U.S. Onshore
Ambassador Toolkit

Updated December 2015

A values-based guide for sharing and openly communicating about the oil and natural gas industry.

Information courtesy of Anadarko Petroleum Corporation

AAPL Ambassador Toolkit Equips You With the Facts

America is in the midst of an energy revolution. Through technological advances in hydraulic fracturing and horizontal drilling, America has emerged as a global energy superpower — the world's largest producer of oil, natural gas and petroleum products. This era of oil and natural gas abundance has made a permanent impact on our country's economy, leading to new jobs, higher incomes and lower energy costs for tens of millions of Americans.

Unfortunately, a lack of public awareness and understanding of our industry's operational practices threatens to hinder America's energy security and economic growth. Limited factual information, conflicting reports and fear-based messaging have exacerbated social divisions on oil and gas practices. As the face of the industry, landmen have a unique opportunity to start a new, fact-based dialogue with the public and become true ambassadors for our safe, regulated and vitally important industry.

This updated version of the AAPL Ambassador Toolkit features an abundance of key information and thorough illustrations for landmen to share with their colleagues and communities. Throughout the toolkit you will find updated facts and statistics about energy, hydraulic fracturing, environmental impact and regulations, social investment, economics, civic engagement and more.

In addition, the AAPL Ambassador Toolkit is now accompanied by several topic-specific videos and a PowerPoint presentation. Available on www.landman.org, these valuable resources allow you to share industry facts and information in a variety of formats — whether that is in person, at an event, with a client, or on social media.

I encourage you to share this information with those around you — your friends, family, colleagues and community. If the 17,000-plus AAPL members across the country share a unified message as ambassadors for our industry, the resulting gains in public knowledge about safe, well-regulated oil and gas development would be incredible. I hope you take on the role as an AAPL ambassador for the good of our industry and the public we serve.

Sincerely,

Marc R. Strahn, CPL
Past President, American Association of Professional Landmen
Of Counsel, The Wolf Haven Corporation

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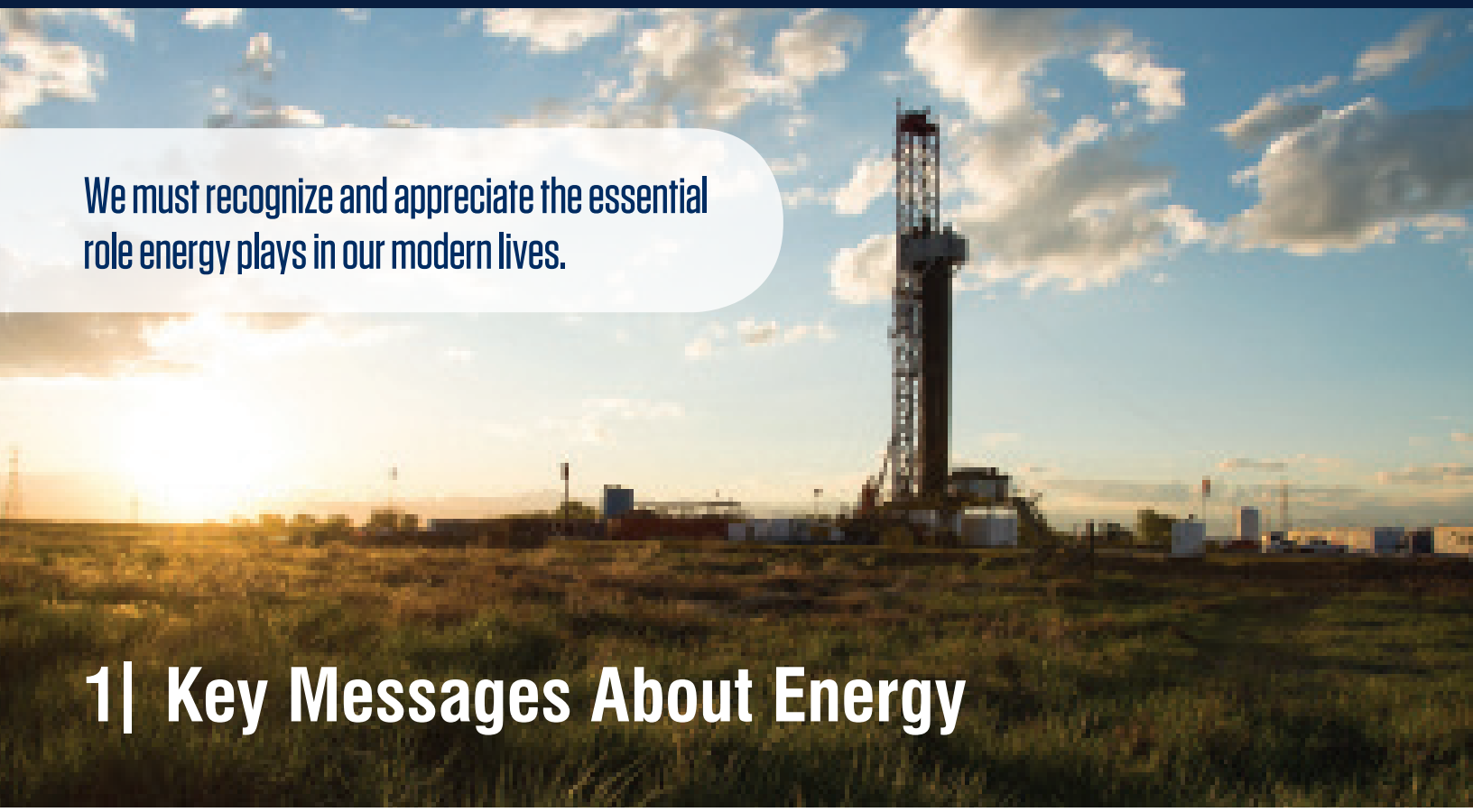


We must recognize and appreciate the essential role energy plays in our modern lives.

1| Key Messages About Energy

Energy is fundamental to modern life.

Oil and natural gas are the building blocks for thousands of products we use, and natural gas is a cleaner generator of electricity — the power needed to light, heat and cool American homes. Modern economies are dependent on a reliable, affordable energy supply, and they are further strengthened through energy security.

The U.S. has abundant resources of oil and clean-burning natural gas. In the last several years, the country has experienced an energy revival. The tremendous oil and natural gas resources found in the U.S. have positioned the nation to benefit through economic growth, increased domestic jobs and lower electricity costs while reducing the country's dependence on foreign sources of energy.

The convergence of horizontal drilling and hydraulic fracturing technologies has created new opportunities to develop unconventional oil and natural gas resources around the nation.

TAKEAWAYS

- Affordable energy is fundamental to modern life — it is as important as air, food and water.
- Oil and natural gas are used to make or power practically every product we touch every day.
- Every step in oil and natural gas development is highly regulated by multiple state and federal agencies across the U.S.
- Oil and natural gas development supports millions of jobs and provides tax revenue that funds public schools, local emergency management and a variety of municipal, state and federal programs and services.
- The men and women who work in the oil and natural gas industry provide a valuable and essential resource to America.

"Rising U.S. oil and natural gas production is having a bigger impact on the U.S. economy than estimated a couple years ago."

– John Larson,
IHS Energy

"The emergence of shale gas and tight oil in the U.S. demonstrates, once again, how innovation can change the balance of global economic and political power."

– Daniel Yergin,
Pulitzer Prize Winning Author

"Advanced technologies for crude oil and natural gas production are continuing to increase domestic supply and reshape the U.S. energy economy as well as expand the potential for U.S. natural gas exports."

– Adam Sieminski,
U.S. EIA Administrator

Why is the Oil and Natural Gas Industry Important to America?

U.S. Jobs

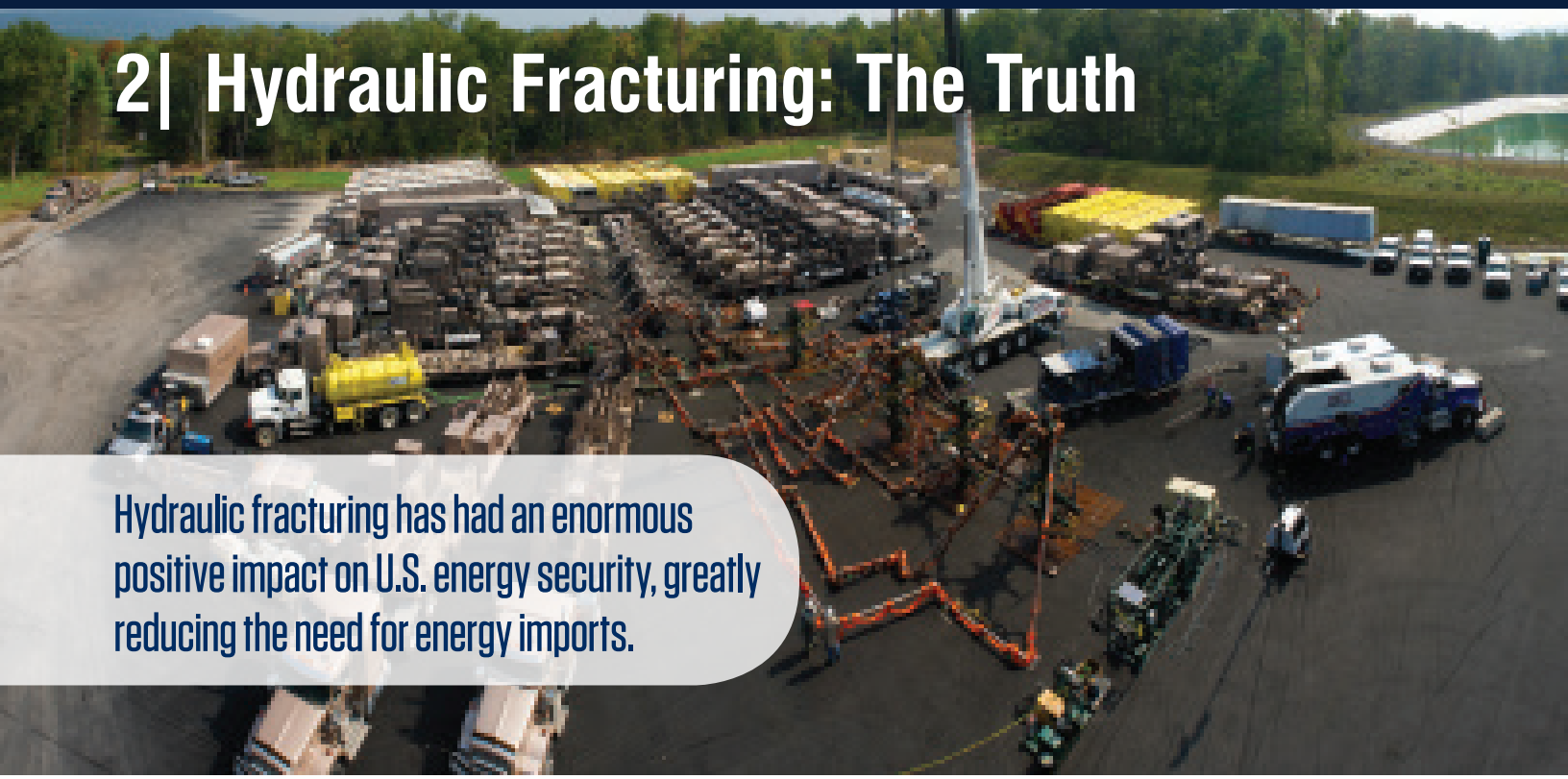
- **9.8** million jobs supported by the oil and natural gas industry
- **$224** billion in wages paid to U.S. industry employees in 2011
- **$598** billion generated in associated labor income
- **2.7** million jobs gained from 2002 through 2012 through oil and natural gas activity

U.S. Economy

- **$84** million paid daily to the U.S. Treasury in federal income taxes, royalty payments and other fees
- **8%** of the entire U.S. economy supported by our industry
- **$545** billion contributed to the economy through capital investments, wages and dividends by the oil and natural gas industry
- **$3,500** gained per year by U.S. households from low natural gas prices by 2025
- **$1.6** trillion increase in revenues to federal, state and local governments from 2012–2025
- **$180** billion reduction in the U.S. trade deficit by 2022

Source: API, Moody's Analytics, PricewaterhouseCoopers, LLP

2| Hydraulic Fracturing: The Truth



Hydraulic fracturing has had an enormous positive impact on U.S. energy security, greatly reducing the need for energy imports.

Hydraulic fracturing is not new.

Hydraulic fracturing is a highly engineered technology first developed in the 1940s to enhance production of oil and natural gas from tight rock formations miles beneath the earth's surface. "Fracking" technology has improved and evolved over 60 years and has been applied to more than 1.2 million wells drilled in the U.S.

- A temporary process, typically lasting 5 to 10 days per well
- Separated from ground water by more than a mile of rock
- Regulated by multiple state and federal agencies
- Supervised by highly trained engineers and technicians

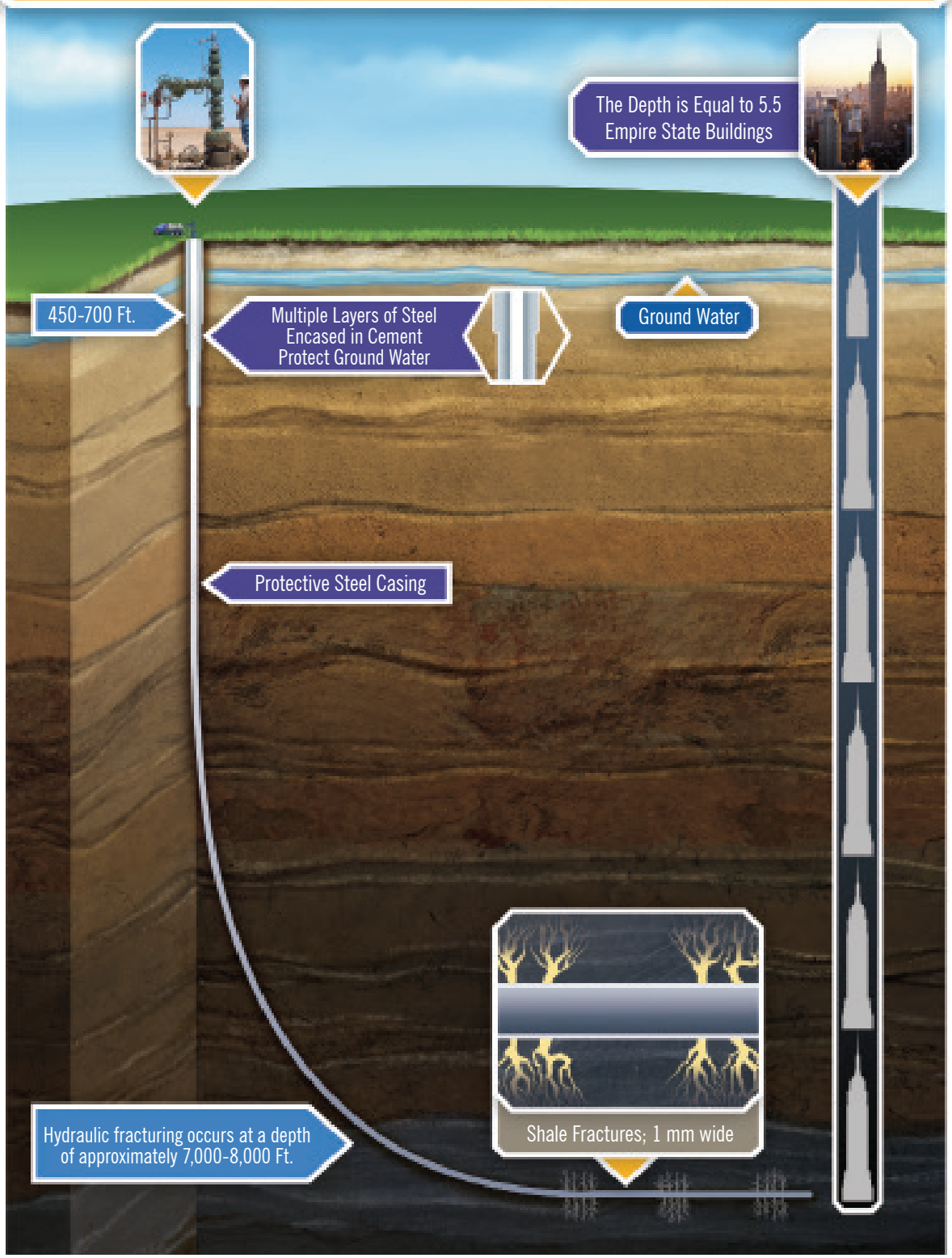
FACTTOIDS

- More than 90% of oil and natural gas currently produced in the U.S. onshore is done using hydraulic fracturing.
- 60% to 80% of all wells drilled in the U.S. in the next 10 years are expected to require hydraulic fracturing.
- Without hydraulic fracturing, as much as 80% of oil and natural gas from tight rock formations would be inaccessible.
- Hydraulic fracturing was responsible for the creation of 725,000 jobs nationwide between 2005 and 2012.

