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ISSUE BRIEF

Counterproductive:

Why state and municipal climate lawsuits are anti-growth, anti-innovation, and anti-environment

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Introduction

Dozens of states and localities that include New York City, Baltimore, and various California cities have filed suits claiming that oil and gas companies should be held responsible for the alleged financial harm these municipalities may experience from global climate change.[1] Legally, there are many reasons to be skeptical of the suits' merits, as some judges and legal observers have noted. For instance,

> the federal judge hearing [New York City's] second case said it was clear the city was 'trying to dress a wolf up in sheep's clothing.' He said this case is no different from the city's previous lawsuit, and the Supreme Court already said it is not the job of courts to set climate policy. Besides, the court continued, 'Aren't the plaintiffs using the product?' Soon after, a local state judge threw out a climate lawsuit brought by the State of New York, calling the allegations 'hyperbolic' and 'ill-conceived.'[2]

Regardless of the legal merits, these lawsuits are pragmatically troubling. First, cities and states are attempting to set the nation's energy policies through the judicial system rather than the appropriate legislative process. Second, from an environmental perspective, these lawsuits are counterproductive because they discourage the innovative process that is necessary to sustainably address global climate change. Third, the lawsuits will reduce overall economic growth and impose exceptionally large cost burdens on those least able to afford it. In short, these municipal lawsuits are a regressive government policy.

Essentially, pursuing the highly dubious climate litigation strategy is not the right way to address global climate change or its impacts.

Innovation Is an Essential Part of the Solution to Global Climate Change

Sustainably addressing global climate change requires innovation. Rubin (2011) provides a useful overview of the importance of innovation and the types of innovation needed to address this problem,

> technological change on a massive scale will be needed to achieve large reductions in global GHG [greenhouse gas] emissions.…[There are] four general strategies available to transform the energy system of a country or region: 1. reduce the demands for energy in all major sectors of the economy (buildings, transportation, and industry), thus reducing the demand for fossil fuels; 2. improve the efficiency of energy utilization so that less fossil fuel is required to meet "end use" energy demands, resulting in lower CO_2 emissions; 3. replace high-carbon fossil fuels such as coal and oil with lower-carbon or zero-carbon alternatives such as natural gas, nuclear, and renewable energy sources such as biomass, wind and solar; and, 4. capture and sequester the CO_2 emitted by the combustion of fossil fuels to prevent its release to the atmosphere.[3]

There are many exciting innovations that could end up meaningfully reducing the total amount of GHG emissions. While successfully developing any of these technologies is far from certain, innovations are under development that address all four general strategies outlined by Rubin.

Nuclear energy is already an important resource that can generate low-cost zero-emission electricity for decades to come. There is no reason to be content with today's technologies, however. Next generation nuclear plants, such as those being developed by X-energy[4] and TerraPower,[5] are smaller; more affordable to build; able to alter their power generation more rapidly to accommodate intermittent sources of power, such as wind and solar; and contain faster cooling technologies. If successful, these next generation nuclear plants can increase the value of nuclear by not only generating reliable zero-emission electricity but doing so in a manner that is both more affordable and more aligned with the 21st Century electricity grid.

Then there is the potential enabled by enhanced battery storage. Improved battery technologies are necessary if alternative energy sources and alternative vehicle technologies (such as electric vehicles) are going to be viable. The current problem with wind and solar generators, which must be resolved if they are going to be meaningful electricity generators in the future, is that they often do not generate electricity when consumers need it. Instead, they generate electricity when the resource is available (e.g., when the sun shines or the wind blows). The value provided by electric vehicles, on the other hand, remain constrained by their limited range, problems with battery degradation, and adverse environmental impacts during production and mining.

Similarly, it is only through battery advancement that the current reliability and environmental problems of EVs can be resolved.

Developing innovative new battery technologies can address both problems. The ability to meaningfully store the electricity produced by wind and solar when these resources are generating power significantly improves their value to the electricity grid. The hope is that advanced batteries can achieve this goal. Similarly, it is only through battery advancement that the current reliability and environmental problems of EVs can be resolved.

It logically follows that if significant battery innovations were achieved, then the viability of EVs, solar power, and wind power would increase substantially. And some progress has been made toward this goal. For instance, researchers at the University of Southern California (USC) have developed an innovative fluid for storing electricity that "presents a good prospect for simultaneously meeting the demanding requirements of cost, durability and scalability for large-scale energy storage."[6]

The transportation sector emits a significant share of the global greenhouse gas emissions, and here too innovative technologies that significantly improve fuel efficiency are emerging to address this need. These technologies include improved engine efficiencies, such as cylinder deactivation and turbocharging, regenerative braking technologies for hybrid cars, stop-start technologies that automatically shut off the car when it comes to a full stop, and continuously variable transmission technologies.[7] These technologies meaningfully improve fuel efficiency and are available today. But there are also drawbacks. For instance, the performance of the cylinder deactivation technologies or the stop-start technologies can compromise vehicle performance.[8] The key to solving these shortcomings is continued innovation.

