

COMMONWEALTH OF PENNSYLVANIA  
HOUSE OF REPRESENTATIVES

ENVIRONMENTAL RESOURCES  
AND ENERGY COMMITTEE

"PENNSYLVANIA CO2 AND CLIMATE"

ROOM 523  
IRVIS OFFICE BUILDING

TUESDAY, JUNE 22, 2021  
9:03 A.M.

BEFORE :

HONORABLE DARYL METCALFE, MAJORITY CHAIRMAN  
HONORABLE GREG VITALI, MINORITY CHAIRMAN  
HONORABLE MIKE ARMANINI  
HONORABLE STEPHANIE BOROWICZ  
HONORABLE DONALD COOK  
HONORABLE JOSEPH HAMM  
HONORABLE R. LEE JAMES  
HONORABLE JOSHUA KAIL  
HONORABLE TIMOTHY O'NEAL  
HONORABLE JASON ORTITAY  
HONORABLE KATHY RAPP  
HONORABLE TOMMY SANKEY  
HONORABLE PAUL SCHEMEL  
HONORABLE PERRY STAMBAUGH  
HONORABLE ELIZABETH FIEDLER  
HONORABLE MANUEL GUZMAN  
HONORABLE JOE HOHENSTEIN  
HONORABLE MARY ISAACSON  
HONORABLE RICK KRAJEWSKI  
HONORABLE DANIELLE FRIEL OTTEN  
HONORABLE PAM SNYDER

Pennsylvania House of Representatives  
Commonwealth of Pennsylvania

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COMMITTEE STAFF PRESENT:

- GRIFFIN CARUSO  
REPUBLICAN RESEARCH ANALYST
- ALEX SLOAD  
REPUBLICAN RESEARCH ANALYST
- PAM NEUGARD  
REPUBLICAN ADMINISTRATIVE ASSISTANT
  
- SARAH IVERSEN  
DEMOCRATIC EXECUTIVE DIRECTOR
- BILL JORDAN  
DEMOCRATIC RESEARCH ANALYST

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SUBMITTED WRITTEN TESTIMONY

\* \* \*

(See submitted written testimony  
and handouts online.)

## P R O C E E D I N G S

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1  
2  
3 MAJORITY CHAIRMAN METCALFE: Good  
4 morning. This meeting of the House Environmental  
5 Resources and Energy Committee -- actually, this  
6 public hearing of the House Environmental  
7 Resources and Energy Committee is called to  
8 order.

9 Today's topic is Pennsylvania CO2 and  
10 climate. We have three panels today. And before  
11 we take the roll, and before we all stand to  
12 pledge allegiance to our nation's flag, I just  
13 wanted to remind the members that -- I just  
14 wanted to remind the members that this is a time  
15 for us to gather information from our testifiers.  
16 And we will have further opportunities to debate  
17 each other on this topic, which I know is an  
18 emotionally-charged topic for some of you.

19 So while our testifiers are here as our  
20 guests, I would appreciate you treating them as  
21 our guests and not engaging with them in debate,  
22 but asking them questions that they can then give  
23 you their answers to to help us further the  
24 future debate and gather information that would  
25 be helpful in that future debate. But they're

1 not here to debate today. They are here to  
2 provide testimony and provide answers to  
3 questions that you might have, but please be  
4 respectful and treat them as our guests and not  
5 as a colleague who you will try to rip apart in  
6 debate.

7 with that, if I could ask everybody to  
8 please rise. And Representative O'Neal, sir,  
9 would you lead us in the Pledge, please.  
10 (Whereupon, the Pledge of Allegiance was recited.)

11 MAJORITY CHAIRMAN METCALFE: If I could  
12 ask our member secretary to call the roll,  
13 please. Our member secretary is Representative  
14 Lee James from Venango County.

15 REPRESENTATIVE JAMES: Thank you for the  
16 introduction, Mr. Chairman.

17 (Whereupon, roll was taken.)

18 REPRESENTATIVE JAMES: We have a quorum.

19 MAJORITY CHAIRMAN METCALFE: Thank you.

20 That was Representative Pam Snyder that  
21 said virtual. Thank you for tuning in.

22 who else is on? Representative Sankey is  
23 also on virtual.

24 If I could ask all of our testifiers in  
25 the first panel to come forward, please. We're

1 starting off with a Mr. Greg Wrightstone,  
2 Executive Director of CO2 Coalition. Dr. Patrick  
3 Michaels is also going to be presenting today,  
4 but I don't believe he's here yet. So Dr. David  
5 Legates has been kind enough to switch positions.  
6 And Dr. Legates is from the University of  
7 Delaware, professor of climatology. And once  
8 again, Director Greg Wrightstone, director of CO2  
9 Coalition.

10 Thank you, gentlemen. If you could  
11 both -- we have changed rules this session. If I  
12 could ask you to please rise, which I should have  
13 asked you before you sat down, so I apologize for  
14 that. But we have a new rule that we adopted  
15 that swear in our presenters and testifiers at  
16 committee meetings this session.

17 (Whereupon, testifiers were sworn en masse.)

18 MAJORITY CHAIRMAN METCALFE: Thank you  
19 both. And you can begin when you're ready,  
20 whoever would like to begin and kick it off.

21 Greg, is the green light on on your  
22 microphone there? We just need to press that  
23 button there, sir.

24 MR. WRIGHTSTONE: Now it is. Thank you  
25 very much.

1 Gregory Wrightstone, geologist, Executive  
2 Director of the CO2 Coalition and expert reviewer  
3 for the intergovernmental panel on climate  
4 change. I want to thank the Chairman and the  
5 Committee for the opportunity to provide my  
6 perspective on climate change, and specifically  
7 on Governor Tom Wolf's proposal to enroll the  
8 Commonwealth into the Regional Greenhouse Gas  
9 Initiative, or RGGI.

