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State of the Oil & Gas Industry

Dynamic Challenges Facing Kansas Oil & Natural gas Industry

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October 2021

Since mid-March 2020, our state, nation, business owners, and employees have had their world turned upside-down because of a virus.

The economy has been engaged in a slow recovery from the worst of the coronavirus, and the accompanying improvement in energy demand has been evident in crude oil prices. Kansas crude oil prices topped $53/bbl in early January 2020 and then dipped below $1/bbl in April 2020. Crude oil prices began to recover thereafter, surpassing $35/bbl by the end of 2020. Improving market conditions in 2021 resulted in increased energy demand. Oil prices have been rising steadily through 2021. Crude oil prices in September 2021 topped $60/bbl.

Signs of improving market conditions come against the backdrop of rising COVID-19 variant cases and chatter about implementing restrictions on economic activity, raising concerns about the sustainability of higher prices and rising demand. Fear exists on both sides of the oil ledger with concerns about slowing demand and swelling supplies. Crude oil markets remain subject to heightened levels of uncertainty related to the ongoing recovery from the COVID-19 pandemic. The crude oil market is fraught with uncertainty that creates volatility in crude oil prices. Volatile crude oil prices have a significant impact on the small businesses that make up the Kansas oil and natural gas industry.

The Kansas Independent Oil & Gas Association (KIOGA) represents thousands of independent oil and natural gas explorers and producers, as well as the service and supply industries that are significantly affected by crude oil prices. In Kansas, small independent producers account for 92% of the oil and 63% of the natural gas produced. The oil and natural gas industry is an important part of the livelihoods of Kansans throughout the state. Nationally, independent producers drill about 90% of American oil and natural gas wells; produce about 54% of American oil, and more than 85% of American natural gas. With nearly 3,500 members, KIOGA is the lead state and national advocate for the Kansas oil and natural gas industry.

Global Crude Oil Supply/Demand Dynamics

COVID-19 pandemic destroyed about 30% of crude oil demand worldwide in 2020. The 20 countries of OPEC+ agreed to an historic production cut in April 2020 to address the crude oil demand destruction of COVID-19. They cut production by about 10 million b/d. The Alliance gradually whittled down the cuts to about 5.8 million b/d in the first half of 2021. OPEC+ met again in July 2021 and agreed to phase out the output cuts entirely by September 2022 as energy demand increases. In September 2021, OPEC+ trimmed its world oil demand forecast for the last quarter of 2021 due to the Delta coronavirus variant, saying further recovery would be delayed until next year when consumption will exceed pre-pandemic levels. World crude oil demand is expected to rise by 6.6% in 2021. As vaccination rates rise, the COVID-19 pandemic is expected to be better managed and economic activities and mobility is projected to return to pre-COVID levels in 2022. Oil demand recovery is expected to be realized in the first half of 2022 when global crude oil demand is projected to rise by 4.15 million b/d.

The energy outlook for the remainder 2021 and 2022 remains subject to heightened levels of uncertainty because responses to COVID-19 continue to evolve. The COVID-19 pandemic caused changes in energy demand/supply patterns in 2020/2021 and will continue to affect these patterns in 2022.

Long-Term Oil Forecasts – In its 2021 World Energy Outlook, OPEC forecasted world oil demand would plateau in the late 2030's. The report projected global oil consumption would rise to 107.2 million bpd in 2030 from 90.7 million bpd in 2020. Global oil consumption is projected to rise to 97.7 million bpd in 2021, reach 99.8 million bpd in 2022, and grow to 102.6 million bpd by 2024.

The report sees potential for global oil demand beginning to decline after 2030 with faster adoption of electric cars, more fuel efficiency, and a larger reduction in business and leisure travel after the pandemic.

Longer term, OPEC sees global oil demand to reach 109.3 million bpd in 2040 and decline to 109.1 million bpd by 2045. The OPEC report said that despite lower future demand due to the COVID-19 pandemic and the accelerating energy transition, the world is on track to run out of sufficient oil supplies to meet its needs through 2050 unless exploration speeds up significantly and capital expenditure of at least $3 trillion is put to task. To meet the global cumulative demand over the next 30 years, undeveloped and undiscovered resources totaling 313 billion barrels of oil need to be added to currently producing assets.

The report said electric cars will account for over 27% of new cars globally by 2045. Oil will continue to account for the largest share of the energy mix by 2045.

Natural Gas – A slow rebound in natural gas production following tropical storm Nicholas and Hurricane Ida combined with globally tight supplies, and bad energy policy have natural gas prices hovering near a 7-year high.

Natural gas is one of the preferred sources of energy in this country not only for electricity and factories but mainly as a heating source for people's homes. Over 50% of U.S. homes are heated by natural gas and even those that use electric heat pay for natural gas price increases through the backdoor as 38% of total U.S. natural gas consumption goes into providing electricity.

Hurricane Ida not only hit 90% of natural gas output but also did major damage to key onshore staging areas and because of that, it took much longer to restore natural gas production than ever. That was bad news and timing because the second half of the year is the time of year the U.S. has to build inventories so that we can have enough supply to get through winter.

In mid-September 2021, natural gas supplies in storage were 16.8% below year-ago levels and 7.2% below the five-year average. Gulf production needs a big bounce so those supply deficits don't grow to cause a situation that could leave us vulnerable to price spikes if not shortages.

The U.S. in recent years has been less reliant on Gulf of Mexico gas production because of increased onshore natural gas production. Increased onshore natural gas production was a historic game-changer as we went from a country that couldn't produce enough to meet our own needs to become the biggest producer in the world. Our increased production of natural gas also dramatically lowered our greenhouse gas emissions as the US was able to replace coal plants with much cleaner-burning natural gas.

Under President Trump U.S. natural gas production grew by 10 billion cubic feet per day (Bcf/d) in 2018, an 11% increase from 2017. The growth was the largest annual increase in production on record.

But the anti-drilling campaign by the Biden administration created a situation where U.S. production is stagnant as opposed to growing. Natural gas production fell to 91.7 billion cubic feet in the first half of 2021. As a result, natural gas future prices have risen 94% since President Biden was inaugurated. That is the biggest surge in natural gas prices going back to the year 2000.

That pullback in US natural gas output has exasperated a global shortfall of natural gas that is driving prices to record highs in Europe and Asia. Wind Power generation has also underperformed and that is forcing those countries to switch fuel use to coal.

We are now increasing our dependence on natural gas production in the Gulf of Mexico and that leaves us more economically vulnerable and at the mercy of mother nature and hurricanes. With onshore operations, natural gas production was less impacted by the weather especially hurricanes.

Crude Oil Market Structure

The crude oil market is a global oligopolistic market mostly influenced by the OPEC cartel. The OPEC+ cartel is made up of 20+ oil producing nations. The OPEC cartel control about 1/3 of the world's oil supplies and collude to control global crude oil prices. The U.S. is the largest oil producing nation in the world. Kansas oil and gas producers are perfect competitors in an oligopolistic market. That is to say, we are price takers, not price makers.

Kansas oil and gas producers have no control of crude oil prices, but can only manage their internal costs. For Kansas oil and gas producers, optimizing internal operating efficiencies is paramount in order to hedge against volatile crude oil price swings.

