

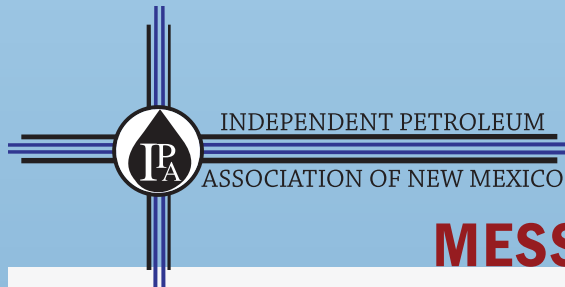
2014

Energy New Mexico

Oil is the Lifeblood of the Modern World

A Publication of the Independent Petroleum Association of New Mexico





WE ARE THE INDEPENDENTS!

MESSAGE FROM THE PRESIDENT

January 2014

Dear Readers:

The Independent Petroleum Association of New Mexico (IPANM), along with its more than 300 members, is pleased to provide you with this publication.

The goal of **Energy New Mexico** is to supply you with a greater understanding of the oil and natural gas industry's positive impact to New Mexico and the role that independent oil and natural gas producers play not only in the state but the nation as well.

Formed in 1978, IPANM actively works to protect, defend and promote the oil and gas industry, the foundation of our way of life, by promoting legislation, regulations and policies that benefit industry and the people of New Mexico.

A fundamental goal of IPANM is to educate the public about the benefits provided by our industry. Oil and natural gas is the workhorse of New Mexico's economy. It is vital for the public to understand that as an industry we continually contribute to a better New Mexico.

Oil and natural gas are an integral part of our daily lives. It is impossible to overstate the national and even global importance of oil and its partner, natural gas. From the food we eat, the products we use, to the way we travel, petroleum is the lifeblood of the modern world. It is vital to our national security to have access to abundant and affordable energy and New Mexico is blessed to have vast amounts of oil and natural gas.

In September 2013, New Mexico had more than 53,400 active oil and gas wells in its basins in the northwestern and southeastern sections of the state. New Mexico is ranked 6th in the nation for oil production and 7th in the nation for natural gas production. Tax and royalty payments from this oil and gas production make up approximately 26% of New Mexico's general fund. The anticipated distribution to the general fund from the Land Grant Permanent Fund is estimated to be \$535 million for the fiscal year 2014. Oil and natural gas accounts for approximately 95% of the revenue going into this fund, which benefits 21 public entities in New Mexico including public schools, universities, hospitals, capital buildings and water reservoirs as well as providing for the construction of roads, schools and senior centers.

While New Mexico's independent oil and gas producers are proud to make this contribution, we are also known for the countless community outreach projects, programs, scholarships and mentorship programs that make New Mexico a unique and wonderful place to work and live.

There are many new and exciting things happening in the New Mexico oil and gas industry. Technology has unlocked new supplies of oil and natural gas, increasing our domestic production of energy, while improving both efficiency and environmental safety. Our record for safe and clean production of energy is excellent and the industry strives to maintain this standard.

As you read through this publication I hope you find it educational and that it gives you an understanding of IPANM's mission and what we are doing for New Mexico and the country as well.



RICHARD GILLILAND

Richard Gilliland, President

Independent Petroleum Association of New Mexico

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CONTENT

01

ENERGY

ENERGY NEW MEXICO

05

07

CHRONOLOGY OF A WELL

ENCHANTING ENERGY ECONOMICS

09

11

ADVANCES IN TECHNOLOGY

REGULATORY RESPONSES

16

18

PROTECTING NEW MEXICO'S SPECIES

INDUSTRY OUTREACH

21

27

NEW MEXICO ENERGY FACTS

ENERGY

OIL AND NATURAL GAS – FUELING AMERICA

It is virtually impossible to overstate the global and national importance of oil and its partner, natural gas. Society's reliance on petroleum and oil-based products is taken for granted, a birthright of our modern age. A world without petroleum - which produces light, power and transportation sources - would be completely different, more different than anyone could possibly imagine.

For most people, the biggest act of consumption of petroleum-based products is filling the fuel tank of a car, but drivers aren't the only consumers.

Petroleum products are everywhere, from the time your iPhone alarm rings in the morning to the time you turn off the lights at night, oil and natural gas impacts every aspect of life. It's not just electronics – from toothpaste to medicines, to clothing to the roof over your head. The oil and natural gas industry is a part of the American way of life.

Petroleum is used to make over 6,000 items used by a typical consumer, permeating our daily lives. Look around and try to identify a single item that would still be there if oil wasn't available. Without these items we take for granted, our world would come to a sudden catastrophic halt.



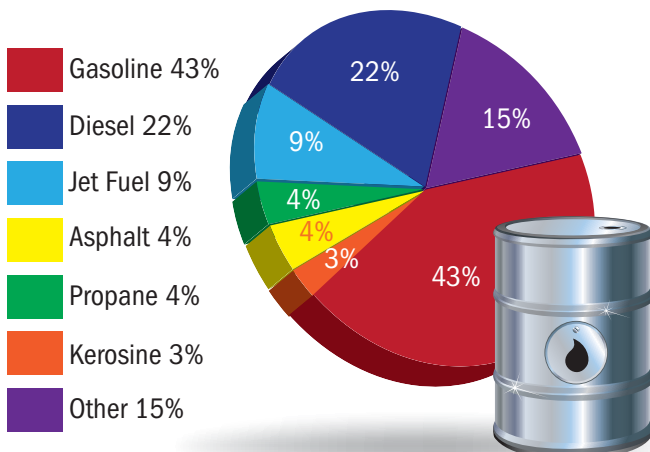
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<http://www.centreforenergy.com/education/k-12/teachingresources/petroleuminyourhome.asp>

Oil and natural gas contribute to our health and well-being through a myriad of medicines, medical supplies and health and safety products. Necessities like food, clothing, and shelter could not be created without petroleum to power the tractors, heat the greenhouses, electrify the factories, or generate heat, or cool air for our homes and businesses. It has provided the foundation for progress in every industrial and social sector and has more than doubled our life expectancy in less than a century.

The conversion from 40,000 years of burning wood, to killing whales for their valuable oil, to extracting oil and natural gas from the ground jump-started the industrial revolution and propelled the technology and industrial revolutions to unimaginable heights, all because of the discovery of petroleum.

No single energy source can be compared to petroleum. If we stop producing oil and gas, many, if not all of the products that currently enhance our quality of life would no longer be available.

WHATS IN A BARREL OF OIL



AGRICULTURE

Oil and natural gas are essential to modern farming. It plays a significant role in creating the abundant variety of food products available to the public.

The most obvious use is the gasoline and diesel fuel used to run the tractors and machines used in the planting, cultivation, and transportation of food. Pest free plants require fertilizers and pesticides made from oil and natural gas. Electric refrigeration, fueled by petroleum, preserves our vegetables and meats for enjoyment year round. Retailers and consumers rely upon low cost plastic storage containers for food safety and convenience. The trucks, trains, planes, ships, and barges that transport food from the processing plants and warehouses then to grocery stores, are fueled with oil.

In colonial days, nine out of ten working people were employed on farms. By the early 1900s tractors became available leading to major labor saving advances. Today, three percent of the labor force supplies all the food we need in the United States, allowing for the export of food to supply an additional ten percent of the world population. In 1939 the average yield per acre of corn in the United States was 20 bushels; in 2013 the estimated corn yield was 160.4 bushels per acre. Soybean yields have improved from 13 bushels per acre in 1930 to an estimated 42.6 bushels per acre in 2013, the fifth highest on record. Low cost ammonia fertilizer, produced from abundant natural gas, has made these incredible agricultural yields possible, which has lowered every American's grocery bill.

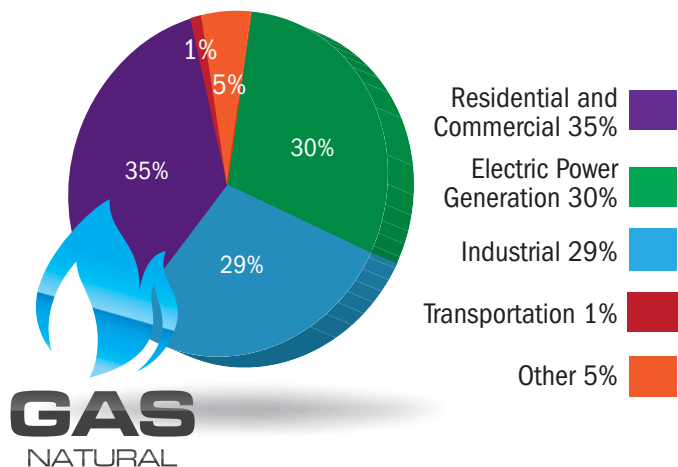
According to a report by the Congressional Research Service, "Unexpected changes in energy prices or availability can substantially alter farm net revenues, particularly for major field crop production." It is imperative that we keep energy costs low to not only reduce food prices, but also to ensure a healthy agricultural community, and protect farm jobs.



Imagine how difficult it would be to provide an adequate food supply if there was no oil, and farmers had to work their fields with horses and oxen instead of modern, labor-saving machines, efficient seed and fertilizers. Clearly modern agriculture can't switch to an animal-power-based system and hope to continue with modern yields. The oil and gas industry, through its ability to help improve agricultural technologies and productive yields, has allowed farmers to provide an abundant variety of food products to people all over the world. Oil and natural gas resources are required at nearly every step of world food production.

Without petroleum, it would be difficult, if not impossible, to provide fresh and reasonably priced foods to your local grocery store.

WHATS ARE THE USES OF NATURAL GAS?



ENERGY

OIL AND NATIONAL DEFENSE

Author Peter Tertzakian stated, “He who owns oil, owns the world.”

Oil and other energy sources are directly tied to the success and survival of any country, including the United States of America. The success of two world wars was attributed to access to petroleum and petroleum derived fuels to power the military. In fact, the millennial conflicts in the Middle East can be traced back to the control of oil.

While energy resources impact our domestic economy and support our standard of living, petroleum is a key ingredient to military success.

To maintain the stability and affordability of oil, the United States maintains the Strategic Petroleum Reserve (SPR), an emergency fuel store of oil in the amount of 695 million barrels, estimated to be worth about \$64.5 billion.

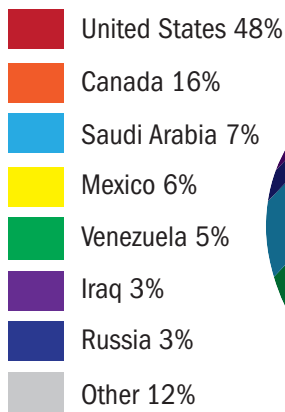
The United States SPR was started in 1975 after oil supplies were cut off during the 1973-74 oil embargo. The cutoff of oil flowing in the United States from many Arab nations sent economic shockwaves through our nation. The decision to withdraw from the SPR is made by the President of the United States in the event of an energy emergency. This has happened only twice, during Operation Desert Storm in 1991, and after Hurricane Katrina in 2005.