10 I will focus my testimony today on the  
11 justifications that have been presented by  
12 Governor Wolf for the need to impose this large  
13 regulatory and taxation burden on the State's  
14 citizens and companies. The justifications for  
15 RGGI are listed in the 2018 Climate Action Plan,  
16 which predicts occurrence of various climate  
17 catastrophes. I will refute these claims in my  
18 testimony this morning.

19 The first of those claims is that  
20 man-made climate change is leading to increased  
21 precipitation and flooding. The first part of  
22 that is true. There has been a slight increase  
23 in precipitation over the last 100 to 120 years  
24 in this State, amounting to about four increased  
25 inches of precipitation per year. The slight

1 increase in precipitation is already providing  
2 many benefits to the Commonwealth that were not  
3 addressed in the Climate Action Plan. These  
4 benefits include increased vegetation, crop  
5 growth, silage for livestock, snow for ski  
6 resorts, and a decrease in fire risk. The only  
7 downside to the increase, this modest increase in  
8 rainfall, would be an increase in devastating  
9 floods.

10 So have those been occurring? The latest  
11 report of the well-respected IPCC states that it  
12 has a low confidence that there's a sign of a  
13 trend of global increase in floods on a global  
14 scale. So the IPCC disagrees with that. In  
15 other words, the IPCC can discern no connection  
16 between a modest eight-tenths of a degree Celsius  
17 increase in temperature since 1900, and any  
18 increase in change in flooding -- could I ask for  
19 a bottle of water? Excuse me.

20 Governor Wolf seems fixated on a belief  
21 that flooding is being made worse by climate  
22 change; however, the Governor makes the common  
23 mistake of conflating weather with claimant. For  
24 example, he makes much of the 2018 flooding in  
25 Harrisburg, but that event ranks just 31st on the

1 list of greatest floods in Harrisburg. That's  
2 only a bit more than half the record set by  
3 Tropical Storm Agnes in '72, and nearly reached  
4 by the great flood of '36. Data from the Ohio,  
5 Allegheny, and Susquehanna Rivers show a decline  
6 in the average crest of floods over the last  
7 century, while the data from Bucks County shows a  
8 similar decline in the number of floods. So my  
9 fact check on increasing flooding is false and  
10 misleading.

11 The second claim is that droughts are  
12 increasing. In order for droughts to occur,  
13 there needs to be two things, aridity and intense  
14 heat waves. We've seen in the previous section  
15 that rainfall is increasing slightly. And we  
16 shall see in the next section that heat waves are  
17 not increasing. Please excuse me.

18 Neither of the two required elements  
19 for drought to occur are happening. Figure 3  
20 shows annual Pennsylvania drought and aridity as  
21 accessed from NOAA. This chart clearly shows a  
22 decrease in aridity. And again, the IPCC states  
23 it has a low confidence in global scale observed  
24 trend in drought or dryness. It's the middle of  
25 the twentieth century. The data and the experts

1 agree that droughts are not increasing. My fact  
2 check on increasing drought, false and also  
3 misleading.

4 There's little dispute that the longest  
5 and most intense heat waves -- you'll have to  
6 excuse me -- must be that aridity in the  
7 atmosphere. Pardon me.

8 Fact three, heat waves are increasing.  
9 There's little dispute that the longest and most  
10 intense heat waves in the United States occurred  
11 some 80 years ago, in the '20s and '30s. Data  
12 from the University of Alabama and the USEPA  
13 confirmed this warming occurred before the sharp  
14 rise of carbon monoxide following World War II.  
15 My fact check on increasing heat waves, false and  
16 misleading.

17 The fourth claim is increased health  
18 risks from air and water pollution. Our air and  
19 water today are cleaner than in more than 100  
20 years, and getting cleaner every year. According  
21 to the EPA, the concentrations of air pollutants  
22 in the United States have dropped by double digit  
23 percentages since 1990. You'll have to excuse  
24 me.

25 MAJORITY CHAIRMAN METCALFE: They're out

1 looking for a cup. It looks like the water  
2 cooler doesn't have any cups.

3 MR. WRIGHTSTONE: I've already had COVID,  
4 so it's not that, so rest assured.

5 MAJORITY CHAIRMAN METCALFE: Thank you  
6 for clarifying.

7 MR. WRIGHTSTONE: Yeah. And tested  
8 positive for antibodies, so I'm good.

9 Pennsylvania is home to five major rivers  
10 and many thousands of tributaries that each year  
11 have the root history of pollution and subsequent  
12 cleanup. Nearly all of these waterways have seen  
13 tremendous water quality improvements over the  
14 last several decades. Once polluted waters  
15 around the State are now home to fishing  
16 tournaments, like the annual event in Pittsburgh  
17 that features fishing and all three of  
18 Pittsburgh's famous rivers, once infamously  
19 contaminated. The claim that Pennsylvania's air  
20 and water quality are declining is shown to be  
21 factually incorrect and divorced from reality.  
22 My fact check on worsening air and water quality,  
23 false and misleading.

24 The fifth claim is that rising sea level  
25 will cause more flooding in southeastern

1 Pennsylvania. According to the 2018 Climate  
2 Assessment, the Delaware River Basin communities  
3 can expect, including Philadelphia, can expect  
4 more frequent flooding and associated disruptions  
5 due to sea level rise that presumably is caused  
6 by anthropogenic warming. Fortunately, very good  
7 data suggests otherwise.

8 Relative sea level is the combination of  
9 sea level rise and geologic downwarping of the  
10 bedrock. The relative sea level at the tide  
11 gauge in Philadelphia -- if we could show that --  
12 shows a rise of twelve inches over the last  
13 century at a remarkably steady rate.

14 Approximately four inches of that rise can be  
15 attributed to waterfront subsidence and ongoing  
16 geological shifts resulting from the retreat of  
17 glaciers at the end of the last Ice Age.

18 Since long term sea level rise has been  
19 steady over the last 150 years, it's likely that  
20 Philadelphia has seen 24 to 30 inches of relative  
21 sea level rise over the last 250 years. Having  
22 already adapted to 250 years of rising sea  
23 levels, Philadelphia, with modern technological  
24 abilities and capabilities, can expect to easily  
25 adapt to the projected eight inches or so of rise

1 between now and 2100. Fact check on dangerous  
2 sea level rise, false and misleading.