A recent study on upstream drilling and production costs and found that upstream costs in 2020 for onshore plays were 25% to 30% below their 2012 levels and 16% to 20% lower than the average of the past five years. This cost analysis does not, however, factor in the market value of oil and gas produced from these wells, which is important for calculating net present value of profit or loss.

Low-cost oil producers across the U.S. establish a fair price for oil based on how low they can get production costs. Kansas oil and gas production will likely remain a conventional, small business operation that will be tweaked with technology. The bottom-line is the low-cost producer will stay in business.

Impacts of Crude Oil Price Collapses from the Past

We can learn from past market downturns. Crude oil prices fell 75% over 20 months beginning in 2014. As a result, Kansas lost over $730 million in oil and gas output over that period. This aligns with the roughly $1 billion cut in capital expenditures (capex) in Kansas over the same period.

To understand this better, let's look at capex which are *Funds used by companies to maintain or increase the scope of their operations.* This kind of spending is very good for an economy. It builds infrastructure, creates jobs, and is an investment in the future.

Companies make these investments because they believe they will get a good return on those investments. Unfortunately, when the price of oil crashes, those investments become unprofitable and capex gets cut.

Many oil and gas companies in Kansas and elsewhere cut capex by 75%-80% in 2015-2016. Kansas oil and gas companies invested about $300 million in 2017, down from $1.3 billion invested in 2014. Companies deferred well completions and many high-cost marginal wells were temporarily shut-in. As a result, royalty payments to Kansas oil and gas royalty owners dropped by about $400 million since 2014.

In Kansas, much like the rest of the nation, some oil and gas service companies layed off as much as 55%-60% of their workforce and reduced wages by as much as 20%-25% and some producers layed-off as much as 20%-25% of their workforce in 2015-2016. As a result, family income has dropped by about $341 million across Kansas. Direct oil and gas employment loss in Kansas since 2014 is over 3,100. When you add in indirect jobs, employment losses in the Kansas oil and gas industry jumps to over 6,100.

The ripple effects are everywhere. If you think about the role of oil in your life, it is not only the primary source of many of our fuels, but is also critical to our lubricants, chemicals, pharmaceutical, plastics, and many other items. If you think about the law, accounting, and engineering firms that serve the industry, the pipe, drilling equipment, and other manufactured goods that it requires, and the large payrolls and their effects on consumer spending, you will begin to get a picture of the enormity of the oil and gas industry. Clearly, lower oil prices do not compensate for the loss of capex in the U.S. and Kansas economy.

Kansas Oil & Gas Summary

The fallout from COVID-19 and concurrent crude oil supply shock had a profound impact on the Kansas oil and gas industry. Oil and gas exploration and production activity in Kansas and across the nation slowed dramatically. Operators across Kansas and the nation responded quickly by laying down rigs, shutting in production, and cutting capex by as much as 60%.

Economic Impact – Oil and gas production and exploration activity in Kansas during 2020 was down significantly. Nearly 5,000 wells were shut-down resulting in oil production falling by 12.5% and natural gas production falling by 10.7%. In 2020, Kansas experienced **over $180 million in lost oil production**. The concomitant economic impact of lost production is felt by all Kansans as this lost output resulted in **over $360 million in lost gross state product (GSP)**.

Slow economic recovery from the sudden and severe contraction of 2020 is expected to continue in the Kansas economy in 2021. Kansas gross state product (GSP) is expected to grow 3.6% in 2021. U.S. economic activity continues to rise after reaching multiyear lows in the 2nd quarter of 2020. U.S. gross domestic product (GDP) declined by 3.4% in 2020. U.S. GDP is projected to grow by 6% in 2021 and by 4.4% in 2022.

Oil production in Kansas during calendar year (CY) 2019 was about 33.2 million barrels (90,953 bbls/day). Kansas oil production in CY 2020 was about 29.1 million barrels (79,624 bbls/day). In CY 2021 Kansas oil production is projected to be about 27.2 million barrels (74,564 bbls/day) – down about 6.4% from CY 2020 and down about 18% from CY 2019. Hopefully, we will see production improvements in 2022 as prices recover, but it will be some time before we get back to the 90,000 - 100,000 barrels per day level.

Kansas oil production fell by about 45% from 2014 to 2021. After the oil price collapse of 2014 and 2015, the market began to balance and oil prices stabilized in 2018 and 2019. As a result, Kansas oil production began to slowly stabilize at a lower level. Oil production in Kansas fell by 6.4% in 2021 after falling 12.5% in 2020, 4.4% in 2019, 3.1% in 2018, 5.6% in 2017, and 16.6% in 2016.

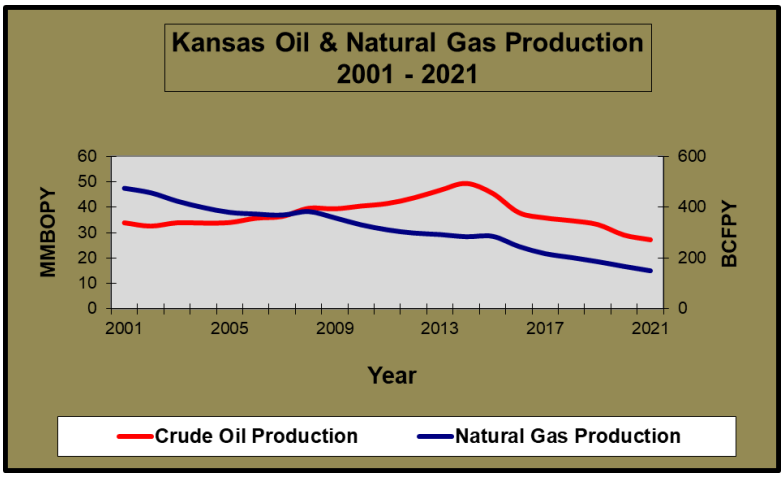


Figure 1

Figure 1 illustrates the trend in Kansas oil and natural gas production over the last 20 years.

As a result of low oil prices and a corresponding significant drop in the state's 2020 crude oil production, tax collections to the State of Kansas and Kansas counties also declined dramatically. Oil and gas severance tax collections by the State of Kansas in CY 2021 is projected to decline by 10% from CY 2019 and declined nearly 75% since 2014. Oil and gas property tax collections by counties in CY 2020 declined by about 41% from CY 2019 and declined over 77% since 2014.

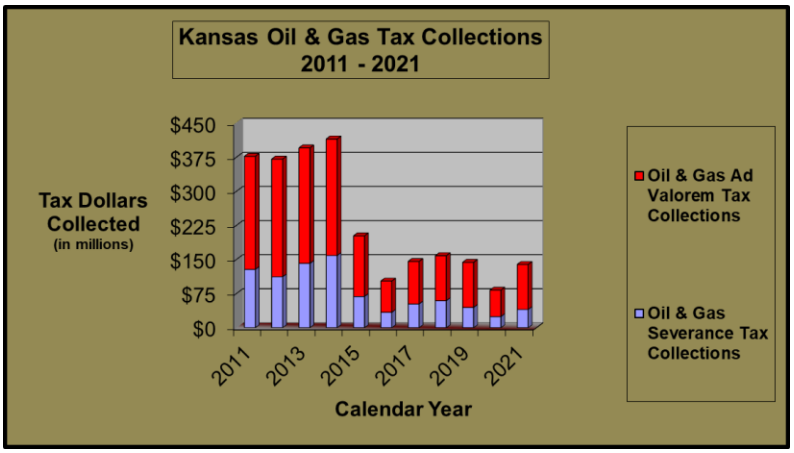


Figure 2

Figure 2 illustrates the impact of falling oil prices on oil/gas severance and property tax collections.

