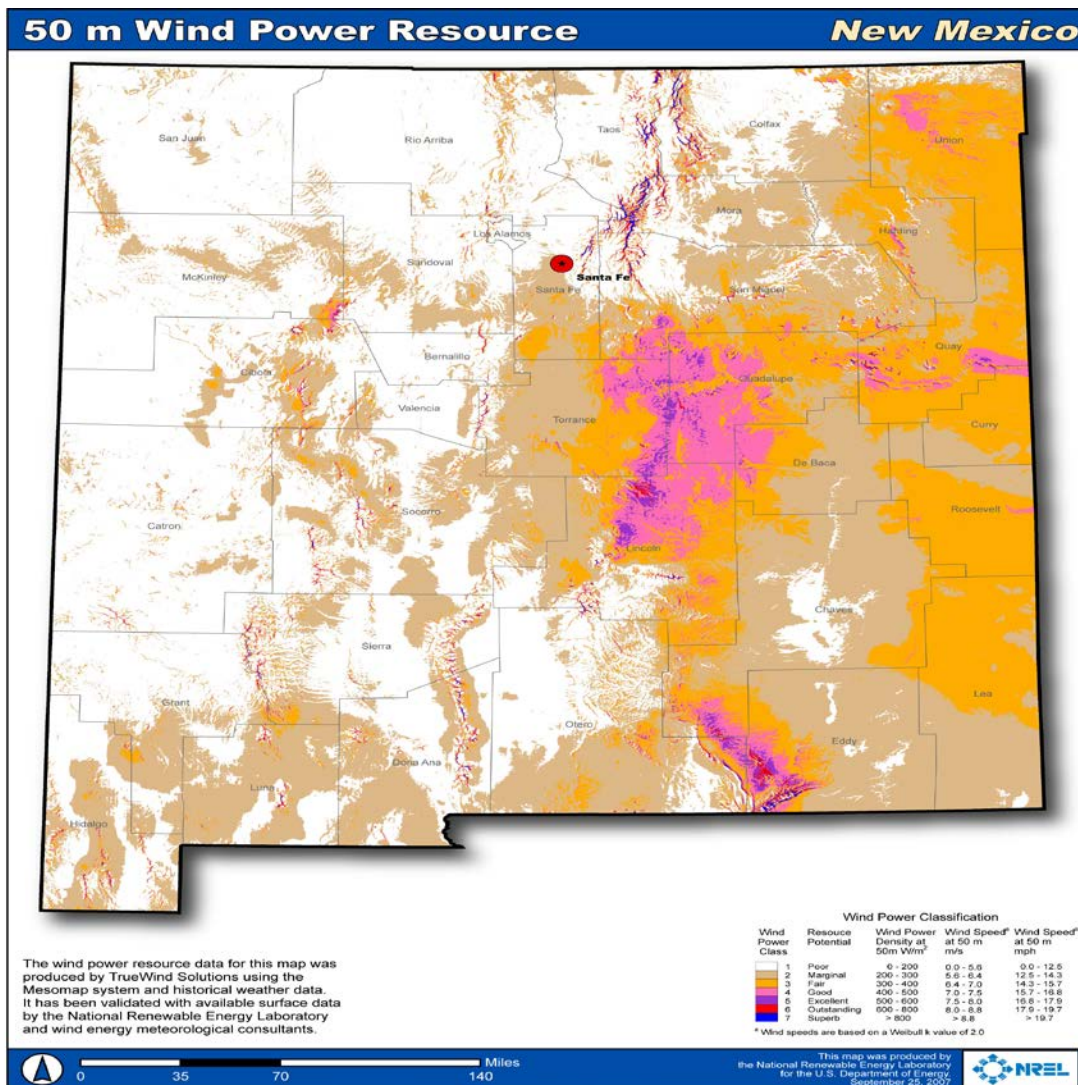
- Recommendations:
 1. Prohibit requirements for a redundant external disconnect switch
 2. Prohibit requirements for additional insurance

Net Metering - Grade B

- Recommendations:
 1. Allow customers to retain RECs
 2. Credit net excess generation at the retail rate and provide the option of indefinite rollover
 3. Allow meter aggregation and net metering for shared or community systems



Wind Resources in New Mexico



New Mexico Wind Farm



New Mexico Wind Facts

Wind Projects

- Installed wind capacity: 812 MW
- State rank for installed wind capacity: 18th
- Number of wind turbines: 595
- State rank for number of wind turbines: 17th
- Wind projects online: 12
- Wind capacity under construction: 680 MW

Current Wind Generation

- In 2014, wind energy provided 7.04% of all in-state electricity production.
- Equivalent number of homes powered by wind: 207,000

New Mexico Wind Farms

- **204 MW New Mexico Wind Energy Center**
 - De Baca and Quay Counties
- **80 MW Caprock Wind Ranch**
 - Quay County
- **120 MW San Juan Mesa Wind Project**
 - Roosevelt County
- **90 MW Aragonne Wind Facility**
 - Guadalupe County
- **2 MW Llano Estacado**
 - Curry County
- **100 MW High Lonesome Mesa**
 - Torrance County
- **102 MW Red Mesa Wind Energy Center**
 - Cibola County
- **50 MW Macho Springs Power**