3 The 2018 Pennsylvania Climate Action Plan  
4 forecasts a future harm to the agricultural and  
5 dairy sector because of man-made climate change.  
6 Is that the case? The short answer is no. The  
7 Climate Action Plan ignores the many benefits  
8 that are occurring to our ecosystems and to  
9 agriculture for modestly rising temperatures and  
10 increasing CO<sub>2</sub>. Contrary to the predictions of  
11 looming famine in the Keystone State, facts on  
12 the ground present a story of agricultural bounty  
13 and increases in production.

14 Agricultural production in Pennsylvania  
15 and around the world continues to break records  
16 year after year. The increase in temperature  
17 results in longer growing seasons. Killing  
18 frosts end earlier in the spring and later in the  
19 fall, leading to more plantings and harvest. The  
20 benefits of warming are turbo charged by CO<sub>2</sub>  
21 fertilization effect, which significantly  
22 enhances crop and foliage growth.

23 Corn is by far the largest agricultural  
24 product in Pennsylvania with more than 15,000  
25 farms growing it. Figure 10, if you go back one

1       there, reveals a stunning relationship between  
2       corn yield per acre and increasing global  
3       emissions. In Pennsylvania, both corn yields in  
4       tons per acre and milk yields in pounds per cow  
5       are improving every year. The facts from down on  
6       the farm paint an entirely different picture than  
7       that presented by the Governor and the Climate  
8       Action Plan. By every metric, the dairy and  
9       agricultural sector are thriving and improving  
10      with no end in sight. My fact check on declining  
11      agricultural productivity, false and misleading.

12                In summary, there is no climate crisis  
13      and no need for RGGI. Historical data show the  
14      Wolf Administration's prediction of climatic  
15      disaster is blatant fear mongering meant to  
16      advance a destructive anti-science agenda.  
17      Instead of imposing a program that would destroy  
18      Pennsylvania's billion dollar fossil fuel  
19      industry and tens of thousands of associated  
20      jobs, government bodies tasked with reviewing  
21      Governor Wolf's proposal should follow the  
22      science and reject RGGI.

23                Thank you.

24                MAJORITY CHAIRMAN METCALFE: Thank you,  
25      sir.

1           Dr. Legates, thank you for joining us  
2           again.

3           DR. LEGATES: Thank you. I am David R.  
4           Legates, professor and climatologist at the  
5           University of Delaware. I served as the Delaware  
6           State climatologist from 2005 to 2011. Recently,  
7           I was on leave as the Assistant Deputy Secretary  
8           of Commerce, Environmental Observation and  
9           Prediction, was detailed to the White House as  
10          Executive Director of the United States Global  
11          Change Research Program. I would like to thank  
12          both the Chairman and the Committee for the  
13          opportunity to provide my perspective of 40 years  
14          of experience in climate change.

15          Efforts to manipulate the future climate  
16          usually focus on trends in the current climate  
17          and model projections of what the future climate  
18          is likely to be. Other speakers have or will  
19          eloquently describe the problems associated with  
20          interpretation of the data and the issues  
21          associated with climate models. So let me focus  
22          then on the molecule that is supposedly  
23          responsible for the destruction of our climate,  
24          carbon dioxide.

25          Please note that carbon dioxide is not

1 the most important greenhouse gas. That honor  
2 goes to water vapor, which is responsible for  
3 nearly 90 percent of the net warming of the  
4 planet, due to the radiative impact of the  
5 Earth's atmosphere. However, recent arguments  
6 have been posited that carbon dioxide is some  
7 form of a, quote, magical climate control knob,  
8 such that climate responds almost exclusively to  
9 the amount of carbon dioxide in the atmosphere.  
10 We are told that conditions will only get worse  
11 and that our only hope, for both our planet and  
12 our children's future, is to limit the production  
13 of fossil fuels with an ultimate goal of becoming  
14 carbon free.

15 In analyzing climate policy,  
16 legislators such as yourselves must be cognizant  
17 of three key considerations regarding the impact  
18 of projected rises in atmospheric carbon dioxide.  
19 They are one, that policy choices likely will  
20 have no measurable effect on the occurrence of  
21 severe weather; two, that positive effects on  
22 ecosystems and biodiversity must be considered;  
23 and three, carbon mitigation may not actually  
24 lead to a reduction in atmospheric carbon  
25 dioxide.

1           Given these considerations, you must  
2           carefully consider the potential impacts of  
3           carbon emission control. If climate change  
4           regulation proceeds unchecked, it will produce  
5           policy that is out of touch with both the real  
6           world and the objective science, and will likely  
7           impose large costs on society that benefit only a  
8           small cadre of climate entrepreneurs. It will  
9           provide no meaningful effect on Pennsylvania's  
10          climate, and in fact, will adversely affect  
11          Pennsylvania's economy.

12           Our first consideration: efforts in  
13          climate stabilization will have no impact on the  
14          Earth's climate. Legislators such as yourselves  
15          have the responsibility to carefully consider the  
16          limitations of science and the impacts of factors  
17          other than man-made carbon dioxide. It would be  
18          wrong to attribute all observed impacts to  
19          climate change, even more so to greenhouse gases,  
20          and even further to efforts that could be  
21          controlled by humans. You must consider that the  
22          assumptions regarding future harm from rising  
23          atmospheric carbon dioxide are contradicted by  
24          the evidence.

25           You must also reconcile scientists'

1 failure to find a carbon dioxide greenhouse  
2 warming signal, despite extensive and objective  
3 scouring of climate records. This lies in sharp  
4 contrast to the speculations from computer  
5 climate models, which are predicated on a  
6 pre-determined relationship between atmospheric  
7 carbon dioxide and climate change. Such findings  
8 indicate that computer modeling may be inherently  
9 limited in its ability to make accurate  
10 predictions regarding a system as complex as the  
11 global climate. And it is not developed enough  
12 to generate reliable prognoses for policy making.  
13 Thus, informed decisions must weigh all observed  
14 climate data, rather than relying on outputs from  
15 the artificial worlds generated by computer  
16 climate models.