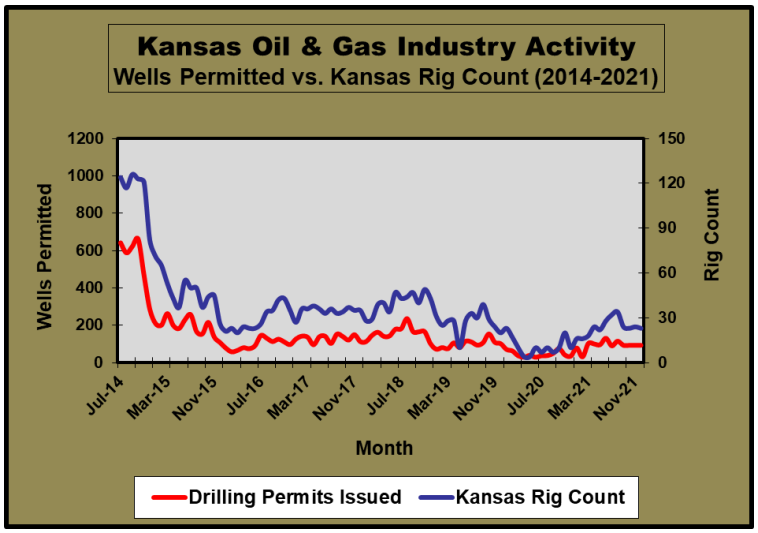


Figure 3

Figure 3 illustrates oil and gas activity in Kansas from 2014-2021. The industry experienced a 91% drop in drilling rig count and a 92% drop in drilling permits issued in the 2014-2021 period.

What are Kansas oil & gas companies doing?

The Kansas oil and gas industry displayed a lot of discipline in 2020/2021 after learning some tough lessons from experiences with past low-price markets, from the mid-1980s to the late 1990s and the more recent 2014-2016 downturn.

Many Kansas companies are refocusing capex to strategize their way out of the current downturn. Companies are working to optimize operating cost structures to achieve more efficiency gains and became more specialized regarding their core producing assets. Kansas producers are focusing on the most resilient short-cycle projects and concentrating on their core competencies and smaller producer advantages. Many oil and gas producers across Kansas are working to optimize supply chain relationships, improve operational efficiencies, reduce and refocus capex, and examine acquisition and divestiture opportunities. Operators are high-grading and drilling only the best prospects. In many cases, improved productivity is less about improved technology and more about better application of existing technology.

Expenditures for exploration and development constitute most of a company's upstream capital investment. When calculated on a reserve addition per barrel basis, these expenditures represent the cost of finding and developing a barrel of oil. Studies have indicated finding and development costs declined by $10.23 per barrel since 2014.

Efficiency gains achieved by Kansas oil and gas producers over the last couple of years have proven to be very important for reducing break-even prices. Many Kansas operators have reduced breakeven points to about $25-$30 per barrel. Kansas operators in general are adhering to cash flow neutrality. Currently, exploration and development activity in Kansas is very conservative and muted.

Once demand and prices return to normal, several things should be considered to help the Kansas oil and gas industry, none of them involving bailouts.

We need to find solutions to high Kansas electric rates - which hurt not just the oil industry, but general economic development as well.

Kansas rates are the highest in our region. Kansas consumers spent more than $775 million more on electricity than just 10 years ago. If electric rates in Kansas had decreased by the same amount experienced in Texas over the last 10 years, Kansans would have saved over $300 million.

With electric costs that are 30-50% of expenses, oil wells in rural Kansas could run for many years longer with more competitive electricity prices. Who will be left to absorb the high fixed costs that burden rates? Oklahoma rates can be more than 50% less than in Kansas.

Renewable energy sources like wind need to be carefully considered going forward. The state has adequate renewable energy generation, and careful study is required before allowing more subsidies. Methane and carbon dioxide emissions are significantly down in the U.S. even as oil and gas production has dramatically increased. We must resist unduly penalizing and regulating the fossil fuel industry for political expedience.

The oil and gas industry has lived through several ugly downturns before, and we know that patience, persistence, insight, and innovation pay off. We move forward together to focus on value reconstruction and prepare for brighter days ahead.

Other Key Challenges

The oil and gas industry continues to address many challenges including energy policy, carbon tax, emissions, ESG, prices, and more.

Energy Policy – In the 1970s, many experts forecasted a permanent energy shortage in the U.S. Fast-forward to today and we see the U.S. is the top producer of oil and natural gas in the world. Technological developments and efficiency gains have resulted in phenomenal growth in U.S. oil production since 2011. The energy shortage predicted in the 1970s has not come true. In reality, we did not have an energy shortage in the 1970s, but had a shortage of imagination and loss of confidence in our ability to innovate.

Just a few years ago, no one would have imagined the U.S. could increase production of oil and natural gas while cutting greenhouse gas emissions, which are now near 25-year lows. The oil and gas industry has proven that over the long-term, it is possible lead in energy production and environmental stewardship.

By focusing on more efficient use of energy, it is possible to lower emissions without imposing a carbon tax or even more environmental restrictions. Energy policy that values innovation over regulation can turn energy policy challenges into great opportunities for economic growth and energy security. This approach is not just good business, it's good stewardship and a much better strategy for improving the quality of life for all.

Energy prices affect all corners of the economy, and keeping up with demand is essential for maintaining a high standard of living. Thankfully, that doesn't require abandoning efforts to protect the environment, because newer technology is cleaner technology. The key is to avoid placing unnecessary political or legal obstacles in the way of innovation and expansion. Let America's entrepreneurs continue modernizing our energy technology as they work to meet growing demand. That's a prescription for economic prosperity and a cleaner environment.

Energy Policy Challenges – Energy matters – a lot. In the last 200 years, global life expectancy has doubled. Extreme poverty has dropped from 90% of humanity to 10% and falling. The growth in human liberty and the dramatic increase in available energy are likely the two main catalysts for this tremendous progress.

Few doubt that energy has improved lives and enabled human progress. Yet one of the biggest challenges facing the world is the polarized debate over the future of energy. Facts and economics are too often replaced with assertions and emotions. Discussions about fossil fuels and alternative energy sources often degenerate into a battle to delegitimize the other side. This is a recipe for inaction. And it keeps billions of people trapped in energy poverty. Almost 40% of humanity, or three billion people, have access to only rudimentary forms of energy and a very low standard living. The world expects and deserves better.

We should avoid energy policies driven by a zero-sum philosophy for energy that says we must have less fossil fuel so we can have more of something else. History has shown that short-sighted energy plans often fail because they start with a preferred resource and work backwards. The Biden Administration's energy plan promises to repeat the Obama/Biden legacy of failed energy policy, but this time he intends to spend more taxpayer money on what will likely be another failed enterprise.