Source: CRS Report for Congress, January 2013, FracFocus.org, API, Dartmouth College, National Bureau for Economic Research

HOW DOES HYDRAULIC FRACTURING WORK?

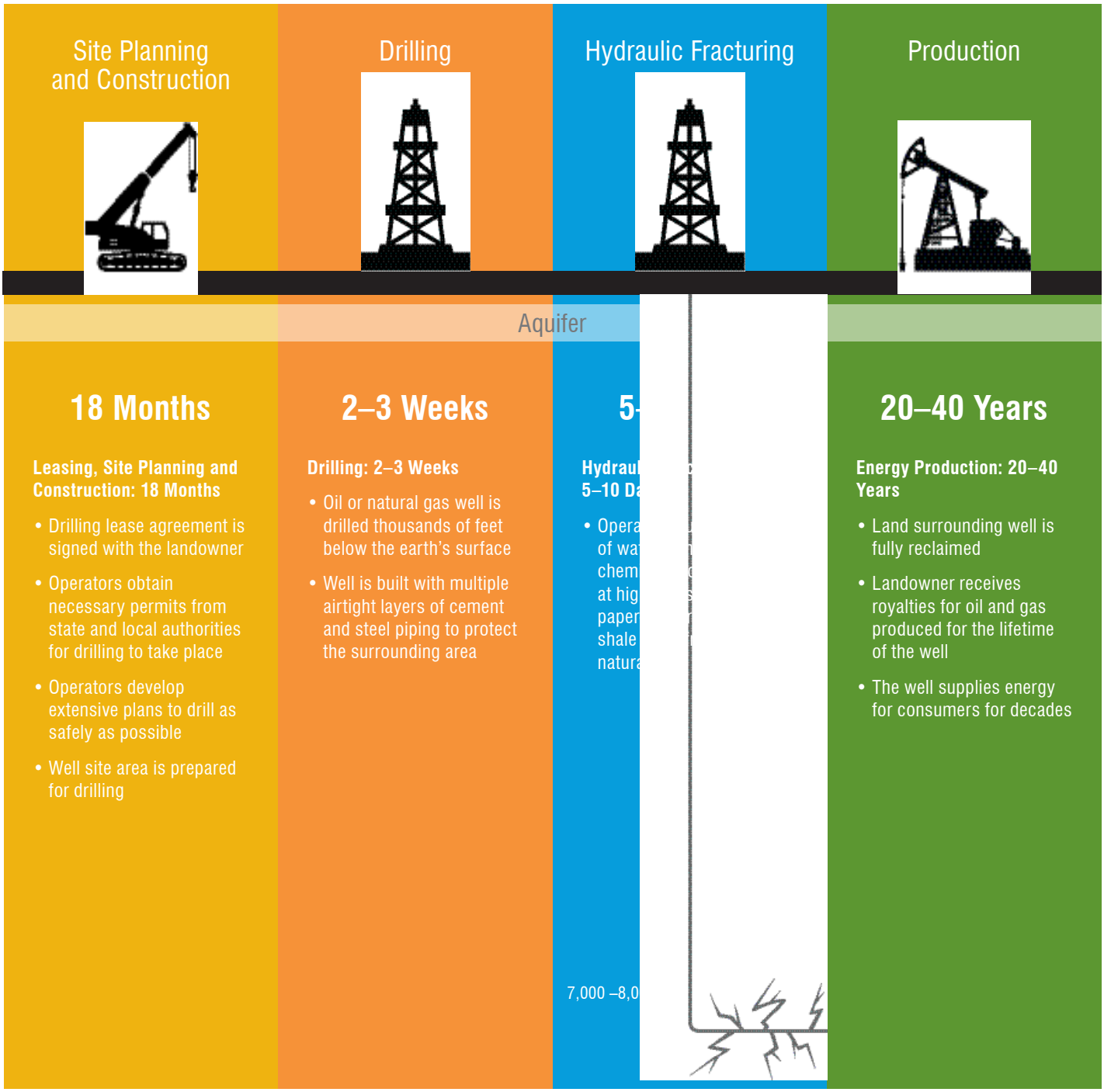
In hydraulic fracturing, a mixture of water, sand and additives is pumped under high pressure down the wellbore to create hairline fractures that form a pathway for oil and natural gas to be produced.



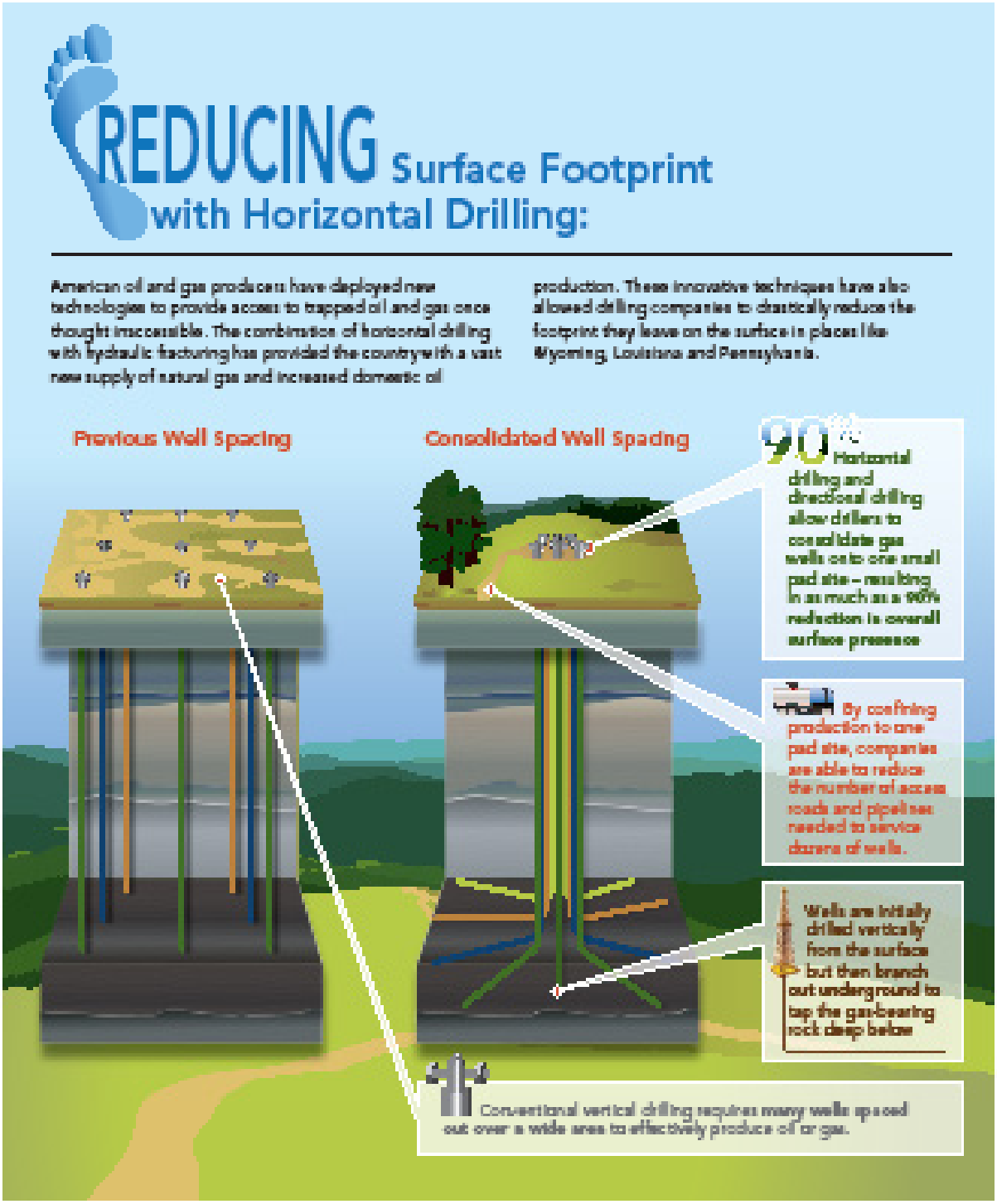
Source: Adapted with Permission from Texas Oil & Natural Gas Association, © 2010

The Life Cycle of an Oil or Natural Gas Well

Hydraulic fracturing occurs over approximately five to ten days, a very small portion of an oil or natural gas well's life cycle. However, the results yielded from a horizontal well are exponentially greater than a traditional vertical well, supplying energy resources for up to 40 years.



Innovations in horizontal drilling and hydraulic fracturing allow multiple wells to be drilled from a single well pad, drastically reducing the surface footprint of oil and gas development and impact on the surrounding wildlife and landscape. Once an oil or natural gas well is complete, the space required to maintain the well is only the size of a two-car garage. This allows surrounding land to be reclaimed for other uses.

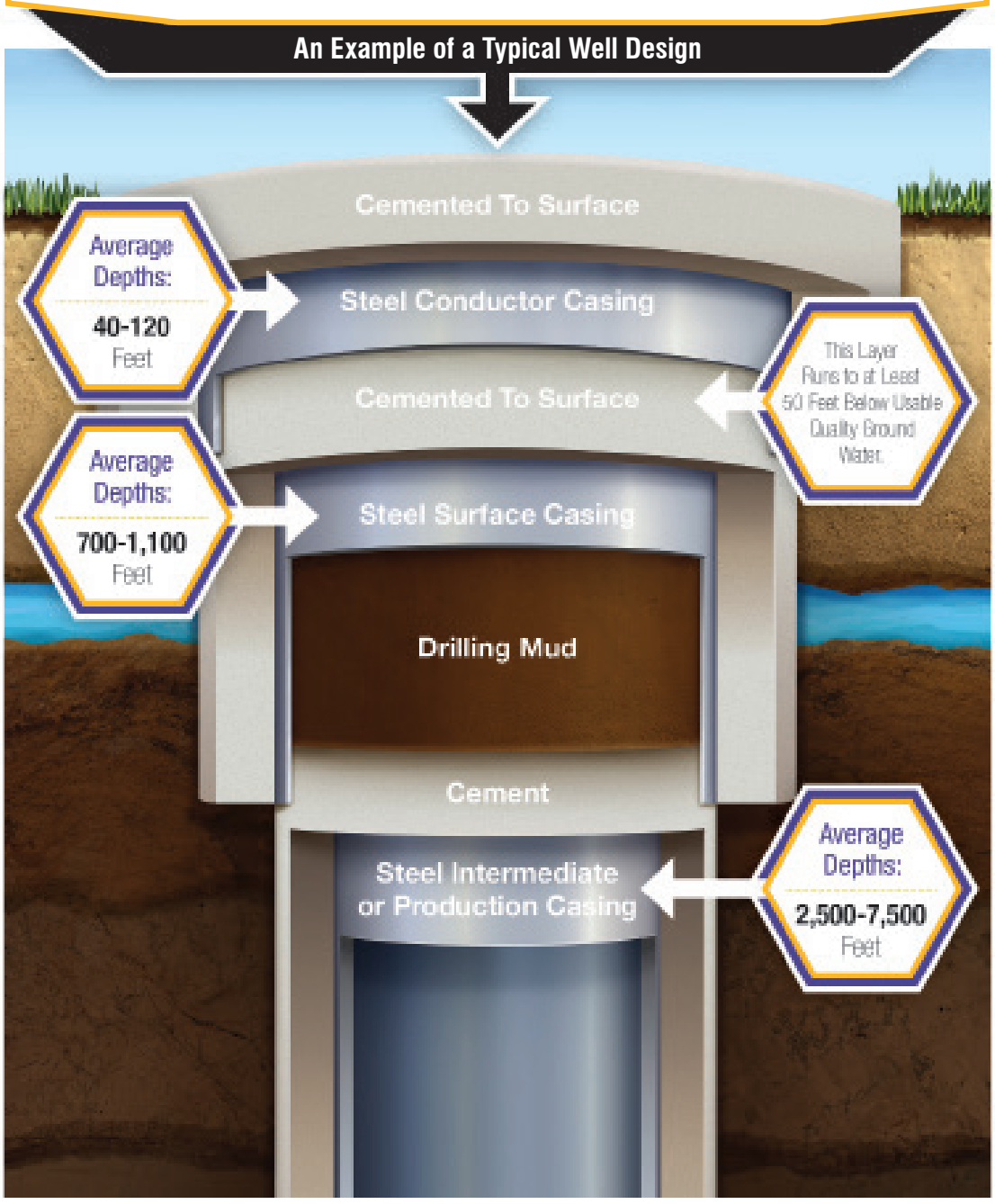


Source: API

Proper Well Construction Protects Groundwater

Wells are constructed with multiple layers of steel pipe, also called casing, and cement to protect groundwater. During wellbore construction, the casing and cement are routinely tested onsite to ensure integrity, and then the well is equipped with sensitive monitoring equipment for 24-hour observation throughout each well's production life.

In 2015, the Environmental Protection Agency (EPA) ruled that **hydraulic fracturing has "no widespread, systemic impact on drinking water resources."** A three-year study by Yale University in the Marcellus Shale also found that there is "no evidence" that hydraulic fracturing causes groundwater contamination.