17           Consideration two: legislators must  
18 weigh the potential benefits of a changing  
19 climate. Climate activists often negatively  
20 characterize climate change as an unnatural  
21 process that is bound only to bring disaster.  
22 Unfortunately, some of these characterizations  
23 have become embodied in law through judicial  
24 decisions and legislative actions. To avoid  
25 these shortcomings, you must reject the notion

1 that a changing climate is always detrimental.  
2 Instead, the best scientific data available must  
3 include the positive effects of climate change.

4 You must be careful to avoid the  
5 mistake of turning scientifically inaccurate  
6 definitions into law. In 2007, for example, the  
7 United States Supreme Court held that greenhouse  
8 gases fit within the Clean Air Act's definition  
9 as an air pollutant, creating a non-scientific  
10 legal definition. Rather than being an air  
11 pollutant, atmospheric carbon dioxide is, in  
12 fact, the basic building block of all plant life.  
13 Legal definitions at odds with science make it  
14 impossible to enact sensible policy.

15 Imprecise language can also lead to  
16 exaggerations about the potential dangers of  
17 carbon dioxide that may cause legislators to  
18 misjudge the urgency of the situation. For  
19 example, commercial greenhouses often increase  
20 the carbon dioxide levels to enhance plant  
21 growth. Most of our planet has greened over the  
22 past 30 years. And part of the side effect is  
23 that plants use water more efficiently under  
24 elevated carbon dioxide concentrations, yet few  
25 politicians or climate entrepreneurs consider

1 these positive benefits.

2 Some scientists have cautioned about the  
3 dangers of carbon myopia, of seeing and examining  
4 only the alleged dangers of rising carbon dioxide  
5 levels in the atmosphere, while ignoring its  
6 potential benefits. Not all biological,  
7 chemical, and ecological responses to rising  
8 atmospheric carbon dioxide portend doom and  
9 gloom. Balanced discussions are essential,  
10 rather than pursuing a one-sided and misguided  
11 strategy of carbon dioxide reduction.

12 Consideration three: legislators must  
13 recognize the possibility that legislation may  
14 not lead to a reduction of atmospheric carbon  
15 dioxide. Professor Roger Pielke, Jr. has  
16 critically remarked that very complex policies  
17 full of accounting tricks, political pork, and  
18 policy misdirection create the false promise of  
19 an international climate solution. This leads to  
20 my third consideration.

21 I have watched legislation toward climate  
22 stabilization be enacted in my home State of  
23 Delaware. I implore the Commonwealth of  
24 Pennsylvania to not make the same mistake. Let  
25 me provide you with our example. To facilitate a

1 green economy and cut carbon dioxide emissions,  
2 the State of Delaware has given more than  
3 \$18 million of taxpayer money in cash and  
4 incentives to Bloom Energy to create green energy  
5 jobs. We are on the hook for another nearly two  
6 decades of subsidies.

7 This boondoggle however is funded  
8 predominantly by Delmarva Power ratepayers  
9 through a feed-in tariff, which has made  
10 electricity in Delaware more expensive. To date,  
11 Delmarva ratepayers have paid nearly \$300 million  
12 to Bloom Energy. Amazingly, Delaware declared  
13 natural gas as a renewable energy resource, but  
14 only if consumed in a Bloom Energy fuel cell,  
15 which is less efficient than a combined cycle  
16 natural gas plant. This allowed Bloom Energy to  
17 qualify for subsidies under the Renewable  
18 Portfolio Standards Act, or RPSA.

19 Just over 300 jobs were ultimately  
20 created, and the removal of hazardous waste that  
21 Bloom claimed its fuel cells do not create, has  
22 been an ongoing problem in the State. Presently,  
23 its consortium with both conservative and  
24 environmental groups is fighting to get the Bloom  
25 Energy deal repealed. Unfortunately, the

1 Delaware State Legislature refuses to remedy the  
2 situation. And all of this has occurred as a  
3 direct result of our intent to lower greenhouse  
4 gas emissions according to our climate Action  
5 Plan and to make Delaware a green energy state.

6 In conclusion, as prudent legislators,  
7 please do not fall for the shortsightedness of  
8 the -- presentation of human-induced global  
9 warming. Rather, given the potential costs and  
10 impacts, be suspicious that advocates have  
11 subverted scientists to further their own causes.  
12 Given the uncertainty involved, you must consider  
13 the scientific data carefully. Do we really want  
14 a future based on a grievous misunderstanding  
15 based on carbon myopia?

16 Can the Commonwealth afford to ignore the  
17 real harm that would be caused by adhering to  
18 these fallacies about carbon dioxide?

19 You must have the courage to stand  
20 against climate alarmism and stand for rational  
21 stewardship and for reliable affordable energy.  
22 I urge Pennsylvania to do the right thing and  
23 reject any deal that would restrict carbon  
24 emissions to accomplish climate stability. Only  
25 in that way, can the jobs, health, welfare,

1 economic opportunities, environment quality,  
2 living standards, and civil rights of  
3 Pennsylvania's citizens that depend so critically  
4 on carbon energy be protected.

5 Thank you again for the opportunity to  
6 present my views to you today.

7 MAJORITY CHAIRMAN METCALFE: Thank you,  
8 Dr. Legates. And thank you, Mr. Wrightstone.

9 Committee questions?

10 Representative Vitali.

11 MINORITY CHAIRMAN VITALI: I thank the  
12 speakers for the presentation. I want to read  
13 you a series of statements and just ask you to  
14 comment on them at the end.

15 This is from the Intergovernmental Panel  
16 on Climate Change in their 2019 report. One of  
17 the key messages that comes out very strongly  
18 from this report is we are already seeing the  
19 consequences of a 1 degree Celsius of global  
20 warming through more extreme weather, rising sea  
21 levels, diminishing arctic sea ice, among other  
22 changes. Human influence on the climate system  
23 is clear. And recent anthropogenic emissions of  
24 greenhouse gases are the highest in recent  
25 history.

