

John Quigley: Pennsylvania's climate future: perils and possibilities in a foreign America

Event: **What can lawyers do to solve climate change?** (<http://www.calltothebar.org/>)

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The Law Firm of Drinker Biddle

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Thank you for the invitation to be with you this afternoon.

And thank you to all of the sponsors – and all of you - for your leadership, and for your engagement on this existential issue.

Civic engagement from all of us in this room - and beyond - is needed now more than ever.

I'll be blunt. This is not the talk that I had hoped to share with you this afternoon.

And it feels like it's not the country I planned on sharing it in. The nation we inhabit today feels barely recognizable.

My working title was "Pennsylvania's climate future: perils and possibilities."
The perils drastically increased on November 8, and the possibilities have greatly narrowed.

The perils I had planned to talk about were once delimited by mainly physics and chemistry. They, in turn, challenged our policy choices, shaped by politics. The promising start that was made with the Clean Power Plan and the Paris Agreement was tempered with the knowledge that we were – of necessity – taking only the first steps in climbing a steep mountain.

The opportunities I had in mind to discuss were the hope of taking advantage of plunging renewable energy costs and advances in storage technology and growing Pennsylvania's economy while cutting our emissions. There was, I believed, enormous potential in that construct. The timing, I thought, was right.

Obviously, I was wrong.

On November 8, the biggest peril of all – our diseased politics – fully metastasized. The candidate who had plans to advance climate protection and clean energy won the popular vote by, at last count, over a million votes. But the candidate who has denied

the existence of climate change, disdains science, and vowed to return to the glory days of coal and oil won in the Electoral College.

For a lot of folks who have worked for rational, achievable, and sustainable approaches to our energy future, the last week has been challenging. But this afternoon, let's assess how the perils and possibilities shape up now in the alien country we suddenly find ourselves in.

Here's what we know of the perils. They haven't gone away. The laws of physics and chemistry, at least, haven't been repealed, though all bets may be off after January 20th. Global average temperatures are still rising. Ice caps are still receding. Greenland is still melting. Seas are still warming and acidifying. Corals are still dying. Sea levels are still rising. And weather continues to grow increasingly erratic and severe.

The record wildfires in the West – and now, the South - are no longer anomalies. The chance of a thousand-year flood occurring in any given year is one tenth of one percent. But in the span of just five months this year, the United States experienced four deadly thousand-year floods - in Texas, West Virginia, Maryland and Louisiana – and they followed a thousand-year-flood that ravaged South Carolina in the fall of 2015. Ironically, 1 in 3 Americans are living in areas of **drought** right now. Including the upper Delaware River Basin here in Pennsylvania. The salt line above which your drinking water is safe here in Philadelphia marches north.

The Pennsylvania we know today is being fundamentally altered by the impacts of climate disruption. That's according to scientists from Penn State University. In 2015, DEP released a report that those scientists prepared. What they found is profoundly disturbing.

Pennsylvania has warmed 1.8°F in the past 110 years, and the warming will increase at an accelerated rate.

You're all familiar with the international goal of limiting warming to less than 2 degrees Celsius if we're to avoid the worst impacts of climate disruption. And many say even 2 degrees C is too high; that 1.5 degrees is the relatively safe ceiling. Pennsylvania, according to Penn State scientists, is on pace – if nothing changes – for an increase in average temperature of 3 degrees Celsius by 2050.

By 2050, Pennsylvania will be 5.4°F warmer than it was in the year 2000.

By 2050, Philadelphia's climate will be similar to current-day Richmond, Virginia, and Pittsburgh will be similar to current-day Washington, DC

The changes and disruptions to our state's climate are occurring alarmingly fast, in ways that will affect key sectors of the economy, our health, and our quality of life.

Worsening air quality, the spread of Vector-borne diseases like West Nile virus, Lyme disease, and now Zika are just the beginning

Severe storms are already punctuating our lives. This year, we had tornadoes in Lancaster County in southeastern Pennsylvania and Bradford County in north central Pennsylvania. In February. A February that was the warmest February on record and the warmest seasonally adjusted month in recorded history.

As a former mayor, I know the stressors that climate disruption puts on communities. With increasing extreme precipitation, communities here in southeastern Pennsylvania will face more battering floods, storm water management problems and threats to safe drinking water.

Cities will see vulnerable segments of their populations - the elderly, the infirm, and the poor - at significantly greater risk of death from heat waves. Right now, Philadelphia averages less than 1 day a year when temperatures exceed 100 degrees. But by 2100, unless we change course, even Erie in northwest PA could see as many as 16 days a year with temperatures above 100 degrees. In Erie!

As a former secretary of DCNR, I worry about the fundamental changes to Penn's Woods that are beginning to happen.

