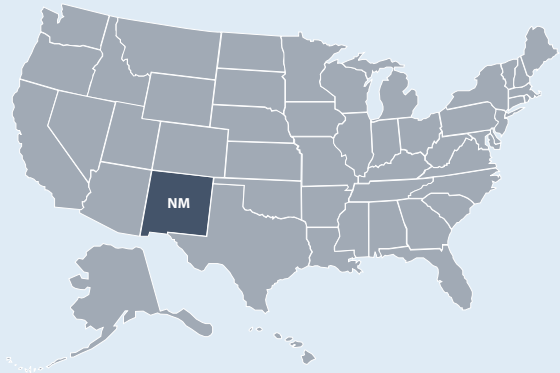
State of New Mexico
ENERGY SECTOR RISK PROFILE

U.S. DEPARTMENT OF ENERGY
Cybersecurity, Energy Security, and Emergency Response



New Mexico State Facts

POPULATION
2.10 M

HOUSING UNITS
0.94 M

BUSINESS ESTABLISHMENTS
0.04 M

ENERGY EMPLOYMENT: 44,112 jobs
PUBLIC UTILITY COMMISSION: NM Public Regulation Commission
STATE ENERGY OFFICE: NM Energy, Minerals and Natural Resources Department, Energy Conservation and Management Division
EMERGENCY MANAGEMENT AGENCY: NM Department of Homeland Security and Emergency Management
AVERAGE ELECTRICITY TARIFF: 9.35 cents/kWh
ENERGY EXPENDITURES: $3,520/capita
ENERGY CONSUMPTION PER CAPITA: 327 MMBtu
(19th highest of 50 states and Washington, D.C.)
GDP: $100.3 billion

Data from 2020 or most recent year available.
For more information, see the Data Sources document.

ANNUAL ENERGY CONSUMPTION

ELECTRIC POWER: 24,050 GWh
COAL: 7,300 MSTN
NATURAL GAS: 195 Bcf
MOTOR GASOLINE: 24,000 Mbbl
DISTILLATE FUEL: 18,200 Mbbl

ANNUAL ENERGY PRODUCTION

ELECTRIC POWER GENERATION: 125 plants, 35.2 TWh, *9.5 GW total capacity*
- **Coal:** 3 plants, 14.7 TWh, *2.8 GW total capacity*
- **Hydro:** 5 plants, 0.2 TWh, *0.1 GW total capacity*
- **Natural Gas:** 20 plants, 11.8 TWh, *3.8 GW total capacity*
- **Nuclear:** 0 plants
- **Petroleum:** 3 plants, 0.2 TWh, *0.1 GW total capacity*
- **Wind & Solar:** 88 plants, 8.3 TWh, *2.7 GW total capacity*
- **Other sources:** 6 plants, 0.1 TWh, *0.0 GW total capacity*

COAL: 13,800 MSTN
NATURAL GAS: 1,850 Bcf
CRUDE OIL: 329,500 Mbbl
ETHANOL: 0 Mbbl

Data from EIA (2018, 2019).

This State Energy Risk Profile examines the relative magnitude of the risks that the state of New Mexico's energy infrastructure routinely encounters in comparison with the probable impacts. Natural and man-made hazards with the potential to cause disruption of the energy infrastructure are identified. Certain natural and adversarial threats, such as cybersecurity, electromagnetic pulse, geomagnetic disturbance, pandemics, or impacts caused by infrastructure interdependencies, are ill-suited to location-based probabilistic risk assessment as they may not adhere to geographic boundaries, have limited occurrence, or have limited historic data. Cybersecurity and other threats not included in these profiles are ever present and should be included in state energy security planning. A complete list of data sources and national level comparisons can be found in the Data Sources document.