1           Here's another statement. This is from  
2           the Pennsylvania Chamber of Business and Industry  
3           in 2018. To be clear, we recognize that a  
4           changing climate will present significant  
5           challenges to the Pennsylvania and the United  
6           States, and human nature, human activity, is a  
7           contributing factor.

8           Here's another statement from the  
9           American Meteorological Society in 2018. There's  
10          an overwhelming body of scientific evidence that  
11          shows that global warming climate we have been  
12          experiencing in recent years is primarily caused  
13          by human activity and that current long-term  
14          warming trends cannot be expected to be reversed  
15          if no other action is taken. Here's another  
16          statement by Chris Crane, president and CEO of  
17          Exelon in 2018. Time is running out to return to  
18          a safe and stable global climate. The world's  
19          top scientists give us a vanishing short period  
20          of time to right the ship before climate change  
21          pushes Earth past its ecological tipping point.

22          Here's another statement from the  
23          National Academy of Sciences from the United  
24          Kingdoms and about a dozen other academies. The  
25          world's climate is changing and the impacts are

1 already being observed. Here's another statement  
2 from the World Meteorological Association in  
3 2018. Increasing levels of greenhouse gas in the  
4 atmosphere are key drivers of climate. And this  
5 is from the American Chemical Society. The  
6 American Chemical Society acknowledges that  
7 climate change is real, is serious, and has been  
8 influenced by anthropogenic activity.

9 Now, my question to you is this. You  
10 have every right to have your own opinion and  
11 think the way you do, but would you at least  
12 acknowledge that you are in the minority in the  
13 views you have expressed today?

14 MR. WRIGHTSTONE: I will just take a  
15 quick stab at that. We are part of the  
16 97-percent consensus. Dr. Legates, myself, and  
17 the other presenters all agree that yes, we're in  
18 a warming trend. That warming trend, though,  
19 started more than 300 years ago, long before we  
20 started adding CO<sub>2</sub>. The first 250 years of that  
21 warming had to have been naturally driven. And  
22 now we're being asked to believe that the last 50  
23 or 60 years, all of a sudden, it's now caused by  
24 CO<sub>2</sub>, when the same -- the 250 years before was  
25 naturally driven. That's not how science works.

1 That's not how climate works, to being asked to  
2 believe this.

3 We also believe that, yes, CO2 is  
4 increasing, and it's probably due to our burning  
5 of fossil fuels. We look at -- by almost every  
6 metric you look at, the Earth's ecosystems are  
7 improving, thriving, prospering. He talked about  
8 an Earth that's greening. And humanity is  
9 benefiting from the modest eight-tenths of a  
10 degree warming since the beginning of the  
11 twentieth century, combined with increasing CO2  
12 that's turbocharging crop growth and foliage  
13 throughout almost every ecosystem in the world.

14 We see an Earth that's thriving,  
15 prospering, benefitting. And we should embrace  
16 this. Extreme weather you talked about. Extreme  
17 weather deaths over the last 80 years have  
18 declined by 98 percent. A lot of that has to do  
19 with the forecasting abilities, but a lot of it  
20 can't be -- but you're wrong about extreme  
21 weather increasing. It's not. It's decreasing.

22 MINORITY CHAIRMAN VITALI: To be clear, I  
23 did not express my opinion. I expressed the  
24 opinions of the most respected scientific and  
25 business interests in the world. And there in

1 total -- I can read these statements again -- but  
2 in total, they're saying climate change is  
3 occurring. It's real. It's caused by human  
4 activity. It's dangerous --

5 MAJORITY CHAIRMAN METCALFE:  
6 Representative Vitali, why don't we give Dr.  
7 Legates --

8 MINORITY CHAIRMAN VITALI: -- and it  
9 needs to be addressed.

10 MAJORITY CHAIRMAN METCALFE: Why don't we  
11 give Dr. Legates a chance to respond to those  
12 very many statements that you read from other  
13 sources.

14 Thank you.

15 DR. LEGATES: Yeah, I know that there's  
16 been a lot of discussion on this 97 percent  
17 consensus. I did a paper that looked into that  
18 creation. It's essentially a number smith value  
19 based upon an assessment of papers. The  
20 American --

21 MINORITY CHAIRMAN VITALI: To be clear,  
22 I did not mention 97 percent.

23 DR. LEGATES: I understand. I  
24 understand. That is the number that is often  
25 used for consensus. I know that the American

1 Meteorological Society did an actual poll. And  
2 in one case, they asked the basic question, do  
3 you believe more of what we've seen in climate  
4 change is natural variability or more of what  
5 we've seen in climate change is human-induced;  
6 and it was almost 50/50. So there isn't really a  
7 broad consensus. Because you had said we were in  
8 the minority; and I don't believe we are in the  
9 minority.

10 The second thing I will point out,  
11 without going through all of them, is the  
12 Intergovernmental Panel on Climate Change. As  
13 Dick Lindzen had commented, the summary for  
14 policymakers is not the cliff notes of the actual  
15 document itself. There are places where the  
16 summary for policymakers makes broad sweeping  
17 statements. And when you actually get into the  
18 science document, there are all sorts of caveats  
19 and if, ands, or buts in there.

20 So they do not match well between the  
21 others. And in many cases, there are runners,  
22 which go from the summary production to the  
23 scientific production, actually asking the  
24 scientist to change the science and that's not  
25 the way science should be done.

1 MAJORITY CHAIRMAN METCALFE: Other  
2 members?

3 Thank you, gentlemen. Thank you for  
4 being with us today. Thank you for your  
5 testimony.

6 DR. LEGATES: Thank you.

7 MAJORITY CHAIRMAN METCALFE: All right.  
8 Next panel would be Mr. Andrew McKeon, Executive  
9 Director for RGGI, Inc.; Mark Szybist -- and  
10 you're an attorney -- Natural Resources Defense  
11 Counsel; and Frank -- Franz T. Litz, Litz Energy  
12 Strategies, LLC.

