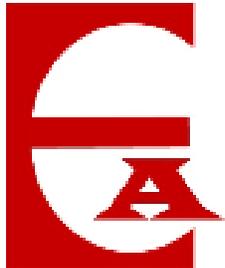


New Mexico The Energy State



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New Mexico is Rich in Energy

Providing the following energy resources:

- ✓ **Coal** (Twelfth largest producer in U.S.)
- ✓ **Natural Gas** (Fourth largest producer in U.S., second largest in proven reserves)
- ✓ **Oil** (Seventh largest producer in U.S., fourth in proven reserves)
- ✓ **Solar** (Second largest *energy potential* producer in U.S.)
- ✓ **Uranium** (Second largest uranium ore reserves in U.S.)
- ✓ **Wind** (Sixth largest *energy potential* producer in U.S.)



Global Energy Demand

There will never NOT be a demand for energy.

- **Population and economic growth through 2035 will continue to drive global energy demand.**
 - **World's population is expected to rise from 6.7 billion today to almost 8 billion.**
 - **Globally about 1.5 billion people lack access to electricity.**
 - **Globally 2.5 billion people – nearly 40% - live without modern fuels for cooking and heating but instead rely on burning wood, dung or other traditional fuels.**
- **Global energy demand broken down by the four main end-use sectors:**
 - **Electric power generation;**
 - **Industrial demand (manufacturing, steelmaking and others);**
 - **Transportation; and**
 - **Residential/commercial**



2011 U.S. Energy Outlook

2010 - 2035

- **Imports meet a major but declining share of total U.S. energy demand:**

- The need for energy imports is offset by the increased use of biofuels (much of which are produced domestically), demand reductions resulting from the adoption of new vehicle fuel economy standards, and rising energy prices. Rising fuel prices also spur domestic energy production across all fuels—particularly, natural gas from plentiful shale gas resources—and temper the growth of energy imports.
- Much of the projected decline in the net import share of energy supply is accounted for by liquids. Although U.S. consumption of liquid fuels continues to grow through 2035, reliance on petroleum imports as a share of total liquids consumption decreases. Total U.S. consumption of liquid fuels, including both fossil fuels and biofuels, rises from about 18.8 million barrels per day in 2009 to 21.9 million barrels per day in 2035. The import share, which reached 60 percent in 2005 and 2006 before falling to 51 percent in 2009, falls to 42 percent in 2035



U.S. shale gas resources support increased natural gas production.

- Shale gas production in the United States grew at an average annual rate of 17 percent between 2000 and 2006. Early success in shale gas production was achieved primarily in the Barnett Shale in Texas. By 2006, the success in the Barnett shale, coupled with high natural gas prices and technological improvements, turned the industry focus to other shale plays. The combination of horizontal drilling and hydraulic fracturing technologies has made it possible to produce shale gas economically, leading to an average annual growth rate of 48 percent over the 2006-2010 period.
- The U.S. Energy Information Administration (EIA) predicts that shale gas production will continue to increase strongly through 2035, *growing almost fourfold from 2009 to 2035. While total domestic natural gas production grows from 21.0 trillion cubic feet in 2009 to 26.3 trillion cubic feet in 2035, shale gas production grows to 12.2 trillion cubic feet in 2035, when it makes up 47 percent of total U.S. production—up considerably from the 16-percent share in 2009.*
- The estimate for technically recoverable unproved shale gas resources is 827 trillion cubic feet. Although more information has become available as a result of increased drilling activity in developing shale gas plays, estimates of technically recoverable resources and well productivity remain highly uncertain. Over the past decade, as more shale formations have gone into commercial production, the estimate of technically and economically recoverable shale gas resources has skyrocketed.



Assuming no changes in policy related to GHG emissions, carbon dioxide emissions grow slowly and do not return to 2005 levels until 2027.