New Mexico Risks and Hazards Overview

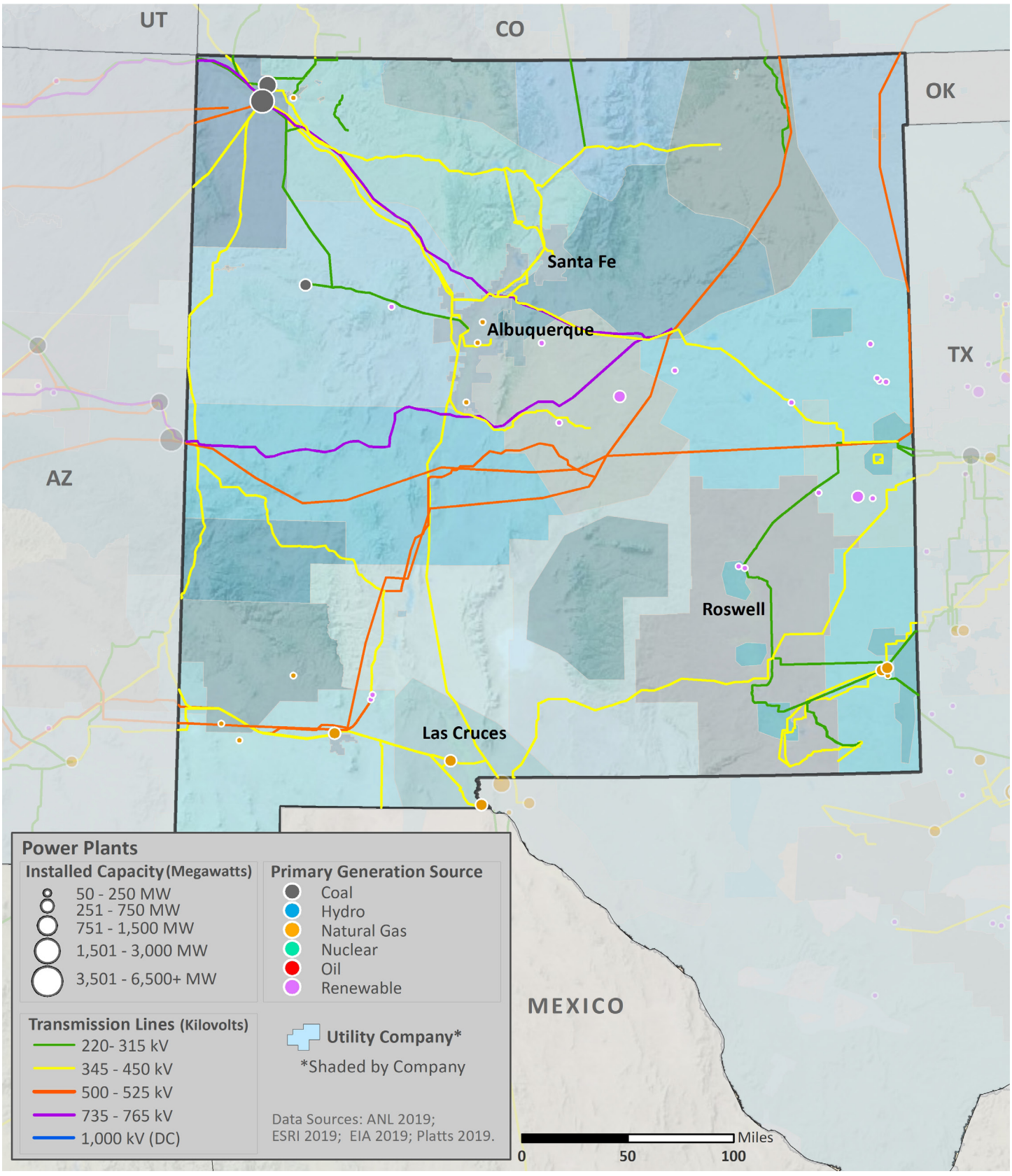
- The natural hazard that caused the greatest overall property loss between 2009 and 2019 was **Winter Storms & Extreme Cold** at $39 million per year *(7th leading cause nationwide at $418 million per year)*.
- New Mexico had 56 Major Disaster Declarations, 0 Emergency Declarations, and 8 Fire Management Assistance Declarations for 14 events between 2013 and 2019.
- New Mexico registered 7% fewer Heating Degree Days and 37% greater Cooling Degree Days than average in 2019.
- There is 1 Fusion Center located in Santa Fe.