According to the U.S. EPA and U.S. EIA, the U.S. decreased energy related CO_2 emissions in 2019 more than any other country. America leads the world in environmental quality.

It doesn't make sense to place unnecessary political and legal obstacles in the way of responsible American oil and natural gas production, cancel oil pipelines, discourage investment in fossil fuels, stimulate demand through outlandish spending, and then beg OPEC+ (where oil is produced under much less-strict environmental standards) for more oil to contain inflation.

The oil and gas industry has done such a good job of creating abundant, affordable, always-available energy that the world takes it for granted. Energy is so woven into our daily lives that few question whether it will be there, or where it comes from. Because energy is so reliable and available, the public believes they no longer require it.

We often encounter this paradox anytime we engage in a conversation about energy and the environment. Some folks assume that we don't need fossil fuels anymore. A stark example is anyone who wants to end oil and gas production while still benefitting from oil and gas based materials and fuels.

Economic prosperity allows countries to invest in new technologies and policies that improve not only environmental health but also the well-being of the people. Thus, if we want to continue to improve our relationship with the environment and human progress, we should be more supportive of economic growth and the entrepreneurship that drives it. We should all work together to ensure more people have access to safe, affordable, and reliable energy, no matter which state, nation, or continent they reside.

This is what happens when political orthodoxy drives energy policy - We are witnessing dramatic changes in our energy landscape and economy. Such developments have a profound impact on the independent oil and natural gas industry and underscore our need to stay ever-vigilant in defense of our industry.

Due to political agendas targeting oil and natural gas production, federal and state debate over taxes, regulatory issues, and energy policy often puts the oil and gas industry in the crosshairs. Also, groups of activists across the nation continue to work to obstruct responsible energy development under a false belief that oil and gas production and use are incompatible with environmental progress. Mischaracterizing oil and gas activity has been and continues to be a common practice and strategy for these groups.

President Biden and his supporters continue to look for every opportunity to attack, weaken, and destroy domestic oil and natural gas production including carbon and/or methane tax proposals, unilaterally increasing federal regulation of oil and natural gas production, and proposing to eliminate critical oil and gas cost recovery tax provisions.

Unreasonable regulations and executive orders are becoming a hallmark of the Biden presidency. The Biden administration's actions are making it harder for our economy to recover and damaging our nation's future energy security.

That's not only bad politics; it's bad policy and an unnecessary drag on the economy. This is an example of what happens when political orthodoxy drives energy policy and highlights the need to get our nation's energy policy right. When we hear calls for higher taxes or greater regulatory burdens on U.S. businesses without any basis in science, we see a political agenda at work – all at the expense of American consumers.

Increasing taxes and regulations results in fewer jobs because businesses spend their resources on tax burdens and regulatory compliance instead of job creation. When tax expenditures and regulatory costs increase more than the real economy, the results are destructive to economic growth. The wrong governmental policy framework generates wrong policy and this is what we have been seeing in Washington. We need a change in basic policy.

The oil and natural gas industry can be part of the solution to our nation's energy policy challenges. Entrepreneurs in the private sector and smart, state-led policies have created and will continue to drive American energy leadership.

Before the pandemic, the U.S. had become the world's largest oil producer. America had reduced the strategic leverage of foreign producers such as Russia's Vladimir Putin. But since taking office, the Biden Administration has cancelled North America oil pipeline projects; cancelled oil leasing in Alaska; suspended oil leases on federal land (even after a court ruled the moratorium illegal); and invoked the Endangered Species Act as part of a strategy to reduce drilling.

It doesn't make sense to place unnecessary political and legal obstacles in the way of responsible American oil and natural gas production, cancel oil pipelines, discourage investment in fossil fuels, stimulate demand through outlandish spending, and then beg OPEC+ for more oil to contain inflation.

Inexpensive energy is necessary for economic advancement by the world's poor and for recovery from the staggering economic effects of COVID-19. Ideological opposition to fossil fuels is an anti-human stance that views ordinary people not as problem-solving sources of ingenuity but as only mouths to feed, producing environmental damage.

The U.S. has a unique opportunity to show the world how energy can be used as a positive force to lift people up, which is different than a philosophy of embracing a zero-emissions world. We should work to ensure more people have access to safe, affordable, and reliable energy. Because to rise out of poverty and enjoy health and safety, people need more energy, not less.

American energy policy is not a Republican issue or a Democrat issue. It is an American prosperity and leadership issue. The American people want, expect, and deserve elected leaders who will place what's best for our nation's economy and energy future above partisan ideology and political posturing.

The American people need and want moral, intellectual, and strategic clarity and courage from our policymakers at both the state and federal levels.

Policymakers at all levels should pursue energy policies that drive economic growth, lower costs for consumers, protect the environment, increase American competitiveness, and use our considerable resources as a way to lift people up.

American Energy = American's safety, energy security, and prosperity - American domestic energy sources, like oil and natural gas, creates jobs and ensures more affordable energy for American families and businesses. But, that's not all it does. It also keeps us safe. Which is why it is concerning when we increasingly see energy policies that put our energy independence and our safety on the line.

For example, renewable energy and electric vehicles are dependent on rare earth metals, and China already has at least 85% of the world's capacity to process those metals—by using forced labor and leaving behind devastating pollution. And, now, as the U.S. hastily pulled out of Afghanistan and the Taliban restored their reign of terror, China is waiting patiently in the wings to turn this chaos and tragedy into opportunity.

Afghanistan happens to sit on one of the largest deposits of rare earth metals, valued around a trillion dollars. China wants to gain access to these resources to maintain their control over the renewable energy supply chain. China cozied up to Taliban leadership in July 2021, in anticipation of the recent power shift. It just goes to show, China will stop at nothing to exert their influence over the rest of the world.

And, before that, Biden cut a questionable deal with Germany to allow the Russian NordStream2 pipeline to be completed—all while trying to dismantle American energy production and pipelines. In addition, Vladimir Putin is using his leverage to increase Europe's reliance on Russian energy. Russian state-owned Gazprom energy has announced price hikes for long-term contracts with European non-former Soviet states. This price-gouging would not be possible if Europe was not reliant on Russia for their natural gas.

We can't let these extreme, short-sighted policies take us backward to the days of dependence on unfriendly nations and decades-long wars. From 2008 to 2018, the U.S. energy trade deficit was reduced by 87%. And, in recent years, we surpassed Russia and Saudi Arabia to become the world's top producer of oil and natural gas. We must protect these achievements, not squander them. Our American energy independence is not just about the price of a tank of gas—it is about keeping our families safe and our nation sound.

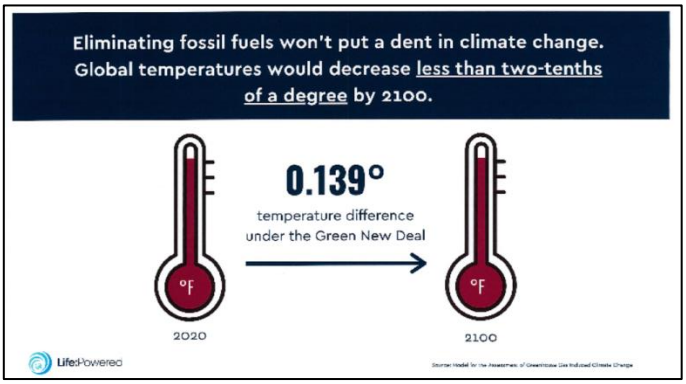
Green New Deal – President Biden's energy and environment plan reflects much of the Green New Deal (GND) introduced in 2019 by U.S. Representative Alexandria Ocasio-Cortez (D-NY) and includes an enormously damaging and historically large tax increase. The plan calls for setting a 100% clean-electricity standard by 2035 and investing $2 trillion over four years on clean energy. Members of both parties have called the idea unrealistic. The GND is the far-left's wish list dressed up to look like serious policy. The philosophies and ideas behind this textbook socialism are not just foolish. They're dangerous.