- After falling by 3 percent in 2008 and 7 percent in 2009, largely as a result of the economic downturn, energy-related CO₂ emissions grow slowly *due to a combination of modest economic growth, growing use of renewable technologies and fuels, efficiency improvements, slower growth in electricity demand, and more use of natural gas, which is less carbon-intensive than other fossil fuels.* The U.S. 2011 Energy Outlook assumes no explicit regulations to limit GHG emissions beyond vehicle GHG standards, energy-related CO₂ emissions do not return to 2005 levels (5,996 million metric tons) until 2027, growing by an average of 0.6 percent per year from 2009 to 2027, or a total of 10.6 percent. CO₂ emissions then rise by an additional 5 percent from 2027 to 2035, to 6,311 million metric tons in 2035.
- To put the numbers in perspective, population growth is projected to average 0.9 percent per year, overall economic growth 2.7 percent per year, and growth in energy use 0.7 percent per year over the same period. Although total energy-related CO₂ emissions increase from 5,996 million metric tons in 2005 to 6,311 million metric tons in 2035, emissions per capita fall by 0.7 percent per year over the same period. Most of the growth in CO₂ emissions in the *US Energy Outlook 2011* is accounted for by the electric power and transportation sectors.

The Annual Energy Outlook 2011 (AEO2011), prepared by the U.S. Energy Information Administration (EIA), presents long-term projections of energy supply, demand, and prices through 2035, based on results from EIA's National Energy Modeling System (NEMS).



New Mexico

The Energy State



New Mexico Producing Counties

- San Juan
- Rio Arriba
 - Colfax
- Sandoval
- McKinley
 - Lea
 - Eddy
- Chavez
- Roosevelt

Union and Harding Counties encompass Bravo Dome producing primarily CO₂. The Bravo Dome field and its associated Bravo Dome Unit covers an area of roughly 800,000 acres producing primarily CO₂ (carbon dioxide) for Enhanced Oil Recovery (EOR) projects.



New Mexico Production by County

Rank/County	Oil (Barrels)	Rank/County	Gas (MCF)
1. Lea	32,966,378	1. San Juan	549,672,095
2. Eddy	24,433,566	2. Rio Arriba	364,999,420
3. Rio Arriba	1,215,284	3. Eddy	223,082,275
4. San Juan	1,127,644	4. Lea	202,616,260
5. Chaves	1,068,122	5. Chaves	27,411,753
6. Roosevelt	233,991	6. Colfax	26,124,386
7. Sandoval	115,961	7. Roosevelt	2,119,410
8. McKinley	36,539	8. Sandoval	1,249.423
		9. McKinley	73,878
<u>Total</u>	<u>61,197,485</u>		<u>1,397,348,600</u>

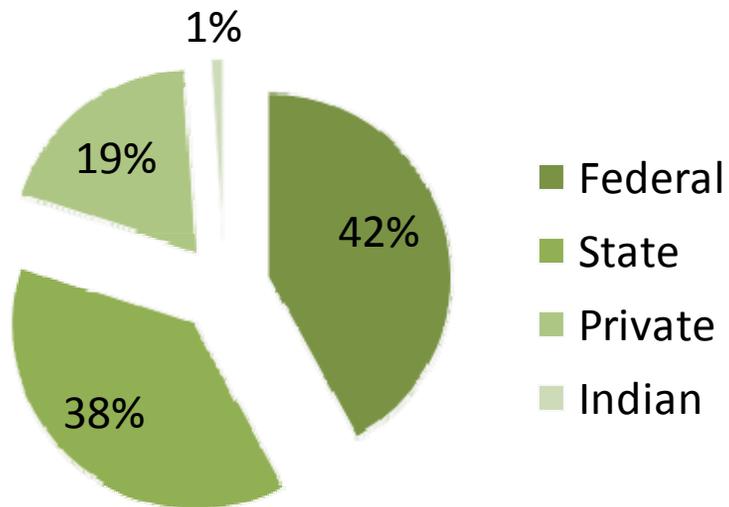
Source: Oil Conservation Division as of November 14, 2010



