



An Overview of Energy Efficiency

Energy efficiency means reducing the amount of energy that you need to perform a particular task. When you practice energy efficiency, you increase or maintain your level of service, but you decrease the energy used to provide that service through efficient technologies. Examples include ENERGY STAR appliances, compact fluorescent and LED light bulbs, better insulation for buildings, more efficient windows, high efficiency air conditioning equipment, and vehicles with higher miles per gallon (mpg). Another distinct strategy is energy conservation, which means that you change your behavior or lifestyle to reduce energy use. Examples include carpooling, using mass transit, turning thermostats down in the winter and up in summer, and other behavioral changes.

Improving energy efficiency is a “win-win” strategy — it saves money for consumers and businesses, reduces the need for costly and controversial new power plants, increases the reliability of energy supply, cuts pollution and greenhouse gas emissions, and lowers energy imports. There is vast potential for improving the energy efficiency of homes, appliances, businesses, and vehicles throughout New Mexico.

Quick Facts:

- ◆ Population, 2016: 2,085,432
- ◆ Population growth rate, 2008-2016: 0.46% per year
- ◆ Number of households, 2016: 912,445

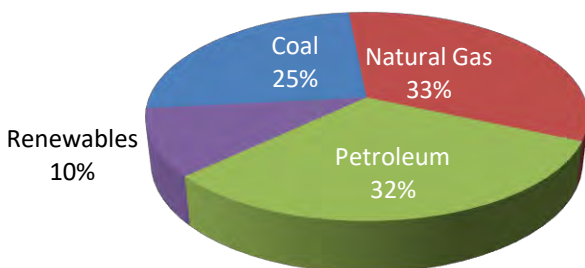
Primary Energy Consumption (2016)

- ◆ Primary energy consumption: 667.8 trillion Btu
- ◆ Growth rate, 2008-2016: -0.19% per year
- ◆ Primary energy consumption per capita: 320 million Btu
- ◆ Ranking, energy consumption per capita: 21
- ◆ Ranking, total energy consumption: 38
- ◆ Ratio of consumption to production: 0.26

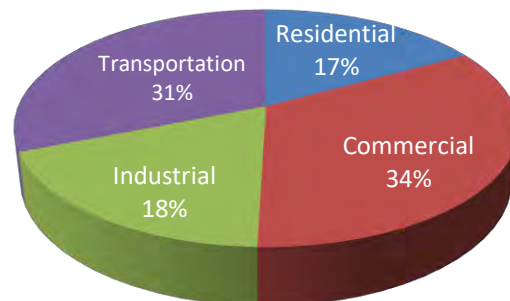
Energy Expenditures (2016)

- ◆ Total energy expenditures: \$6.44 billion
 - ◆ Ranking, energy expenditures: 38
 - ◆ Energy expenditures per capita: \$3,089
 - ◆ Ranking, energy expenditures per capita: 34
- Source: U.S. Energy Information Administration, State Energy Data System, June 2018.*

**2016 Primary Energy Consumption
(by energy resource)**



**2016 Primary Energy Consumption
(by end use)**



Renewables include hydropower, wood, solar, geothermal and waste materials.

Primary energy use includes the losses in electricity generation and distribution. Rankings are position among US states plus DC (1 is highest, 51 is lowest).

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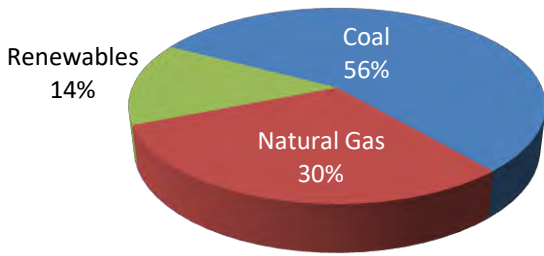
Electricity Use (2016)

- ◆ Total retail sales: 23.0 billion kWh
- ◆ Ranking, total retail sales: 39
- ◆ Consumption growth rate, 2008-2016: 0.56% per year
- ◆ Electricity use per capita: 11,048 kWh
- ◆ Residential electricity use per household: 7,280 kWh
- ◆ Average retail price, all sectors: 9.12 cents/kWh
- ◆ Ranking, average electricity price: 33