13 Gentlemen, you can join us at the table  
14 there with the microphones. There's three  
15 microphones set up, so you can -- actually,  
16 before you all sit down, we should swear you all  
17 in also. At previous meetings, we've done  
18 everybody at the same time, but then, not  
19 everybody is here. So I thought, oh, we'll take  
20 one panel at a time.

21 (Whereupon, testifiers were sworn en masse.)

22 MAJORITY CHAIRMAN METCALFE: Thank you,  
23 gentlemen. Please have a seat. Thank you for  
24 being with us. And please begin when you're  
25 ready.

1 MR. MCKEON: Chairman Metcalfe, Chairman  
2 Vitali, members of the Environmental Resources  
3 and Energy Committee, thank you for inviting me  
4 to testify today and for providing the  
5 opportunity to share information about the  
6 Regional Greenhouse Gas Initiative, also known as  
7 RGGI. I'm Andrew McKeon, Executive Director of  
8 RGGI, Inc., and I do have a few PowerPoint slides  
9 prepared.

10 I'll begin by describing RGGI, Inc., the  
11 not-for-profit organization that I lead, and  
12 sharing information on how it supports 11 states  
13 in implementing their individual CO2 budget  
14 trading programs. After describing the role of  
15 RGGI, Inc., I will then move on to outline what  
16 exactly RGGI is and how it works. I'll also  
17 provide information about some of the benefits  
18 that the participating states have seen over the  
19 last decade-plus of participation.

20 So what is RGGI, Inc.? RGGI, Inc. is a  
21 501(c)3 not-for-profit that provides technical  
22 and administrative services to the 11  
23 RGGI-participating states. The technical and  
24 advisory services provided by RGGI, Inc. include  
25 administering the quarterly RGGI auctions,

1 hosting a registry system to track CO2 emissions,  
2 and state-originated RGGI allowances, securing  
3 and managing the independent market monitoring of  
4 the RGGI market to maintain market openness,  
5 transparency, and stability, and facilitating  
6 discussions amongst the state.

7 RGGI does not make policy decisions and  
8 does not have any independent authority. Rather,  
9 RGGI, Inc. works entirely in the service of and  
10 at the direction of the states. Our role is to  
11 serve as a resource and a facilitator for the  
12 states, overseeing auction execution, allowance  
13 tracking and market monitoring, while also  
14 supporting the states in their communication with  
15 one another, but RGGI Inc. has no role in  
16 developing or shaping policy.

17 Sometimes the clearest way to understand  
18 what something is, is by knowing what it is not.  
19 So I think this especially holds true for RGGI.  
20 So first, and most importantly -- first, and most  
21 importantly, RGGI is not a program. It is not a  
22 compact. There is no centralized authority. It  
23 is, in fact, an effort of 11 individual sovereign  
24 states working in concert to achieve the most  
25 cost-effective carbon reductions for themselves.

1 This distinction is not semantical, but very real  
2 and is reflected in how RGGI operates with  
3 individual states crafting and executing their  
4 own regulations.

5 Second, RGGI does not impose a carbon  
6 tax. In developing RGGI, the participating  
7 states have sought to use market forces to  
8 internalize a market externality, revealing a  
9 price signal for carbon emissions from the  
10 electricity sector to address the cost that is  
11 real, present, and indeed growing.

12 Third, there is no joining RGGI. And  
13 people often say that as shorthand, but the fact  
14 is that states and jurisdictions don't join.  
15 States interested in RGGI develop their own  
16 independent regulation that enable their state to  
17 participate in a common regional auction and gain  
18 access to other technical services.

19 Also, RGGI does not operate on a majority  
20 rule basis. All shared decisions are arrived at  
21 by consensus, and no state is compelled by a  
22 majority of other states to take an action with  
23 which they would disagree. Only if all states  
24 agree on an action do they move forward together.  
25 You know, there's this old ancient proverb that

1 says if you want to go fast, go alone, but if you  
2 want to go far, go together. That's the benefit  
3 of consensus, going far together. And RGGI has  
4 shown how a group of diverse independent  
5 jurisdictions, through consensus, can go far  
6 together.

7 And finally, RGGI is not imposed. Each  
8 participating state maintains its participation  
9 of its own volition. Any state can choose to  
10 begin or cease participation based on its own  
11 circumstances and policy preferences.

12 So now that I've talked a bit about what  
13 RGGI isn't, so let me talk a little bit more  
14 about what it is and how it works. RGGI is a  
15 cooperative effort amongst, currently, 11 states  
16 with the shared aim of capping and reducing CO2  
17 emissions from the power sector. These states  
18 include: Connecticut, Delaware, Maine, Maryland,  
19 Massachusetts, New Hampshire, New York, Rhode  
20 Island, and Vermont. Plus, in 2020, we saw New  
21 Jersey resume participation after an eight-year  
22 gap. And this year, Virginia initiated  
23 participation in RGGI.

24 These states seek to reduce power sector  
25 CO2 emissions in order to internalize the

1 environmental and social costs being borne by the  
2 public. RGGI is a bipartisan initiative rooted  
3 in science and free-market economics. The story  
4 of the start of RGGI goes back to the early 2000s  
5 when a group of neighboring states, recognizing  
6 the scientific evidence behind climate change,  
7 agreed to coordinate their individual efforts and  
8 use market-based forces to address this problem.  
9 Both Democrats and Republicans have been in  
10 positions of leadership in RGGI, and that  
11 bipartisanship continues today, something we are  
12 very proud of at RGGI and see as a model for  
13 collaborative engagement writ-large.

14 Each RGGI-participating state has  
15 individually decided to develop compatible state  
16 regulations, so that they may work together,  
17 access shared resources, share best practices,  
18 and move forward together to address climate  
19 change, a challenge that is best tackled through  
20 a collective approach that draws upon each  
21 state's strengths and experiences. The  
22 RGGI-participating states have chosen a regional  
23 approach for technical reasons that accrue  
24 benefits to all participating states.