Another avenue for reducing emissions from the transportation sector is through fuel innovations. According to U.S. Department of Energy, "more than a dozen alternative fuels are in production or under development for use in alternative fuel vehicles and advanced technology vehicles."[9] These technologies span a wide array of options including electric vehicles and vehicles that run on natural gas, hydrogen,

and ethanol. There are limitations and downsides to all these technologies, and none have demonstrated the ability to outperform current internal combustion engines running on gasoline. Of course, this is why continued innovation is necessary. Perhaps these technologies will become viable, perhaps not. Without continued innovation, however, they will never achieve the potential that their developers and backers believe is possible.

The emergence of the next-generation energy sources will only emerge if the environment encourages market-driven innovation.

As opposed to continued innovation with low- or zero-emission technologies, another approach for reducing greenhouse gasses is to reduce the volume of emissions released using carbon capture and sequestration (or storage) technologies, also known as CCS. As identified by the Global CCS Institute, "there are four areas where CCS has a critical role to play in least-cost net-zero emissions pathways."[10] These include: achieving deep decarbonization in hard-to abate industries such as cement, steel, and chemicals; enabling the production of hydrogen, which is an important zero-emission power source but whose production generates emissions (much like solar and wind technologies); enabling current electricity generators that produce a lot of emissions to continue operating without contributing further greenhouse gasses; and, removing previously released emissions from the atmosphere. Fully realizing these potential benefits requires continued innovations.

Whether any, or several, of these technologies will ultimately pan out is unknown, which is what makes continued investment into these and other lesser-known innovations so important. The emergence of the next-generation energy sources will only emerge if the environment encourages market-driven innovation. The court cases filed by the municipalities worsen the market environment and are, consequently, an obstruction to the development of these next generation technologies.

Unfounded Climate Litigation Thwarts Innovation and Harms the Economy

Today's climate litigation creates enormous risks that deter companies and investors from allocating their capital toward developing these potential innovations. This is particularly true when investors see the technologies that were once heralded as important sources of low-emission energy, such as natural gas, now facing serious litigation exposure.

Increasing use of natural gas is an important reason why carbon emissions have been declining over the past twenty years. However, it is still targeted in these lawsuits, which is particularly instructive. The U.S. Energy Information Administration (EIA) has noted that "the 4% decrease in U.S. carbon intensity came largely from a decrease in the consumption of fuels with high carbon contents. ***Part of this change came from the continuing trend of natural gas and renewables displacing coal for electric power generation***, both of which have lower or zero carbon content. Low natural gas prices supported this switch from coal use, and higher natural gas prices in 2021 have started to reverse this trend."[11] (emphasis added)

Natural gas is not a zero-emission energy source, however. Like all energy sources, including wind and solar, the development of natural gas impacts the environment as well. Despite these impacts, the EIA analysis makes clear that natural gas use has provided important contributions toward lowering overall emissions and there are continued benefits that could be reaped from greater use of natural gas. Nevertheless, the municipal litigation still targets these companies. The lesson for future inventors is to tread carefully, a mantra that never leads to the next big innovation.

On top of these risks, the lawsuits are also targeting many of the companies who are the ones investing billions of dollars trying to develop the needed innovations. For instance, all the major traditional energy producers have alternative energy technology investments that, if successful, could meaningfully change the delivery of energy. Reducing the funding of the innovators is always a counterproductive strategy destined to stymie technological advances.

The lawsuits will also impose large economic costs on families and businesses. In total, the municipalities are seeking payments that could easily run into the hundreds of billions of dollars. After all, the city of Charleston, South Carolina alone has claimed $2 billion in damages, due to the cost of rising sea levels.[12] The hope of the municipalities is that these costs will be passed along to energy consumers as a disincentive for energy consumption and ultimately GHG emissions.

