# Energy and Communities

## Prioritizing Safety, Health and Environmental Stewardship

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# EXECUTIVE SUMMARY

The safety, health and protection of people, the environment and communities are top priorities for the natural gas and oil industry. Today, natural gas and oil not only power our lives, but are the building blocks for so many of the products that make modern life possible. But this energy and the amazing things derived from it – everything from clothing and cosmetics to state-of-the-art health care devices and medicines – aren't possible unless responsible development is the centerpiece of everything the industry does.

Innovation in America's oil and natural gas industry has rewritten the nation's energy script; instead of entering an era of energy scarcity, we've entered an era of abundance that has lowered costs for consumers. Thanks to new technology and knowhow that have allowed the U.S. to safely develop energy resources once thought inaccessible, we have an oil resource that can meet 75 years of current demand and a natural gas resource that can meet up to 145 years of current demand.

Beyond providing new economic opportunity, new jobs, royalties and improved property values, energy development can enhance communities in countless ways not often highlighted - bringing undeniable benefits, like enhancements to roads, schools, public services and more.

Communities around the country are benefiting from company good neighbor policies, including civic sponsorships, environmental conservation projects and more. From creating pollinator gardens to support local bee populations in agricultural communities to creating safe spaces for endangered species, the natural gas and oil industry strives to be a good neighbor and a positive contributor to the communities and environments in which it operates.

The industry is also working to foster the educational needs of the next generation of workers, particularly in the STEM subjects: science, technology, engineering and mathematics. A wide array of industry programs and individual company initiatives are aimed at developing student interest in STEM subjects as early as kindergarten, and sustaining that interest through high school and into college.

The U.S. energy revolution has not only brought positive impacts to communities, but it's also allowed the U.S. to become a leader in emissions reductions. Between 1990 and 2015, methane emissions from natural gas systems dropped 16.3 percent overall and 59 percent from hydraulically fractured natural gas wells, all while the electric power sector's natural gas consumption rose nearly 200 percent. Moreover, the natural gas and oil industry invested $90 billion in zero- and low-carbon technologies between 2000 and 2014, which includes $15 billion in nonhydrocarbon

technologies – including wind, solar, biofuels and geothermal technologies. In addition, U.S. energy-related greenhouse gas emissions are now at their lowest level in nearly 25 years.

Often overlooked, America's world-class refining sector not only produces the fuels that energize our transportation sector, but also produces cleaner fuels to ensure that our air stays clean. The combination of cleaner gasoline and diesel fuels, modernized equipment and facilities, and more fuel-efficient vehicles has helped reduce U.S. air pollutants by 71 percent between 1970 and 2015. This dramatic improvement came even as vehicle miles traveled increased by more than 184 percent.

Internationally recognized standards formalize industry safety practices to protect everyone and everything that touch the natural gas and oil industry – from the consumer to workers to the environment and public. As part of its Global Industry Services, API maintains a portfolio of more than 700 standards covering all segments of the industry, in addition to supporting a vigorous standard-setting program.
Across the board – from workplace safety to air emissions to the safety of transporting our products – the numbers tell an important story of constant improvement, investment in the future and technological innovation.

The natural gas and oil industry has laid the groundwork for the American people – as consumers, workers and citizens alike – to reap enormous benefits from this energy renaissance. From individual savings to nationwide energy security, the natural gas and oil industry has set the country on a sustainable course towards a brilliant future.

# Putting SAFETY FIRST

API's nearly 700 standards put best practices to work across the industry:


in STATE regulations


by GOVERNMENT agencies like the Coast Guard, EPA and FTC

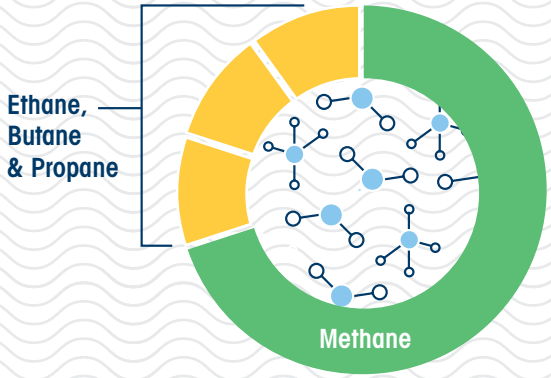

in BSEE's OFFSHORE regulations

State of American Energy Report, American Petroleum Institute, 2017.