This is not the first time Biden has advanced an anti-energy agenda under the guise of climate change. Biden is promising to repeat the Obama-Biden legacy of failed energy policy, but this time he intends to spend more taxpayer money on what will likely be another failed enterprise.

Reality has a way of biting back if you're not paying attention to it. The Biden Administration's desire for extensive climate regulations will drive up the cost of energy. Higher energy costs disproportionately harm low-income groups. The Biden Administration's energy policy is out-of-touch with working people and the economy.

Facts debunk GND ideas. Many scientists, policymakers from both parties, and common sense have discredited the ideas proposed in the GND. Climate science conventional wisdom is flawed, relies on alarmist scenarios, and exaggerates economic impacts. The GND will fail for many reasons. One is that the people pushing it seem oblivious to the needs of low-income families, who would be directly hurt by the plan.

The whole idea behind the GND is to take fossil fuels away from the people. And the bureaucrats are nowhere near having a replacement for fossil fuels, nor will they ever be until they embrace nuclear energy. Sooner or later, the people will figure this out.



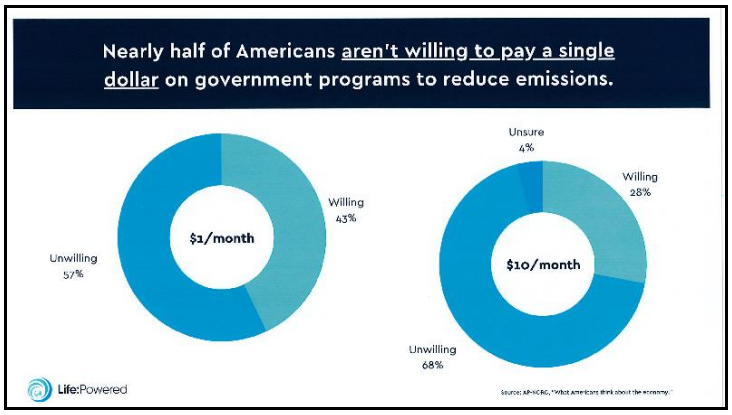
Regardless of the urgency, or lack thereof, of the climate issue, the GND is not something America can remotely afford to implement.

Americans who have observed stay-at-home orders or quarantined themselves at home this year need to look around and think about what their lives would be like if they no longer had ample and affordable power, or natural gas to use to cook their meals. Because, make no mistake about it, that is what Biden is really proposing.

It is impossible for us to protect our environment without freedom and prosperity. Our environment will benefit the most when our government allows energy producers and consumers, not regulatory bureaucracies, to determine our energy future.

The choices policymakers make in 2021 and beyond will determine whether we build on America's energy progress or shift to foreign energy sources with lower environmental standards. You can't address the risks of climate change without America's oil and natural gas industry, which continues to lead the world in emissions reductions while delivering affordable, reliable, and cleaner energy to all American.

Carbon Tax – Taxing carbon to tackle climate change may sound like a good idea. However, a nationwide survey conducted in late 2020 indicated Americans don't place high priority on climate change. When asked how much they are willing to pay to address climate change, the median response was consistently between $25 and $50 a year. Public support for climate action appears to be broad, but it is shallow. Addressing climate change enjoys widespread approval, until climate action comes with a tangible price tag.



All too often proposals to tax carbon directly or launch new carbon tax schemes have much more to do with raising revenue than helping our environment. However, taxing carbon only takes more resources from the private sector to support swelling state and federal government.

A recent study analyzed probable effects of a U.S. carbon tax that starts at $20 per ton and then rises 4% per year, which is in line with recent proposals. The study suggests that such a tax would decrease household consumption, due to the increased cost of goods. The average household would have to pay 40% more for natural gas, 13% more for electricity, and more than 20 cents per gallon extra for gasoline. Costs would rise even more in subsequent years.

Price hikes like these can only mean lower standards of living and less opportunity. Families that spend a bigger portion of their household income on transportation, utilities and household goods are hurt, not helped, by carbon tax schemes that make traditional forms of energy more expensive.

Recently, several major integrated companies who were once powerful skeptics of global warming, are now supporting a carbon tax. Clearly, this is just a ploy to stifle competition. Major integrated companies can pass along tax increases to consumers while small companies that are not integrated from production through end-product do not have the ability to pass along tax increases.

The power to tax involves the power to destroy, and never more so than in the case of a carbon tax. That's because unlike other taxes, a carbon tax is designed to tax away the base on which it is levied.

U.S. Doesn't Need a Carbon Tax – Even if the U.S. imposed some kind of carbon tax, it would not make a difference to global climate. In 2018, U.S. carbon emissions were around 5,100 billion metric tons from all sources, an almost 20% drop below emissions in 2007. While U.S. greenhouse gas emissions have been falling in recent years, world carbon emissions keep increasing by an average of more than 300 gigatons each year for the last decade, driven primarily by China's and India's increasing demand for energy. Together, these two countries now account for one-third of world carbon emissions. China and India are not going to impose a carbon tax on themselves. Doing so would increase their energy costs and reduce their economic growth. Neither will Russia, nor countries in the Middle East, nor developing nations whose primary concern is improving the economic well-being of their citizens.

Methane Emissions Tax – Wrong Path to Manage Methane - The Biden Administration announced that it will be revising and expanding federal regulation of methane emissions. States are actively implementing their own regulations. And yet, Congress is considering an inappropriate and unworkable methane emissions tax.

The *Methane Emissions Reduction Act* is unnecessary in light of the regulations in place and anticipated. The fee would be difficult to implement, duplicative, punitive, and will be costly. This tax is inequitable, unworkable and the wrong path to manage methane. Here's why:

Reducing methane emissions is a top priority for the oil and natural gas industry. As a result of technology and efficiency measures, emissions relative to oil and natural gas production were down nearly 70% between 2011 and 2019 and are expected to continue to trend downward. The U.S. EPA already directly regulates methane emissions from the oil and natural gas sector, and the EPA is planning additional regulations.

The Biden Administration and Democrat Leadership committed to not increasing taxes on small businesses. Most businesses that would be subjected to this tax are small businesses.

The tax is based on ambient methane emissions measurements. The measurements would have to distinguish between oil and natural gas production, agricultural emissions – about a third of U.S. methane emissions – and landfill emissions – about a third of U.S. methane emissions. And the measurements would have to be continuous – 24 hours/day every day. No such system exists and cannot be created in the foreseeable future.