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In discussing the costs from climate litigation, Zycher (2021) noted that

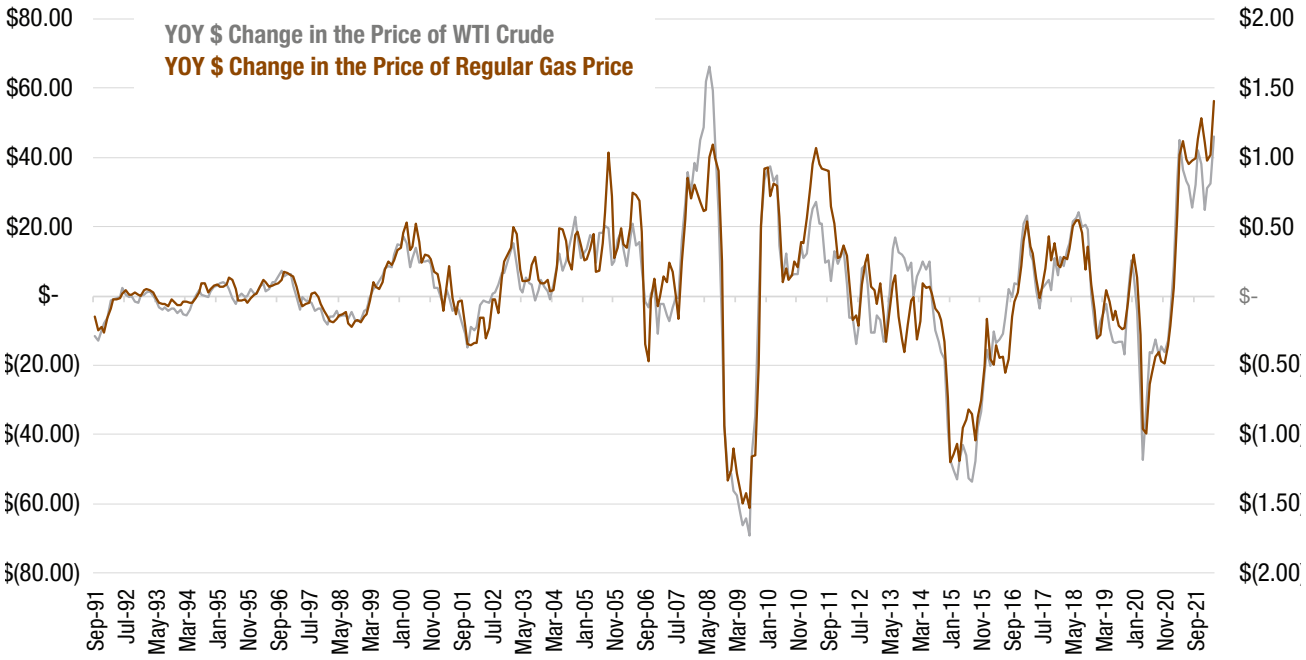
> the use of litigation rather than political debate and persuasion thus is an implicit but obvious admission that it is consumers—voters—who will pay the price for the future reductions in energy supplies that are certain to result. My conservative estimate of the direct costs of only the electricity portion of a net-zero U.S. energy policy is about $500 billion per year, or about $4,000 annually per U.S. household.[13]

Given the ubiquitous use of energy throughout the economy, the costs associated with any judgement will raise prices for consumers and businesses. While tracing out the impacts from all these costs is difficult, the close historical relationship between the price of oil and the price of gasoline provides a partial sense of the costs that will be imposed on the broader economy.

Relative to the 7.2 billion barrels of oil the U.S. consumed in 2021, every $100 billion in potential judgements equates to approximately $13.85 in additional costs per barrel.[14] As Figure 1 illustrates, the change in the dollar price per barrel and the change in the dollar cost of gasoline move at the same rate. Based on this relationship, the price of regular gasoline would be expected to increase by 31-cents per gallon, which translates into an additional $326 in gasoline expenditures per household.[15] Given the current inflationary

environment as of April 2022, such additional costs are simply unaffordable for most households. And these estimates do not include the additional impacts that will undoubtedly occur as these costs reverberate through the economy.

Figure 1
Year-Over-Year Dollar Change in Crude Oil Prices
Compared to Year-Over-Year Dollar Change in the Price of Regular Gasoline,
September 1991 Through March 2022



Source: Author calculations based on data from the St. Louis Federal Reserve, FRED

Consequently, if these lawsuits are successful, then they would increase energy expenditures for consumers across the country, which will further strain family budgets and raise the costs of production for businesses. Burdening consumers and businesses with additional costs is detrimental to economic growth, which is troubling because a strong economy fosters an environment more conducive to developing the meaningful innovations required to address global climate change.

Address Global Climate Change by Removing Policy Obstructions and Promoting Innovation

Instead of creating new obstacles that will hinder the innovation process, there are many positive actions that the federal, state, and local governments should take. First, global climate change policies should solely focus on creating positive incentives for innovation. In practice, low-emission advances can be incentivized by providing broad-based marginal-tax rate reductions for the companies that develop innovative technologies that reduce GHG emissions.