Programs and Policies

NAME	Category	Policy/Incentive Type	Created
Net Metering	Regulatory Policy	Net Metering	1/1/2000
Solar Easements & Rights Laws	Regulatory Policy	Solar/Wind Access Policy	1/1/2000
Biomass Equipment & Materials Compensating Tax Deduction	Financial Incentive	Sales Tax Incentive	4/29/2005
Energy Efficiency & Renewable Energy Bond Program	Financial Incentive	Bond Program	4/29/2005
Renewable Portfolio Standard	Regulatory Policy	Renewables Portfolio Standard	12/19/2002
Renewable Energy Production Tax Credit (Corporate)	Financial Incentive	Corporate Tax Credit	3/11/2002
Mandatory Utility Green Power Option	Regulatory Policy	Mandatory Utility Green Power Option	1/16/2003
PNM - Performance-Based Solar PV Program	Financial Incentive	Performance-Based Incentive	1/17/2006
Solar Market Development Tax Credit	Financial Incentive	Personal Tax Credit	3/9/2006
Efficient Use of Energy Act	Regulatory Policy	Public Benefits Fund	4/24/2006
Building Energy Code	Regulatory Policy	Building Energy Code	7/31/2006
Sustainable Building Tax Credit (Personal)	Financial Incentive	Personal Tax Credit	5/7/2007
Sustainable Building Tax Credit (Corporate)	Financial Incentive	Corporate Tax Credit	5/8/2007
Renewable Energy Production Tax Credit (Personal)	Financial Incentive	Personal Tax Credit	5/25/2007
Solar Energy Gross Receipts Tax Deduction	Financial Incentive	Sales Tax Incentive	5/25/2007
Alternative Energy Product Manufacturers Tax Credit	Financial Incentive	Industry Recruitment/Support	5/25/2007
Advanced Energy Tax Credit (Corporate)	Financial Incentive	Corporate Tax Credit	5/31/2007
Central New Mexico Electric Cooperative - Residential Energy Efficiency Rebate Program	Financial Incentive	Rebate Program	6/6/2007
PNM - Residential Energy Efficiency Rebate Program	Financial Incentive	Rebate Program	7/3/2008
Interconnection Standards	Regulatory Policy	Interconnection	8/15/2008

Programs and Policies

NAME	Category	Policy/Incentive Type	Created
Farmington Electric Utility System - Net Metering	Regulatory Policy	Net Metering	8/22/2008
Xcel Energy - Solar*Rewards Program	Financial Incentive	Performance-Based Incentive	3/19/2009
El Paso Electric Company - Small and Medium System Renewable Energy Certificate Purchase Program	Financial Incentive	Performance-Based Incentive	3/24/2009
Advanced Energy Tax Credit (Personal)	Financial Incentive	Personal Tax Credit	4/17/2009
Local Option - Renewable Energy Financing District/Solar Energy Improvement Special Assessments	Financial Incentive	PACE Financing	7/15/2009
PNM - Commercial Energy Efficiency Rebate Program	Financial Incentive	Rebate Program	8/11/2009
El Paso Electric Company - Commercial Efficiency Program	Financial Incentive	Rebate Program	12/15/2009
El Paso Electric Company - Residential Efficiency Program	Financial Incentive	Rebate Program	12/15/2009
Geothermal Heat Pump Tax Credit (Personal)	Financial Incentive	Personal Tax Credit	12/21/2009
Geothermal Heat Pump Tax Credit (Corporate)	Financial Incentive	Corporate Tax Credit	12/21/2009
Gross Receipts Tax Exemption for Sales of Wind and Solar Systems to Government Entities	Financial Incentive	Sales Tax Incentive	2/16/2010
Advanced Energy Gross Receipts Tax Deduction	Financial Incentive	Sales Tax Incentive	3/19/2010
Property Tax Exemption for Residential Solar Systems	Financial Incentive	Property Tax Incentive	3/24/2010
Xcel Energy - Residential Energy Efficiency Rebate Program	Financial Incentive	Rebate Program	4/8/2010
Energy Efficiency Resource Standard	Regulatory Policy	Energy Efficiency Resource Standard	12/13/2010
Agricultural Biomass Income Tax Credit (Corporate)	Financial Incentive	Corporate Tax Credit	12/14/2010
Agricultural Biomass Income Tax Credit (Personal)	Financial Incentive	Personal Tax Credit	12/14/2010
El Paso Electric Company - SCORE Plus Standard Offer Program	Financial Incentive	Rebate Program	12/15/2009
New Mexico Gas Company - Residential Efficiency Programs	Financial Incentive	Rebate Program	2/9/2011
New Mexico Gas Company - Commercial Efficiency Programs	Financial Incentive	Rebate Program	2/9/2011