According to the Department of Energy, “The stockpiling of oil in the SPR reduced the nation’s vulnerability to economic, national security, and foreign policy consequences of petroleum supply interruptions.”



THE UNITED STATES CONSUMES
18,600,000
Barrels of Oil each Day

Sources of Oil Consumed in the U.S.



Source: Energy Information Administration:
Total Primary Energy Consumption; 2012

OIL AND NATURAL GAS: THE FUELS THAT POWER OUR WORLD

Producing oil at the pace the world is demanding is not an easy task. Nor does it come without a cost.

In the United States, petroleum production takes place in 31 states and in federal offshore coastline areas. Petroleum production and distribution make up the world's largest industry, employing 1.9 million workers in the U.S. alone.

According to the Energy Information Administration (EIA), in 2012, the daily domestic crude oil production in the U.S. was 8.9 million barrels per day. The U.S. has 4.5 percent of the earth's population, yet consumes 22 percent of its petroleum annually. Our nation consumes 18.6 million barrels per day, or 9.7 million barrels per day more than we produce. In the transportation sector in 2012, Americans consumed nearly 365 million gallons of petroleum-based gasoline per day. Therefore, we must import 52 percent of the oil we consume from foreign countries, some of whom are not politically aligned with our nation's interest.

The EIA reports that in 2012, the world consumed more than 86.152 million barrels of oil per day. By comparison, the European Union consumed 12.5 million barrels of oil per day and China consumed 8.2 million barrels per day.

According to the Independent Petroleum Association of America, there is a direct correlation in China to vehicle ownership and personal income. In the U.S., for every 1,000 citizens there are 797 vehicles owned. In China, the ratio is 85 vehicles to every 1,000 citizens. As the populace in countries such as China continues to grow along with the rise of income and lifestyle, the first purchase is often a car. Imagine the impact on the volume of gasoline required to fuel the millions of new automobiles in the developing world with China's population rapidly growing past 1.3 billion.

The story on natural gas production and consumption is different than oil.

In the U.S., the production of natural gas, in 2012, averaged 65.9 billion cubic feet (Bcf) per day while consumption increased by more than 11 percent from 2009 levels.

Net imports of natural gas hit an 18 year low in 2012. Natural gas is available, affordable and American and unlike oil, doesn't have the inherent geopolitical conflicts impacting national security and food production. Natural gas is currently used for heating, cooling, and electric generation. In 2009, gas made up almost 24 percent of net electric generation, up 10

percent from 1996. The switch from coal to natural gas for power generation comes at a time when Federal, State, and International policies to reduce greenhouse gas emissions continue to slow the expansion of coal-fired generation.

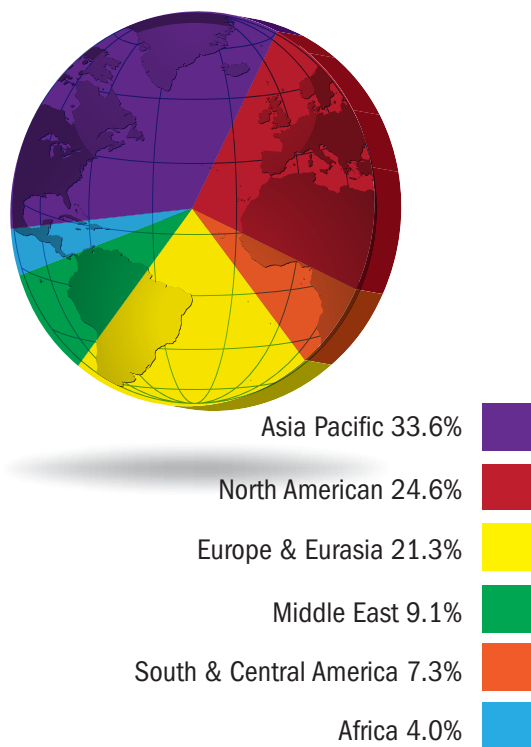
The availability of a clean, cheap fuel source to produce electricity has prompted the three auto manufactures to build plug-in electric vehicles that run on domestic natural gas fired electricity. Likewise, the use of natural gas as a transportation fuel either as compressed natural gas (CNG) or liquefied natural gas (LNG) is becoming increasingly popular.

Worldwide, as of June 2013, there were 17.7 million natural gas vehicles. Iran has 3.3 million, followed by Pakistan (2.79 million), Argentina (2.24 million), and Brazil (1.7 million). By comparison, there are 250,000 natural gas vehicles in the U.S.

Clearly, natural gas and oil are the engines that power our world, our nation, and our state.

THE WORLD CONSUMES
86,152,000
Barrels of Oil each Day

World Oil Consumption by Region



Source: BP Statistical Review
of World Energy June 2013

ENERGY NEW MEXICO

HISTORICAL PERSPECTIVE

When New Mexico became the 47th state in the union in 1912, it was proclaimed the Land of Enchantment for its gorgeous mountains, expansive plains and dramatic landscapes. Little was known of the real treasure lying beneath the surface, oil and natural gas.

The vast natural resources that now bring huge economic benefits to the State of New Mexico were created hundreds of millions of years ago. Geologists estimate that approximately 300 to 400 million years ago the sea covered New Mexico but withdrew during the late Paleozoic period, depositing marine plants and animals, minerals and marine sedimentary rocks. Nearly 175 million years ago a collision of massive tectonic plates began to force the Rocky Mountains to rise thousands of feet. Several basins with deposits of decaying organic matter were left behind which eventually became hydrocarbon source rocks.

The first wells were drilled in New Mexico in the early 1900's. Due to our rich natural resources, Congress passed the Stock Raising Homestead Act of 1916, allowing settlers to own the surface of the land but the federal government would continue to own the minerals, including oil and gas, beneath the surface.

The Mineral Leasing Act of 1920 granted the Department of Interior, through the Bureau of Land Management, the ability to auction and lease minerals to private energy extraction interests. Settlements and laws established Native American entities the right to own mineral interests. In 2013, the federal government received over \$1 billion in payments for the extraction of minerals in New Mexico.

In September 2013, New Mexico had more than 53,400 active oil and natural gas wells in its basins in the northwestern and southeastern sections of the state. The San Juan and Permian Basins are by far the most productive. According to the Energy Information Administration, New Mexico's oil production is approximately three percent of the US total production.

The Permian Basin, in Southeast New Mexico and West Texas, is one of the most productive areas in oil production in the United States. Similarly, New Mexico is one of the top natural gas producing states



in the nation, with production accounting for close to one-tenth of the US total.

Although production of natural gas declined in the 1980s, the rapid development of coal-bed methane in the 1990s revived the industry. Today coal bed methane, which is considered “unconventional” development, accounts for about one third of New Mexico's natural gas production. Although more than two-thirds of New Mexico's households use natural gas as their primary energy source for home heating, state natural gas consumption is low. Less than one-tenth of New Mexico's natural gas is used in the state. New Mexico delivers natural gas via pipeline to consumption markets in Arizona and to market centers in West Texas that supply the Midwest. New Mexico's Blanco Hub, located in the San Juan Basin, is a major gathering point for Rocky Mountain natural gas supplies heading to West Coast markets.

SAN JUAN BASIN

The San Juan Basin contains one of the premier natural gas deposits in the United States, contributing more than eight percent of the nation's current natural gas supply. The first wells in the San Juan Basin were drilled in the early 1900s before commercial natural gas was discovered in the San Juan Basin in 1921, just south of Aztec, New Mexico. Natural gas flowed by pipeline to heat Santa Fe and Albuquerque by 1931. Major development continued throughout the 1950s, following completion of the natural gas pipeline to California in 1951.

The San Juan Basin has produced more than 370 million barrels of oil and nearly 38 trillion cubic feet (Tcf) of natural gas from primarily five sandstone formations (Farmington, Pictured Cliffs, Mesaverde, Gallup, and Dakota), with prolific coal bed methane production commencing in 1990 (Fruitland Coal). There are currently more than 20,000 producing wells. With reduced regulatory well spacing, the Bureau of Land Management is predicting up to 5,000 additional development wells targeting natural gas in the coming years.

For the San Juan Basin, the United States Geological Survey projects possible undiscovered resources at more than 50 Tcf of natural gas, 148 million barrels of natural gas liquids and between 7 and 35 million barrels of oil. Horizontal drilling techniques and modern completion technologies may help arrest the declining production in the basin.

RATON BASIN AND BRAVO DOME

Long known as a coal producing region since the early 1900s, the Raton Basin, encompassing approximately 2,200 square miles along the New Mexico, Colorado border, began natural gas development in 1982. More than 850 producing coal bed methane wells are located at the Vermejo Park Ranch in Colfax County. These wells contribute nearly 70 million cubic feet per day to New Mexico's total natural gas production. Additional natural gas resources may be developed in the Pierre Shale formation in coming years.

Located in Union and Harding Counties, the Bravo Dome field is one of the largest CO₂ accumulations in the world. This field produces more than 400 million cubic feet per day of commercial grade (99% pure) carbon dioxide from more than 350 producing wells. CO₂ produced from this region, is shipped via pipeline to Southeast New Mexico and West Texas, where supplies are utilized in enhanced oil recovery (EOR) projects in the Permian Basin. More than three trillion cubic feet (TCF) of carbon dioxide has been produced to date with remaining reserves estimated at 16 Tcf.

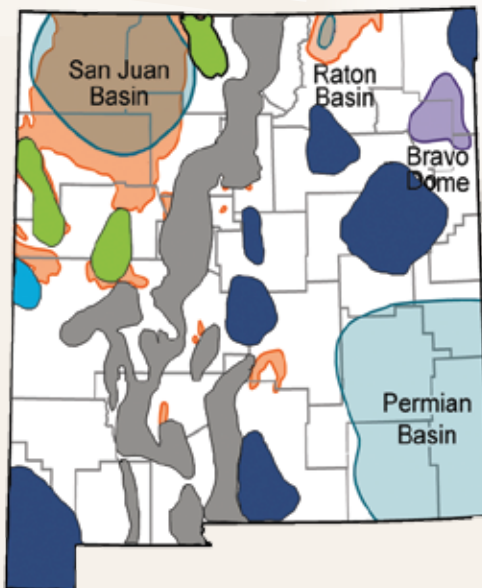
Oil & Natural Gas Production and Frontier Areas in New Mexico

Existing Production Areas:

- San Juan
- Raton
- Permian
- Bravo Dome

Frontier Areas:

- Chama
- Zuni
- Acoma
- Rio Grande Rift
- Dalhart
- Las Vegas
- Estancia
- Tucumcari
- Chupadera
- Tularosa/Otero
- Mesa
- Pedrogosa
- St. Johns



Source: NM Bureau of Geology & Mineral Resources

PERMIAN BASIN

The Permian Basin is an ancient seabed underlying an area approximately 250 miles wide and 300 miles long that New Mexico shares with Texas.