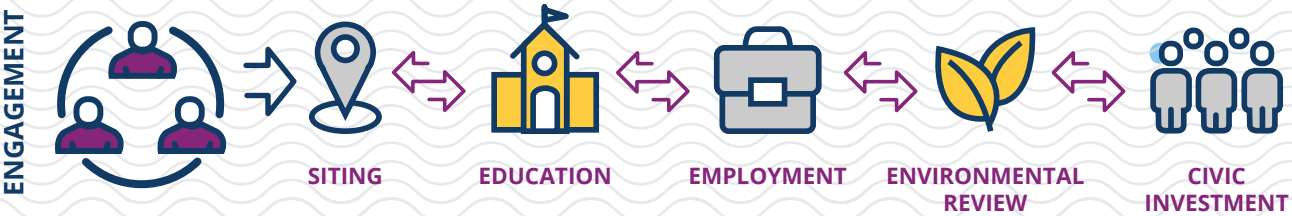
# Reducing EMISSIONS

Natural gas primarily consists of:

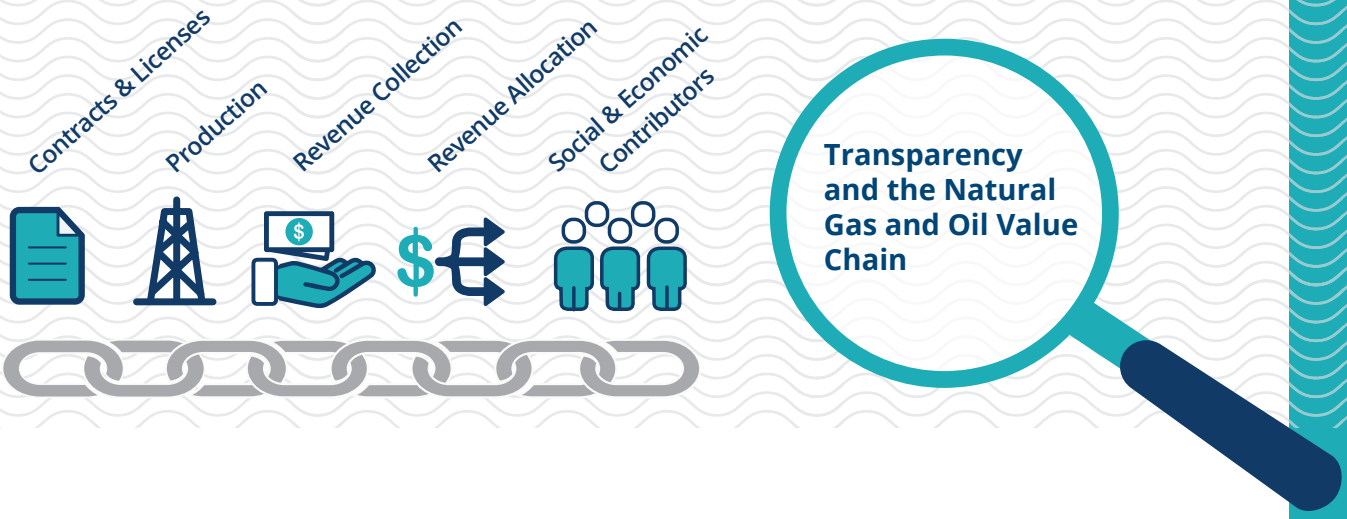
- Methane (77-92%)
- Ethane (0-20%)
- Butane (0-20%)
- Propane (0-20%)