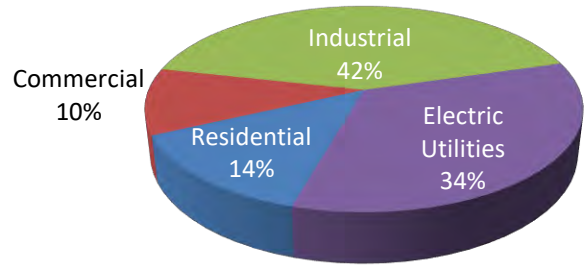
Natural Gas Use (2016)

- ◆ Natural gas consumption: 248.2 Bcf
- ◆ Ranking: 33
- ◆ Consumption growth rate, 2008-2016: 0.08% per year
- ◆ Natural gas use per capita: 120,128 cf
- ◆ Residential natural gas use (per residential consumer): 55,897 cf

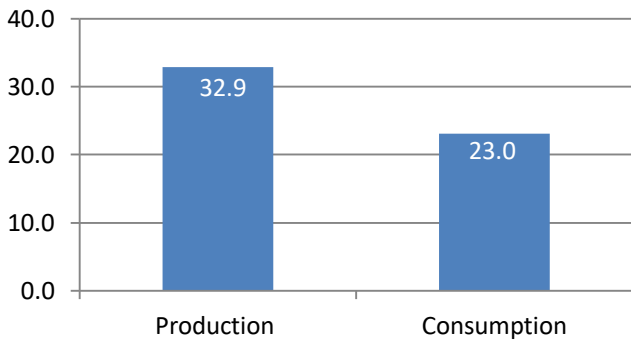
2016 Electricity Generation Breakdown



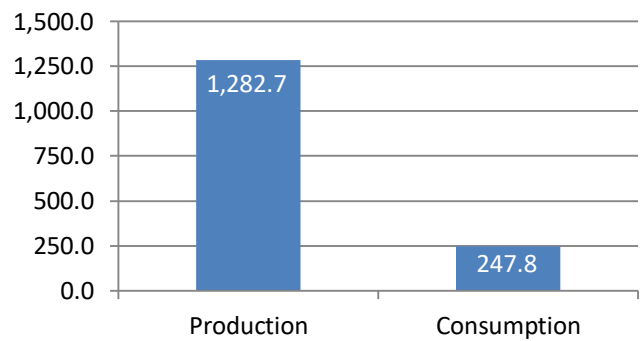
2016 Natural Gas Use by Sector



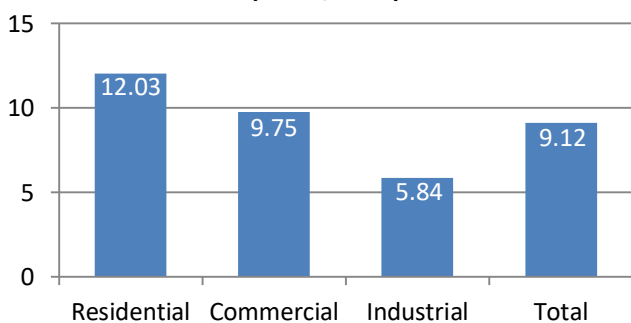
2016 Electricity Production and Consumption (Billion kWh)



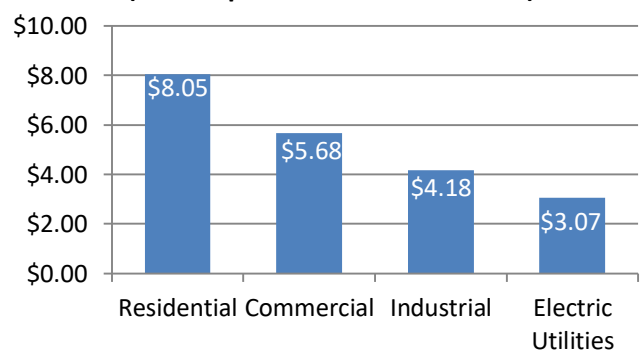
2016 Natural Gas Production and Consumption (Billion Cubic Feet)



2016 Electricity Average Retail Prices (cents/kWh)



2016 Natural Gas Average Retail Prices (Dollars per Thousand Cubic Feet)



Sources: U. S. Energy Information Administration (www.eia.doe.gov) and U. S. Census Bureau (www.census.gov)

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Energy Efficiency Policies and Programs in New Mexico

State Energy Efficiency Goals

In 2008, the State of New Mexico instituted the Efficient Use of Energy Act (EUEA), which established energy savings requirements for investor-owned electric utilities of 5% of 2005 total retail kWh sales by 2014 and 8% of 2005 total retail kWh sales by 2020. In 2013, the EUEA was revised to establish a fixed budget level of 3% of annual revenues for energy efficiency programs (customer's DSM surcharge is capped at \$75,000 per year).