In 1924, New Mexico hit the petroleum jackpot in the Dayton-Artesia field, about eight miles south of Artesia. Not long after its discovery, the Permian Basin quickly became one of the major oil-producing areas in the world. New Mexico's Permian Basin contains three of the 100 largest oil fields in the United States.

The Permian produces oil and natural gas from approximately 53,000 wells. According to New Mexico Oil Conservation Division, there are approximately 26,000 wells on the New Mexico side of the Permian Basin. In December 2013, there were approximately 78 drilling rigs running on the New Mexico side of the Permian Basin.

On the far western edge of the Permian Basin, there is a 760 square mile area where oil and gas companies are working to co-exist with potash operations.

According to a recent study completed by the New Mexico Tech Petroleum Research and Recovery Center, the development of the shale natural gas resources in this area, known as the R-111-P area, could potentially provide between \$7.5 to \$15.8 billion to New Mexico in federal royalty shares, state royalties, and various taxes during the recovery of oil and natural gas. Local taxes would provide Lea and Eddy counties a combined \$1.4 to \$3 billion during production. The most recent US Geological Survey estimated that an additional 41 trillion cubic feet (Tcf) of natural gas and 1.3 billion barrels of oil lie undiscovered in the Permian Basin.

CHRONOLOGY OF A WELL

SO HOW DID THAT WELL GET THERE?

The main goal in drilling a well is to ensure safe production of oil and gas, which protects groundwater by keeping hydrocarbons inside the well and isolating the productive formations from aquifers and other formations. Sound well design and drilling ensure a sealed wellbore so fluids introduced at the surface or produced from the production zone will only travel inside the production casing and tubing.

Following is a brief overview of the processes and people involved to bring America's natural gas and oil to the surface.

GEOLOGY

In areas with very little production, companies have 3D seismic operations performed on the surface, giving them an idea of the subsurface structure. Where considerable drilling has already occurred, geologists use data from these previously drilled wells to develop structure maps. These maps are then used to determine areas for future well development. In discovered fields there are usually "pool rules" that dictate where operators need to place their wells to maximize the drainage, protect correlative rights, eliminate waste and recover the most resource.

RESERVOIR ENGINEERING

Once areas have been identified as having the potential to produce oil and gas, reservoir engineers along with geologists, study the potential of recoverable oil and gas. They look at permitting, drilling and completion costs, and evaluate those against the amount of oil and/or gas they think a well will produce. These factors help to determine if the economics of the well will payout. Forecasting the price of the oil and natural gas versus the costs to get the product to market can be challenging.

PERMITTING PROCESS

Assuming that an operator has purchased or leased minerals in areas they want to drill, the next step is to acquire the appropriate surface agreements and permits. This process is dictated by the surface owner. In New Mexico, land not privately owned is usually controlled by State, Federal or Tribal agencies. Companies must make arrangements with the surface owner(s) and make sure they have legal access to the minerals. In New Mexico the Surface Owners Protection Act (SOPA) outlines how companies make agreements with landowners.

Companies must obtain a drilling permit also known as an Application Permit to Drill (APD) from the agency that oversees the minerals and/or surface. Archeologists survey the potential well location to make sure there are no cultural issues. Wildlife biologists perform field inspections to insure that any threatened or endangered species will not be impacted. If the drilling sites are on tribal lands, additional requirements must be met. The State of New Mexico has requirements for producers to apply for pit permits that comply with Rule 17 (aka the "Pit Rule"). Add in county requirements and city special use permits and the entire process can be expensive and time consuming, often requiring over two years to obtain the APD.

DRILLING

There are several ways to drill a modern oil and gas well, but in New Mexico most wells are drilled the same way. A drilling rig will drill holes of various sizes reducing the hole diameter with depth and then run casing to protect the hole. Typically, a surface hole will be drilled through the surface alluvium and deep enough to cover any fresh water aquifers. Steel pipe, called surface casing is then inserted in the hole and cemented into place. Once this is done, a blow out preventer will be installed to protect against any type of unexpected inflow of pressure as the well is deepened. A smaller diameter drill is run through the surface casing and utilized to drill to a deeper depth. Depending upon the formations that are penetrated, this phase can be either the intermediate hole or the production hole. Again, casing is run to protect the newly drilled open hole and cemented into place. If the well is planned to produce deeper zones this is known as intermediate casing. Finally, a smaller diameter drill is run through the intermediate casing and the well is deepened to the zone of interest. There are many sophisticated geophysical tools that can be run in conjunction with the drilling string or on a separate wire line logging unit. This information helps the producers to analyze the formation for reservoir and other geophysical properties. A final string of casing called production casing, is run through the productive zone and cemented in place. Finally, the pipe used to drill the well is removed, a wellhead is put in place and the drilling rig is moved off the location.

COMPLETION

Most completions utilize a smaller rig known as a completion unit, daylight rig, or pulling unit. These rigs are used to complete the well bore and prepare the well for production. During this phase, the production casing is perforated with high explosive shape charges in the productive zone and typically stimulated by a hydraulic fracturing operation. Once the well is cleaned out, the rig runs smaller diameter pipe known as tubing, inside the casing. This allows the oil and gas to safely reach the surface. Many engineering and safety factors dictate the specifics of well construction. Sometimes down hole pumps and sucker rods will be run inside the production tubing to assist in “lifting” the oil, natural gas, and water to surface.

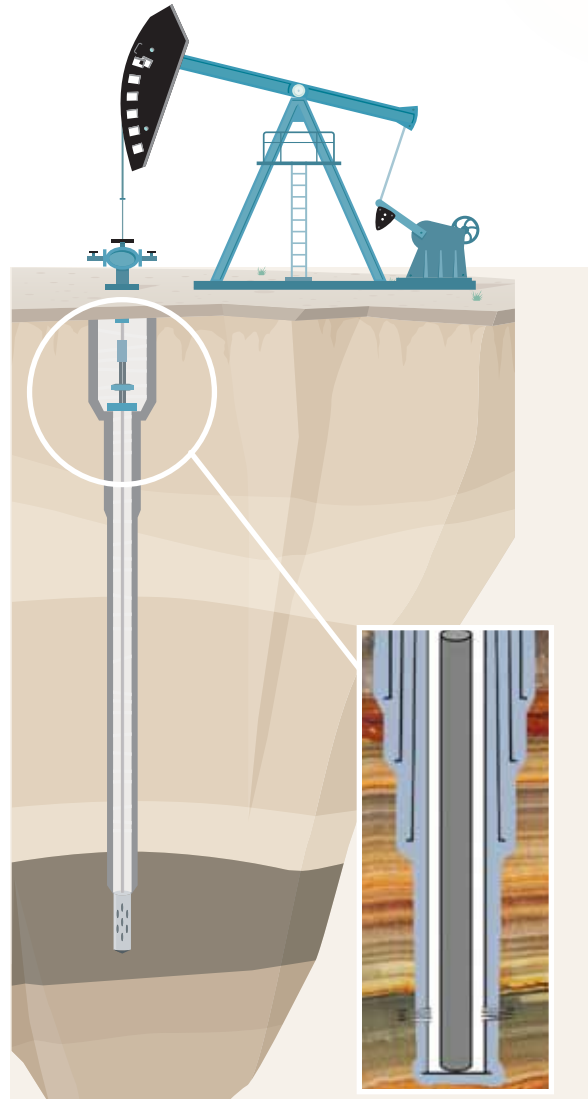
PRODUCTION

After the completion rig has moved off the location, the wellhead is plumbed into the production equipment. The surface equipment can include separators, dehydrators, and production tanks used to capture the oil and water. Pumping units and plunger lift systems are often installed to help lift the well bore fluids efficiently to the surface. Typically, all of the production goes through some type of separation process. Oil and water are stored in production tanks and the natural gas is allowed to flow through a sales meter. The sales meter records the amount of gas flowing into the pipeline gathering system. These production processes are often automated. Using computers and communication technology, companies can monitor and optimize production activities allowing for more efficient operations.

PLUG AND ABANDON, RECLAMATION

After a well has reached its economic life, it will be scheduled for plugging and abandonment (P&A). The type of well and its original construction determines how the well is plugged. Typically, cement is pumped into the existing perforations and a series of cement plugs are placed throughout the well bore to ensure surface formations are protected from the producing zones. The production tubing and any related downhole equipment are removed along with any remaining surface equipment. The wellhead is cut off and replaced with a marker, typically a short piece of pipe, cemented on top of the old well bore. The surface area is recontoured to its original state

and reseeded with a mixture of native and natural vegetation. After several years, the location has time to rehabilitate and the only thing visible is the P&A marker denoting the location of the original well bore.



Conductor casings are cemented to prevent drilling fluids from circulating outside the casing, causing surface erosion.

Surface casings are cemented to prevent hydrocarbons from encroaching into fresh water zones, to anchor blow-out preventers and to support deeper casing strings.

Intermediate casing strings are recemented to isolate formations which might break down and cause a loss of circulation in the well.

Production casings are cemented to stop oil migrating to thief zones and to prevent the sloughing of formations causing a drop in productivity.

ENCHANTING ENERGY ECONOMICS

STATE REVENUE FROM OIL AND NATURAL GAS PRODUCTION BY FUND

	FY2010	FY2011	FY2012	FY2013*
State General Fund:				
Oil and Gas Emergency School Tax	324,543,969	378,687,127	399,350,143	376,900,000
Oil and Gas Conservation Tax	15,232,187	18,478,746	20,201,181	18,100,000
Natural Gas Processors Tax	40,436,731	18,181,973	23,342,456	15,600,000
Sub-Total: General Fund Taxes	380,212,887	415,347,846	442,893,780	410,600,000
Federal Mineral Leasing Royalties:				
State Land Office Rents, Bonuses, etc.	355,302,275	439,420,032	488,155,684	403,200,000
Subtotal: Rents and Royalties	73,395,579	69,603,191	107,298,724	69,800,000
Subtotal: Rents and Royalties	428,697,854	509,023,223	595,454,408	473,000,000
Total General Fund Revenue	808,910,741	924,371,069	1,038,348,188	883,600,000
Other State Funds:				
Oil and Gas Severance Tax	327,573,046	399,408,443	428,710,126	418,100,000
State Land Office Royalties	316,466,037	398,001,680	512,940,790	448,500,000
Subtotal: Other State Funds	644,039,083	797,410,123	941,650,916	866,600,000
Total State Revenue:	1,452,949,824	1,721,781,192	1,979,999,104	1,750,200,000
Local Government Revenues:				
Ad Valorem Production Tax	106,771,524	131,063,117	133,243,747	117,100,000
Production Equipment Tax	34,841,342	19,333,302	23,380,495	21,100,000
Total Local Government Revenues:	141,612,866	150,396,419	156,624,242	138,200,000
Grand Total of All Funds	1,594,562,690	1,872,177,611	2,136,623,346	1,888,400,000

Source: NM Taxation and Revenue Department, State Land Office, and ONRR Fiscal Year Actual Sheets.