Annualized Frequency of and Property Damage Due to Natural Hazards, 2009 – 2019

	HAZARD FREQUENCY – Annualized	PROPERTY DAMAGE – Annualized ($Million per year)
Drought	16	$0
Earthquake (≥ 3.5 M)	2	$0
Extreme Heat	1	$0
Flood	33	$6
Hurricane	0	$0
Landslide	<1	$0
Thunderstorm & Lightning	113	$6
Tornado	9	$1
Wildfire	5	$7
Winter Storm & Extreme Cold	21	$39

Data Sources: NOAA and USGS

ELECTRIC


UT
CO
OK
TX
AZ
MEXICO
Santa Fe
Albuquerque
Roswell
Las Cruces
Power Plants
Installed Capacity (Megawatts)
50 - 250 MW
251 - 750 MW
751 - 1,500 MW
1,501 - 3,000 MW
3,501 - 6,500+ MW
Primary Generation Source
Coal
Hydro
Natural Gas
Nuclear
Oil
Renewable
Transmission Lines (Kilovolts)
220- 315 kV
345 - 450 kV
500 - 525 kV
735 - 765 kV
1,000 kV (DC)
Utility Company*
*Shaded by Company
Data Sources: ANL 2019; ESRI 2019; EIA 2019; Platts 2019.
0
50
100
Miles

Electric Infrastructure

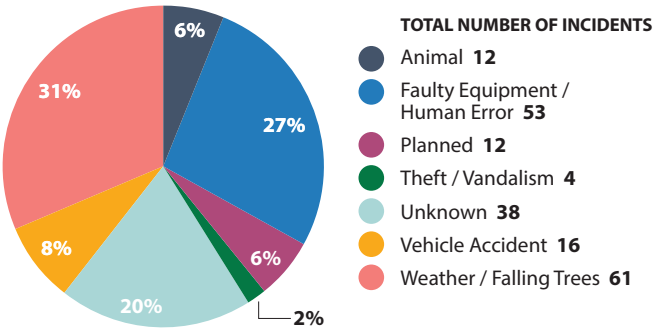
- New Mexico has 24 electric utilities:
  - *1 Investor owned*
  - *16 Cooperative*
  - *7 Municipal*
  - *0 Other utilities*
- Plant retirements scheduled by 2025: 6 electric generating units totaling 464 MW of installed capacity.
- In 2018, the average New Mexico electric customer experienced 1.1 service interruptions that lasted an average of 2.3 hours.
- In New Mexico, between 2008 and 2017:
  - *The greatest number of electric outages occurred in **July** (leading month for outages nationwide)*
  - *The leading cause of electric outages was **Weather or Falling Trees** (leading cause nationwide)*
  - *Electric outages affected 91,741 customers on average*

Electric Customers and Consumption by Sector, 2018

	CUSTOMERS	CONSUMPTION
Residential	85%	28%
Commercial	14%	38%
Industrial	<1%	34%
Transportation	<1%	<1%