The composition of our forests and their ecosystems are already changing and facing increased stress and threats from invasive species. Those impacts will unquestionably affect water quality and the way we use and enjoy our forests and parks. Significant industries like our forest products sector and, and the maple sugar industry will see the impact as high-value tree species like black cherry and mainstays like sugar maple die out in a warmer Pennsylvania.

Agriculture, Pennsylvania's #1 industry, faces a very uncertain future – longer growing seasons, but more pests, much higher temperatures, and much more episodic rainfall that will be concentrated in winter months

Pennsylvania's outdoor recreation and tourism sector – our #2 industry – will be severely impacted. Ski resorts in the Keystone State, according to Penn State scientists, have already passed the tipping point and will not be economically viable past 2050. And trout will disappear from Pennsylvania streams.

As a former Secretary of DEP, I've recognized the policy challenges of reducing – and eventually eliminating - emissions causing climate disruption from all sources – something we as a society will have to do in less than four decades. And now I see that available policy tools are likely to be dismantled, at the Federal, and perhaps even at the state level.

We face an existential threat.

We're also confronted by other issues. Of intergenerational equity, bequeathing a much harsher world to future generations. And of social justice – as the first impacts of climate disruption are felt first by the poor of all nations, as well as poor nations.

And we also know that our current energy supply disproportionately impacts the poor and minorities.

A recent study of Ohio and Pennsylvania found that more than 85% of fossil fuel-fired power plants are located in areas with high concentrations of low-income and/or minority residents across the two states. Those folks get sick, face lifelong health problems, and die at higher rates than the rest of us thanks to fossil fuels.

So, there's a moral imperative underpinning the challenge of Climate disruption. It's a challenge to not only maintaining a habitable planet but also a challenge to who we are as human beings.

Here's the current reality.

In Pennsylvania, the last time I looked, there were about 48 new natural gas-fired power plants in the permitting pipeline – with enough combined capacity to replace all remaining coal-fired units in Pennsylvania. That would be a good thing for the climate battle, at least over the short term.

Nationally, carbon emissions are down to 1991 levels. There has been some suggestion, which I've written about for the Kleinman Center, that the Clean Power Plan emissions targets may be met this year, thanks to cheap natural gas displacing coal. And the sky hasn't fallen – as carbon emissions have plummeted, spot electricity prices are down 34 percent compared to a year ago. However, the US Energy Information Administration predicts a 3% rise in coal-fired generation next year as gas prices rise. The climate gains that cheap gas has delivered can be taken away by the market – hence the need for a Clean Power Plan to lock those gains in.

Let's turn now, perhaps nostalgically, to the opportunities before us in Pennsylvania.

Pennsylvania has about the third oldest building stock of any state in the nation. So there are immense energy efficiency gains to be made and opportunities to create family-supporting, sustainable jobs doing that work in communities across Pennsylvania while lowering emissions.

On the commercial side, the US Green Building Council has estimated that in Pennsylvania, Green construction will contribute \$29 Billion to state GDP by 2018, creating more than 340,000 jobs, with LEED certified construction accounting for \$12 billion in GDP and 138,000 of those jobs.

Reducing energy use in Pennsylvania's schools, hospitals, and public buildings can cut emissions, create jobs, and reduce costs for strained public sector budgets.

When it comes to carbon-free generation, Pennsylvania now lags the nation and most of our neighbors in solar development. Ohio employs almost twice as many solar workers as we do here. That's thanks to unfriendly regulations and an open border that allows out-of-state solar projects to qualify as compliance for the state's alternative energy law. Solar energy costs are falling precipitously – about 10% per year for 7 years running. The US Energy Information Administration has predicted that that renewable energy will surpass coal and nuclear generation by 2030. There are already more folks employed in the US solar industry than in coal mining. And last year the solar industry added workers at a rate nearly 12 times faster than the overall economy.

The cost of wind power has dropped sharply – 30 percent in just the past five years, according to the International Energy Agency. The U.S Department of Labor recently reported that wind turbine service technicians are the nation's fastest growing job category.

The opportunities are there. To take advantage of them, we need smart climate policies.

Smarter solar policies – enabling community scale solar, leaving “no parking lot left uncovered” by solar panels, more flexible net metering rules, and closing Pennsylvania's solar borders, can all propel solar development in Pennsylvania and the jobs that would come with it.

There is much juice to be squeezed out of Act 129 – our energy efficiency law.

Green building codes are just plain common sense - if they could just get past the builder's association and, therefore, the General Assembly.

Revising and strengthening our Alternative Energy standard is a no brainer to get us back in contention for jobs and investment.