*2013 numbers are estimated values based on the NM Legislative Finance Committee and are subject to change.



COMMODITY PRICING AND ITS AFFECT ON STATE REVENUE

In FY 2013, including indirect taxes, more than \$2.6 billion was contributed from the oil and gas industry to our state coffers.

In FY 2013, the price sensitivity analysis showed that for every \$.10 change in the price of natural gas, there is an \$8.5 million impact on our General Fund and for every dollar the price of oil changes, there is a \$4.5 million impact on the General Fund.

SEVERANCE TAX PERMANENT FUND

The Severance Tax Permanent Fund, (STPF) is a permanent endowment trust funded by the Oil and Gas Severance Tax.

Established in 1973 by statute, and in 1976 by constitutional amendment, the STPF is an endowment trust that receives residual revenues from the Oil and Gas Severance Tax. These tax monies allow for construction of brick and mortar projects, such as public schools, state, county and municipal buildings, funded through the use and retirement of Supplemental Severance Tax Bonds.

The value of the STPF as of June 30, 2013, was \$4.147 billion.

Annual collections in both the Land Grant Permanent Fund (LGPF) and the STPF are sensitive to the market price of oil and natural gas, while quarterly fund balances change based upon investment allocations and general national economic trends. More than 99 percent of the money going into the STPF comes from oil and natural gas exploration and production.

The anticipated distribution to the general fund from the STPF is estimated to be \$170 million for the fiscal year 2014.

LAND GRANT PERMANENT FUND

The Land Grant Permanent Fund (LGPF) has been in existence since 1898.

It came about when the U.S. government transferred 13.4 million acres of federal minerals and nine million surface acres to the State of New Mexico. The transferred land was put into a state trust and managed by the State Land Commissioner. The Commissioner is tasked with leasing the land and the minerals and collecting royalties from the extraction of the minerals and grazing of the land. They may also sell lands or swap with other government entities. In every instance, the Commissioner must seek to profit from the ownership of the land. The proceeds from the leases are transferred into the LGPF.

The interest earnings and royalties from oil, natural gas, and minerals and the proceeds from land sales are held in trust for the benefit of 21 public entities including public schools, universities, hospitals, capitol buildings, water reservoirs, the state penitentiary, public roads, buildings, state parks, and state government. New Mexico earns interest on the fund's principal and distributes a portion of that interest every year to the beneficiaries throughout the state. The anticipated distribution to the general fund from the LGPF is estimated to be \$535 million for the fiscal year 2014.

The State Land Office reports that as of June 30, 2013, the market value of the LGPF was approximately \$12.137 billion.



BENEFICIARIES

Source: From the New Mexico State Land Office 2011--2012 Annual Report

New Mexico Public Schools	\$	554,244,931
University of New Mexico	\$	9,482,298
New Mexico State University	\$	2,955,919
Western New Mexico University	\$	263,391
Eastern New Mexico University	\$	630,158
New Mexico Highlands University	\$	263,223
Northern New Mexico College	\$	206,686
New Mexico Institute of Mining and Technology	\$	1,558,074
New Mexico Military Institute	\$	23,094,438
New Mexico School for the Deaf	\$	11,635,495
New Mexico School for the Blind	\$	11,613,393
Other*	\$	42,508,329
TOTAL:	\$	658,456,335

*In addition to the above educational institutions, the Land Grant Permanent Fund also distributed \$42,508,329 to various hospitals, penitentiaries, public buildings and water resources in FY 2012.

ADVANCES IN TECHNOLOGY

Continuing advancements in technology have allowed oil and natural gas producers to increase our domestic production of energy, while improving both efficiency and environmental safety. The record for safe and clean production of energy is excellent, and the industry strives to maintain this standard.

Currently, the United States is the second largest producer of oil and natural gas in the world. Only Saudi Arabia currently produces more oil and gas. This has provided the U.S. with the ability to substantially reduce its dependence on foreign sources of energy.

DIRECTIONAL DRILLING

Directional drilling allows a drilling specialist to drill wellbores in different directions by turning the drill bit at different angles, including parallel to the ground.

Directional or “horizontal” drilling techniques allow producers the ability to drill multiple wells from a single surface location and potentially recover more oil and gas, while limiting the disturbance of the surface. These techniques are particularly effective in protecting environmentally sensitive areas or areas with multiple-use regulations.

Directional drilling is often considerably more costly than conventional, vertical drilling. Typically, additional time and equipment are required. Specific characteristics of the reservoir formation may make directional drilling impractical and not appropriate in every circumstance.

However, producers are continually improving techniques to bring down costs, reduce time requirements, and improve technology in order to make directional drilling more widely applicable.

HYDRAULIC FRACTURING

Hydraulic fracturing, also known as “fracing,” is the process in which fluid is injected into a well bore at high pressures in order to either widen and deepen existing cracks or create new fractures in productive formations that contain oil and natural gas.

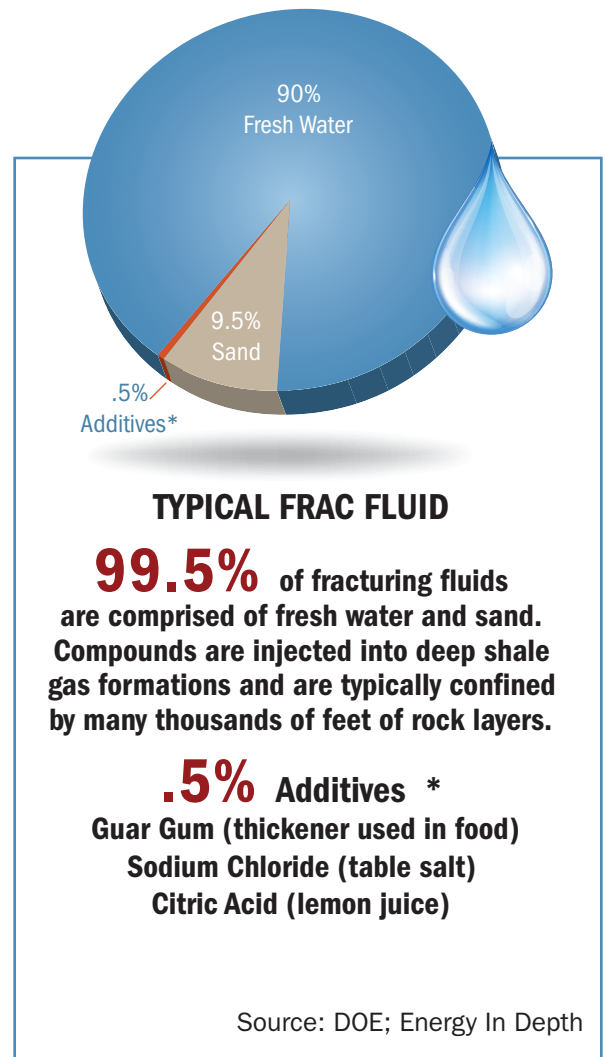
Hydraulic fracing is applied to the majority of America’s oil and gas wells to enhance well performance, minimize drilling, and recover otherwise inaccessible resources.

In fact, roughly 90 percent of the wells in operation today have been fractured, and the process continues to be applied in new and innovative ways to boost production of American energy in unconventional formations, such as “tight” gas sands, shale deposits and coal beds.

Types of fluid used for fracing depend on the rock type, depth and other factors such as well bore design.

Typically the fluids used are water based and contain “proppant,” which is commonly sand of various sizes. The proppant is carried into the productive formation where it remains in the newly created fracture keeping it open and allowing the oil or natural gas to flow.

In general, nearly 99.5 percent of the materials used in any given frac job are water and sand. The remaining 0.5 percent is made up of chemicals that enhance the viscosity or thickness of fluid, which helps carry the proppant.



The use of hydraulic fracturing has been estimated to contribute up to 30 percent of recoverable hydrocarbon reserves in the United States.

Fracing is believed to provide an additional 5,600 trillion cubic feet of natural gas and seven billion barrels of oil that wouldn’t be recoverable without this process.

NATURAL GAS FUELED VEHICLES

Following the path set by Colorado and Wyoming, New Mexico is aggressively moving forward to develop a new market for natural gas in the transportation arena. New Mexico is rich in natural resources, including oil, gas, wind, and solar sources. Natural gas is abundant in New Mexico. The San Juan Basin has one of the largest amounts of proven natural gas reserves in the United States. Our state economy is highly dependent upon natural gas but in the past few years, the volume of production has dropped. The natural gas rig count in the San Juan Basin as of December 1, 2013 was only seven rigs, a greater than 70 percent drop since November 2008.

Selling more natural gas will help New Mexico's bottom line, the environment and protect our national security. In the Obama Administration's "Blueprint for a Clean and Secure Energy Future", the President has set an ambitious goal to cut net oil imports by 50% by the end of the decade. Investment in uses of abundant American fuels like natural gas to power vehicles is an important part of meeting the President's goals. Natural Gas Vehicles (NGV), which have little or no evaporative emissions during fueling and use, are also more environmentally friendly than diesel or gasoline burning vehicles. It is estimated that replacing an older gasoline powered vehicle with a new NGV provides a 70 percent carbon monoxide reduction, a nitrogen oxide reduction of 75% and a carbon dioxide reduction of 20 to 30 percent. Currently there are over 100 models of light, medium, and heavy-duty vehicles and engines on the market produced by over 50 different manufacturers.

Using natural gas to fuel vehicles is also affordable. According to the Energy Information Administration, in 2012, the average family spent nearly \$3,000, or just under 4% of income before taxes on gasoline. The average cost per gallon of gasoline during 2012 was \$3.70, while the average cost of natural gas fuel was about \$1.50 per gallon less. While the British thermal unit (btu) content of gasoline is higher than that of natural gas, meaning gasoline can power the same vehicle further on one gallon, the horsepower, cruise speed, and acceleration of NGV vehicles are becoming more comparable to traditional vehicles. In fact, natural gas vehicles like buses, waste management, heavy-duty, delivery, and fleet trucks are becoming more the norm in large cities across the United States.

In February 2012, San Francisco celebrated becoming the "Greenest Taxi City in America", having reduced fuel consumption and greenhouse gas emissions by 20 percent since 1990.