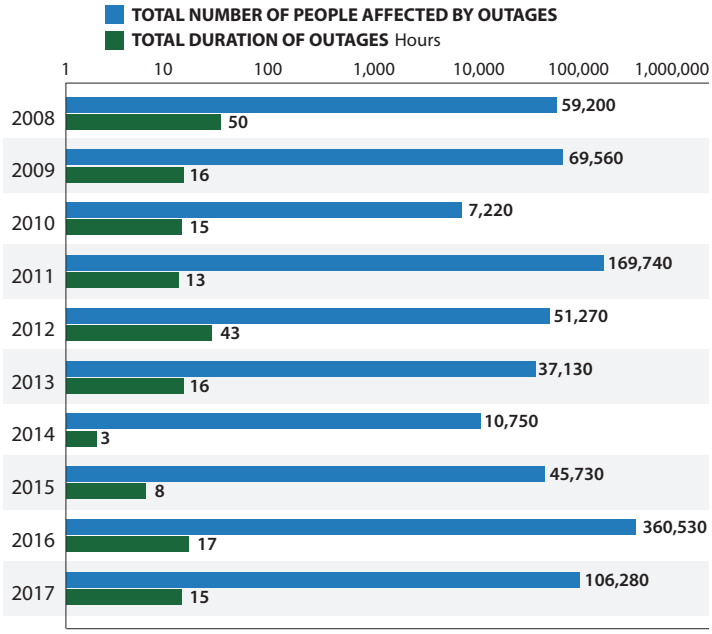
Data Source: EIA

Electric Utility-Reported Outages by Cause, 2008 – 2017



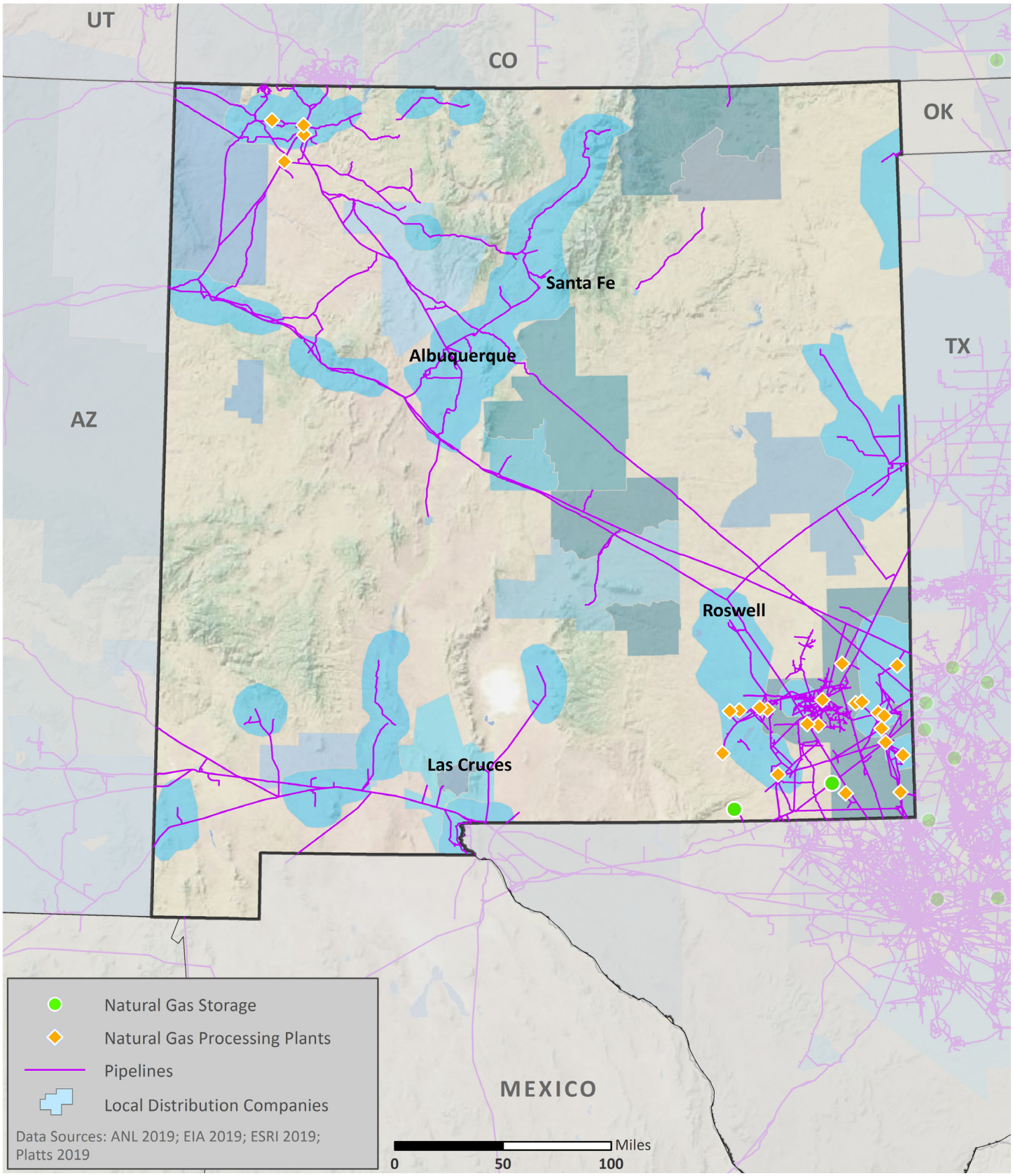
Data Source: Eaton

Electric Utility Outage Data, 2008 – 2017



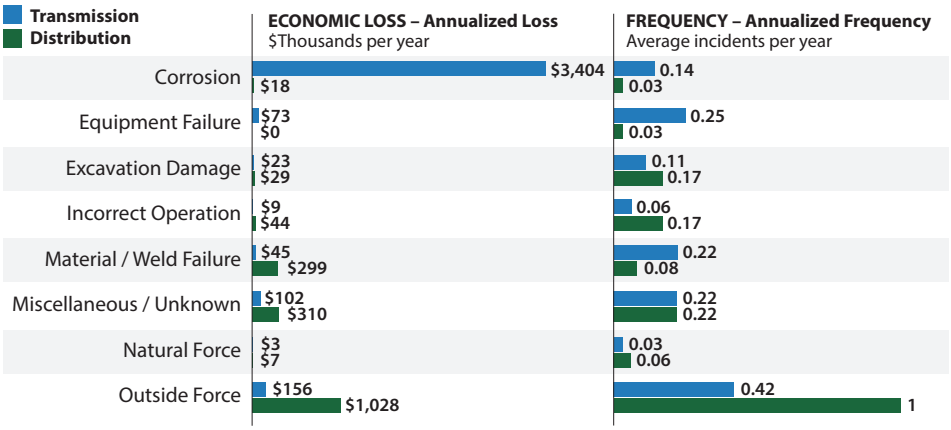
Note: This chart uses a logarithmic scale to display a very wide range of values.
Data Source: Eaton

NATURAL GAS


UT
CO
OK
TX
AZ
Santa Fe
Albuquerque
Roswell
Las Cruces
MEXICO
Natural Gas Storage
Natural Gas Processing Plants
Pipelines
Local Distribution Companies
Data Sources: ANL 2019; EIA 2019; ESRI 2019; Platts 2019
0
50
100
Miles

Natural Gas Transport

Top Events Affecting Natural Gas Transmission and Distribution, 1984–2019



Data Source: DOT PHMSA