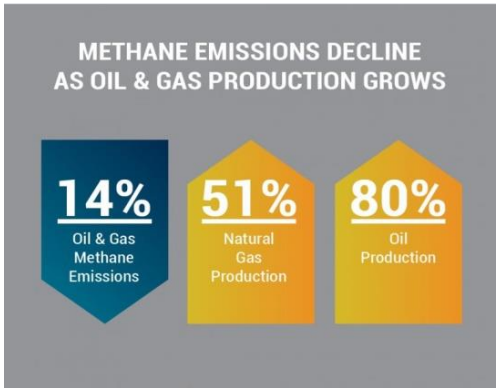
The tax only targets emissions from the oil and natural gas industry, ignoring methane emissions from other segments of the economy. Because oil and natural gas account for nearly 70% of energy consumption in the U.S., new fees could have a ripple effect across the U.S. economy at a time when inflation is already on the rise. This could reduce the number of jobs supported throughout the economy by 155,000, with the largest jobs impact concentrated in the services industries.

The Biden Administration has announced it will revise and expand oil and natural gas industry methane emissions regulations. Compliance with these regulations will be costly. Congress has demanded expanded regulation; it should not then impose burdensome taxes on these regulated industries.

The increased product costs for natural gas created by the tax will reduce its demand as users shift to cheaper fuels, like coal.

Finally, industry segments would be taxed multiple times. For example, pipelines that cross multiple AAPG geological provinces would pay the tax multiple times. A natural gas pipeline beginning in western Kansas could pass through five geological provinces before reaching its market and would have to pay five different times.

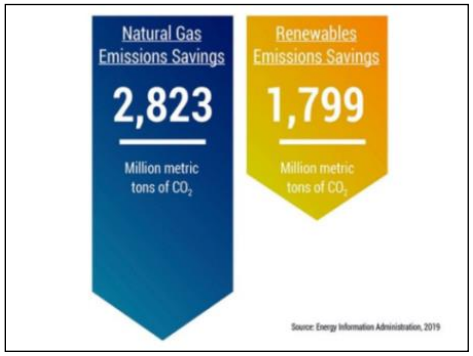
Emissions - According to EPA Greenhouse Gas (GHG) reporting data, oil and gas methane emissions account for only 1.22% of total U.S. GHG emissions. Since 2005, the EPA found that U.S. GHG emissions fell 12%, total CO_2 emissions have fallen by 14%, methane emissions have fallen by 4%, and power sector CO_2 emissions have fallen by 33%. This downward trend occurred even as U.S. oil and natural gas production grew dramatically.



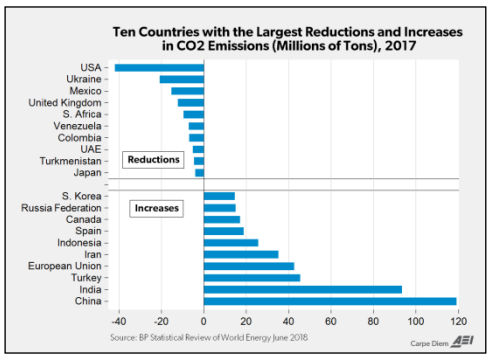
Source: U.S. EPA, U.S. EIA 1990-2017

The fact is our nation's 21st century oil and gas market-driven success has helped our nation achieve significant emission reductions. The U.S. emitted 14% fewer energy-related carbon emissions in 2019 than 2005. As a result of technology and efficiency measures, emissions relative to oil and natural gas production were down nearly 70% between 2011 and 2019 and are expected to continue to trend downward.

The latest Energy Information Administration (EIA) data (2019) show natural gas is responsible for 2.8 billion metric tons of carbon dioxide emission reductions since 2005. That represents 61% of overall power sector reductions during that time-frame and 57% more than reductions attributable to renewables.



The latest EIA report shows U.S. carbon emissions are the lowest they have been in nearly seven decades. Even more interesting is the fact that U.S. carbon emissions dropped while emissions from energy consumption for the rest of world increased by 1.6%. The U.S. emitted 15.6 metric tons of CO_2 per person in 1950. After rising for decades, it has declined in recent years to 15.8 metric tons per person in 2017, the lowest measured levels in 67 years. European emissions rose 2.5% and Chinese emissions rose 1.6% along with Hong Kong's 7% surge. **America leads the world in environmental quality.**



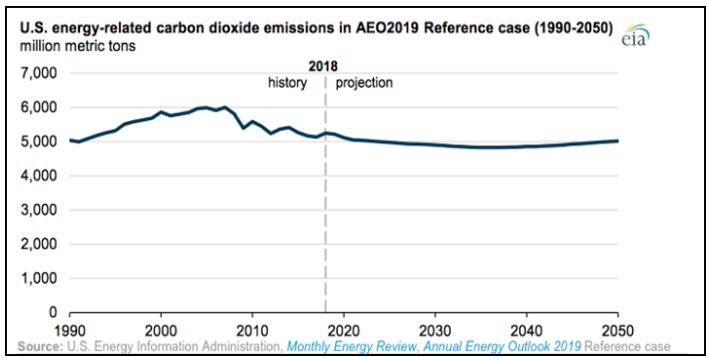


Figure 4 illustrates the significant decline in U.S. greenhouse gas emissions

The men and women of the oil and gas industry reject the stale mindset of last century's thinking peddled by some that oil/gas production and environmental stewardship are not compatible.

Latest U.N. Report not Supported by Sound Science - The United Nations Intergovernmental Panel on Climate Change (IPCC) released their latest climate report in August 2021. These reports are often announced with a great deal of ceremony. A familiar part of the ritual is the report's moral amplification by media, which is always a couple more degrees further gone into hysteria and lamentation than the IPCC report itself.

Progressives reacted to the IPCC report in predictable ways: hysterical moralizing, in which those who do not concur with their agenda must be denounced as moral monsters because there can be no honest disagreement; aggressive indoctrination, in which affirming various aspects of the climate narrative becomes a precondition of participating in educational or business life; 'lying for justice'; and using the levers of the State to subvert inconvenient realities.

We've all heard politicians and media outlets asserting that "extreme" weather, like last summer's heatwave in the Pacific Northwest or increased rainfall during hurricanes, is caused by climate change. And these predictions are nothing new. In 1995, a United Nations report predicted that rising temperatures would cause all the beaches in the Eastern U.S. to disappear by 2020.

Misinformation and scare tactics like this are used by environmental activists to drive a politicized climate agenda with no apparent regard for the contradictions in their own statements or the costs to American families who need affordable energy to live their lives.

So, it's not a surprise that it was underreported when climate experts on both sides of the political spectrum flat-out denied the claim that climate change caused recent heatwaves. More high temperature records were set during the first half of the 20th century than during the past 50 years.

We all want a cleaner environment now and for future generations. But, these over-the-top claims are simply meant to instill fear and are damaging to those of us who want to find real solutions for both our environmental and energy futures.

Fortunately, the true state of our climate is far from disastrous. In fact, both climate science and thousands of years of human history show this is the best time yet to be alive.

The U.N. IPCC latest report fails to acknowledge serious flaws in its data and undermines its own legitimacy by ignoring scientific uncertainties. The IPCC is reporting more of the same climate alarmism but moving the goalposts as its predictions continue failing to come true. Knowledgeable independent scientists need to scrutinize the latest IPCC report.