In Los Angeles, 99.7 percent of buses run on natural gas and United Parcel Service has the largest privately owned fleet of natural gas fueled vehicles with over 1,000 powered package delivery vehicles and 11 long-haul trucks.

The natural gas industry is also working with the state of New Mexico to support the development of a natural gas vehicle program. Governor Martinez' administration has been actively working with industry to build fueling stations along 100 mile increments of the two interstate highways in New Mexico. The Governor was also one of thirteen visionary leaders who signed a Memorandum of Understanding (MOU) with thirteen other states demanding that Detroit create more natural gas fueled vehicles.

Natural gas is affordable, abundant and American and mostly from New Mexico. Creating a market for natural gas will help our economy, our environment and our national security. A win – win.



ADVANCES IN TECHNOLOGY

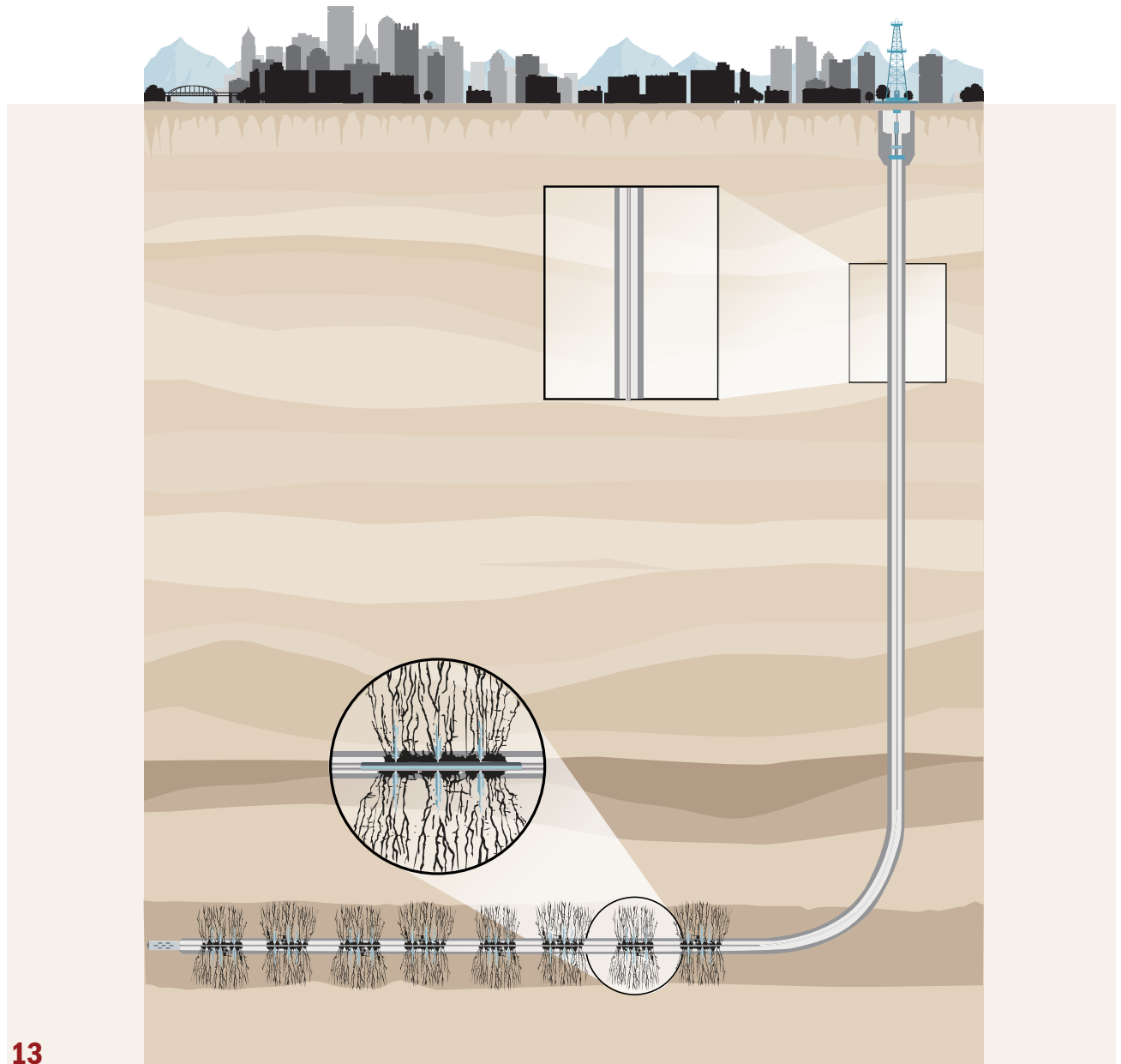
SHALE PLAY

Combining horizontal drilling techniques and hydraulic fracturing technologies in several spots along the well bore, oil and gas companies have unlocked a new source of oil and natural gas. Certain types of tight, or difficult to drill, formations are now accessible and have proven to be abundant in oil and natural gas, as well as profitable. The prolific nature of these new shale plays, also known as “unconventional” reserves, has changed the worldwide energy market.

By drilling horizontally through thick and continuous shale formations, companies are able to perform multiple frac jobs in the horizontal productive zone, all in the same well bore. This well design enables access to a tremendous amount of unrecover-

able oil and gas in a manner that traditional vertical wells were unable to do.

In March 2013, the United States Geological Survey (USGS) National Assessment of Oil and Gas Resources suggest that the U.S. currently has 61.54 billion barrels of crude oil and natural gas liquids and almost 1,150 trillion cubic feet (Tcf) of technically recoverable natural gas. Technically recoverable unconventional gas, a category that includes gas derived from shale, accounts for approximately 60 percent of the onshore recoverable resources. At U.S. annual production rates for 2013, about 25.5 Tcf, the current recoverable resource estimate provides enough natural gas to supply the U.S. for the next 45 years.



WATER

Water is the most basic essential element for the survival of all life forms.

An abundant, secure water supply is critical to the wellbeing of all people and critical for a vibrant, strong economy. The oil and gas industry, like all industries, relies on these same water supplies.

Oil and gas producers use water during drilling fracturing, stimulating and producing operations for oil and gas wells. However, the oil and gas industry uses a tiny percentage of the overall water supply compared to other uses.

In 2005, the United States Geological Survey (USGS) Water Science School estimated total water use in the United States to be 410 billion gallons of water per day. The entire oil and natural gas industry uses about 103 million gallons per day, or about 0.025% of the total water used in the U.S..

In New Mexico, the Office of the State Engineer estimated in 2010, oil and gas operations used about 0.059% of the total water used in the state.

Agricultural and municipal uses account for the majority of water used in our country.

To put this amount into perspective, a typical hydraulic fracturing operation on an oil or gas well requires about the same amount of water used by two golf courses in a year. However, the natural resources produced from a well will be used to create fuels, clothing, and hundreds of products used everyday.

Oil and gas producers account for a tiny percentage of total water used. However the industry is at the forefront of new and innovative ways to conserve water. Research and development is ongoing, allowing oil and gas producers to recycle water recovered from a well following hydraulic fracturing operations. The same water can be reused for future operations.

Associated salt water produced along with oil and gas is typically disposed of by reinjecting the water back into the ground. Service companies are developing methods to treat this water for use in other oil and gas related operations. In addition, companies

are working on ways to utilize our country's vast sources of brine and salt water that can't be used for agriculture, municipalities, or drinking water supplies.

These developments hold the promise to substantially benefit our economy while working to protect and conserve the fresh water sources upon which we all depend.



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ADVANCES IN TECHNOLOGY

FOSSIL FUELS

Using the sun as an energy source has been man's dream since the beginning of time. Barriers to using renewable energy sources are more insurmountable than ever. The low cost of natural gas means that a proven energy source is more affordable than ever and tax subsidies for renewable projects are uneconomic.

In a state like New Mexico that is dependent upon natural gas development, low gas prices mean that production levels are down and excess funding for renewable energy credits are unavailable.

We remain reliant on fossil fuels because they are available, affordable, reliable, and American. In order for a renewable energy source to gain the elevated status achieved by fossil fuels, it must be readily available.

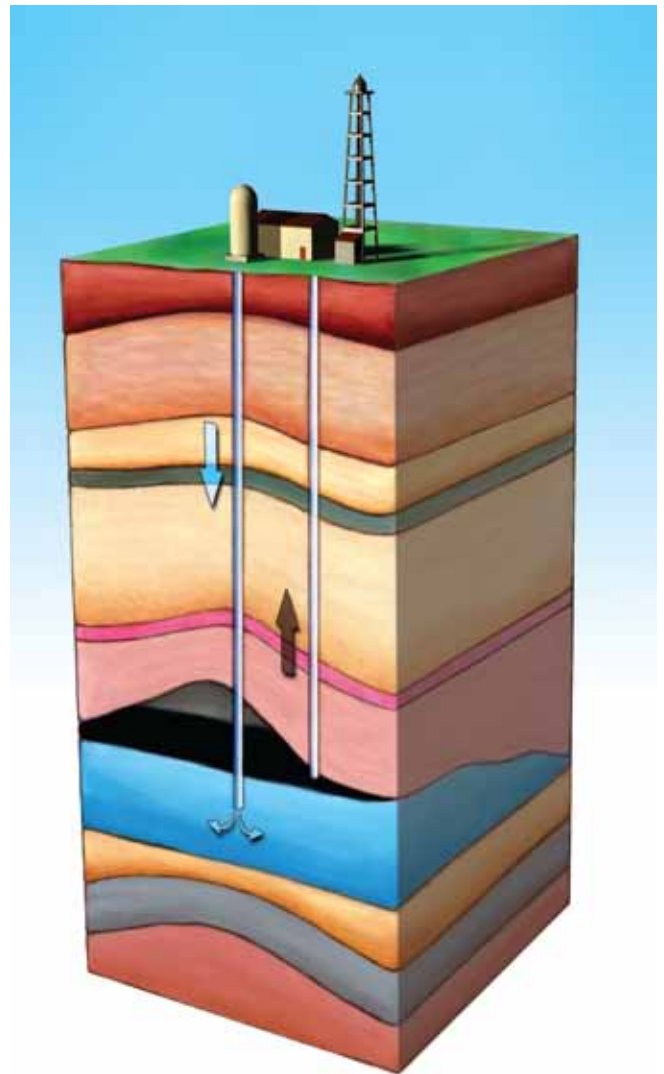
Fossil fuels are self-contained energy units that once taken out of the ground can easily be turned into energy. They are easily and safely transported and can be used whenever and wherever needed.