I believe there's a major opportunity - and even more urgency - for Pennsylvania to lead in the development of carbon capture, storage, and utilization technologies for remaining coal and all gas plants, building on work that I led in the Rendell Administration with the help of the Clinton Climate Initiative.

We can use the power of finance to leverage a little bit of public capital into a lot of investment.

We could create GREEN BANKS to secure funding to scale up clean energy and energy efficiency without direct incentives like grants that can never get renewable technologies to scale.

Connecticut's Green Bank over the last 3 years has completed 8,800 projects – installing solar panels in over 10,000 homes, creating 6,200 jobs, and reducing CO2 emissions by over 1 Million tons. They're leveraging ten dollars of private capital for every public dollar invested.

New York's Green Bank launched in October 2014, and early stage analysis suggests that they're achieving a leverage ratio of 8:1

And we can have a smart and just energy transition in PA.

Last year, I convened 14 DEP public listening sessions across the state on Clean Power Plan compliance. In September of 2015, I convened one of those meetings in Greene County, in the heart of Pennsylvania's soft coal country. That evening, I heard from elected officials, trade groups, and—most importantly—coal miners and their families.

I'll never forget hearing their impassioned testimony. They were worried about losing their livelihoods and their way of life in a region where coal mining is not only the bedrock of the regional economy, but is multigenerational in families, and central to local culture.

Where will family-sustaining jobs in Greene County come from when the last coal mine is closed?, they asked

How do we answer those folks in Greene County when they realize, sooner or later, that some election promises are undeliverable?

A partial answer is found in the tiny Cambria County town of Ehrenfeld, population 200. While DEP secretary, I approved, and this summer, ground was broken on, the \$26 million Ehrenfeld Abandoned Mine Reclamation Project. It will extinguish a smoldering five-acre waste coal fire and remove more than 3 million tons of coal refuse dumped on the 62-acre site by several mines over the span of seven decades. It will stop acid drainage into the ecologically dead Little Conemaugh River, and open up recreational and economic development opportunities for the community. The project will take three years to complete - and employ 48 miners who would have been furloughed from Rosebud Mining Company's mines in Cambria, Clearfield and Somerset counties.

Land reclamation can immediately benefit the environment and scores of communities in Pennsylvania and in other coal mining states—and keep miners working. It's a no-brainer.

Another opportunity is presented in a recent study that looks provocatively at the idea of retraining all U.S. coal workers to work in the rapidly-growing solar industry. The study found that even the lowest skilled jobs in the solar industry pay family-sustaining wages and that a relatively minor investment in retraining (between \$180 million and \$1.8 billion) would allow the vast majority of U.S. coal workers to switch to solar-related positions.

We can create the policy tools to cut emissions, grow our economy, and ensure that Pennsylvania's ongoing transition to the clean energy economy is a just one.

But the question is, will we?

The outlook darkened last week.

The incoherence of the Trump campaign's energy pronouncements makes prediction difficult. But here's what I believe the President-elect has said.

The President-elect wants to pull the US out of the Paris climate deal - slowing, if not eliminating momentum for global action. What will China and India do if we pull out?

The President-elect has talked about bringing back US coal mining by repealing Federal air pollution regulations and scrapping the Clean Power Plan. But that won't bring coal back, because of cheap gas. And especially so when you consider that the President-elect also wants to expand drilling – the very thing that's killing coal.

The President-elect also wants to stop federal spending on clean energy research and development, end tax breaks for wind, solar, and electric vehicles, and eliminate the social cost of carbon calculation and critically important methane emissions regulations.

Taken together, these are decisions that will miss all of the opportunities that I talked about this afternoon. And they will reverberate for thousands of years in the atmosphere.

And I believe, based on my experience, that the Pennsylvania General Assembly will fall right into line with the President-elect. After all, they're already in the vanguard. This year, they passed a bill creating an unconstitutional one house veto of any Clean Power Plan developed by the Executive Branch, and made a deal with the Governor to kill new regulations on conventional oil and gas drilling. The Senate has already passed a resolution calling for the identification of any state environmental regulation that's stronger than its Federal counterpart, clearly targeting them for rollback. A bill was filed that would have stopped DEP's critically-important methane emissions reduction strategy. It wasn't voted on, but it's likely to resurface in the next session. And Republican majorities in the state House and state Senate increased last week. So, for all of us concerned about climate, don't look to Harrisburg for help.

There could be some ways forward. But they will not save us without a step change in pace and scale. Just this month, the United Nations Environment Programme said that pledges put forward in Paris to cut emissions would see temperatures rise by an extraordinarily dangerous 3 degrees Celsius above pre-industrial levels.

But here are five limited "hopes."