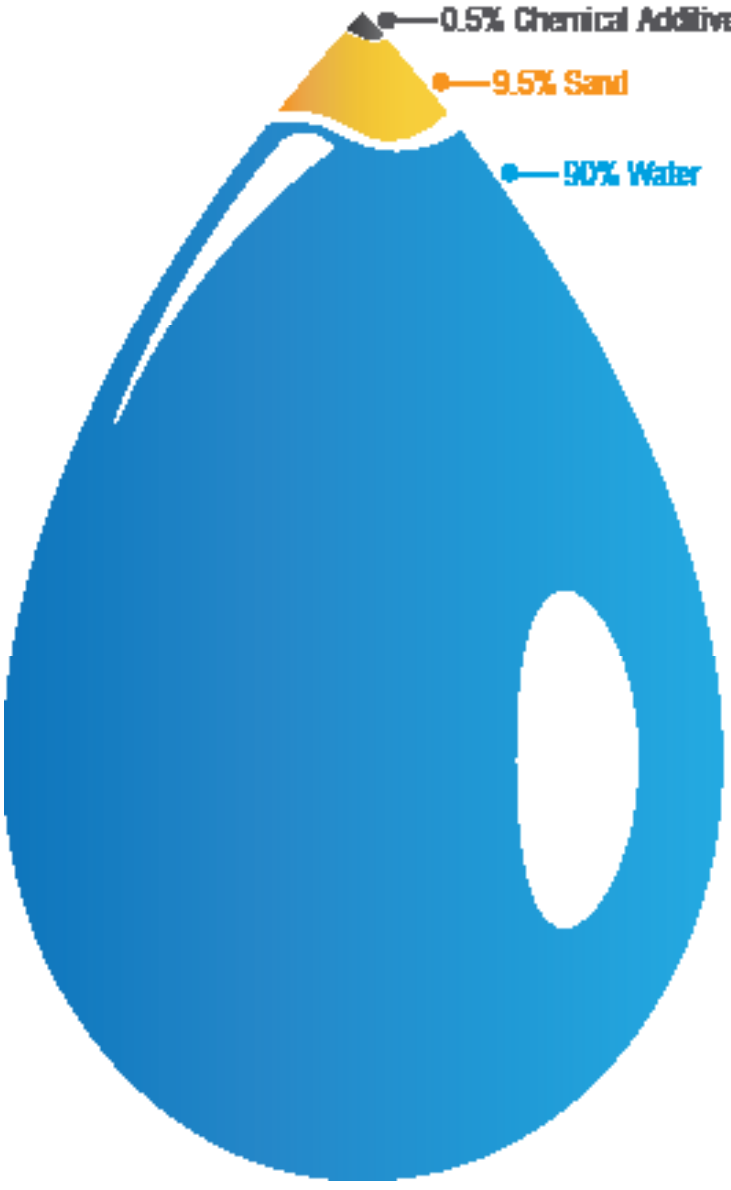


Source: Adapted with Permission from Texas Oil & Natural Gas Association, © 2010

Understanding Hydraulic Fracturing Fluid

In hydraulic fracturing, operators use a mixture of water, sand and additives pumped under high pressure to create fissures within targeted formations. The sand props open those fissures to allow oil and natural gas to flow, while the additives reduce friction, prevent bacteria formation and inhibit scale.

Additives used in hydraulic fracturing vary according to geology and are commonly found in household items. Each of the ingredients used in the hydraulic fracturing process is **shared on the website FracFocus.org.**



} Such items include:

- Sodium Chloride (table salt)

- Guar Gum (ice cream)

- Borate Salts (cosmetics)

- Ethylene Glycol (household cleaners)

- Sodium Potassium Carbonate (detergent)

- Isopropanol (deodorant)

Source: Groundwater Protection Council, API

Simply put, you cannot have the oil and natural gas production levels now being realized in the U.S. without hydraulic fracturing.

TAKEAWAYS

- The combination of horizontal drilling and hydraulic fracturing has revolutionized oil and natural gas production in the U.S.
- Hydraulic fracturing enhances production of oil and natural gas from older wells and increases new production from formations once thought impermeable.
- Without hydraulic fracturing, Americans would likely pay significantly higher utility bills each month and pay more for raw materials and other consumer goods.
- Hydraulic fracturing is making energy security a reality for the U.S.

"[F]racking has been done safely for decades."

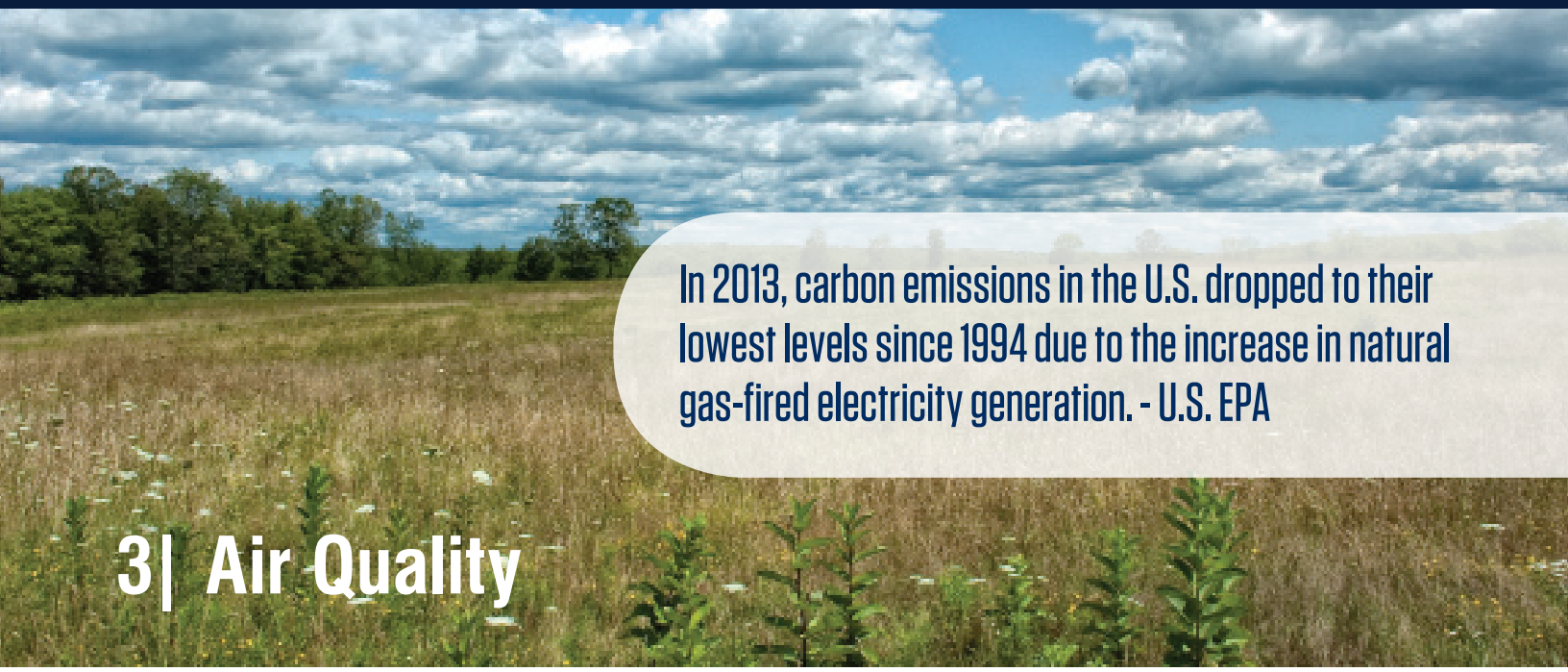
– Sally Jewell,
U.S. Interior Secretary,
Obama Administration, 2013

"In no case have we made a definitive determination that the fracking process has caused chemicals to enter groundwater."

– Lisa Jackson, former U.S. EPA Administrator, 2012

"U.S. mastery of hydraulic fracturing and horizontal drilling techniques has led to a slump in energy imports from some OPEC nations."

– Bloomberg,
May 2013



In 2013, carbon emissions in the U.S. dropped to their lowest levels since 1994 due to the increase in natural gas-fired electricity generation. - U.S. EPA

3| Air Quality

Natural gas is the cleanest-burning hydrocarbon on the planet.

The United Nations Intergovernmental Panel on Climate Change has credited hydraulic fracturing with reducing emissions in the U.S. Hydraulic fracturing has unlocked enormous supplies of natural gas, helping to replace coal-fired plants used for electricity generation and U.S. carbon dioxide (CO2) emissions to reach a 20-year low. U.S. CO2 emissions in 2014 were 55.5 million metric tons lower than the previous year, the equivalent of removing 11.8 million cars from the road.

With increased natural gas-fired electricity generation in the electric power sector, sulfur dioxide (SO2) emissions could be reduced by 55%, mercury emissions lowered by 30% and greenhouse gas emissions reduced by 15%.

The Oil and Natural Gas Industry is One of the Biggest Investors in Emissions-Reducing Technologies

Despite accounting for only 1.07% of total U.S. Greenhouse Gas emissions, the oil and natural gas industry invested approximately $90 billion in zero- and low-emissions technologies from 2000 to 2014 — more than the automotive industry, electric utilities, and agriculture and food processing industries combined.

EPA data shows that methane emissions from hydraulically fractured wells have dropped 79% since 2005 and 38% from natural gas production from 2005 to 2013. Nationally, methane emissions have decreased steadily for the last three years despite rising oil and gas production levels.

Source: Barnett Shale Energy Education Council, United Nations Intergovernmental Panel on Climate Change, API, IPAA

Where Does Air Pollution Come From?

Most pollution in the U.S. is driven by the transportation and utility sectors. By expanding natural gas for vehicles instead of gasoline and diesel, crude oil consumption could be reduced by 25%, emissions lessened by 20% and greenhouse gases lowered by up to 30%.

FACTTOIDS

- Carbon emissions in the U.S. are at their lowest levels since 1994 due to the increase in natural gas for electric-power generation.
- Total CO2 emissions in the U.S. will remain below their 2005 levels between now and 2040 due to increasing natural gas use.
- The U.S. is the second largest natural gas producer in the world and yet has less than 1% of the world's NGVs in use.
- Producing electricity from natural gas creates 36% to 47% lower emissions than producing electricity from coal.

Source: U.S. EIA, U.S. EPA, Committee on Energy and Natural Gas Resources, U.S. Senate, 2012

WHAT WE CAN DO

"Natural gas is an extraordinary resource in this country. In just a few years, based on new technology [of fracking], we're at a point where we can think about natural gas for power generation and transportation. That's huge because it can be 40% less carbon intense. I'm an environmentalist. I want to see it developed, and I want to see it developed well."
– Lisa Jackson, former U.S. EPA Administrator, 2012

"The production of shale gas enables economies to use natural gas for power generation, which is among the cheapest and fastest ways to reduce CO2 emissions and other air pollutants from energy production."
– Jeffrey Frankel, Professor, Harvard University

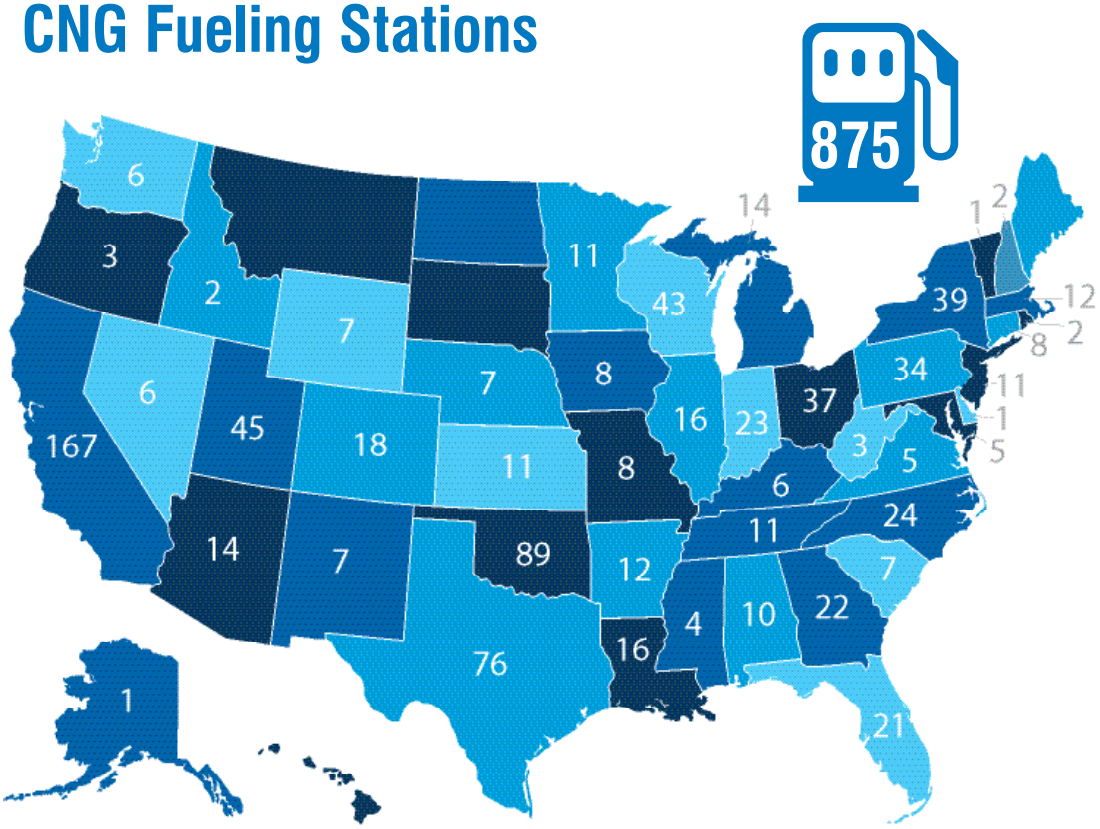
"Natural gas … is the bridge fuel that can power our economy with less of the carbon pollution that causes climate change."
– U.S. President Barack Obama, State of the Union Address, January 2014

Converting one heavy-duty waste truck from diesel to natural gas …

Offers the emissions-reduction equivalent of removing 325 vehicles from the road.

Source: America's Natural Gas Alliance

CNG Fueling Stations



Locate a public CNG Fueling Station near you at www.afdc.energy.gov.

TAKEAWAYS

- Natural gas emits less CO_2 and local pollutants than other fuel sources.
- Producers are increasing the use of clean-burning natural gas in their own operations to reduce air emissions.
- Utilizing natural gas for base-load power will help reduce emissions from electricity generation.

4| Water

Water sourcing for oil and natural gas development is highly regulated through local, state and federal permitting processes.

Water is vital to all life.

Prudent water management and conservation is essential for our communities and our industry.

Water use in oil and natural gas development occurs primarily during the drilling and hydraulic fracturing phases. During drilling, water is used to cool the drill bit and provide a mechanism to bring drill cuttings to the surface. During hydraulic fracturing, water is pumped under high pressure down the wellbore to create hairline fractures in targeted formations that create a pathway for oil and natural gas to be produced.

Putting Water Use in Context

The amount of water used in shale development is a fraction of the total water usage for other purposes.

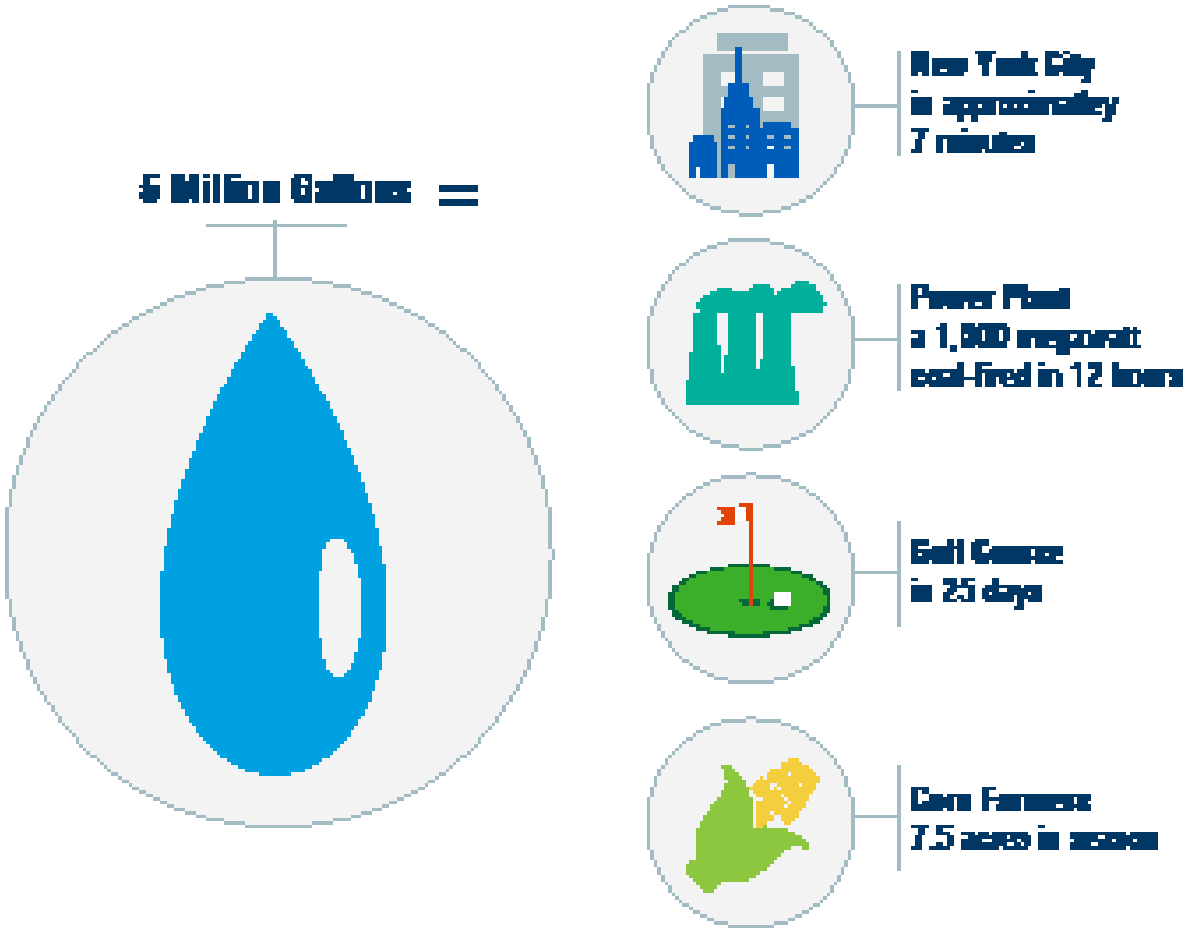
Source: International Gas Union

Water Use in Hydraulic Fracturing

- Water acts as the primary carrier fluid in hydraulic fracturing.
- Water and sand make up more than 99.5% of the fluid used to hydraulically fracture a well.
- Approximately 85% of water used in hydraulic fracturing is recoverable and can be recycled.
- The industry is working to reduce water consumption by improving hydraulic fracturing techniques and by recycling and reusing water when feasible.