By contrast, renewable sources require building huge infrastructure and transmission lines that permanently scar the landscape. They have to be consistent, captured, and protect the environment. Wind can't be pumped out of the ground and refined into an energy source. A windmill must be built to harness its power, and if the wind doesn't blow or if it blows too hard, without natural gas to provide a consistent base-load capacity, there is no energy. Sunshine can't be poured into a gas tank to fuel your car; it has to be captured by a photo voltaic cell, which has extremely limited battery capacity.

The alternative fuel source must protect the environment. Building massive structures to capture and transport energy, such as wind turbines, solar panels, and dams, substantially impacts the land, views, noise, and multiple-use requirements that the fossil fuel industry works with everyday.

Energy generation outside of fossil fuels and nuclear power is expensive, requiring construction of transmission infrastructure with fields of towers or panels. These alternative energy sources are unreliable and not affordable. The world will continue to consume oil, natural gas, and other fossil fuels in massive quantities daily. Technological progress has enabled the industry to continue to find more petroleum to extract more per well and to use oil and natural gas in innumerable ways.

Fossil fuels will continue to be the fuel source of choice for years to come.



REGULATORY RESPONSES

WHY CORPORATE AMERICA NEEDS TO PAY ATTENTION

In 2012, the New Mexico Oil and Gas Conservation Division (NMOCD), in response to public concerns about hydraulic fracturing (fracing), passed a regulation requiring disclosure of all constituents used in a fracing operation.

There are weekly stories in the New York Post, LA Times, NY Times, small local papers and blogs vilifying industry for “Fracking.”

There are video clips on YouTube created by NYU film students and even MoveOn.org, the website made famous by the candidate Barak Obama, getting into the discussion with \$500 grants for “#FrackingFighters,” the new word for community organizer.

Is it really an environmental concern that is pushing the anti-fracking movement, a desire to stop fossil fuel development, or something entirely different?

The science and facts about the fracing process don’t support the perceived media and public concern. A long list of private and public agencies have reviewed the issues of safety and haven’t found fracing impacts to ground water. Even President Obama has repeatedly stated that with the natural gas supply recently developed with new fracing and horizontal technologies the “United States is now the OPEC for natural gas.”

Faced with a mountain of studies and facts indicating fracing operations don’t impact ground water sources, the environmental community, aka ‘fractivists’ have switched their target audiences.

Instead of federal and state regulators who have access to science, now county, village politicians, and small newspapers are targeted to spread false information. Local politicians, faced with ill informed but hysterical local citizens, passed over 400 temporary or permanent bans to fracing all over the county as of December 1, 2013.

Earlier this year, Mora County, New Mexico became the first county in the nation to pass a complete ban on oil and gas development. The Mora County Community Rights ordinance states that corporations may not drill, extract, or contract for any oil and gas development. Further stating, corporations have no rights to free speech or the right to go to

court to protect their corporate or even private property. Specifically, corporations have no rights under the 1st, 5th, or 14th Amendments of the United States or New Mexico Constitutions and the county has the right to ignore all federal and state laws regulating oil and gas development.

Framed as the “new civil rights movement for the younger generation,” the Community Environmental Legal Defense Fund (CELDF) is leading the fight against corporations and the oil and gas industry. The CELDF drafted the Mora County Ordinance and has announced that it will defend the county against any legal challenges all the way to the United States Supreme Court.



In November 2013, IPANM and several land and mineral owners filed a suit in Federal court against Mora County. The suit alleges violations of corporate constitutional rights. Effectively, the Mora County ban and other ordinances seeking to limit corporate and private rights is a test of ‘home rule’ that allows any local government to create its own laws. This includes banning any unpopular businesses without the protection of the state or federal laws.

While industry, the media and the public might ignore all the commotion created about the hydraulic fracturing discussion, this issue is the beginning of a social movement that is greater than just the oil and gas industry, it is a potential game changer for all of corporate America.

REGULATORY RESPONSES

FOLLOW THE MONEY!

New Mexico is blessed with plenty of natural resources that provide billions of dollars each year to the government and to our local economies. There are currently more than 53,400 producing wells in New Mexico and the state ranks sixth in oil production and seventh in natural gas production.

We have all heard the old adage that businesses make the backbone of the United States economy. In New Mexico, the oil and gas industry is practically the entire skeleton of our economy.

According to the New Mexico State Land Commissioner, Ray Powell, the \$1.23 billion paid by industry into the Land Grant Permanent Fund in the last two years has saved the average New Mexican working family more than \$800 per year in taxes. This doesn't account for the \$2 billion revenue from oil and gas bonuses, royalties, production taxes, rentals, and money from indirect activities that flowed into the General Fund amounting to approximately 26% of the state budget.

In addition, there is the \$418 million that goes into the Severance Tax Permanent Fund that provides capital outlay funding for our politicians to bring home and build little league baseball fields, senior centers, sewage systems, and other public infrastructure projects.



ROYALTIES – WHY THEY ARE SO IMPORTANT TO NEW MEXICO

When the government needs money, it often looks to the oil and gas industry to produce more. In New Mexico, funds from royalties paid to the federal government and to the State Trust are constantly at risk of being raided.

What are royalty payments? The most basic definition of a royalty is a payment for the use of property or natural resource. When an oil and gas company decides to extract minerals, they first determine who owns the surface and minerals for the project. The Federal Government retains control of over 34.7% of the subsurface and surface lands in New Mexico while

New Mexico State Trust manages about 24 million acres combined. After winning the bid on a lease at auction, the operator pays a bonus payment to the government or mineral owner. If the surface is privately owned, an operator is required under New Mexico law to pay for the use of the surface lands. Once a well is drilled and producing, the operator will pay the government or the mineral interest owner a royalty. For oil and gas leases on federal or state trust lands, the royalty rate is usually 12.5%.

Rather than transfer land ownership, the federal government annually compensates states for federal mineral production by returning to the states 48% of royalty revenues collected. In 2012, New Mexico received \$488 million in royalty revenues from federal lands. In 2013, the government announced that due to the federal sequester, it was retaining \$26 million in royalty funds owed to the state. Due to the hard work of Senator Tom Udall, the federal government eventually paid all the funds owed. National leaders are looking at lowering New Mexico's share of this important royalty.

Unlike the distribution of funds from federal lands, the royalties paid from lands owned by the New Mexico State Trust go directly to specified beneficiaries. There are currently 21 Land Grant beneficiaries, most of which are educational institutions. When oil and gas projects slated to occur on State Trust lands don't come about, the beneficiaries don't receive funds. In Mora County New Mexico there are 121 lease parcels that have been sold to oil and gas companies netting over \$500,000 to the beneficiaries in bonus payments. These beneficiaries include the School for the Deaf, Eastern New Mexico University, and New Mexico Tech. Those leases can't be drilled because of the current county ban on all oil and gas development. At a royalty rate of 12.5%, a well that might produce for 40 years could provide substantial income for the beneficiaries including the school children of New Mexico.

Finally, the current value of the New Mexico Land Grant Permanent Fund is a healthy \$12.137 billion. In national surveys, New Mexico has been ranked among the worst in the nation for early childhood education. There is currently an initiative to pass a voter referendum for a constitutional amendment to expand the list of beneficiaries to include early childhood education.

While it might be tempting to raid the royalty funds today for expansion of social programs, it is also paramount to protect these funds for future generations as well as protecting industry's ability to continue to grow these funds without unlawful county restrictions.

PROTECTING NEW MEXICO'S SPECIES



2013 "Wildlife in the Oil Field" photo contest 1st place winner: Verl Garner, Farmington, NM

WILDLIFE IN THE OIL FIELD

One of the most unique aspects of the Land of Enchantment is the abundant wildlife found throughout the state – from antelope and javelinas in the south to trophy mule deer and elk in the north.

Many different species of fish and waterfowl are found in the pristine waterways throughout New Mexico including the San Juan River, a world class trout fishery.

While searching for the treasures of natural gas and oil located beneath the surface, great care is taken to protect the wildlife and their habitat on the surface. Oil and gas operations are often located in the same places that wildlife call home, giving

individuals working in the field the opportunity to witness amazing scenes of various wildlife in and around well sites.

Most companies have stories and pictures of many of these encounters.

The photo on this page is an example of one of these encounters.

These interactions are so common the Independent Petroleum Association of New Mexico (IPANM) created a contest for oil field workers and others to win cash prizes for the best photo or video demonstrating wildlife coexisting with the oil field.

For more information on IPANM's "Wildlife in the Oil Field" contest, visit www.ipanm.org.

PROTECTING NEW MEXICO'S SPECIES

SPECIES PROTECTION

New Mexico is blessed with a diverse landscape, abundant wildlife resources and several unique species of animals, plants and birds.

The nature of the oil and gas business allows us to work within this ecosystem and interact with wildlife. Our industry, like the agricultural industry, is vested with the responsibility of caring for the land and the wildlife that share it.

The Bureau of Land Management, New Mexico's game and fish professionals and the oil and gas industry have a successful history of working together to allow the development of New Mexico's valuable resources while protecting our environment and wildlife, to benefit the citizens of New Mexico.

An example of this partnership is New Mexico's Candidate Conservation Agreement program that was put in place to benefit the Dunes Sagebrush Lizard and the Lesser Prairie Chicken, two unique species found in the Permian Basin of southeast New Mexico. Under this program, industry works with government agencies in coordination with the not-for-profit scientific research group, Center of Excellence, to preserve habitat and protect these unique species.

The 2012 annual report from the Center of Excellence reports that the oil and gas industry has contributed over 1,000,000 acres to the program. In addition, in 2012, the oil and gas industry contributed over \$2,500,000 to fund this program. The U.S. Fish & Wildlife Service credited the success of this program when it determined in 2012 that it would not list the Dunes Sagebrush Lizard as an endangered species.

Currently, the federal government is considering whether to list the Lesser Prairie Chicken as an endangered species. This bird is found in the Permian Basin of Southeast New Mexico, as well as in the states of Texas, Oklahoma, Colorado, and Kansas. It is hoped that the federal government will again note the success of New Mexico's Candidate Conservation Program and allow the state to continue to address the conservation of this species through this

successful program.

County governments that would be affected by a listing of the Lesser Prairie Chicken have expressed concern about the impact this decision would have on the region's economy. Most of the affected counties have submitted resolutions to the U.S. Fish & Wildlife Service requesting that the species not be listed and to allow it to continue to be conserved through the efforts of the state game departments. In support of this request, the county governments submitted a report from a comprehensive study performed by the Center for Environmental Science, Accuracy & Reliability, which found the data do not support a decision to list the Lesser Prairie Chicken.

The oil and gas industry will continue to work with our state and local agencies to protect and preserve the environment and wildlife while working to develop New Mexico's abundant natural resources that support our state's economy.



BUREAU OF LAND MANAGEMENT RESTORE NEW MEXICO

Thanks to a program created by the Bureau of Land Management (BLM), more than two million acres of degraded New Mexico landscapes are being restored.