# Engaging with COMMUNITIES



# Committing to TRANSPARENCY




# Prioritizing Responsible DEVELOPMENT

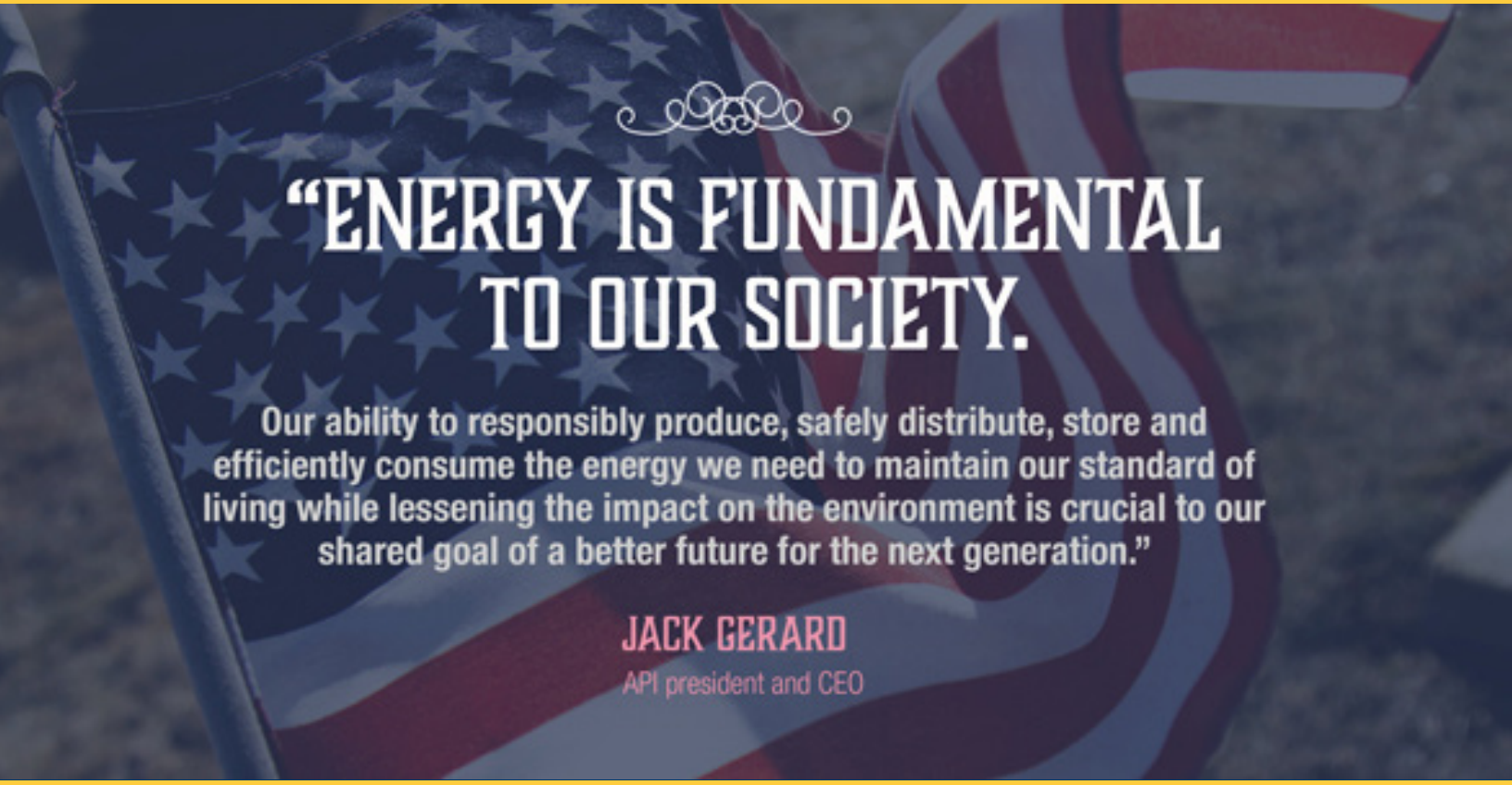
**1947** — **Stanolind Oil** uses hydraulic fracturing in the Hugoton gas field in Grant County, Kansas for the first time.

**1950s** — Hydraulic fracturing is used more than **3,000 times a month** to increase the productivity of oil and gas wells.

**1980-90s** — George Mitchell successfully combines hydraulic fracturing with horizontal drilling in Texas to **pioneer the production** of natural gas from shale.

**2012** — The U.S. surpasses Russia as **the world's largest natural gas and oil producer**.

**2015** — Hydraulically fractured wells provide **two thirds of U.S. natural gas production and half of U.S. oil production.**

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