How Much is 5 Million Gallons of Water?

The 3-5 million gallons of water needed to drill and fracture a typical deep shale gas well is equivalent to the amount of water consumed by:



Source: Groundwater Protection Council, Chesapeake Energy, Duke University

Water Sources for Hydraulic Fracturing

The sourcing and use of water in hydraulic fracturing is regulated by multiple local, state and federal agencies. Sources of water vary and include:

- Leased or purchased from municipal supplies
- Transferred or leased as water rights, such as agricultural water rights
- Fully consumable water, including leased or purchased non-potable water
- River basin or non-tributary groundwater
- Produced water (non-tributary)

Recycling Water from Hydraulic Fracturing Operations

Oil and gas producers are consistently looking for ways to minimize water consumption. Flowback from hydraulic fracturing treatments and produced water from producing wells can both be recycled for use in future operations as well as further refined and returned to the water supply.

Oil and natural gas producers in the Marcellus Shale have told the EPA that they planned to recycle 90% or more of the wastewater generated from hydraulic fracturing. This commitment is in turn driving new water management and treatment technologies across the country.

Source: API

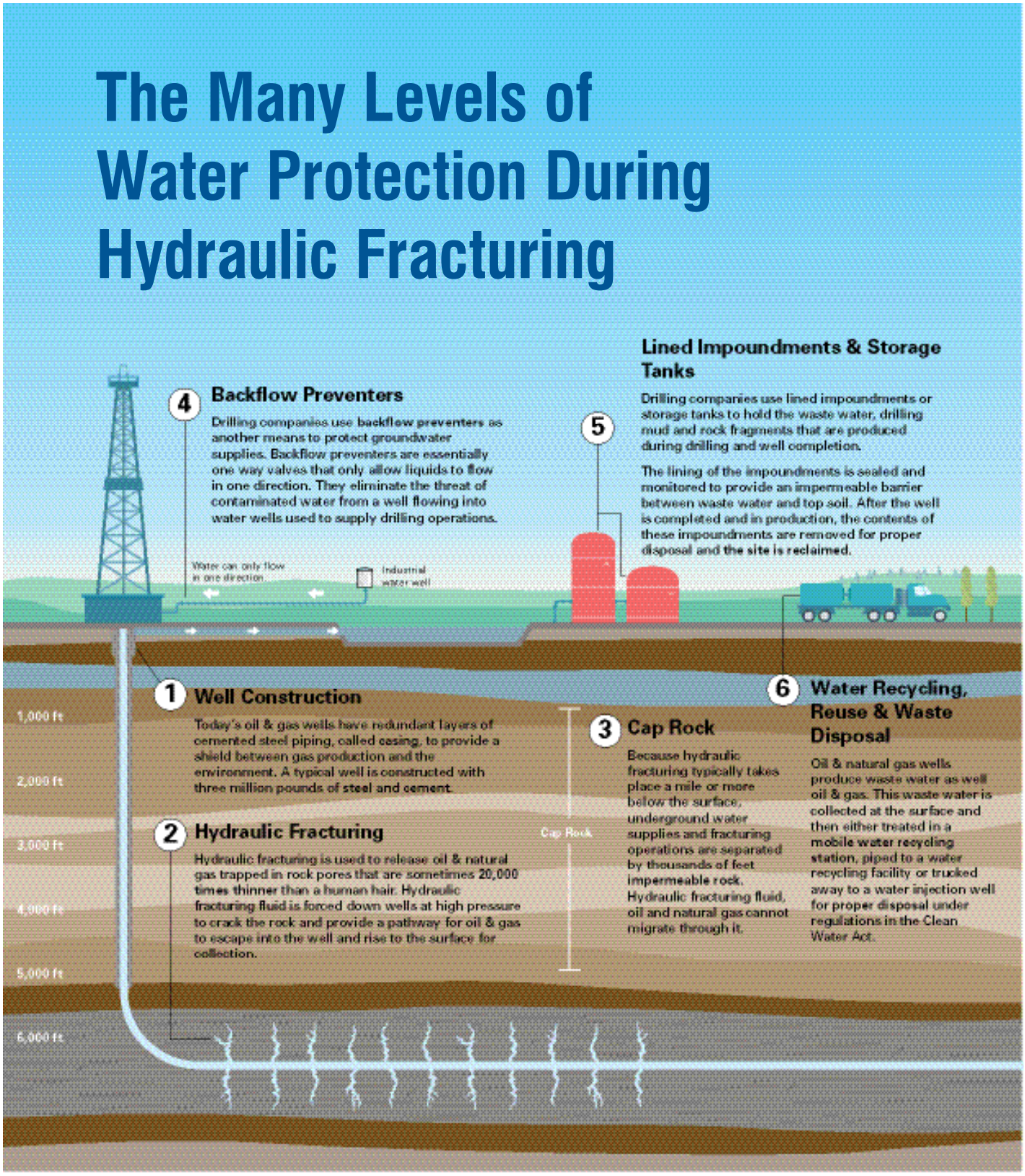
Protecting Drinking Water

Drinking water must be protected. U.S oil and gas companies meet and often exceed industry standards to protect groundwater, following the regulations developed by local, state and federal agencies.

To protect water, companies:

- Conducts baseline water-quality testing
- Constructs wells with multiple layers of steel pipe and cement
- Drills wells with compressed air, water or water-based drilling fluids
- Applies liners and protective berms to pad sites during drilling and hydraulic fracturing
- Performs extensive contractor trainings to ensure awareness of policies and regulations

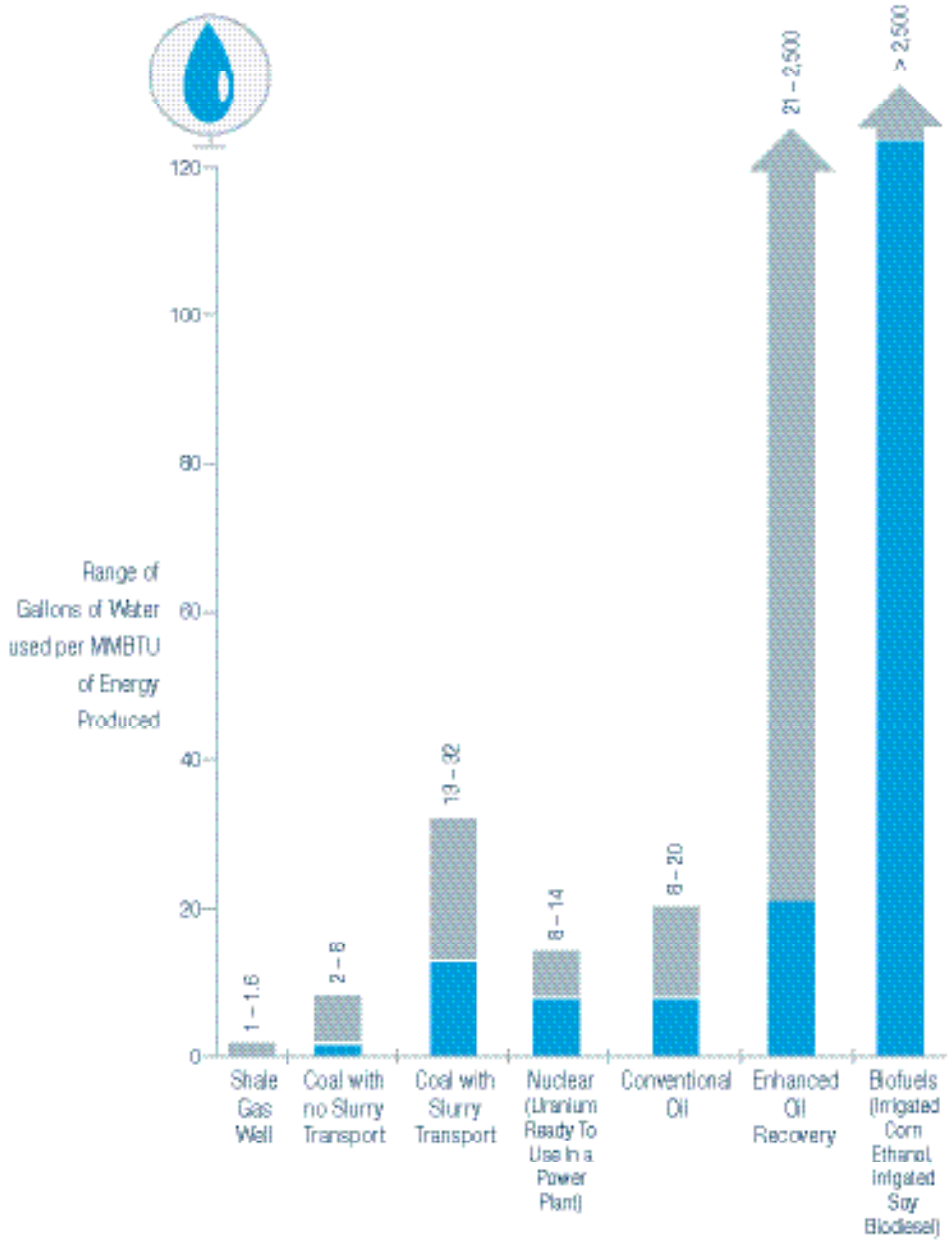
The Many Levels of Water Protection During Hydraulic Fracturing



Source: API

Water Use for the Same Amount of Energy

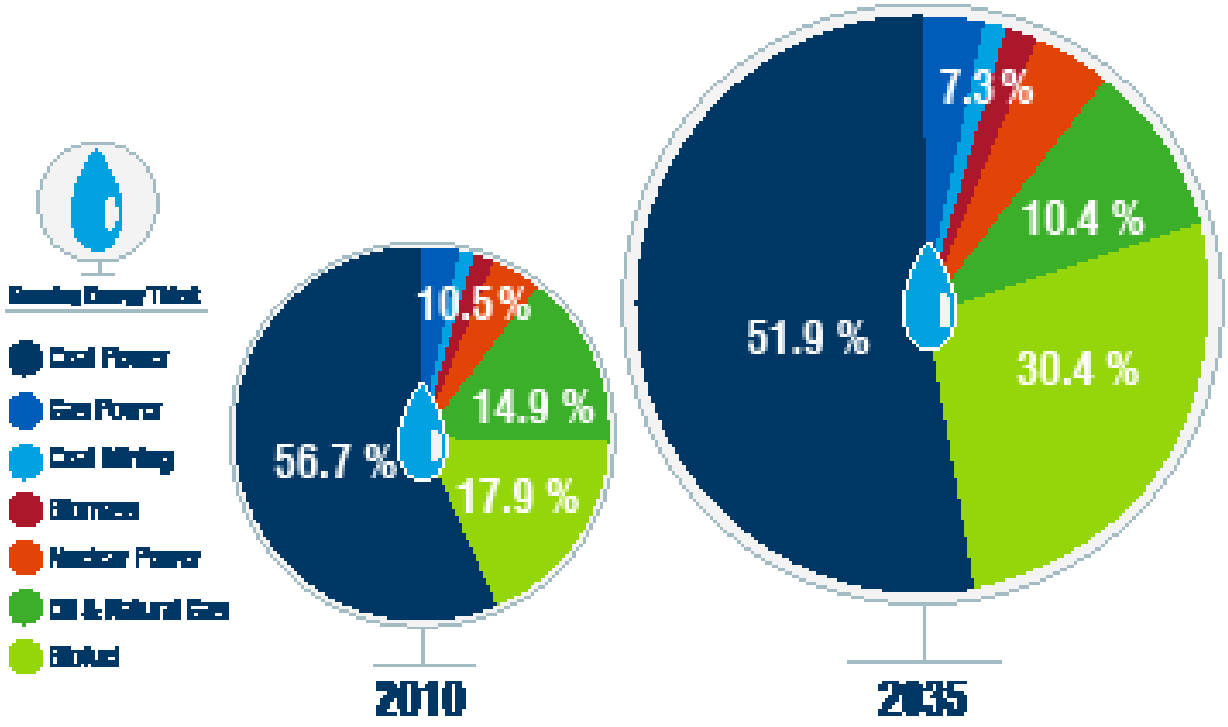
Shale gas development requires less water to produce the same amount of energy than many other forms of energy. A Duke University study found that hydraulic fracturing is less water-intensive than other energy extraction methods, using less than 1% of the total amount of industrial water used nationwide and producing approximately 83% less wastewater than conventional drilling methods.



Source: International Gas Union, Groundwater Protection Council, Duke University

Future Water Consumption for World Energy Production

Although the amount of water consumed for world energy production is on track to double by 2035, water consumed for hydraulic fracturing is projected to have minimal demand.



Source: International Energy Agency, Adapted from National Geographic

TAKEAWAYS

- All forms of energy require freshwater for production.
- Effective water management is essential for all industries and communities.
- Natural gas development from shale formations requires the least amount of water to produce the same amount of energy compared to other energy resources.
- Sourcing of water is highly regulated through stringent local, state and federal permitting processes.
- Water used in natural gas development is a fraction of the total water usage for agricultural, industrial and recreational purposes.