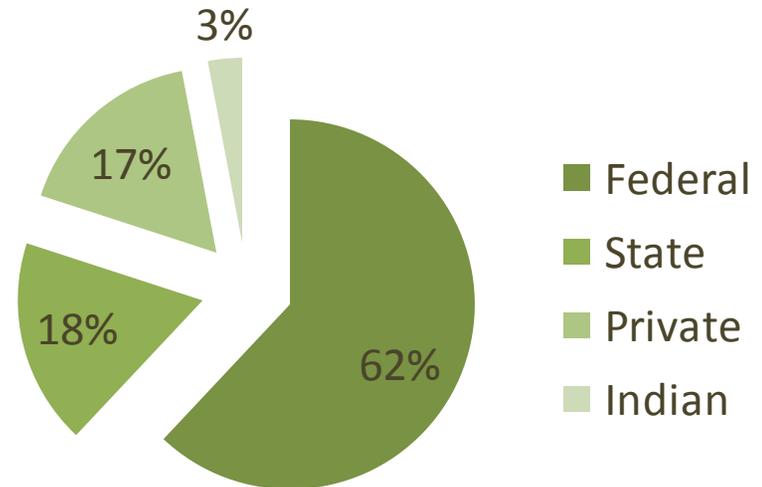
New Mexico

Oil & Gas Production by Mineral Ownership

Crude Oil



Natural Gas



Revenues to the State

New Mexico derives oil and gas revenue from the following sources.

- ✓ 49% of all royalties paid to the federal government from oil and gas produced from federal mineral ownership in New Mexico.
- ✓ 12.5 to 25% royalty payments on all oil and gas produced from state lands.
- ✓ Bonus payments for leasing state minerals.
- ✓ A state 4% emergency school tax on natural gas, 3.15% on oil; 3.75% severance tax; 1 to 1.5% ad valorem tax, 0.19% conservation tax; and \$0.0082/MMBTU natural gas processors tax.
- ✓ Investment earnings on the Severance Tax and Land Grant Permanent funds.



New Mexico Revenues from Oil & Gas

	FY 2008	FY 2009	FY 2010*
State General Fund:			
Oil and Gas Emergency School Tax	\$557,668,091	\$370,353,954	\$324,543,970
Oil and Gas Conservation Tax	29,115,356	18,916,799	16,352,738
Natural Gas Processors Tax	<u>30,617,748</u>	<u>40,341,003</u>	<u>40,436,731</u>
Sub-Total: General Fund Taxes	<u>\$617,401,195</u>	<u>\$429,611,756</u>	<u>\$381,333,439</u>
Federal Mineral Leasing Royalties	\$564,181,973	\$507,228,551	\$355,302,274
State Land Office Rents, Bonuses, Etc.	<u>46,084,845</u>	<u>36,442,282</u>	<u>67,701,590</u>
Sub-Total: Rents and Royalties	<u>\$610,266,818</u>	<u>\$543,670,833</u>	<u>\$423,003,864</u>
Total General Fund Revenue	<u>\$1,227,668,013</u>	<u>\$973,282,589</u>	<u>\$804,337,303</u>
Other State Funds:			
Severance Tax Permanent Fund	\$567,447,973	\$378,141,950	\$390,701,713
Land Grant Permanent Fund	<u>463,728,275</u>	<u>460,886,122</u>	<u>322,227,921</u>
Total Other State Funds	<u>\$1,031,176,248</u>	<u>\$839,028,072</u>	<u>\$712,929,634</u>
Total State of New Mexico Revenue	<u>\$2,258,844,261</u>	<u>\$1,812,310,661</u>	<u>\$1,517,266,937</u>
Local Government Revenue:			
Ad Valorem Production Tax	\$124,655,359	\$114,646,409	\$106,628,000
Production Equipment Tax	<u>26,084,111</u>	<u>28,219,389</u>	<u>34,800,000</u>
Total Local Government Revenue	<u>\$150,739,470</u>	<u>\$142,865,798</u>	<u>\$141,428,000</u>
Grand Total State and Local Revenue	<u>\$2,409,583,731</u>	<u>\$1,955,176,459</u>	<u>\$1,658,694,937</u>

Note: Revenue do not include interest revenue on permanent funds, gross receipts taxes, corporate income tax, personal income tax, or employment taxes.