In 2005, the BLM launched an aggressive program, Restore New Mexico. The program is dedicated to restoring our states grasslands, woodlands and riparian areas to a healthy and productive condition. The focus is on large scale restoration efforts on federal, state and private lands.

The program is a success restoring over two million acres to date, but millions are still in need.

The historic overuse of the land has changed some of New Mexico's most beautiful landscapes into virtual wastelands. These transformations have altered the land's biological productivity, resulting in degraded water quality, reduced wildlife count, and decreased supplies of groundwater.

This New Mexico partnership includes state and other federal agencies, New Mexico ranchers and landowners, conservation groups, oil and natural gas companies, and local governments. These partners are essential to the success of the program, providing over \$10 million to help restore public lands from these legacy issues.

Restore New Mexico and its partners are aggressively targeting invasive and exotic brush species. Creosote and mesquite deserts are being replaced with healthy grasslands to sustain larger wildlife populations. Salt cedar is being removed from streams to restore cottonwood willow forests, restoring habitats for fish and other species. Overgrown woodlands are transforming into grasslands that provide grazing areas for mule deer and elk. Surface disturbance from historic oil and gas sites, during a time when there weren't requirements for surface reclamation, are being restored to habitats to benefit prairie chickens, sand dune lizards, and other grassland-dependent species.

Thanks to Restore New Mexico and its partners, these improvements continue.

According to the Restore New Mexico website, "Restore New Mexico is much greater than the sum of its parts. It's taking a vision and making it happen on the ground to restore the landscapes that lift our spirits and define our character."



On December 7, 2013, at the New Mexico Joint Stockmen's Convention, the Bureau of Land Management (BLM) presented ranchers Justin and Brooke Wilson with the 2013 BLM Restore New Mexico Land Stewardship Award. They received the Award for their work to improve range conditions on the Angell Draw allotment near Carlsbad, New Mexico. The allotment includes over 12,000 acres of Federal lands and 1,600 acres of state and private lands.

In 2011, in coordination with the BLM, the Wilsons began aerial herbicide treatments for invasive areas of mesquite and creosote on their allotment. To date, they have treated more than 8,300 acres of public, state, and private lands. Through the Wilson's efforts and cooperation, the upland watersheds within this allotment have benefited greatly from the improved grass community, the reduced soil erosion, and the improved water infiltration and retention.

INDUSTRY OUTREACH

OIL AND GAS DAY AT THE CAPITOL

Every other year IPANM organizes Oil & Gas Day at the Capitol in celebration of our industry and in honor of the children of New Mexico. Our most recent event took place on February 15, 2013.

The goal of the event is to showcase to the public, legislators, and the media the positive impact our industry brings to our state and to the major educational institutions in New Mexico.

Many of the beneficiaries of the Land Grant Permanent Fund were in attendance in recognition of the significant support they receive from our state's oil and gas industry. Additionally, Dr. Ronald J. Stern, Superintendent of the New Mexico School for the Deaf, gave a powerful and inspiring speech, regarding the benefits of oil and gas to their institution.

Several months before the event, students are selected from an essay contest to become a "Young Ambassador" and earn the opportunity to be a "junior lobbyist" on Oil & Gas Day. The students are invited to the Capitol to meet with industry and political leaders and are encouraged to testify on energy legislation.

The winner of the essay contest was Eric Angelos, a student at New Mexico Tech. His essay topic was, "How Different Modern Life in New Mexico would be without Oil or Natural Gas."

Other Young Ambassador finalists include, second place winner, Stephanie Quintana, San Juan College; Mark Shaffer, New Mexico Tech; Reid Sharp, New Mexico State University; Baraka Lwoya, New Mexico State University, and Cassandra Martinez, Carlsbad High School.

These Young Ambassadors were able to meet with several state legislators, Lieutenant Governor John Sanchez as well as some of Governor Martinez's staff.

Other Oil & Gas Day events include a press

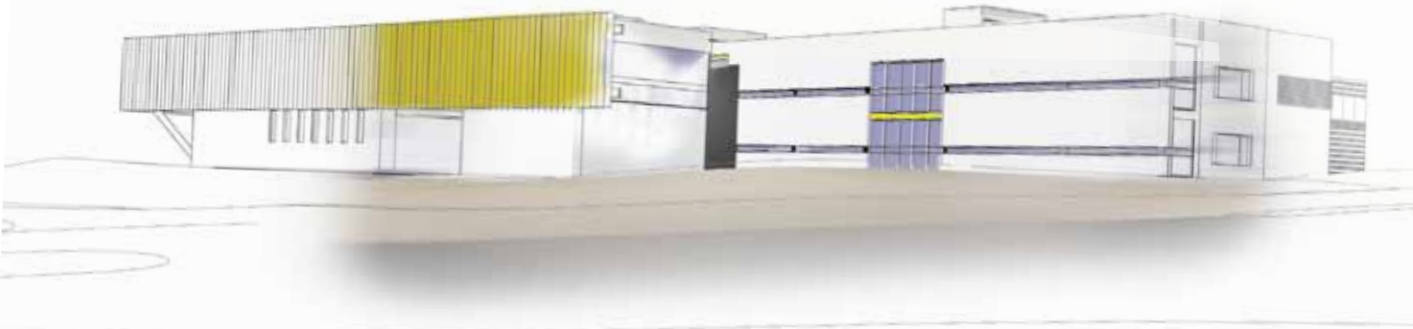
conference with state and industry leaders and exhibits on display by organizations positively impacted by the oil and natural gas industry.

The day is capped off with a reception in honor of our Governor and Legislators.



Photos: (top) Junior Lobbyists, (bottom) Dr. Ronald J. Stern, Superintendent of the New Mexico School for the Deaf

SAN JUAN COLLEGE SCHOOL OF ENERGY



Ground was broken for the San Juan College School of Energy's new facility on October 17, 2013.

Funding for the more than \$15 million needed for the project is being provided by BP, Merrion Oil & Gas, the State of New Mexico, San Juan College, the Westmeath Foundation, the Tom Dugan Family, Conoco Phillips, Arizona Public Service, XTO, DJ Simmons/Twin Stars, and Williams.

The 53,000-plus-square-foot building will be located on the north side of the college's main campus. As the demand for increased training, education and technology in the energy industry has grown, the new facility will help meet that need by providing additional classrooms, office space, meeting rooms, and a hands-on simulation lab all while bringing staff and students in the same location.

The School of Energy offers accredited Natural Gas Compression and Lease Operator programs, as

well as the largest CDL training and test program in the state. In addition to providing students with degrees and certificates, the additional space will allow the School of Energy to partner with other colleges and universities to offer advanced degrees. San Juan College recently partnered with New Mexico Highlands University to offer a bachelor's degree in Oil and Gas Management.

The vision of the School of Energy is to become a national leader in energy production technical education, and will provide training in all energy sectors, including oil and gas, power generation, and coal. Students will have the opportunity to learn everything from how energy is produced to how it is refined and prepared for consumption. Instructors will focus on training from a global perspective.

The new school is anticipated to be complete by the summer of 2015.



INDUSTRY OUTREACH



ENERGY WEEK

San Juan Basin oil and gas producers come together each spring to give Farmington area eighth graders the opportunity to learn about their industry.

Energy Week, hosted at the Farmington Museum's "Dinosaurs to Drill Bits" exhibit, gives students the opportunity to learn how oil and natural gas has been formed over millions of years, becoming the main energy source that fuels our modern world.

The goal of Energy Week is to work in conjunction with the science curriculums taught in the schools, showing students how science is being applied in their own backyards. Learning how raw oil and gas products are refined so they can run their

furnaces, the gasoline in the cars they can't wait to drive and the lipstick and hair gel that makes them look so cool!

Students also get to try on safety gear, see some real world demonstrations of how compressors, separators, and pumps work and try their hand at driving San Juan College's truck simulator.

In reviewing past programs, middle school teachers have rated Energy Week as one of the highlights of their "science curriculum" and a number of students have commented that they would be interested in a career in the oil and gas industry.

NEED – NATIONAL ENERGY EDUCATION DEVELOPMENT

In 1980, the NEED (National Energy Education Development) Project began as a one-day event celebrating energy education.

Thirty years later, it continues to make an impact on the energy knowledge of students, teachers and the public. The Independent Petroleum Association of New Mexico (IPANM) has had a strong working and funding relationship with NEED since 1997.

NEED works with teachers, students, government and community leaders to design multi-faceted

energy education programs for every classroom in the nation.

With industry support in New Mexico, NEED is continuing to make a strong impact on the energy education of middle school students, teachers, and the public.

NEED has had several interactive exhibits at IPANM's Oil and Gas Day at the Capitol, including a student powered light-bulb.



MERRION OIL AND GAS ENGINEERING MENTORSHIP

Starting in 1994 with one student, over 250 students in the Farmington area have completed the Merrion Oil and Gas Engineering Mentorship program. A record 36 high school seniors are participating in the 2013 class. The program is open to any interested high school senior or student at San Juan College.

The Merrion Oil & Gas Engineering Mentorship program gives students a real life immersion in engineering principals. The program links common-sense physical principals the students already know, to learning how to forecast the performance of an oil or gas well. Working in small teams, students analyze an actual property that is for sale in an oil and natural gas auction. The students create a spreadsheet based on their analysis of the location to build future predictions and determine an economic value for the well. The groups make formal presentations to Merrion's management and recommend a bid price. Based on a consensus value, Merrion Oil & Gas then tries to buy

or lease the recommended property at auction.

The program has had a handful of successful purchases on properties recommended by their mentees, the most notable being the purchase of a Fruitland Coal well for \$1.5 million.

While the basis of the program is petroleum engineering, the Merrion Mentorship course emphasizes broader principles that apply to other engineering disciplines. First and foremost, engineers apply knowledge to solve problems. Most problems are simple and require only common sense, not rocket science, to figure out. Every day, engineers in the oil and gas industry must use multiple approaches to fully understand and solve problems and to make sure the answer passes the "smell test." And finally, none of it matters if it doesn't make economic sense.

The Merrion Mentorship program is a great example of how member companies of IPANM give back to the community and provide opportunities to the school children of New Mexico.



INDUSTRY OUTREACH

CHASE FOUNDATION



The Chase Foundation was established in 2006 by Mack and Marilyn Chase to help serve the community of Artesia and the not for profit organizations within Southeastern New Mexico.

In 2007, Mack, Marilyn and members of the Chase Family began the Chase Foundation Scholarship Program for graduating seniors of Artesia High School by pledging \$1.8 million dollars to the first scholarship recipients. Over the years the Chase Family has awarded over \$8 million dollars in scholarships to 825 Artesia High School (AHS) graduating seniors.

The Class of 2013 was the seventh class eligible to receive the Chase Scholarship for the purpose of realizing educational goals while becoming our future leaders in building stronger families and communities.