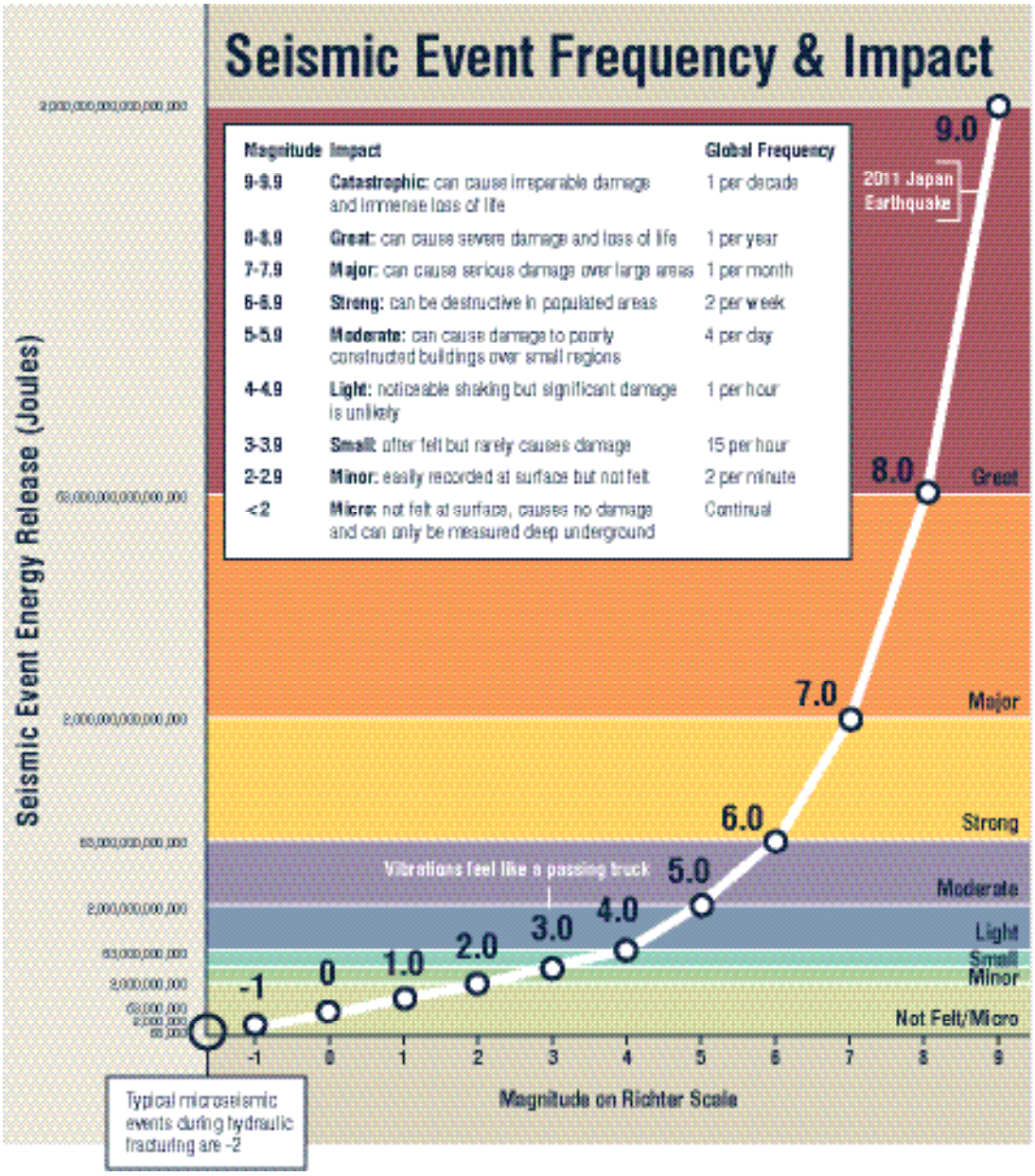
5| Seismic Activity: The Truth

Responsible oil and gas development does not contribute to significant seismic activity.

There are millions of naturally occurring seismic events in the U.S. each year. Only 130,000 additional earthquakes have a magnitude between 3.0 and 3.9. At a magnitude of 3.0, the vibrations can feel like those of a passing truck.

FACTTOIDS

Hydraulic fracturing has a very low risk of inducing seismic events
Hydraulic fracturing is a safe, proven drilling method that dates back to the 1940s. The U.S. Geological Survey (USGS) has ruled the process of hydraulic fracturing has a very low risk of inducing seismic events that would be felt at the surface.



Source: API, USGS

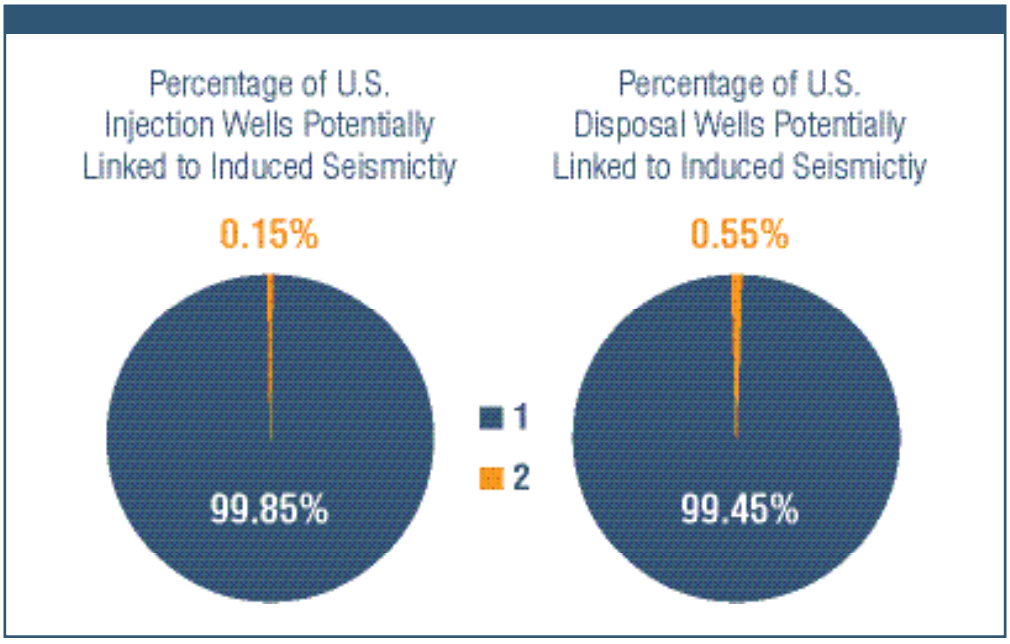
FACTTOID

Wastewater disposal wells are more likely to induce seismic events, but the risk is small
Wastewater disposal via injection wells has been used in many industries — not just oil and natural gas development – since the 1930s. Located thousands of feet underground and engineered and constructed to protect freshwater aquifers, disposal wells are the safest way to dispose of wastewater.

In oil and gas production, wastewater disposal wells are not located at the well site, but at a remote location. Wastewater disposal wells typically operate for longer durations and inject much more fluid than hydraulic fracturing, making them more likely to cause a seismic event. However, the risk for a seismic event dissipates once the injection process has concluded.

FACTOID

Less than 1% of wastewater disposal wells in the U.S. have been linked to seismic activity
According to the USGS, of the 40,000 wastewater disposal wells in the U.S., only .55% have been associated with a seismic event of any size. That means that 99.45% of disposal wells continue to operate without any issues related to seismicity.



Source: USGS, API, EPA

Taking measures to ensure safety

The industry has made safety a top priority and invests heavily in modeling and mapping the earth's subsurface to constantly improve its understanding of fault lines and other geological structures. In recent years, the oil and natural gas industry has spent tens of millions of dollars – often voluntarily – to implement measures to mitigate the risk of induced seismicity. Many states have also updated their rules and guidelines for injection and disposal well permitting.

Source: USGS, API, EPA

Oil and natural gas activity is subject to extensive federal, state and local regulations.

6| Regulations

Every step of oil and natural gas development is highly regulated.

Comprehensive and robust regulations already exist for nearly every aspect of oil and natural gas development, including hydraulic fracturing. Many other regulations address land use, wildlife, traffic and occupational safety.

Partnering to Conduct Processes Safely

In each operating area, regulations governing oil and natural gas development can be enforced by numerous levels of government, making strong working relationships and open communication with area leadership and regulators essential for operators.

Federal Regulatory Oversight

Oil and natural gas activity is subject to federal, state and local regulations that govern every aspect of industry operations, from initial permits to worker safety to wastewater disposal. Federal rules governing industry activity include:

The Clean Water Act	Regulates surface water discharges and storm-water runoff.
The Clean Air Act	Sets rules for air emissions from engines, gas-processing equipment and other sources associated with drilling and production activities.
The Safe Drinking Water Act	Regulates the disposal of fluid waste deep underground (far below fresh water supplies and separated by approximately one mile of impermeable rock).
The National Environmental Policy Act	Requires permits and environmental impact assessments for drilling on federal lands.
The Occupational Safety and Health Act	Sets standards to help keep workers safe. These include requiring Material Safety Data Sheets to be maintained and readily available onsite for any chemicals used by workers at that location.
The Emergency Planning and Community Right-to-Know Act	Requires storage of regulated chemicals in certain quantities to be reported annually to local and state emergency responders.

Federal Agencies Regulating Onshore Oil and Natural Gas Activity

- Department of the Interior
- Department of Energy
- Department of Transportation
- Department of Labor
- Department of the Treasury
- Environmental Protection Agency
- Federal Energy Regulatory Commission

Source: America's Natural Gas Alliance

"We know that natural gas can safely be developed, and to the credit of the industry, there are many companies that are leaning into this challenge and promoting best practices for safer and more efficient production. That's not always widely noticed or appreciated, but it's a fact."

– Heather Zichal, Leading Energy and Climate Adviser to President Obama, 2012

State-Based Regulation

States currently lead the day-to-day oversight of oil and natural gas development because they have on-the-ground personnel and expertise to safeguard local air, land and water. State-level enforcement is considered essential because development varies and is customized according to local geology, populations, available resources and conditions.

Alabama	State Oil and Gas Board of Alabama
Alaska	Alaska Oil and Gas Conservation Commission
Arizona	Arizona Oil and Gas Conservation Commission
Arkansas	Arkansas Oil and Gas Commission
California	California Department of Conservation
Colorado	Colorado Oil and Gas Conservation Commission
Connecticut	Connecticut Department of Energy and Environmental Protection
Delaware	Delaware Department of Natural Resources and Environmental Control
Florida	Florida Department of Environmental Protection
Georgia	Georgia Department of Natural Resources
Hawaii	Hawaii Department of Land and Natural Resources
Idaho	Idaho Department of Lands
Illinois	Illinois Department of Natural Resources
Indiana	Indiana Department of Natural Resources
Iowa	Iowa Department of Natural Resources
Kansas	Kansas Corporation Commission
Kentucky	Kentucky Department of Natural Resources
Louisiana	Louisiana Department of Natural Resources
Maine	Maine Department of the Environmental Protection

Maryland	Maryland Department of the Environment
Massachusetts	Executive Office of Energy and Environmental Affairs
Michigan	Michigan Department of Environmental Quality
Minnesota	Minnesota Department of Natural Resources
Mississippi	Mississippi Oil and Gas Board
Missouri	Missouri Department of Natural Resources
Montana	Montana Board of Oil and Gas Conservation
Nebraska	Nebraska Oil and Gas Conservation Commission
Nevada	State of Nevada Commission on Mineral Resources
New Hampshire	New Hampshire Department of Environmental Services
New Jersey	New Jersey Department of Environmental Protection
New Mexico	State of New Mexico Oil Conservation Division
New York	New York State Department of Environmental Conservation
North Carolina	North Carolina Department of Environmental Quality
North Dakota	North Dakota Industrial Commission
Ohio	Ohio Department of Natural Resources
Oklahoma	Oklahoma Corporation Commission
Oregon	Oregon Department of Geology and Mineral Industries
Pennsylvania	Pennsylvania Department of Environmental Protection
Rhode Island	Rhode Island Department of Environmental Management
South Carolina	South Carolina Department of Natural Resources
South Dakota	South Dakota Department of Environment and Natural Resources
Tennessee	Tennessee Department of Environment and Conservation
Texas	Railroad Commission of Texas
Utah	Utah Department of Natural Resources
Vermont	Vermont Agency of Natural Resources
Virginia	Virginia Department of Mines
Washington	Washington State Department of Natural Resources
West Virginia	West Virginia Department of Environmental Protection
Wisconsin	Wisconsin Department of Natural Resources
Wyoming	Oil and Gas Conservation Commission

Source: America's Natural Gas Alliance

Going Above What's Required: Self-Regulation

It's common practice for oil and gas producers to self-regulate, going above what's required by law in ethical and environmental standards.

- The 17,000-plus land professionals who are members of the American Association of Professional Landmen must uphold a strict Code of Ethics and Standards of Practice that ensures all oil and gas leaseholders are treated with the utmost ethical and professional behavior.
- The American Petroleum Institute publishes industry best practices for hydraulic fracturing standards and more. The most recent hydraulic fracturing standards were released in October 2015.

Source: AAPL, API

TAKEAWAYS

- Every step of oil and natural gas development is highly regulated by multiple agencies.
- Open communication with regulators is essential to conduct processes safely.
- Government policies should maintain the industry's ability to develop and produce vital oil and natural gas resources within the U.S.
- The oil and natural gas industry maintains a steadfast commitment to safe and responsible operations to ensure communities are protected.

7| Investing in Our Communities

The natural gas industry contributes more than $380 billion annually to the U.S. economy. - ANGA

Industry activity benefits every American.

The U.S. oil and natural gas industry is a significant contributor to the financial health of cities and states and a source of funding for benefits that affect every American across the country.

Through oil and gas production, America has a tremendous opportunity to greatly reduce its dependence on energy imports from foreign countries while increasing domestic capital investment, promoting job creation and decreasing energy costs for consumers.

TAX REVENUE THAT SUPPORTS OUR COMMUNITIES

In states with heavy oil and gas production, oil and gas tax revenue funds a majority of state budgets, public education and social services, including:

- Public Schools
- State and National Parks
- Public Transportation
- Municipal and State Services
- Environmental Protection
- Local Governments
- Transportation and Road Maintenance
- Public Safety Agencies
- State Rainy Day and Permanent Funds
- Water Districts and Management
- Child Protective Services
- Medicaid and State Health Programs
- Disaster Recovery

"[Energy companies] invest back in our community. They support the schools, they support our historical society, they support the food bank, the cancer society here in Weld County … The list just goes on how they invest back into the community."
– Barbara Kirkmeyer, Weld Co. Commissioner, Colorado

"You deserve a stronger currency, stronger financial markets, a better role within the global financial system because you are not dependent [on imported oil]."
– John McIntyre, Brandywine Global Investment Management

"The [2012 Pennsylvania State Tax] data demonstrate that major economic benefits from Marcellus Shale development are going to local residents, regardless of the presence of nonlocal workers."
– Timothy Kelsey, Professor, Penn State University

Energy that Powers Our Nation

- 57% of all homes in the U.S. are powered with natural gas
- An average $1,200 savings per household was realized from surging natural gas production in 2013
- 70% of all oil produced in the U.S. is directed to fuels used in transportation

Activity that Benefits Our States

Oil and natural gas producing states have some of the largest year-end budget balances according to the National Association of State Budget Officers. A few examples:

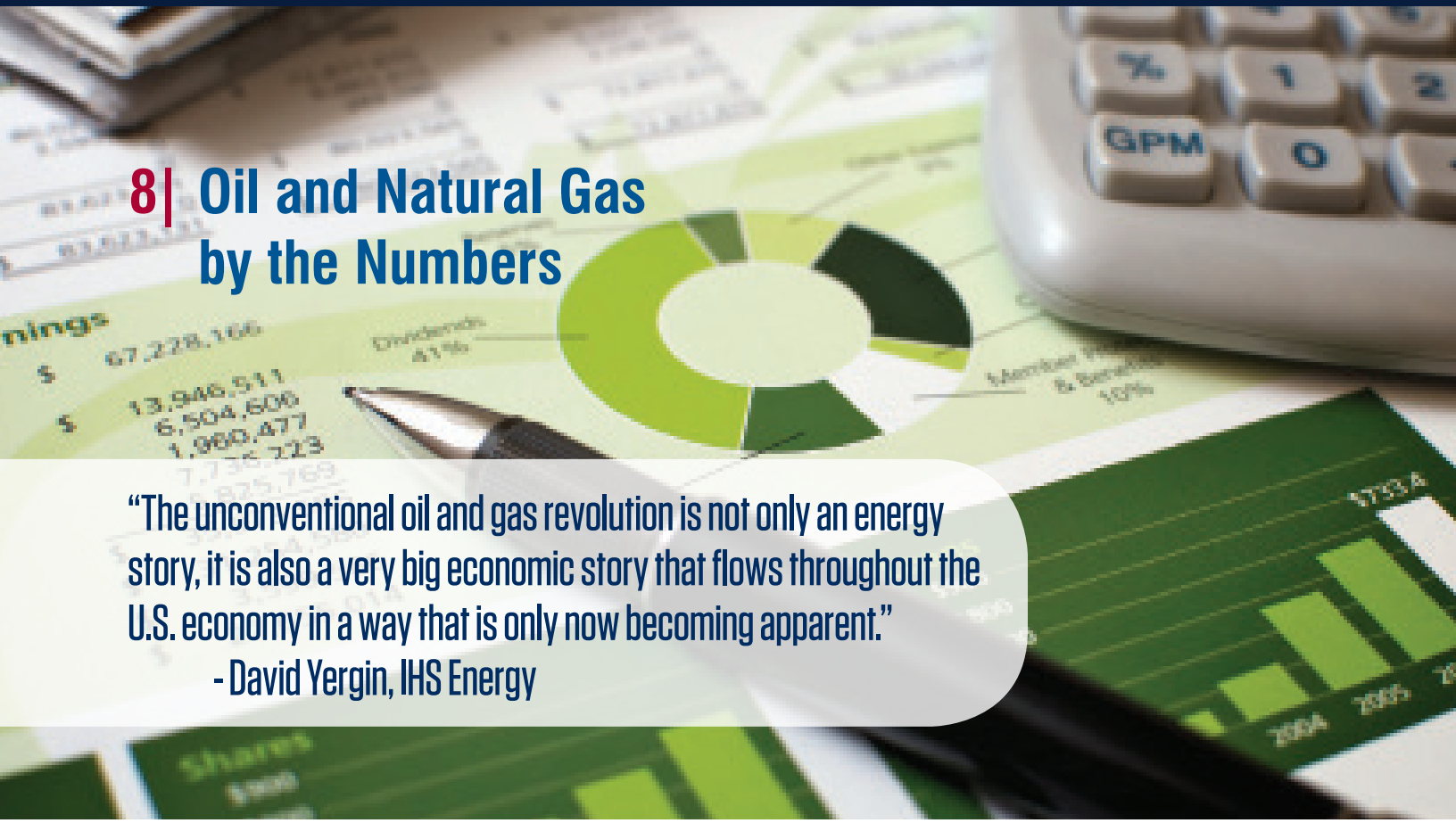
- $1.2 billion invested monthly by industry to Texas' economy
- $406 million distributed by industry to local Pennsylvania communities in impact fees in 2013
- $29.5 billion contributed by industry annually to Colorado's economy
- $51.7 billion contributed by industry for the Alaska Permanent Fund, which will pay more than $2,000 to every Alaskan citizen in 2015

FACTTOIDS

- Within a 100-mile radius of an oil or natural gas well, $1 million in oil and natural gas production creates wage increases of $243,000, $117,000 in royalties and 2.49 jobs.
- In 2012, the oil and natural gas industry paid more than $600 million in property taxes, accounting for nearly 9% of all property taxes paid that year.
- The natural gas industry contributes more than $380 billion annually to the U.S. economy.
- By 2040, natural gas is expected to account for 35% – the largest share – of electricity generation in the U.S.

Source: Energy Tax Facts, Independent Petroleum Association of America, ANGA, U.S. Energy Information Administration, Alaska Department of Revenue, Dartmouth College

8| Oil and Natural Gas by the Numbers



"The unconventional oil and gas revolution is not only an energy story, it is also a very big economic story that flows throughout the U.S. economy in a way that is only now becoming apparent."

- David Yergin, IHS Energy

IN AMERICA

30 States have seen employment rise by 50% in the last decade from oil and natural gas activity

$2.5 TRILLION in state and federal tax revenue expected by 2035

9.8 MILLION jobs supported by the oil and natural gas industry

$1,200 Average savings per household due to lower natural gas prices

$85 MILLION generated daily from industry royalties, lease sales and taxes

Source: API, IHS Global Insight

ALASKA

1 in 3 Jobs supported by oil and natural gas

89% BILLION contributed annually to Colorado's economy

$5.4 BILLION paid to state and local governments and public schools

$51.7
BILLION contributed to Alaska Permanent Fund

Source: Alaska Department of Revenue, Alaska Oil and Gas Association

CALIFORNIA

456,000
BILLION invested in infrastructure improvements since 2006

$38 BILLION contributed annually in wages

$21 BILLION paid to state and local governments and public schools

3.4% of California GDP

Source: Los Angeles County Economic Development Corporation

COLORADO

110,000 Jobs supported by oil and natural gas

$30 BILLION contributed annually to Colorado's economy

$80 MILLION contributed daily to Colorado's economy

$1.5
BILLION paid to state and local governments and public schools

Source: Colorado Oil and Gas Association

LOUISIANA

287,000
Jobs supported by oil and natural gas

$73.8 BILLION impact on Louisiana economy

$4.2 BILLION paid to state and local governments and public schools in 2013

$20.5 BILLION in earnings for Louisiana households in 2013

Source: Louisiana Mid-Continent Oil & Gas Association

NEW MEXICO

33,000 Jobs supported by oil and natural gas

$3.8 BILLION contributed annually to New Mexico's economy

$550 MILLION paid to state and local governments and public schools in 2012

27% of New Mexico state budget funding by oil and natural gas

Source: New Mexico Tax Research Institute, Energy Advances New Mexico

NORTH DAKOTA

303% Increase in jobs supported by oil and natural gas since 2005

$43 BILLION contributed to North Dakota's economy in 2013

$40 MILLION in in-state expenditures per drilling rig in North Dakota

110% BILLION contributed to North Dakota's economy in 2013

Source: North Dakota Energy Forum, North Dakota State University

OHIO

115% Increase in Ohio oil and natural gas industry jobs from 2011 to 2015

$998 MILLION generated in Ohio gross state product in 2010

$32.7 More tax revenue generated by industry than the average company

$90 MILLION in royalties paid to Ohio landowners, schools, and businesses in 2010

Source: Ohio Department of Job and Family Services, Ohio Oil & Gas Energy Education Program

OKLAHOMA

1 in 5 Jobs supported by oil and natural gas

$65 BILLION contributed annually to Oklahoma's economy

$325 MILLION paid to local school districts in 2013

15,000 Jobs added to Oklahoma workforce since 2010

Source: Oklahoma Energy Resources Board

PENNSYLVANIA

$1.8
BILLION invested in infrastructure improvements since 2006

232,000
Jobs directly supported by natural gas activity

$406
MILLION in impact fees distributed to local communities

Source: Pennsylvania Public Utility Commission, Marcellus Shale Coalition, Pennsylvania Department of Labor & Industry

TEXAS

12% Of total employment supported by oil and natural gas

$100
BILLION contributed annually to the Texas economy

5x More tax revenue generated by industry than the average company

60% Of Texas' $9.4 billion Rainy Day Fund comes from oil and natural gas activity

Source: IHS Global Insight, ANGA, Texas Comptroller of Public Accounts

WEST VIRGINIA

7,000 New jobs expected from oil and gas development

$106 MILLION in property taxes paid by oil and natural gas industry in 2010

$70 MILLION in severance taxes paid by oil and natural gas industry

8.6% Annual payroll increase for industry jobs

Source: West Virginia University, West Virginia Independent Oil and Gas Association

WYOMING

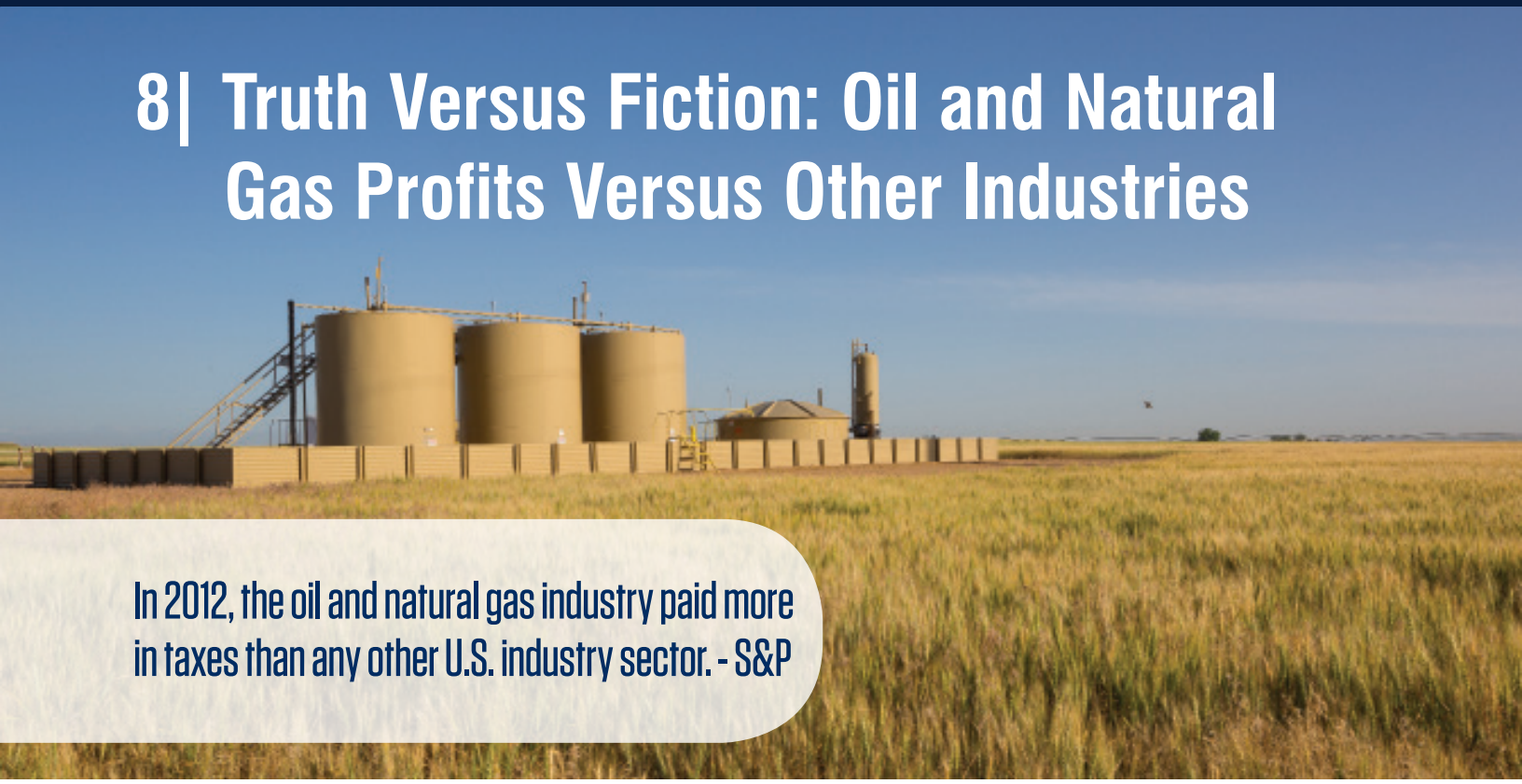
$2.2
BILLION in taxes paid by oil and natural gas activity

25,000+ Jobs supported by industry

15.8%
Of jobs supported by industry statewide – the highest in the nation

Source: Petroleum Association of Wyoming, ANGA, U.S. Chamber of Commerce, IHS Global Insight

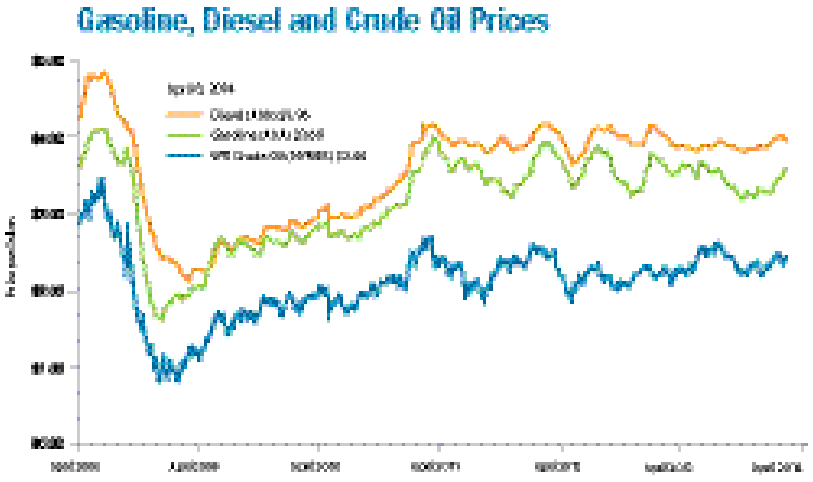
8| Truth Versus Fiction: Oil and Natural Gas Profits Versus Other Industries



In 2012, the oil and natural gas industry paid more in taxes than any other U.S. industry sector. - S&P

Q - Is "Big Oil" Driving Up Gasoline Prices?

A - Gasoline prices are based on the global price of crude determined by buyers and sellers in the global market.



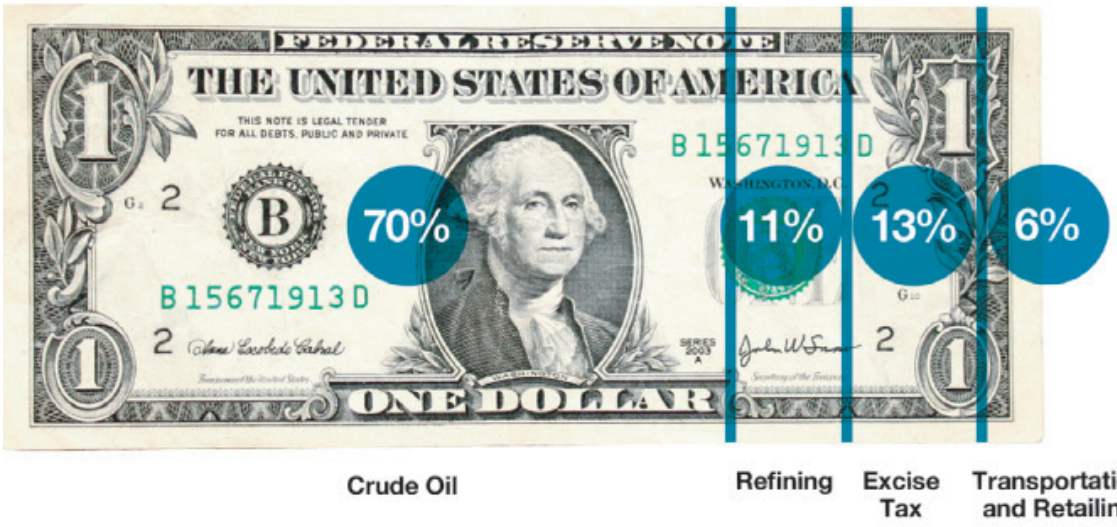
Source: NYMEX (WTI Crude Oil) and AAA (Gasoline and Diesel)

Gasoline, Diesel and Crude Oil Prices

The rise and fall of gasoline and diesel prices tracks changes in the cost of crude oil. These changes are determined on the global market by worldwide demand for, and supply of, crude oil. Crude oil prices are set globally through the daily interactions of thousands of buyers and sellers in both physical and futures markets and reflect participant's knowledge and expectations of supply and demand – not directly by any energy company.

What Consumers Are Paying at the Pump

The largest single component of retail gasoline prices is crude oil. At a price of $100 per barrel, a standard 42-gallon barrel translated to approximately $2.50 per gallon at the pump. Excise taxes add another $0.50 cents per gallon on average nationwide, so the price per gallon is already at $3 or more even before adding the cost of refining, transportation and marketing.