Using broad-based marginal tax rate reductions (or the ability to earn income tax-free) to alter people's behavior provides a positive incentive for innovators to develop the new low-emission technologies discussed above. Put differently, reducing the marginal tax rate on the development and deployment of low- or zero-emission energy sources reduces the cost of capital for a broad number of potential technologies, thereby creating a positive incentive that could encourage more innovation.

Such an approach focuses the government's policy on overcoming technology constraints rather than punishing the economic activities that create greenhouse gas emissions. If effective, the increased incentive to develop the desired innovations would lead to an increase in economically viable low-emission technologies. The greater availability of economically viable low- or zero-emission energy sources would, consequently, enable a significant decrease in the amount of the GHG externality while also promoting stronger economic growth.

Since which technologies will sustainably and economically reduce GHG emissions is unknown, the marginal tax rate reduction should be technologically neutral to encourage the development of the most economically efficient alternatives possible. Such a positive-focused policy has the potential to address the risks associated with climate change without imposing the large economic costs associated with policies designed to dis-incent, or punish, GHG emitting technologies.

In addition to creating positive incentives for innovation, the federal and state governments should remove the policy barriers that handicap wider use of natural gas and nuclear generated electricity. These technologies generate sustainable low-cost electricity today that keep electricity affordable while reducing our GHG emissions.

Put differently, reducing the marginal tax rate on the development and deployment of low- or zero-emission energy sources reduces the cost of capital for a broad number of potential technologies thereby creating a positive incentive that could encourage more innovation.

As discussed above, the growth in natural gas' share of electricity generation at the expense of coal has significantly reduced overall GHG emissions. Yet, policies that consider shutting down natural gas pipelines, such as Michigan's Line 5 pipeline,[16] and using cost estimates for global climate change that are so high they have been blocked by a federal judge – leading to a pause in all new oil and gas leases[17] – create barriers to continued natural gas production and use. Eliminating these production and distribution obstacles will help GHG emissions decline further while also helping to ensure that electricity is affordable and reliable.

A similar situation has developed with respect to nuclear power. Shellenberger (2020) documents that nuclear power generates reliable, affordable, and zero-emission electricity with a small environmental footprint.[18] Due to its small footprint, nuclear power has fewer adverse environmental impacts than other zero-emission sources such as wind and solar. Unfortunately, policy obstacles hinder the generation of electricity from nuclear power. The unwillingness to invest in new facilities, and the drive to close those nuclear reactors in operation, has caused the amount of nuclear power generation to peak in 2012.[19] As of 2020, total nuclear power generation was down 6%. Preventing the shutdown of current capacity and encouraging the construction of new nuclear resources would meaningfully reduce our GHG emissions while also safeguarding an efficient electricity generation infrastructure.

Conclusion

There are many serious adverse consequences from state and local litigation against traditional energy companies, but no societal upsides should the plaintiffs in these cases prevail. The negative impacts on consumers through higher energy costs and the diminished incentive for innovation ensure that these cases are lose-lose policies. Most importantly, these lawsuits create unnecessary obstacles that will hinder the most important strategy for addressing global climate change – innovation.

Endnotes

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About the Author

Wayne Winegarden, Ph.D., is a Sr. Fellow in Business & Economics, Pacific Research Institute, as well as the Director of PRI's Center for Medical Economics and Innovation.

Dr. Winegarden's policy research explores the connection between macroeconomic policies and economic outcomes, with a focus on fiscal policy, the health care industry, and the energy sector. As Director of the Center for Medical Economics and Innovation, Dr. Winegarden spearheads research and advances policies that support the continued viability and vitality of the U.S. biomedical and pharmaceutical industries to the benefit of patients and overall economic growth.

Dr. Winegarden's columns have been published in the *Wall Street Journal, Chicago Tribune, Investor's Business Daily, Forbes.com,* and *USA Today.* He was previously economics faculty at Marymount University, has testified before the U.S. Congress, has been interviewed and quoted in such media as CNN and Bloomberg Radio, and is asked to present his research findings at policy conferences and meetings.

Dr. Winegarden is also the Principal of an economic advisory firm that advises clients on the economic, business, and investment implications from changes in broader macroeconomic trends and government policies. Clients have included Fortune 500 companies, financial organizations, small businesses, and trade associations. Previously, Dr. Winegarden worked as a business economist in Hong Kong and New York City; and a policy economist for policy and trade associations in Washington D.C. Dr. Winegarden received his B.A., M.A., and Ph.D. in Economics from George Mason University.

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