The U.N. says: *The scale of recent climate change is unprecedented.*

The science says: Ample evidence, entirely ignored by the IPCC, suggests that global temperatures were warmer at several other periods in human history. The IPCC has made almost no progress since its last report explaining the causes of warming before 1950 and the pause in warming that occurred for the three decades after that.

The U.N. says: *Human-induced climate change is worsening severe weather in every part the globe, including heat waves, heavy precipitation, droughts, and hurricanes.*

The science says: Chapter 11 of the report specifically notes low confidence in data surrounding long-term hurricane frequency or intensity. Similarly, wildfires and floods are actually on the decline, and recent heat waves in the Pacific Northwest are small potatoes compared to the 180- and 240-year megadroughts the region experienced between 800 and 1400 A.D. The report said heat waves across the U.S. have become more frequent since 1960, but neglected to mention they are no more common today than they were in 1900. There is strong evidence that the IPCC is cherry-picking studies to support its desired conclusions.

The U.N. says: *In order to stop "irreversible" warming, we must reach at least net zero CO2 emissions, along with strong reductions in other greenhouse gas emissions.*

The science says: The same unreliable data models used to predict mass catastrophe based on faulty and outdated energy trends also show that even totally eliminating U.S. fossil fuel consumption would have nearly no effect. The miniscule benefits of reducing CO_2 emissions do not justify the vast challenges of living with unreliable, unaffordable energy. Policymakers must weigh low climate risk with the numerous more pressing problems facing the American people, including disaster resiliency and the rising costs of energy, health care, and other goods.

China's New Emissions-Trading Scheme – Launched in July 2021, China's new emissions-trading scheme (ETS) will do nothing to reduce its emissions. China's ETS involves the trading of limitless permits and shows no indication it will curb the country's growing apetite for coal, oil, and natural gas. Thanks in part to prompting from American environmental activist groups, China's ETS will serve its purpose – shielding China from criticism as it increases its emissions with each successive year.

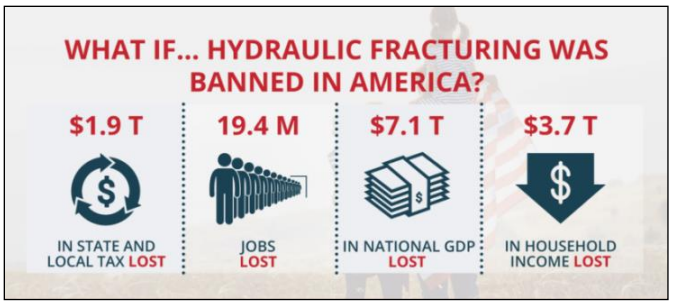
A Puzzle of Contemporary Society – The climate of opinion surrounding climate change is a powerful social force. A puzzle of contemporary society is the broad acceptance by young people – Millenials and Generation Z. This climate of opinion acts independently of the facts and the science of climate change. It is nothing short of a calamity for Millenials and Gen Z, yet it is promoted to appeal to them. It grants them a halo of climate victimhood while hiding the truth from them. They are indeed victims. Their prospects are already blighted by the financial crisis and the accumulation of massive public debts, theirs is the generation that will bear the main burden of climate change policies. Decarbonization will greatly diminish already weakened economies. Millenials and their children won't benefit from climate policies; only those born in the second half of this century will begin to see any net benefits.

Hydraulic Fracturing

Some uninformed policymakers and environmental activists continue to call for a ban on hydraulic fracturing (HF).

Without HF, studies by IHS Global Insight indicate 50% of America's oil wells and 33% of America's natural gas wells would be closed. Domestic oil production would be slashed by 183,000 barrels per day and domestic natural gas production would be slashed by 245 billion cubic feet per day. By 2025, our nation's real GDP would be lowered by $7.1 trillion, $1.9 trillion in state and local tax revenue would be lost, $3.7 trillion in household income would be lost and more than 19 million jobs would be lost, including 10,000-14,000 Kansas jobs.

A ban on HF would also damage America's standing in the world. We would surrender our status as a global energy superpower and weaken our national security as we become more reliant on foreign sources of energy.



ESG Reporting

Environmental, Social, and Governance (ESG) reporting is a dominant topic of industry discussions and market evaluation criteria. While this may seem daunting and arbitrary to some, many oil and gas operators, service companies, and individuals are navigating this new landscape to elevate the good already being done. ESG is not going away anytime soon.

"ESG is nothing new for the oil and gas industry. Independent operators are good stewards of the land, value a diverse and talented workforce, and put accountability first with every handshake or deal signed," said Edward Cross, KIOGA President. "The Kansas oil and gas industry and KIOGA value the tools that allow for operators to tell their story of fueling the American economy with innovation and hard work but firmly oppose tests and efforts designed to put an end to domestic oil and natural gas production."

An ESG minded company may attract more investment, as well as send a positive message. A Sustainable, Responsible, Impact (SRI) investment strategy is based on the belief that a commitment to the principals of Corporate Social Responsibility (CSR) will generate long-term competitive financial returns, as well as positively impact our society. For investors and lenders, reducing the risk associated with sustainability of performance is immensely important.

Corporate Social Responsibility (CSR) goes beyond the law. It is about self-regulation and reveals a company's guiding principles, operating philosophy, and behaviors toward all stakeholders. The goal is to ensure a company's actions positively impact all stakeholders. CSR includes programs, policies and practices related to employees, suppliers, customers, and society.

A sustainability report is an attempt to engage and communicate a company's performance to a diverse set of stakeholders including investors, banks, consumers, communities where we work, employees, and policymakers.

For producers, a couple of key areas to focus on are emissions management, water management, safety, and community involvement. Sustainable, Responsible and Impact Investing (SRI) are used to make investment decisions. Transparency on the issues of environment, social responsibility and corporate leadership are becoming more important.

Some investors turn their backs on companies that don't offer this information. There is a need to "tell our story" to compete in the financial market. Most brokerage firms and mutual funds invest in companies that follow ESG criteria.

An ESG report generally includes a company's impact on carbon emissions, water use, conservation efforts, anti-corruption policies, board compilation including how directors are elected and audit procedures.

Of course, safety measures, data protection, employee engagement including efforts for positive team dynamics and transparency from management to teams are all important metrics. Also included is information about a company's community development, local corporate engagement and giving. Companies communicate their ESG analysis and plans to investors and the community at large.

Kansas oil and gas companies work to develop effective ESG plans that include: 1. Company-specific ESG philosophy and priorities. 2. ESG issues and data that are material to each specific company and to key stakeholders. 3. Scheduled publishing of an ESG or Sustainability Report once sufficient ESG information is available to report. 4. Incorporate ESG practices into operations, where appropriate, as well as management.

Some companies have now embarked on an alternative to ESG with the Long-Term Value Creation (LVC) reporting. LVC seeks to increase shareholder value by engaging in long-term value creation including mutually-beneficial relationships with trading partners and communities, as well as high ethical standards. ESG says companies should serve "stakeholders" – an overly-broad term that includes committed enemies.

