

The Energy Industry's Future

As one of the nation's largest cities tries to return to some sort of normalcy following a major blackout which effected more than 72,000 New Yorkers; let's take a moment to examine the Energy Industry's future, why "we need a better power system, a better grid with redundancies" and why 83% of Americans see Natural Gas and Oil as important to our future.

The Beginning

Innovations to the electric grid as we know it began over 100 years ago. The Smart Grid was created to provide a more efficient way to manage electricity. The "grid" is a network of power lines and substations that carry electricity from power plants to homes and businesses. The "grid" has problems. It needs updating and is running at capacity. When power lines break, or power plants can't produce enough power, blackouts can occur and that's a problem that can cause fatalities. Today's grid often relies on a single power source and doesn't provide detailed information on usage making electricity difficult to manage. To address the problems in the past we simply built new power plants.

This Is Energy For The Future

Natural gas is used to generate electricity. When used to produce electricity, natural gas emits approximately half the carbon emissions of coal.

It's been said that "the future belongs to those who have access to energy – secure, abundant energy." Natural gas and oil are the leading energies to grow our economy and to help keep our country safe, today and tomorrow. Our well-being as a society is directly linked to energy to grow, invent and meet challenges of all kinds.

The natural gas and oil industry are leaders in using advanced technologies, helping the nation capitalize on its domestic energy abundance – even as the

country looks to an all-of-the-above energy future in which natural gas and oil partner with renewables.

Natural gas and oil are unsurpassed in the attributes that power a modern society, including portability and reliability. Therefore, energy forecasters project an energy future in which natural gas and oil continue to be leaders, here at home and around the world.

With the right policies, natural gas and oil can continue to power a modern economy while also providing economic life of its own by creating jobs that pay well, capital investment and associated spending by companies and their employees throughout the economy. At the same time, the industry is focused on its workforce of the future, creating more career opportunities for women, minorities and Millennials. The natural gas and oil industry value diverse perspectives and contributions as key to driving continued innovation in the energy space.

Here are a few facts:

By 2040:

66.6% of U.S. Energy will be from Natural Gas & Oil

Petroleum

The Best Energy There Is

By 2035:

Well over a million more jobs supported

\$165,670

In 2017, jobs in natural gas and oil extraction had an average salary of \$165,670 nearly **3x the national avg** of \$55,330

10.3 Million

There are 10.3 Million U.S. jobs supported by natural gas and oil

\$1.34 Trillion

It is projected that \$1.34 Trillion in private natural gas & oil infrastructure investments are possible out to 2035

Safety In Robots

While renewable energy sources are growing in importance, the exploration and production of fossil fuels, in particular natural gas will continue to be a major component of the global energy industry. The highest priorities in the front line of oil and gas development are human safety and asset integrity. As an industry, our ambition must be to create a safe working environment for front-line workers while improving capital efficiencies.

With this aim in view, explosion-proof, remote-operated robots are being developed for oil and gas production facility inspections using the latest AI/IoT technologies.

Robots, which have already been deployed to inspect hazardous areas in industrial buildings and power plants, are equipped with cameras and tank-like crawlers that even allow them to climb stairs. These can operate autonomously, freeing up working time and keeping human workers out of danger.

Robots have also been developed for other dangerous tasks, including one to tackle incidents few human firefighters would be able to deal with, such as petrochemical plant blazes.

But it is important to note that the future we envisage is not one in which human engineers are replaced by machines. Instead, specialist workers will have more information that will help guide decision-making.

Reaching Our Destination Together

We have already embarked on the road to creating a secure and cleaner energy industry, but we will need to pass certain milestones to reach our ultimate destination.

In addition to the increased use of renewable energy sources, this will involve us continuing to innovate to make traditional power sources even cleaner and more sustainable. But the commitment required to develop and deploy the technologies we need cannot be met by “lone fighters.”

Only by using the combined strength and scale of multiple organizations and investing in a range of developing technologies can the energy industry overcome some of its biggest challenges.