All AHS students who maintain a 3.0 gpa through their first seven semesters are eligible to receive the scholarship to attend the college of their choice with annual scholarship awards up to \$6,500 yearly for up to five years for students to obtain their undergraduate degree.

Since 2006, 175 Chase Scholars have graduated from colleges and universities throughout the country.

In starting the foundation, the Chase Family recognized the need to educate youth and provide educational opportunities to improve the quality of life for future generations. The mission of the scholarship program is to increase student graduation rates and provides families affordable college opportunities. The Chase Family is intent in their desire to see youth expand their educational opportunities and graduate with college degrees.

The Chase Scholarship Program has partnered with a number of New Mexico and West Texas colleges and universities to provide additional scholarship funds to students receiving the Chase Scholarship. These include, University of New Mexico, New Mexico State University – Carlsbad, Eastern New Mexico University, South Plains College, New Mexico Tech, New Mexico Military Institute, Lubbock Christian University, Eastern New Mexico University – Roswell, Wayland Baptist University, Texas Tech University, New Mexico Junior College, Angelo State, McMurry University, New Mexico Highlands, and New Mexico State University.

The significance of the Chase Scholarship Program is in the ability for eligible students to attend a New Mexico college or university and have a significant portion of their education expense paid for through the Chase Scholarship, New Mexico Lottery, and additional scholarship funds through New Mexico colleges and universities. These partnerships will strengthen the ability of students to obtain their educational degree and provide college affordability to families.

In keeping with the Chase family tradition of giving back to the community, new Chase scholars are required to participate in a summer community service initiative. During these community initiatives, the scholars complete over 200 community projects for local senior citizens, adult daycare centers, little league ballparks, senior citizen facilities, parks, playgrounds, and other organizations and individuals throughout the community.

The Chase Foundation provides grant funding for tax exempt charitable organizations in the primary funding areas of preschool through 12th grade educa-

tion, college education programs, substance abuse programs, domestic violence programs, community enhancement programs, charity infrastructure, youth initiative programs, and emergency and critical human services. The Chase Family has provided over \$12 million dollars in grants since 2006.

The mission of the Chase Foundation and Chase Family is to build strong communities through partnerships, seek projects that employ innovative approaches to problems and identify and address emerging issues and support projects that are addressed to youth initiatives and programs.

For more information you may go to www.chasefoundation.com or contact richardprice@chasefoundation.com, ginnybush@chasefoundation.com or carolsullivan@chasefoundation.com.



NEW MEXICO ENERGY FACTS

PRODUCTION:

- Rankings (2011)
 - 7th in natural gas production (3.456 billion cubic feet per day)
 - 8th in natural gas proven reserves (16.138 trillion cubic feet)
 - 6th in oil production (195,527 barrels per day)
 - 6th in oil proven reserves (960 million barrels)
 - The 50 largest operators in New Mexico produced 78.9 million barrels of oil in the year 2012 or about 216,003 barrels per day.
 - The 50 largest operators in New Mexico produced 1.193 trillion cubic feet of natural gas in the year 2012 or about 3.26 billion cubic feet per day.
 - There were 1,352 new wells drilled in 2012, more than 3 new wells per day.
 - There were 870 wells permanently abandoned in 2012.
-

ECONOMIC:

- Land Grant Permanent Fund:
 - \$12.137 billion balance as of June 30, 2013
 - FY 2012 payout to 21 public entities of \$658.5 million
 - Oil and natural gas make up 95% of revenue going into the fund
 - Severance Tax Permanent Fund: \$4.147 billion balance as of June 30, 2013.
 - New Mexico receives 48% of the 12.5% Federal Mineral Royalty from oil & gas production on the Federal lands, totaling more than \$488 million in FY 2012.
 - New Mexico has a 36.4 cent per gallon gasoline tax and a 43.4 cent per gallon diesel fuel tax.
-

MISCELLANEOUS:

- The Oil & Gas Conservation Rule Book contains 184 sections of nearly 2,000 rules, regulations, & procedures.
 - The Bureau of Land Management (BLM) manages 13.4 million acres of surface and 26 million acres of sub-surface (31% of NM).
 - The NM Land Office manages state trust lands, including 8.8 million acres of surface and 13.4 million acres of sub-surface.
 - Capacity of New Mexico's two active refineries: 125,800 barrels of crude oil per day.
-

JOBS:

- The industry provides more than 20,000 direct jobs with an average salary of \$72,355 compared to the state average of \$40,612 (2013).
-

ELECTRICITY SUPPLY (2010):

- 70.7% Coal Fired, 23.6% Natural Gas Fired (94.3% Fossil Fuel)
 - 5.7% Hydro/Wind/Solar/Bio-Fuel/Geothermal
-

HOME HEATING SUPPLY:

- 68% Natural Gas, 15% Propane/LPG (83% Direct Fossil Fuel)
 - 12% Electric & 5% Other/None
-

REGULATORY AGENCIES:

- Bureau of Land Management (BLM)
 - Environmental Protection Agency (EPA)
 - Federal Aviation Administration (FAA)
 - Department of the Interior (DOI)
 - New Mexico Environmental Department (NMED)
 - New Mexico Department of Game & Fish (NMDGF)
 - New Mexico Oil Conservation Division (NMOCD)
 - New Mexico State Land Office (NMSLO)
 - Office of Natural Resource Revenue (ONRR)
 - State Historic Preservation Office (SHPO)
 - United States Army Corps of Engineers (USACE)
 - United States Department of Agriculture (USDA)
 - United States Fish & Wildlife Service (USFWS)
 - United States Forest Service (USFS)
-

NEW MEXICO STATE SYMBOLS

STATE AIRCRAFT

New Mexico's state aircraft is the **hot air balloon**. The nine day Albuquerque International Balloon Fiesta is the largest hot air balloon festival in the world.

STATE AMPHIBIAN

The New Mexico **spadefoot toad** (*Spea multiplicata*) is nocturnal and secretive.

STATE BIRD

The **roadrunner** has been New Mexico's state bird since 1949. It prefers running to flying and has been clocked at speeds of 15 miles per hour.

STATE TIE

The **bolo tie** is a necktie consisting of a piece of cord or braided leather with decorative metal tips secured with an ornamental clasp or slide.

STATE BUTTERFLY

The **Sandia hairstreak** (*Callophrys macfarlandi*) was discovered in 1959 at La Cueva Canyon in Albuquerque.

STATE CAPITOL

Called the "**Roundhouse**," the state capitol building in Santa Fe is the only round state capitol in the U.S. It was designed to resemble the Zia Sun Symbol when viewed from above.

STATE COOKIE

The **biscochito** is a small anise flavored, shortbread cookie used during special celebrations. It was handed down through the generations since it was brought over by the first Spanish colonists to New Mexico.

STATE FISH

The New Mexico **Cutthroat Trout** is native to the cold mountain streams and lakes of northern New Mexico. Anglers like the small fish for its fighting spirit.

STATE FLAG

has a yellow field and red symbol the colors of Spain, brought here by explorers in 1540. The ancient red sun symbol is from a Native American people called the **Zia**.

STATE FOSSIL

The best specimens of the **small theropod dinosaur, Coelophysis bauri**, are found at the quarry at Ghost Ranch, near Abiquiu, New Mexico.

STATE FLOWER

A member of the lily family, the **yucca** is sturdy as well as beautiful and grows as tall as a small tree.

STATE GEM

Probably one of the oldest gemstones known, **turquoise** was designated New Mexico's state gem in 1967.

STATE GRASS

Blue gramma grass is valued as forage and for landscaping and erosion control. It is also used in dried flower arrangements.

STATE INSECT

The **Tarantula Hawk Wasp** has a blue-black body and bright rust-colored wings. Its sting is rated among the most painful in the insect world.

STATE MAMMAL

The **Black bear** can stand and walk on its hind legs, but prefers all fours. Its shuffling gait results from their hind legs being slightly longer than the forelegs.

STATE NICKNAME

The "**Land of Enchantment**" describes New Mexico's scenic beauty and its rich history. This legend was placed on New Mexico license plates in 1941. It was designated as the official State Nickname in 1999.

STATE SEAL

New Mexico's Great Seal has its origins in the 1851 formation of the Territory of New Mexico. The territorial seal featured an American eagle and the words, "Great Seal of the Territory NM." The motto "Crescit Eundo," or "**It grows as it goes**," was added in 1882, and displays on a banner below the eagle.

STATE SONG

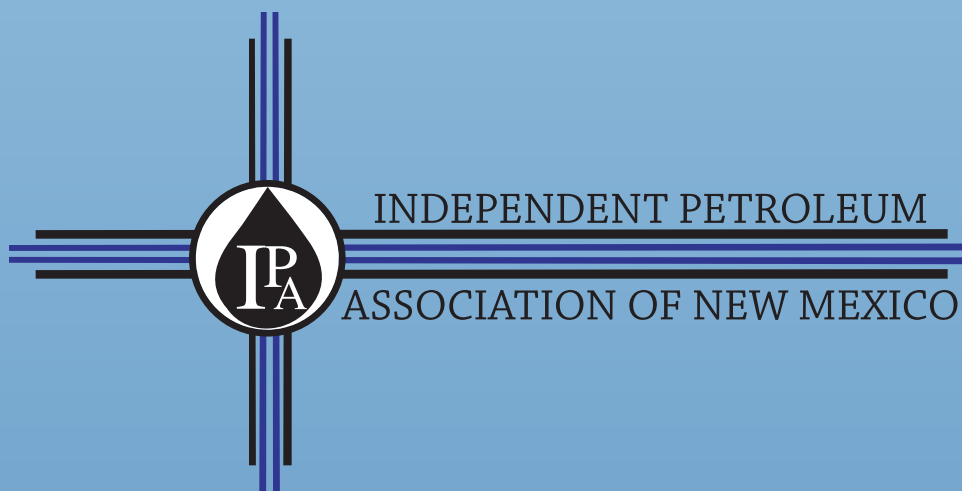
"**O Fair New Mexico**" was officially selected in 1917. The author, Elizabeth Garrett, was the daughter of former Lincoln County Sheriff Pat Garrett, the man who killed Billy the Kid.

STATE TREE

The **piñon** is the official State Tree. This sturdy, slow-growing little evergreen flourishes over a vast area of the state. Its tiny, tasty nuts are a treat for New Mexicans.

STATE VEGETABLE

Chile is a unique part of the New Mexican diet. Chile is a pungent pepper that is harvested in the early fall, toasted, peeled and served as a delicious stew, stuffed with cheese or made into a favorite recipe. Chile comes in red and green, together New Mexicans call it "Christmas."



This publication is distributed as a service of the
Independent Petroleum Association of New Mexico.

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