25 A regional effort is intrinsically

1 aligned with the regional nature of the electric  
2 grid as power moves across state lines. And a  
3 regional approach to emissions reductions is more  
4 cost effective as independent experts have  
5 affirmed. Also, participation in a regional  
6 auction as the primary means for distributing  
7 RGGI allowances not only reflects core  
8 free-market economics, but also enables effective  
9 price discovery and efficient and lower cost  
10 carbon reductions. And having a regional auction  
11 creates ease of access for market participants in  
12 the RGGI states.

13 while RGGI-participating states have  
14 opted to develop compatible regulations and  
15 participate in regional auction format, each  
16 state maintains complete sovereignty and control  
17 over every aspect of RGGI implementation in their  
18 state, including how they spend the proceeds  
19 generated from the RGGI auctions.

20 So let me talk a little about RGGI  
21 participation. You know, the RGGI states  
22 recognize the benefits of a broader market with  
23 more participants, as larger markets increase  
24 economic efficiency and cost-effectiveness, as  
25 well as contribute further to the environmental

1 and public health benefits realized by the  
2 current participating states. The RGGI states  
3 are always open to states considering a path to  
4 participation. However, while current  
5 participating states have found RGGI to be a  
6 powerful tool in meeting their policy and climate  
7 goals, participation by Pennsylvania is of course  
8 only Pennsylvania's decision to make.

9 what we can provide is information on  
10 what other states have experienced over RGGI's  
11 decade-plus of implementation, including some of  
12 the benefits linked to that implementation. As  
13 we noted, there -- states have full jurisdiction  
14 over how to spend their RGGI auctions. In 2018  
15 -- through 2018, RGGI states have invested over  
16 \$2.5 billion of RGGI proceeds in energy  
17 efficiency, clean and renewable energy, and  
18 support for low-income bill assistance programs,  
19 as well as other programs to support communities  
20 across the RGGI region. Of course, if  
21 Pennsylvania were to participate in RGGI, it  
22 would decide how to spend its auction proceeds,  
23 based solely on the State's own priorities and  
24 understanding of how to best strengthen PA  
25 communities.

1                   And Independent research has also  
2                   published a number of reports. One on the health  
3                   benefits of RGGI participation, finding that RGGI  
4                   states' transition to a cleaner energy  
5                   infrastructure is saving lives, protecting the  
6                   health of children, and reducing health-related  
7                   costs to society. Additional independent reports  
8                   have shown that RGGI is creating jobs and  
9                   generating significant economic benefits.  
10                  Reports on RGGI's first, second, and third  
11                  control periods have found that the total  
12                  economic benefits in the region are on the order  
13                  of \$4 billion dollars.

14                  It should be noted that RGGI is not an  
15                  economic development effort, but rather an  
16                  emissions reduction effort. But the results have  
17                  shown significant economic benefit to the economy  
18                  and to communities.

19                  I would also note that since RGGI  
20                  launched, average electricity bills in the  
21                  region, including commercial, industrial, and  
22                  residential, have declined faster in the RGGI  
23                  region than in the US as a whole. This is  
24                  supported by the investments that have been made  
25                  over the years in energy efficiency. So over the

1 course of more than a decade, a significant  
2 social -- of significant social, economic, and  
3 political change, we have seen the RGGI states  
4 embody a constancy of purpose in reducing CO2  
5 emissions, while maintaining grid reliability,  
6 realizing great economic and health benefits, and  
7 reducing costs to consumers.

8 So thank you again for the invitation to  
9 testify today. And I hope I have helped in your  
10 understanding of RGGI. I would welcome any  
11 questions you may have.

12 MAJORITY CHAIRMAN METCALFE: Thank you.

13 Who's next? Mr. Szybist.

14 MR. SZYBIST: Yes. Szybist. Thank you.

15 Chairman Metcalfe, Chairman Vitali,  
16 honorable members of the Committee, good morning.  
17 And thanks for the opportunity to speak to you  
18 today on the topic of climate and carbon dioxide.

19 My name is Mark Szybist. I'm a senior  
20 attorney with the Natural Resources Defense  
21 Council, a nationwide non-profit environmental  
22 organization. My job is to advocate for  
23 equitable clean energy policies in Pennsylvania,  
24 where NRDC has around 17,000 members. My  
25 testimony today, which is an abridged version of

1 my slightly longer written testimony, has three  
2 parts.

3 First, I'll provide an overview of what  
4 Pennsylvania and the world need to do to keep  
5 global temperatures from rising more than 1.5  
6 degrees Celsius above pre-industrial levels,  
7 which is what we need to do to avoid the worst  
8 effects of climate change. Second, I'll review  
9 the approach the General Assembly has taken to  
10 energy policy and climate over the last two  
11 decades. And third, I'll discuss the General  
12 Assembly's response so far to the DEP's proposed  
13 CO2 budget trading program regulation, which  
14 would enable the Commonwealth to participate in  
15 RGGI.

16 In 2018, the UN's Intergovernmental Panel  
17 on Climate Change issued a special report called  
18 Global Warming of 1.5 Degrees Celsius. It  
19 concluded that to limit the increase in average  
20 global temperatures to 1.5 degrees above  
21 pre-industrial levels -- and we're about 1.1  
22 degrees now -- we have to reduce net greenhouse  
23 gas emissions 45 percent by 2030 and attain net  
24 zero emissions by 2050.

25 The consensus emerging from various

1 studies since the IPCC's report, is that to  
2 achieve this kind of deep decarbonation, we have  
3 to: 1) Generate our electricity from zero-carbon  
4 sources, especially renewables; 2) Electrify our  
5 buildings and our vehicles; 3) Improve the energy  
6 efficiency of our buildings and industrial  
7 processes; 4) Reduce emissions of greenhouse  
8 gases other than CO<sub>2</sub>, like methane; and 5)  
9 increase our capacity to remove CO<sub>2</sub> from the  
10 atmosphere through forest protection, carbon  
11 capture, and other practices.