* 2010 Estimated values, subject to change
Source: NMTRD/NMDFA/LFC



Economic Impact of Oil & Gas

- In 2010, the direct impact is estimated to be \$2.559 billion to Gross State Product (GSP or Value Added) created by 12,007 jobs directly employed in the oil and gas industry.
- The total employment associated with the oil and gas industry (direct + indirect + induced) is 26,364 jobs with a total estimated contribution to the GSP for 2010 is \$3.666 billion.

Impact of Oil & Gas Extraction and Associated Activities Values

<u>FY 2010</u>	<u>Direct</u>	<u>Indirect</u>	<u>Induced</u>	<u>Total</u>
GSP	2,559,447,816	517,948,456	556,141,722	3,666,537,994
Output	3,927,197	1,028,810,435	959,957,375	5,915,964,969
Labor Income	985,241,7805	264,109,406	288,401,432	1,537,832,587
Employment	12,007	4,856	9,501	26,364



Economic Impacts Associated with Employment in the Oil & Gas Industry

Total Estimated Impacts of the Oil & Gas Industry in New Mexico – FY 2010

Contribution to GSP (Value Added)	3,633,537,994
Employment	26,364
Labor Income	1,537,832,587
Labor Income per Oil & Gas Worker	58,331
Employment as Percent of State Labor Force	2.73%
Value Added as a Percent of State GDP	4.88%
Direct Tax Revenues and Royalties	803,300,000
Indirect Tax Revenue	130,838,797
Total Revenue from Oil and Gas (Direct + Indirect)	1,409,872,197
Percent of General Fund	26.81%



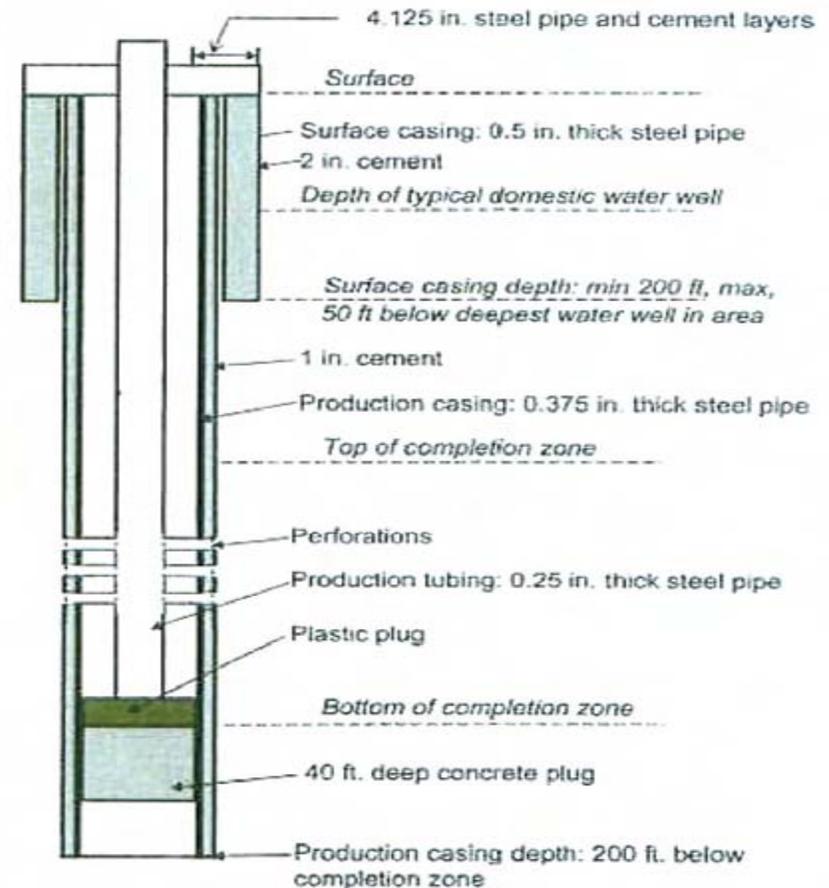
Environmental Stewardship

New Mexico oil and natural gas producers are continually developing and implementing advanced technologies that improve both efficiency and environmental safety.