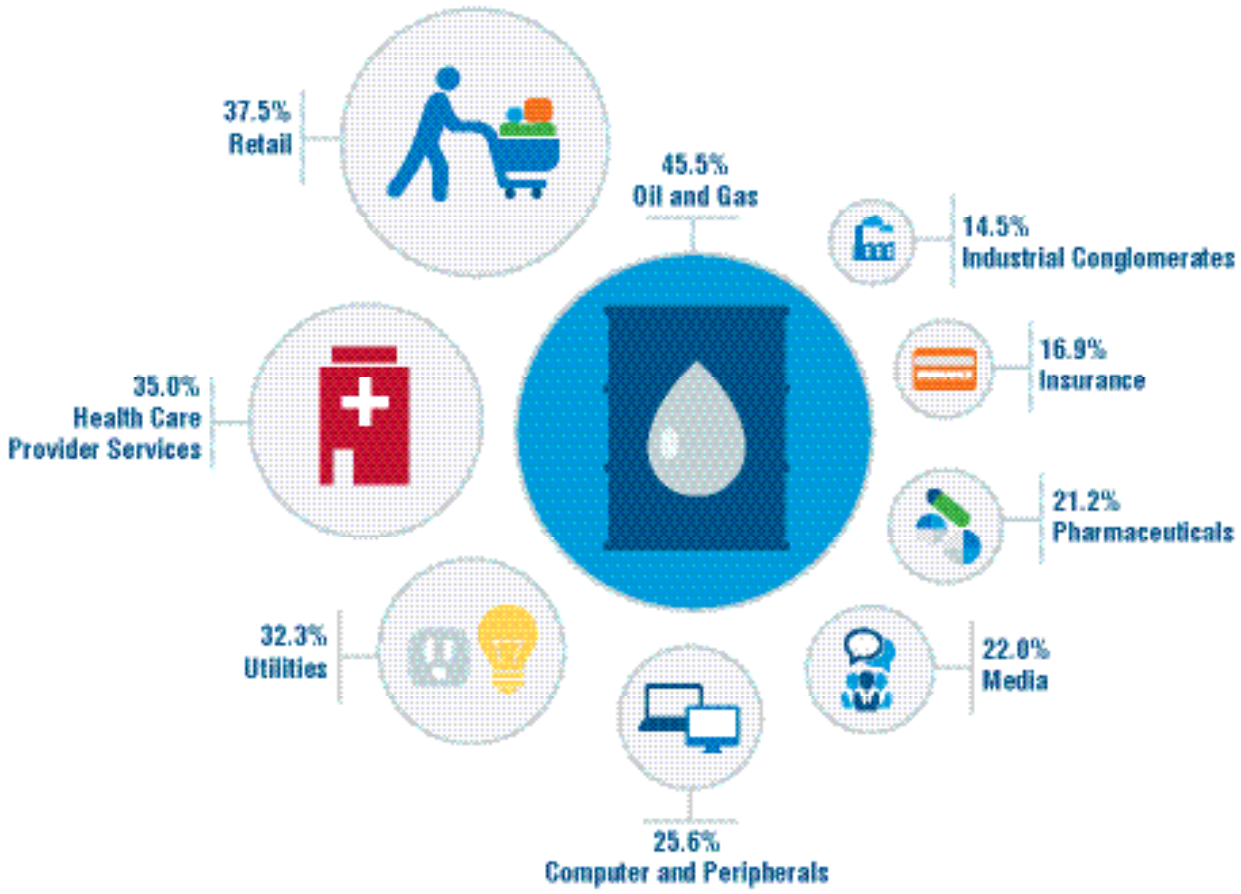
Source: EIA estimate based on average price of $3.36 per gallon (as of February 2014).

Q - Are Oil and Natural Gas Companies Paying their Fair Share?

A - In 2012, the oil and natural gas industry paid more in taxes than any other U.S. industry sector. On average, the industry pays more than $84 million each day to the U.S. treasury in taxes, royalties and other fees.

Effective Tax Rates Among Industries

U.S. oil and natural gas companies pay considerably more to the federal government than the average manufacturing company. In 2013, the effective income tax rate for the oil and natural gas industry averaged 40.2% compared to 25.2% for other S&P Industrial companies.



Source: Standard & Poor's Research Insight, API, S&P 1500 by GICS Industry Code

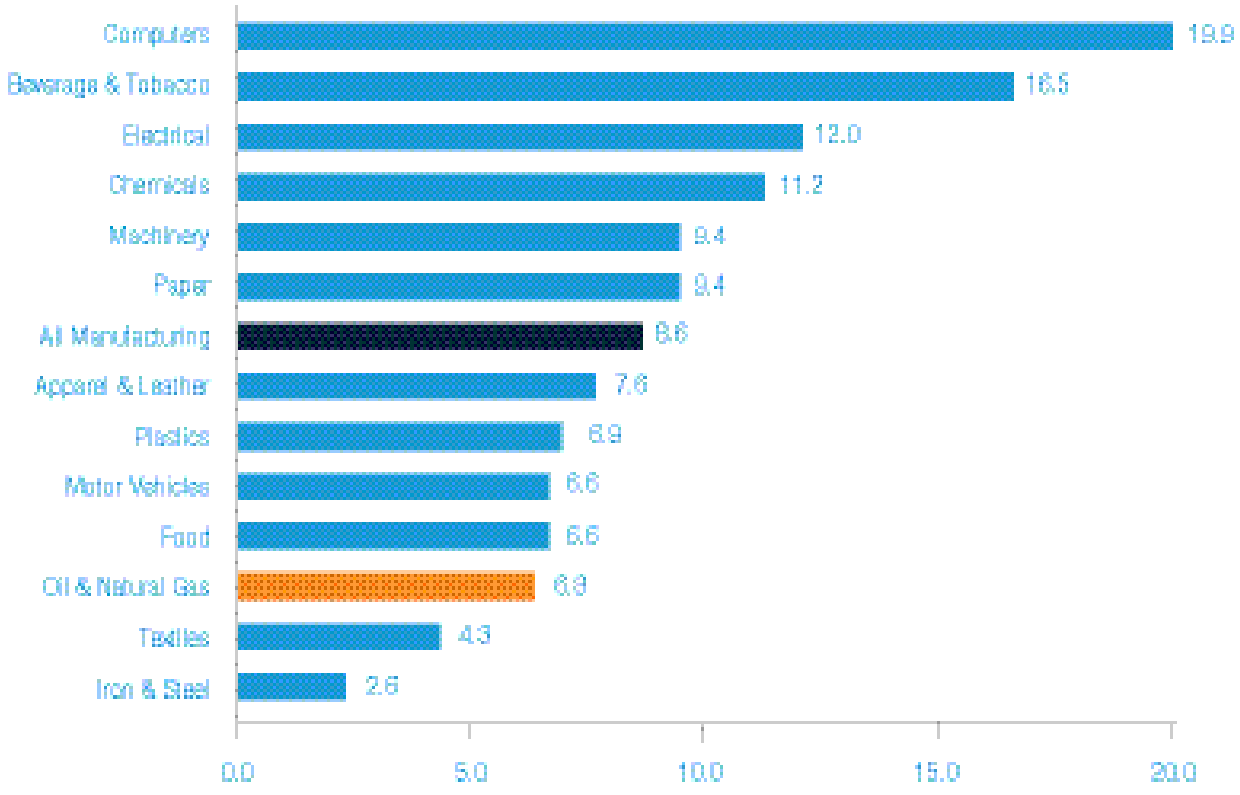
Q - Why is the Government "Subsidizing" Oil and Natural Gas Companies when their Profits are so High?

A - Oil and natural gas companies are permitted to deduct the cost of business in the same way as other industries, and it is misleading to call these deductions "subsidies."

Putting Earnings in Context

Since its inception, the U.S. tax code has enabled corporate taxpayers to recover costs and to be taxed only on net income. These cost-recovery mechanisms should in no way be confused with subsidies, i.e. direct government spending.

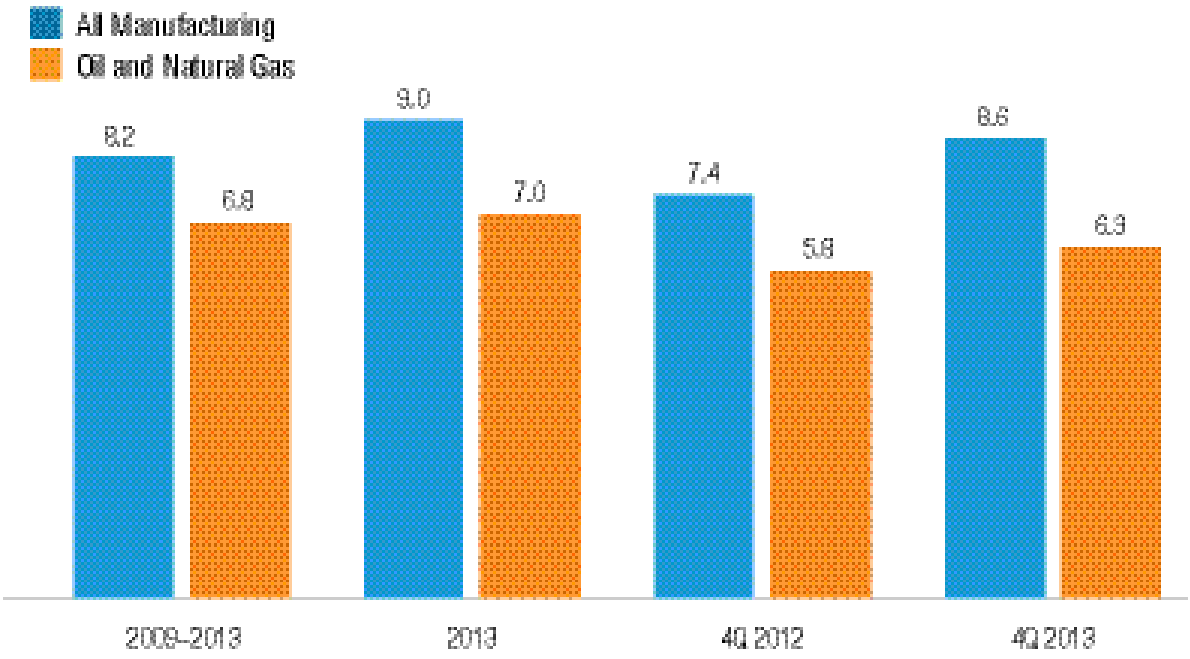
Third Quarter 2013 Earnings by Industry (cents of net income per sales dollar)



Source: Based on company filing with the federal government as reported by U.S. Census Bureau for U.S. Manufacturing Industries and Standard & Poor's Research Insight for Oil and Natural Gas.

Total Profits Do Not Tell the Whole Story

In the last five years, the earnings of oil and natural gas companies have been lower than all manufacturing. In 2012, the oil and natural gas industry earned 7.0 cents for every dollar of sales. All manufacturing earned 9.0 cents for every dollar of sales.



Source: U.S. Census Bureau for U.S. Manufacturing and Standard & Poor's Research Insight for Oil and Natural Gas

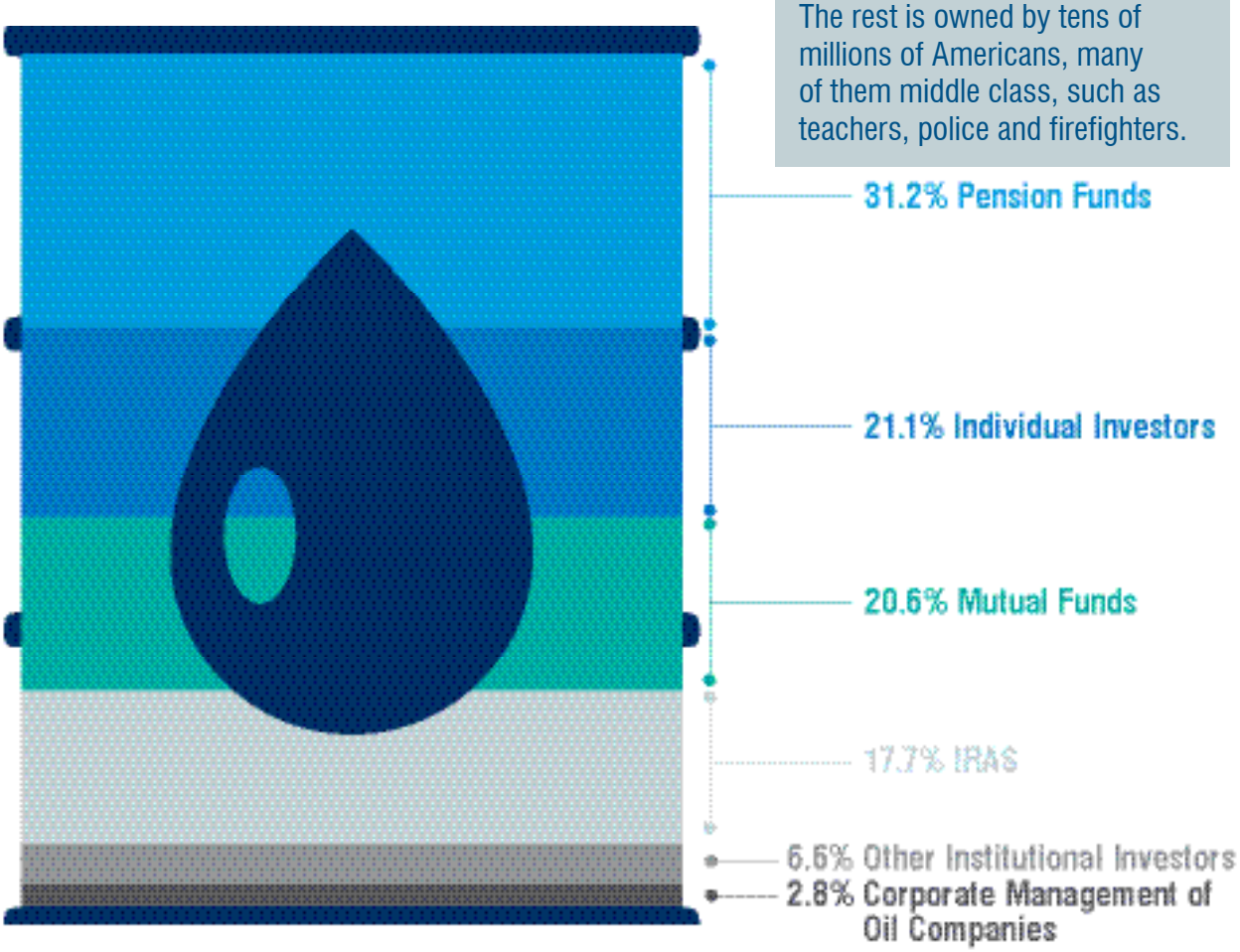
Q - Who Cares if we Increase Taxes for the Oil and Natural Gas Industry?

A - You should, if you have a 401(k), pension plan or other retirement investment.

Who Owns the Oil and Natural Gas Industry?

If you have a mutual fund account — and 52 million U.S. households do — there's a good chance it invests in oil and natural gas company stocks. Additionally, if you have an IRA or personal retirement account — like 49 million other U.S. households — there's a good chance it invests in oil and natural gas company stocks. A recent study shows energy stocks performed better than all other stocks in state public pension funds.

Only 2.8% of industry shares are owned by corporate management. The rest is owned by tens of millions of Americans, many of them middle class, such as teachers, police and firefighters.