- As of 2018, New Mexico had:
  - *6,440 miles of natural gas transmission pipelines*
  - *14,347 miles of natural gas distribution pipelines*
- 69% of New Mexico's natural gas transmission system and 42% of the distribution system were constructed prior to 1970 or in an unknown year.
- Between 1984 and 2019, New Mexico's natural gas supply was most impacted by:
  - ***Corrosion** when transported by transmission pipelines (4th leading cause nationwide at $20.15M per year)*
  - ***Outside Forces** when transported by distribution pipelines (leading cause nationwide at $76.59M per year)*

Natural Gas Processing and Liquefied Natural Gas

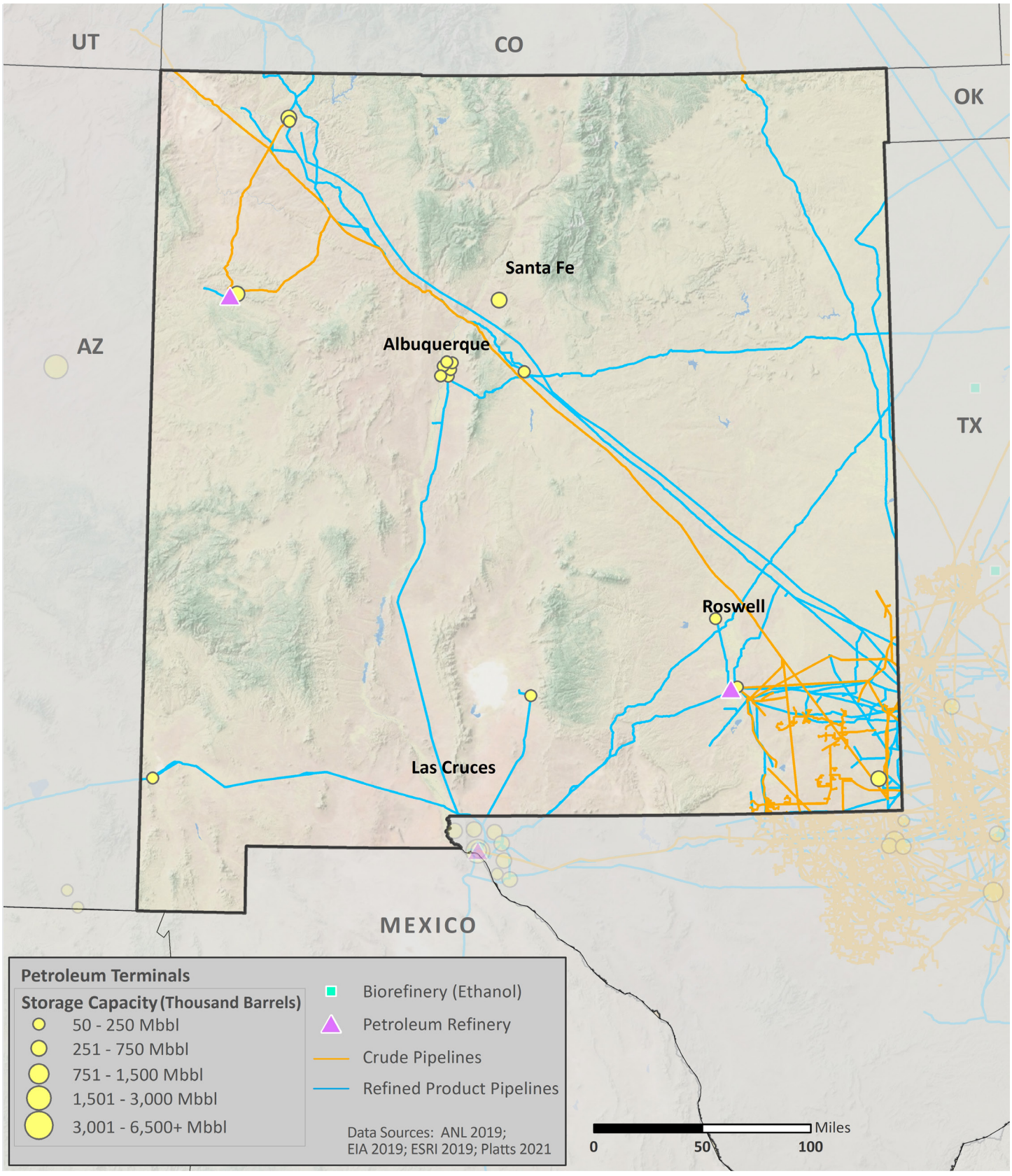
Natural Gas Customers and Consumption by Sector, 2018