- ◆ Text of EUEA: <http://www.nmlegis.gov/Sessions/13%20Regular/final/HB0267.pdf>

Electricity Demand-Side Management (DSM)

The state's three investor-owned electric utilities, Public Service Company of New Mexico (PNM), Southwestern Public Service Company (SPS) and El Paso Electric (EPE) offer their customers a wide range of energy efficiency programs ranging from discounts on LED light bulbs, technical and financial assistance for home retrofits, incentives for energy efficient new homes, incentives for business retrofits, and funding for low-income home weatherization. Total spending on electric utility energy efficiency and load management programs was around \$39 million in 2017.

- ◆ PNM programs: <http://www.pnm.com/rebates/>
- ◆ SPS programs: https://www.xcelenergy.com/Programs_and_Rebates/Energy_Efficiency
- ◆ EPE residential programs <http://www.epelectric.com/nm/residential/energy-efficiency>
- ◆ EPE business programs: <http://www.epelectric.com/nm/business/energy-efficiency>

Natural Gas Demand-Side Management

The New Mexico Gas Company (NMGCO) implements some natural gas energy efficiency programs for its customers. The utility's energy efficiency budget was about \$5.8 million as of 2017.

- ◆ NMGCO programs: https://www.nmgco.com/en/energy_efficiency

Status of Building Energy Codes

New Mexico adopted a statewide energy code, the 2009 International Energy Conservation Code (IECC). Local jurisdictions can adopt more stringent codes, but if they do they must provide their own enforcement. The U.S. Department of Energy estimates that new homes built in New Mexico complying with an up-to-date energy code rather than the 2006 IECC will save \$216-251 per year on energy costs.

- ◆ For more info: <http://www.energycodes.gov/adoption/states>

State Energy Efficiency Scorecard

The American Council for an Energy-Efficient Economy (ACEEE) has ranked states based upon scores in six categories including: 1) utility and public benefits of energy efficiency programs; 2) combined heat and power (CHP); 3) building energy codes; 4) transportation policies; 5) appliance and equipment efficiency standards; and 6) state government initiatives. In the 2018 states scorecard, New Mexico was tied for 36th among all states with a core of 13.5 out of a possible 50 points.

<http://aceee.org/research-report/u1808>

Electricity Conservation Potential and Impacts in New Mexico*

Energy savings potential:	24%
Avoided power capacity:	970 MW
Net dollar savings:	\$1.7 billion
Potential increase in jobs:	2,330
Potential water savings:	4.6 billion gallons per year

*Based on SWEET's study, *The \$20 Billion Bonanza: Best Practice Utility Energy Efficiency Programs and Their Benefits for the Southwest*. This study, completed in 2012, presents the energy savings potential and impacts from a strong commitment to utility energy efficiency programs over a 10-year period.

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Residential Energy Consumption Survey (2015)

Housing Characteristics:

The Energy Information Administration (EIA) has published housing characteristics data from the 2015 Residential Energy Consumption Survey. The EIA presents regional aggregates of household characteristics in the Mountain South region, which includes Arizona, Nevada and New Mexico. The table below indicates the percentage of households that report having, using or practicing the following equipment and/or behaviors in their homes:

Find household too drafty at least some of the time	38%
Single Pane Windows	31%
Homes with Efficient Lighting	
At least one CFL Bulb	84%
At least one LED Bulb	28%
Two or more Refrigerators	26%
Energy Star Refrigerator	43%
Energy Star Dishwasher	29%
Energy Star Clothes Washer	40%
Three or more Televisions	33%
Electric Heat (all types)	44%
Programmable Thermostat	51%
Central Air Conditioning	79%
Use an Evaporative or Swamp Cooler	19%
Use a Ceiling Fan	84%
Electric Water Heating	37%

Source: U. S. Energy Information Administration, 2015 Residential Energy Consumption Survey: Housing Characteristics Tables.

More Information on Energy Efficiency

- ◆ American Council for an Energy-Efficient Economy (ACEEE) www.aceee.org
- ◆ Alliance to Save Energy www.ase.org
- ◆ Consortium for Energy Efficiency <https://www.cee1.org/>
- ◆ ENERGY STAR® Products www.energystar.gov
- ◆ Southwest Energy Efficiency Project www.swenergy.org
- ◆ U.S. DOE's Energy Efficiency & Renewable Energy Programs <https://energy.gov/eere/office-energy-efficiency-renewable-energy>