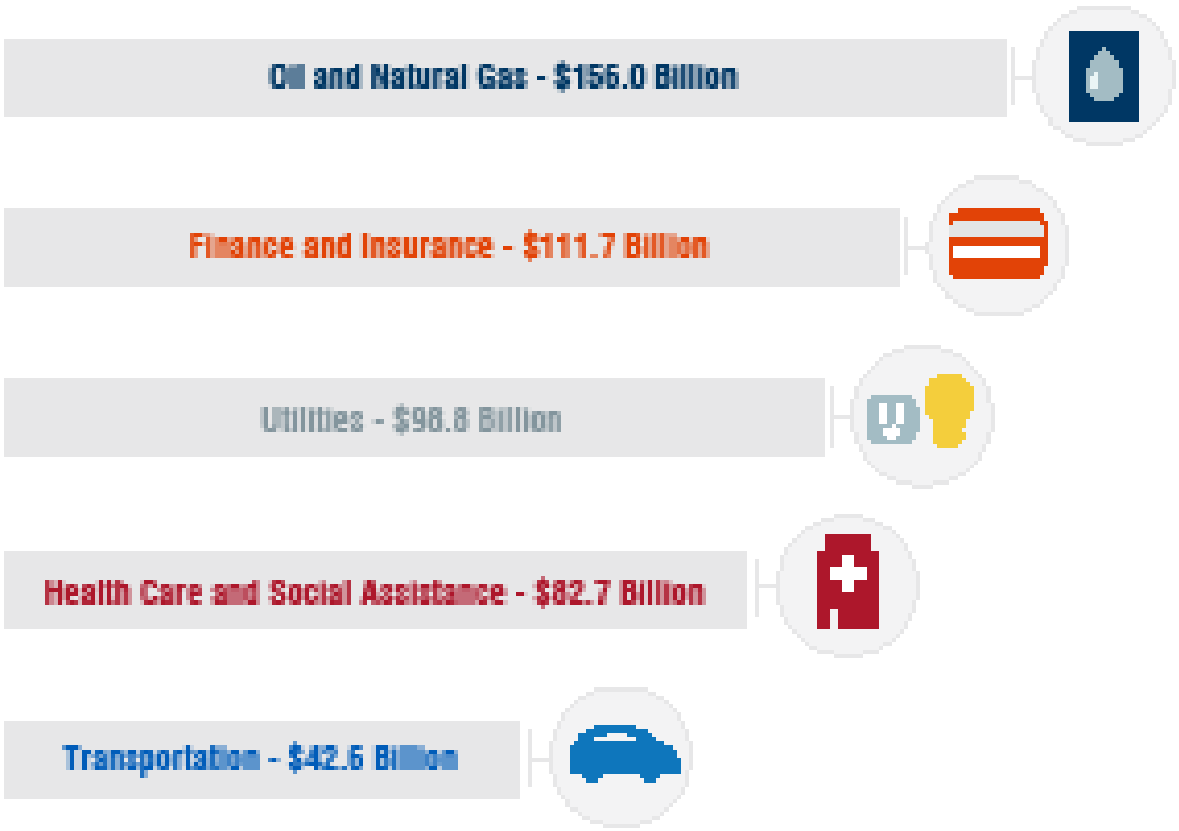
Source: API; Sonecon, October 2011

Q - Our National Debt is Too High; Shouldn't Oil and Natural Gas Companies Pay More in Taxes?

A - The oil and natural gas industry contributes more than $30 billion a year on average to the federal government in the form of taxes, rents and royalties.

Average Capital Investment in the U.S. by Industry

Since 2000, the oil and natural gas industry has invested nearly $3 trillion in capital projects to meet the growing demand for energy in the U.S. The industry delivers $84 million per day in revenue to the federal government, supports more than 9.8 million American jobs and accounts for more than $1.2 trillion to the U.S. GDP — all while having an effective tax rate 60% greater than the average for other industries. Higher taxes on any business reduce capital investment and discourage job creation.



Source: API, 2012; Census Bureau Annual Capital Expenditure Survey, 2010

10| Products Derived from Oil and Natural Gas

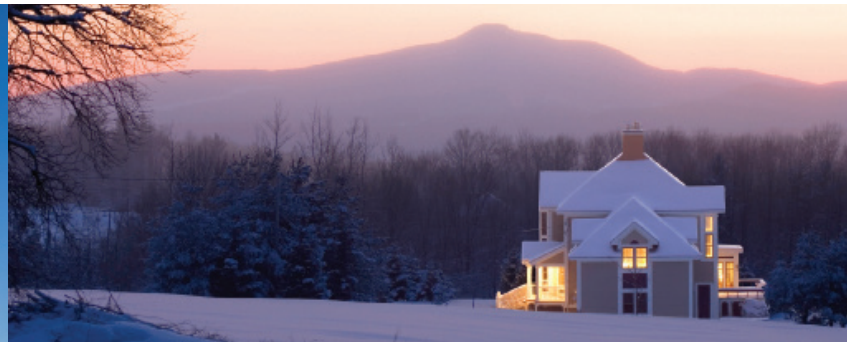
96% of all products we use on a daily basis are derived from or powered by oil and natural gas. - API

There are thousands of products that get their start from oil and natural gas.









Plastics • Synthetic Fibers • Synthetic Rubbers • Carbon Black • Medicines • Waxes • Cosmetics • Fuels • Natural Gas • Propane

- Adhesive
- Antibiotics
- Antiseptics
- Appliances
- Asphalt
- Athletic Shoes
- Balloons
- Bandages
- Bullet-Proof Glass
- Bungee Cord
- Candles
- Carpet/Flooring
- Communication Equipment
- Crayons
- Cycle Tires/Tubes/Brakes
- Elastic
- Electricity
- Fertilizer
- Fishing Line
- Flip-Flops
- Furniture
- Glasses
- Gloves
- Goggles
- Heart Valves
- Helmets
- Hoses
- Inks
- Insulation
- Joint Replacements
- Kayaks
- Kevlar
- Life Jackets
- Lip Wax
- Matches
- Medicines
- Monitoring Equipment
- Neonatal Incubators
- Outer/Base-Layer Clothing
- Oxygen Masks
- Pacemakers
- Paint
- Performance Apparel
- Powered Ski Lifts
- Pvc Piping
- Radiological Dyes/Films
- Roof/Tar
- Rubber Gloves
- Safety Glasses
- Salves/Gels
- Sand Buckets
- Seat Cushions
- Siding
- Ski Wax
- Skis/Snowboards
- Soap
- Sterilized Packaging
- Surf Boards
- Surgical Equipment
- Swim Caps
- Swim Floats
- Syringes
- Toys
- Tubing
- Umbrellas
- Uniforms
- Vaseline
- Water Bottles


HOME
INNING
GUEST
AT BAT
BALL
STRIKE

11| American Energy Transformation

Every president over the last 40 years has encouraged Americans to become less dependent on foreign oil through conservation and alternative fuels.

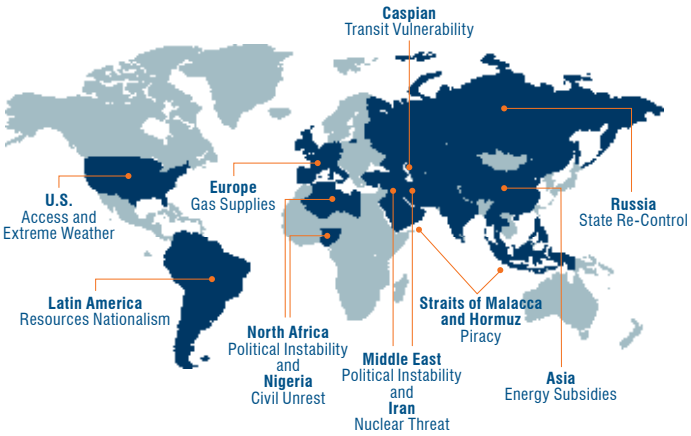
Gone are the days of threatened and crippling oil embargoes and complete dependence on imports. Through the combination of horizontal drilling and hydraulic fracturing, the U.S. surpassed Saudi Arabia in 2015 to become the world's biggest oil producer.

By 2024, the U.S., together with oil from Canada, could meet 100% of its liquid fuel needs through safe, reliable, North American sources — cementing its status as an energy-secure country in an energy-hungry world.

Source: U.S. Energy Information Administration, Wood Mackenzie, API

Accumulating Risks to the Development of Oil and Natural Gas

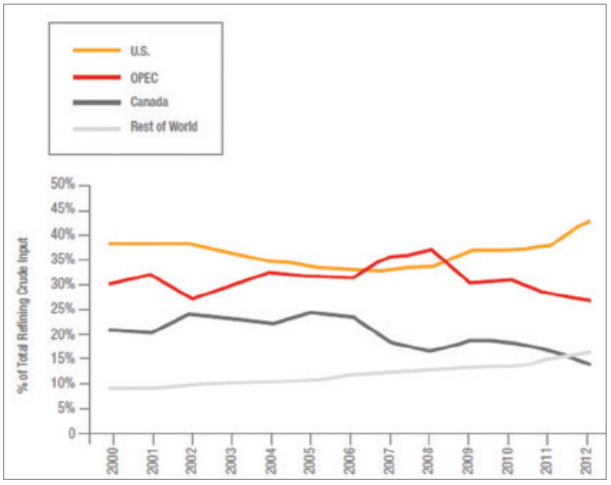
The world is not running out of energy resources, but there are accumulating risks to continuing oil and natural gas production around the globe. These risks create real challenges for countries needing a reliable source to supply their energy needs.



Source: National Petroleum Council, Energy In Depth

Crude Oil Inputs to U.S. Refineries on the Rise

American oil imports have been declining since 2005. In November 2013, the U.S. decreased crude oil imports by $40 billion as a result of surging oil production from horizontal drilling and hydraulic fracturing. While the U.S. imported less oil from foreign countries, domestic oil production to U.S. refineries increased to their highest levels in 2013.



Source: API calculations based on EIA Petroleum and Other Liquids Data; Deutsche Welle, "The energy revolution 'Made In America,'" July 27, 2013;
U.S. Department of Commerce, American Petroleum Institute

America's Key to Energy Security: Lifting the Oil Export Ban

Reports from both the U.S. Government Accountability Office and the Energy Information Administration have found that lifting trade restrictions on the surplus of U.S. crude oil would lower gas prices for Americans as well as create up to 300,000 jobs.

Source: GAO, EIA, API, ICF International

FACTOIDS

- In 2013, the U.S. exceeded Russia in oil and natural gas production.
- In 2011, the U.S. became a net exporter of petroleum products for the first time since 1949.
- In 2014, U.S. net energy imports fell to a five-year low.
- In 2015, the U.S. exceeded Saudi Arabia as the world's largest petroleum producer.
- U.S. crude oil production jumped to historic levels in 2013.
- In 2013, U.S. consumers paid one-third less than Europeans for home heating and electricity.

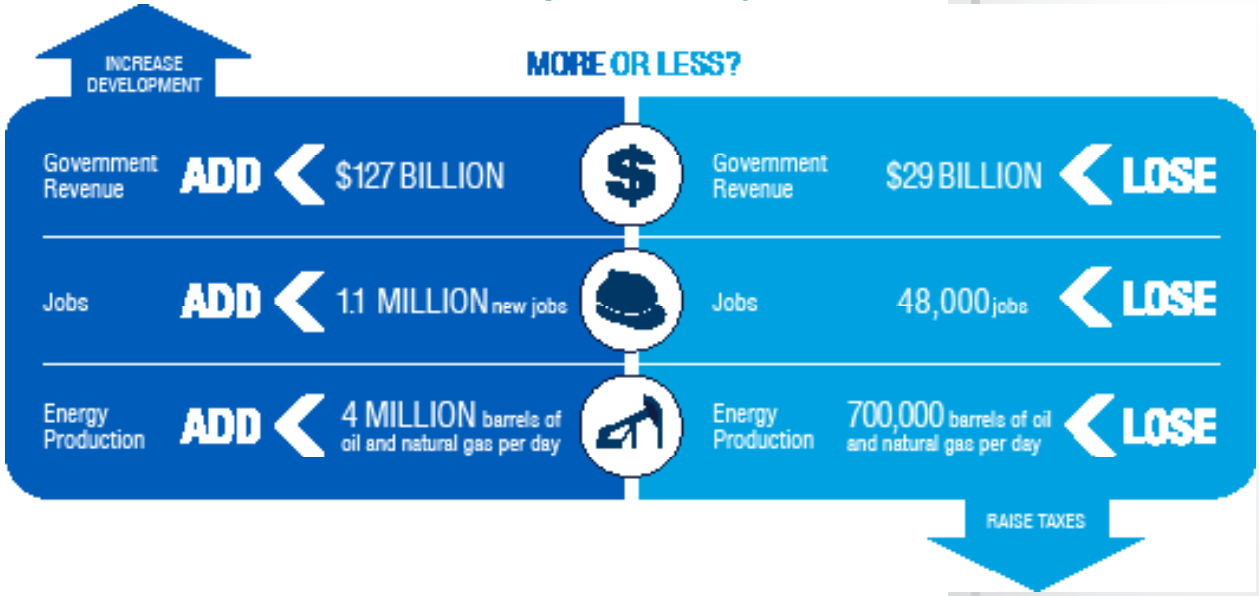
Source: Wall Street Journal, U.S. Department of Energy, U.S. EIA, 2013

The Choice is Clear and American Energy is the Answer

Washington is facing a clear budget choice and a clear choice on energy policy. Higher oil and natural gas industry taxes and impractical regulations on hydraulic fracturing could reduce government revenue, eliminate jobs and cut domestic production. Increasing oil and natural gas development means more revenue, more jobs and more production to enhance U.S. energy security.

> "A nation that fails to secure the energy its citizens and its economic engine need to keep functioning leaves itself vulnerable to external contingencies in a dangerous and uncertain world and to the whims of foreign leaders and other actors who may not always have its interests at heart."
>
> – General James Jones, Former National Security Advisor to President Obama

Economic Impact of Policy Choices



12| What Can I Do?

Helpful Tips for Communicating with Your Elected Officials

Find Your Elected Officials

Before you can actively engage in the political process, you need to know your elected officials. Learning about your municipal, county, state and federal leaders is an essential first step in contributing to the conversation.

Write Your Elected Officials

Writing a letter is one of the most effective ways to communicate your concerns to your elected officials. Writing a letter is simple and the most popular method of reaching an elected official. In today's world, emails are also encouraged.

Call Your Elected Officials

Telephone calls to your elected official's office have the benefit of immediacy. While the need to be brief works against providing much supporting information, telephone calls are effective when time is short.

Visit Your Elected Officials

A key goal in grassroots advocacy is to develop a long-term relationship with your elected official. A personal meeting, ideally while your elected official is in his/her district office, is the best way to build that relationship and communicate your views on an issue.

WRITE. CALL. VISIT. VOTE.

Attend Town Halls

Town halls are an opportunity for constituents to interact directly with their elected officials. Share your opinions and ask questions about specific issues face-to-face with your elected official at the next town hall.

Your VOTE Counts

Through voting, you are making the ultimate statement and expressing your support or opposition of an elected official and his/her policies and actions. Before casting your ballot in any election, make sure you have the facts. Visit your candidates' websites and other resources to find reliable information on their policy views and voting history. Decide for yourself whether or not you agree, and **MAKE YOUR VOICE HEARD THROUGH YOUR VOTE**.

The best advocate for the oil and natural gas industry is **YOU**.

- ☑ Passionate about your job?
- ☑ Enjoy consistent and affordable access to electricity?
- ☑ Use one of the thousands of products our industry generates?
- ☑ Proud to have an essential resource produced in America?

Then share your feelings with your elected official.

NOTES

Online Sources

ANGA.us
API.org
COGA.org
Energy.gov
EnergyFromShale.org
EnergyInDepth.org
EnergyTaxFacts.com
EnergyTomorrow.org
FracFocus.org

www.landman.org

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