	CUSTOMERS	CONSUMPTION
Residential	92%	17%
Commercial	8%	13%
Industrial	<1%	9%
Transportation	<1%	<1%
Electric Power	<1%	61%
Other	<1%	<1%

Data Source: EIA

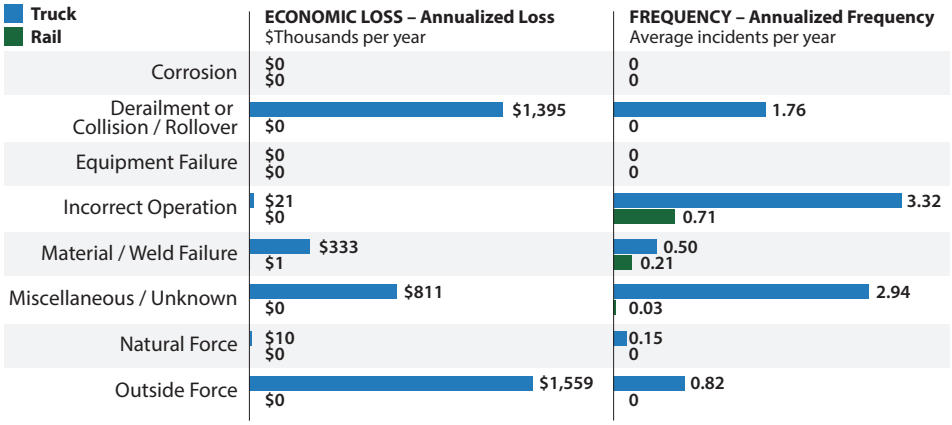
- New Mexico has 24 natural gas processing facilities with a total capacity of 3,847 MMcf/d.
- New Mexico has 0 liquefied natural gas (LNG) facilities with a total storage capacity of 0 barrels.

PETROLEUM


UT
CO
OK
AZ
TX
MEXICO
Santa Fe
Albuquerque
Roswell
Las Cruces
Petroleum Terminals
Storage Capacity (Thousand Barrels)
50 - 250 Mbbl
251 - 750 Mbbl
751 - 1,500 Mbbl
1,501 - 3,000 Mbbl
3,001 - 6,500+ Mbbl
Biorefinery (Ethanol)
Petroleum Refinery
Crude Pipelines
Refined Product Pipelines
Data Sources: ANL 2019; EIA 2019; ESRI 2019; Platts 2021
Miles
0
50
100