Our record for the safe and clean production of energy is excellent, and will stay that way.

Best management practices, federal, state, and local environmental regulations protect the environment from groundwater contamination, air pollution, and unnecessary surface damages.

- ✓ Good Neighbor Policy
- ✓ Surface Owners Protection Act
- ✓ Smaller footprint
- ✓ Co-located wells
- ✓ Energy efficient drilling and production methods
- ✓ Enhanced worker safety
- ✓ Natural Gas Star Program



Opportunities

Looking out to 2035, we see gradual shifts in energy and technology continuing. Both the US and world energy mix continue to grow more diverse, which strengthens energy security by reducing the risk from disruption to any single supply source.

We will need to expand all these sources and develop new ones to meet future demand. New energy technologies will open up new energy sources, and new end-use technologies will reshape demand patterns, just as they have for the last 150 years.

Oil and natural gas companies recognize that securing America's energy future calls for a multi-faceted approach. It is not an "either-or" proposition. Even with significant gains in renewable energy production, fossil fuels like oil and natural gas will continue to meet more than half of the our nation's energy needs for decades to come. Just to keep up with growth in global energy demand, producers will need to invest more than \$1 trillion annually from 2010 to 2035.

We need the best, most versatile technologies to meet our future energy requirements, including new forms of energy that will change our energy landscape.

Energy efficiency is a core value and should play a crucial role in our nation's energy and climate change policy. It is the most promising, immediately available "new energy" source.



What opportunities to add reserves are available for New Mexico?

- ✓ Utilizing technological advances (3D seismic, 4D time-lapse visualization, remote sensing)
- ✓ Finding undeveloped horizons
- ✓ Commingling and dual completing to minimize surface impact
- ✓ Down spacing in developed formations
- ✓ Carbon Dioxide/Nitrogen flooding in Coalbed Methane Formations
- ✓ Waterflooding/Carbon Dioxide flooding in oil fields
- ✓ Re-fracing under performing wells
- ✓ Unconventional oil and gas resources such as oil and natural gas shale
- ✓ Horizontal drilling and multi-lateral wells
- ✓ Discovering new fields



Challenges Facing New Mexico Producers

- ✓ **Over zealous regulatory framework**

 - Endangered Species Act

- ✓ **Limited available opportunities to replace reserves**

 - Wilderness Initiatives

 - Categorical Exclusions

 - ✓ **Access to land**

 - Expanding municipalities

 - County Ordinances

 - NIMBY (Not In My Back Yard)

 - ✓ **Public perception**

 - Hydraulic Fracturing

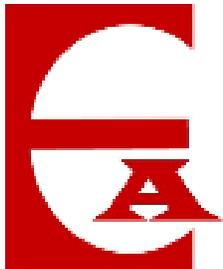
- ✓ **State and regional GHG Rule**

The latest Rasmussen Reports national telephone survey of likely voters show that seventy-five percent (75%) do not think the country is doing enough to develop domestic gas and oil resources. June 2011



What can you do?

- ✓ Recognize the Importance of Oil and Natural Gas
 - To New Mexico and to the U.S.
 - As a state, as a nation, we are going to need oil and natural gas for a long time
 - ✓ Set Requirements on Fact not Fears
 - Sound science
 - Work with the oil and natural gas companies to address concerns
 - ✓ Access
 - Set the bar high, but don't lock the oil and natural gas industry out of New Mexico
-



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