Prices

EIA Oil Price Forecast – The U.S. Energy Information Administration (EIA) Short-Term Energy Outlook (STEO) released September 8, 2021 expects U.S. crude oil production will remain at about 11.3 million b/d through 2021 before increasing to 11.7 million b/d in 2022, driven by growth in onshore production. The EIA projects Kansas crude oil prices to average about $55/bbl in 2021. During the 2021, crude oil prices have risen steadily as a result of steady draws on global oil inventories. In 2022 the EIA expects growth in production from OPEC+, U.S. oil production, and other non-OPEC countries to outpace slowing growth in global oil consumption and contribute to Kansas crude oil prices declining to an annual average of $52/bbl.

What can be done to preserve America's affordable, reliable energy?

- Oppose extending or expanding subsidies that use our tax dollars to prop up unreliable, unaffordable renewable energy companies, many of which can't make a profit without them.
- Roll back burdensome regulations that tie the hands of America's responsible energy workers and give the upper hand to hostile, unstable, and polluting foreign countries.
- Fight "energy discrimination" and politically motivated investing that denies financing to energy producers.

Fossil Fuels Will Continue to Dominate for Decades to Come

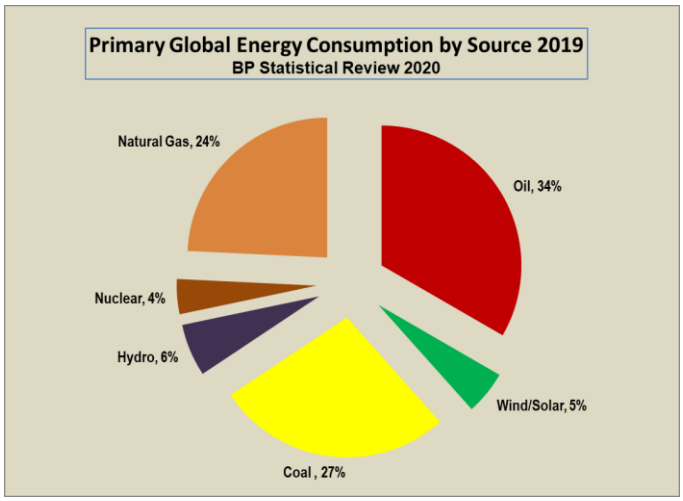
President Biden rejoined the Paris Climate Agreement and promised to set aside $2 trillion for decarbonization. Reality creates two major problems. First is achieving the adoption of renewable energy at an incredibly unrealistic speed. The second is ensuring that the system we are transitioning to does what it needs to do. It is important to note that we do not currently have needed to reduce carbon emissions to the levels set out in the Paris Climate Agreement.

Another obstacle is the inherent limitations of renewable energy sources. One of these is power density (amount of power per unit volume). The power density of an energy system running on fossil fuels is two or three orders of magnitude above that of a wind or hydro-generation system. Closely related to this concept is the element of spatial contraints. Renewable energy systems, due to their low power density, require vast swaths of land. An MIT study predicts 33,000 square miles of land would be required in order to pwer U.S. electricity demand with solar energy. The U.S. would have to dedicate 30%-50% of its landmass to solar and wind to satiate U.S. energy consumption with renewables.

While the ambitious pledges from various international bodies and governments would suggest the energy transition is near, the gap between theory and reality is vast. Fossil fuels supplied 84% of global energy needs in 2020. It will likely be decades before an energy transition can take place. The energy transition may have begun, but there is a very long way to go before fossil fuel dominance is truly challenged.

In late 2020, BP released its *Statistical Review of World Energy 2020*. The Review provides a comprehensive picture of supply and demand for major energy sources. This annual report is a primary source of data for numerous companies, government agencies, and non-government organizations. Some highlights from the report include:

Primary energy consumption continues to grow worldwide. The largest share of the increase in energy consumption, 41%, was contributed by renewables. Natural gas contributed the second largest increment with 36% of the increase. However, as an overall share of energy consumption, oil remained on top with 33% of all energy consumption. The remainder of global energy consumption came from coal (27%), natural gas (24%), hydropower (6%), renewables (5%), and nuclear power (4%). Cumulatively, fossil fuels still accounted for 84% of the world's primary energy consumption in 2019.



China was responsible for three quarters of the world's energy consumption growth, followed by India and Indonesia. The U.S. and Germany posted the largest declines.

Given the impact Covid-19 is having on the world's energy markets, it looks like 2018 may stand as the high mark for oil production for at least a couple of years.

Renewable energy continued its growth streak. Wind was the largest contributor, but solar was close behind. China once again led all countries in consumption of renewables, followed by the U.S. and Japan. The share of renewables in power generation increased to 10.4%, surpassing nuclear power for the first time. Renewable energy remains too unreliable and expensive to be a primary energy source.

What will power the U.S. in the future? - The EIA estimates that 30 years from now fossil fuels will account for 69% of our country's energy consumption.

The International Energy Agency (IEA) projects that by 2050, world energy demand will increase by 50% and 69% of that demand will be supplied by fossil fuels. Even though the IEA projects world oil demand to plateau around 2030, oil and natural gas are expected to remain the primary energy sources through 2050.

The end of oil and gas has been predicted on a regular basis since 1885, yet today, we use more of both than ever before and no end is in sight. Figure 5 shows global primary energy consumption by energy source projected to 2050. Oil consumption grew by 35% from 1990 to 2015 and is projected grow by 14% from 2015 to 2035. Similarly, natural gas grew 77% from 1990 to 2015 and is expected to grow 37% from 2015 to 2035.

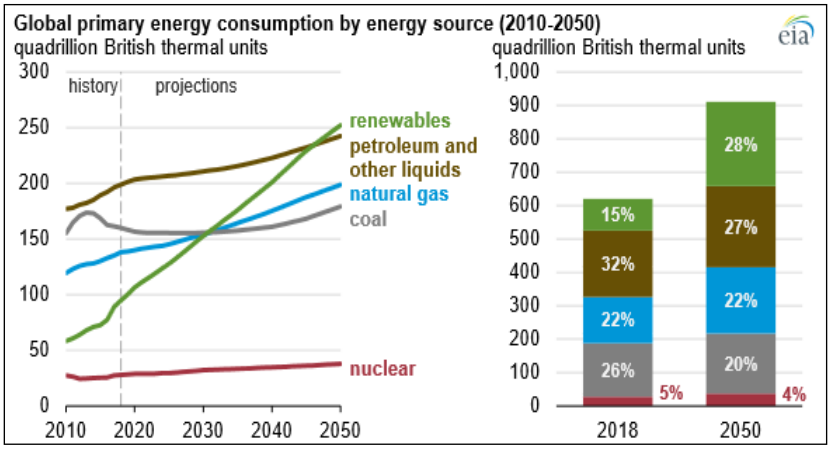


Figure 5

Fig 5 illustrates global primary energy consumption by energy source. By 2050, oil and gas are projected to supply more than 49% of global energy needs. Source: Energy Information Administration (EIA)

When looking at energy policy it is important to know that our nation is the worldwide leader in energy production. With the right energy policy, we can now move forward and build upon our nation's new era of energy abundance, self-determination, and global energy leadership. We need tax policies that don't compromise our ability to grow the economy and create jobs. We need regulatory reforms that don't add unnecessary layers of compliance burdens on top of existing protections. We encourage everyone to listen to the facts when it comes to energy policy discussions and focus on what's important: American jobs, American energy security, and American global energy leadership.