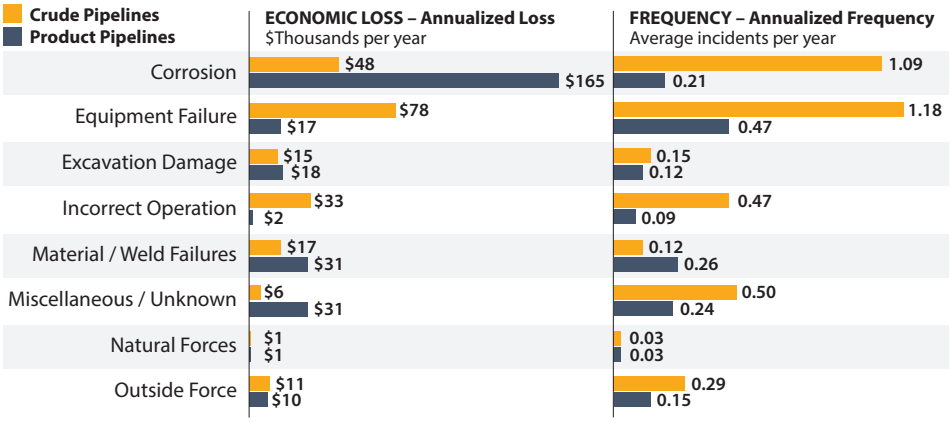
Petroleum Transport

Top Events Affecting Petroleum Transport by Truck and Rail, 1986 – 2019



Data Source: DOT PHMSA

Top Events Affecting Crude Oil and Refined Product Pipelines, 1986 – 2019



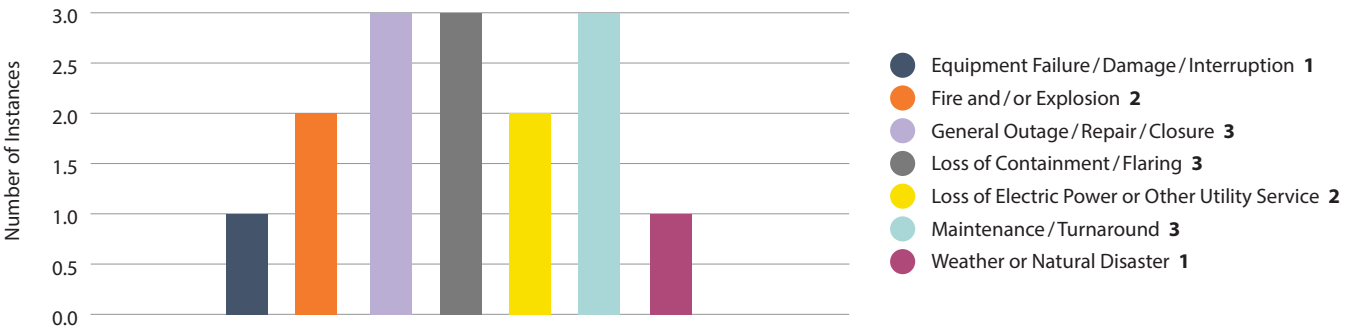
Data Source: DOT PHMSA

- As of 2018, New Mexico had:
  - *2,055 miles of crude oil pipelines*
  - *2,164 miles of refined product pipelines*
  - *0 miles of biofuels pipelines*
- 45% of New Mexico's petroleum pipeline systems were constructed prior to 1970 or in an unknown year.
- Between 1986 and 2019, New Mexico's petroleum supply was most impacted by:
  - ***Outside Forces*** *when transported by truck (2nd leading cause nationwide at $60.45M per year)*
  - ***Material Failures*** *when transported by rail (5th leading cause nationwide at $0.05M per year)*
  - ***Equipment Failures*** *when transported by crude pipelines (8th leading cause nationwide at $2.88M per year)*
  - ***Corrosion*** *when transported by product pipelines (2nd leading cause nationwide at $15.20M per year)*
- Disruptions in other states may impact supply.

Petroleum Refineries

- New Mexico has 2 petroleum refineries with a total operable capacity of 136 Mb/d.
- Between 2009 and 2019, the leading causeS of petroleum refinery disruptions in New Mexico were:
  - ***General Outages, Repairs, or Closures*** *(3rd leading cause nationwide)*
  - ***Loss of Containment or Flaring*** *(leading cause nationwide)*
  - ***Maintenance*** *(2nd leading cause nationwide)*

Causes and Frequency of Petroleum Refinery Disruptions, 2009 – 2019



Data Source: Hydrocarbon Publishing