First, economics rule, even in our new, foreign America. A new administration can attempt to distort markets and pick fossil fuel winners for a while, but Adam Smith will get the last laugh. The question is how much damage will be done until Smith gains the

upper “invisible hand.” Technological innovations and falling prices for renewable energy and storage are beginning to out-compete fossil fuels. Electric cars keep getting cheaper. Competition and markets will keep driving us toward low- and zero-carbon options. Indeed, they may be our best, if not only, hope. But those dynamics are not unfolding fast enough, and scaling renewable energy is an immense challenge. Remember, it’s just 5 percent of our energy mix now.

Second, from an international standpoint, horrendous pollution in China and India should motivate action by those countries regardless of what the US does. India, home to 1.3 billion people - 18% of the world’s population and the world’s third largest economy - uses only 6% of the world’s energy. The nation’s energy consumption has almost doubled since 2000. Still, a quarter of a billion people in India are without access to electricity. Today, air pollution in Delhi in India is 30 times the US standard for PM2.5. A study published in May found that almost 600,000 premature deaths in India were caused by air pollution in 2011..

And China is the world’s deadliest country for outdoor air pollution, according to the World Health Organization. More than 1 million people died from dirty air in China in 2012.

But nothing is certain as the U.S. withdraws from leadership.

Third, as for the cutoff in Federal R&D funding for renewable energy in the US, it’s pretty paltry anyway. That leadership will shift to foreign nations, and they will reap the rewards, and put us to further shame.

Fourth, there’s hope in Federalism. Nearly 30 states have renewable electricity standards, and states like California, Massachusetts, and New York are still pursuing their own ambitious climate policies. Cities continue to be the laboratories of democracy – we’re convening today in one of the shining examples of that – the City of Brotherly Love.

And in Pennsylvania, our Supreme Court is beginning to breathe life into our environmental rights amendment. That may invite a path to the courts to preserve our right to a preserved environment. As Article 1, Section 27 so nobly states:

The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people.

Fifth is – and I say this with considerable irony – public will. In 2015, as I mentioned earlier, I led a statewide listening tour about Pennsylvania’s energy future.

More than 2,000 citizens, generators, businesses, trade groups, legislators, and non-profit organizations filed written comments or testified.

More than 80% of them said they wanted Pennsylvania to expand clean energy.

Interestingly, less than half of Pennsylvania's generation capacity asked us to delay submission of a Clean Power Plan. Indeed, two of Pennsylvania's largest generators specifically asked DEP to submit a State Plan at the earliest opportunity.

They wanted – as do all regulated entities – *predictability*. The sooner the rules of the road are established, the more time they have to plan and adjust.

Smart energy policy in PA that actually listens to our citizens and businesses would make us a leader.

Folks, fundamentally, the new energy reality facing Pennsylvania is this:

We urgently need to get to a low- and ultimately zero-carbon energy future if we are to salvage a habitable climate.

If markets are not severely distorted after January 20 – a VERY big “if” - we’re going to see continued retirements of coal plants due to cheap natural gas – because production will continue to rise. We’ll see continued strength and growth in the gas sector. We’ll also see continued cost declines and continued growth in the renewable energy sector.

And the cheapest ton of carbon to keep out of the atmosphere will continue to be the one we don’t create in the first place through efficiency.

That is the truth. And as Nobel Prize-winning economist Paul Krugman has written, “Elections determine who gets the power, not who offers the truth.”

What will the nation’s and Pennsylvania’s climate future look like after January 20th?

Will we seize opportunities and save the planet, or reject science – and morality?

And what, as you have all so provocatively asked today, can you as lawyers do about it?

The poet Ralph Waldo Emerson wrote: “God offers to every mind its choice between truth and repose.”

We face a choice between truth or repose today, and in the days ahead, on many fronts. A choice between the existentially necessary truth of finding a sustainable path forward or – at our peril – a slow, step-by-step resignation to the unthinkable repose of the new alt-right status quo.

The choices we make will affect generations to come.

At the close of the Constitutional Convention in 1787, Benjamin Franklin was asked, "Well Doctor what have we got, a republic or a monarchy." Franklin famously replied, "A republic . . . if you can keep it."

We're still Americans. My father was a member of its Greatest Generation that saved the world.

Now, it's our turn.

On climate, and more.

I'll leave you with this.

In his book *Profiles in Courage*, John F. Kennedy wrote:

"...in a democracy, every citizen, regardless of his interest in politics, 'holds office'; every one of us is in a position of responsibility; and, in the final analysis, the kind of government we get depends upon how we fulfill those responsibilities. We, the people, are the boss, and we will get the kind of political leadership, be it good or bad, that we demand and deserve."

The future depends on all of us.

Thank you very much.