12 To be sure, reducing our net emissions on  
13 this scale is a massive undertaking, but it is  
14 both possible and affordable, as well as a  
15 tremendous opportunity to invest in American  
16 workers and families and create a fairer, more  
17 sustainable, and less precarious economy than the  
18 one we have now. That's why many U.S states are  
19 developing ambitious plans to drive renewable  
20 energy, limit carbon pollution, and pursue other  
21 decarbonization pathways. There's more detail  
22 about that in my written testimony.

23 Pennsylvania, though, has fallen behind.  
24 Between 2004 and 2008, the General Assembly took  
25 three important steps toward a clean energy

1 economy. The Alternative Energy Portfolio  
2 Standard Act of 2004 set goals for electric  
3 utilities to buy alternative generation,  
4 including renewable energy. Act 129 of 2008  
5 required utilities to establish efficiency and  
6 conservation programs to help customers save  
7 energy and money. And the Climate Change Act of  
8 2008 charged the DEP with assessing the impacts  
9 of climate change in Pennsylvania and  
10 recommending strategies to address those impacts.  
11 Then, the fracking boom started. And the General  
12 Assembly's priority quickly shifted to promoting  
13 shale gas.

14 Among Pennsylvanians, support for clean  
15 energy and climate action has increased as the  
16 impacts and threat of climate change have become  
17 undeniable. Today, majorities of both rural and  
18 urban Pennsylvanians think renewable energy holds  
19 the greatest promise for addressing  
20 Pennsylvania's energy needs. But the General  
21 Assembly, frankly, is ignoring those majorities.

22 One timely example is that last month,  
23 after 16 years of modest increases, the AEPS  
24 reached its modest peak without as much as a  
25 hearing on any of the several bills that have

1       been introduced to update it. Meanwhile, due  
2       largely to the General Assembly's restructuring  
3       of Pennsylvania's power sector in the '90s,  
4       Pennsylvania has seen a massive shift from  
5       coal-fired power to gas-fired power. For the  
6       last decade, gas has been rapidly displacing  
7       coal.

8               In 2005, 55 percent of the electricity  
9       produced in Pennsylvania came from coal. By  
10       2019, coal generation was down to 17 percent,  
11       while gas generation was up from 5 percent in  
12       2005 to 43 percent in 2019. The reason for  
13       coal's decline is simple. Generating electricity  
14       from gas got cheaper. Before fracking, coal was  
15       generally Pennsylvania's cheapest electricity  
16       source and was much cheaper than gas. Then  
17       fracking made gas cheap and investors saw an  
18       opportunity to build new combined-cycle gas power  
19       plants that would out-compete the much older and  
20       less efficient coal plants on PJM's gas-friendly  
21       markets. And that's what they've done.

22               The result is that since 2010, almost  
23       14,000 new gas plants have come online in  
24       Pennsylvania. And more than 3,000 more megawatts  
25       are close behind. Sixteen coal plants have

1 closed or announced their closure, most recently,  
2 the Cheswick Generating Station north of  
3 Pittsburgh, which announced its closure on June  
4 10.

5 How has the General Assembly managed this  
6 decade-long transition and the impact it has had  
7 on workers and communities? As far as I can  
8 tell, it really hasn't. The General Assembly  
9 simply has not addressed the issue in any  
10 thorough way. And while some suggest that  
11 burning gas is a path to decarbonization, it  
12 clearly is not. Although coal-to-gas  
13 fuel-switching has led to somewhat lower  
14 emissions from Pennsylvania's power sector, it  
15 has also led to much higher emissions of methane.  
16 And emissions are expected to go up again.

17 Today, Pennsylvania has the  
18 fourth-highest CO2 among states. The question  
19 now facing the General Assembly is what to do in  
20 response to the DEP's proposed RGGI regulation.  
21 So far, despite Pennsylvanians' strong support  
22 for policy action on climate, despite the  
23 overwhelmingly positive support at the DEP's  
24 public comment period hearings for RGGI with  
25 investments in environmental justice communities

1 and coal communities, despite RGGI's clear record  
2 of reducing emissions, improving human health,  
3 and creating jobs -- despite all the investment  
4 RGGI would enable in the Commonwealth communities  
5 that need the investment most. So far, despite  
6 all of these things, the Committee's response has  
7 been only to advance House Bill 637, a bill that  
8 would strip the DEP of its authority to regulate  
9 CO2 and replace it not with a counterproposal to  
10 RGGI, but with an onerous new process for any  
11 future proposals the DEP may make to regulate  
12 CO2.

13 I don't presume I can change any member's  
14 minds about HB 637. My question for those of you  
15 who support it instead of HB 1565, Representative  
16 Herrin's RGGI Investments Act, is what you hope  
17 to achieve by it. What outcome do you want?

18 The purpose of HB 1565 is to pair the  
19 DEP's RGGI program with an investment program  
20 that balances investments in clean energy with  
21 other types of critical investments in  
22 communities adversely affected by the transition  
23 away from coal, as well as environmental justice  
24 communities that have long suffered  
25 disinvestment.

1           what is the hope or outcome of HB 637?  
2           It can't be investment. HB 637 wouldn't invest a  
3           cent, nor will it stop coal plants from closing,  
4           at least not for long. Only stopping the flow of  
5           shale gas could do that. All HB 637 would do is  
6           block policy to address climate change, and  
7           perhaps more importantly, block Governor Wolf.  
8           For some members, that may be enough, but for  
9           Pennsylvanians, it's not. They want and deserve  
10          more.

11           Thank you again for the opportunity to  
12          testify. I look forward to answering any  
13          questions you may have and to further discussing  
14          this important topic.

15           MAJORITY CHAIRMAN METCALFE: Thank you.  
16          And our final panelist in this panel.

17           MR. LITZ: Thank you, Mr. Chairman. And  
18          Chair Vitali, thanks for having me here, and  
19          members of the Committee.

20           Today I'd like to focus my remarks on the  
21          opportunities that a 21st century energy economy  
22          presents for Pennsylvania communities and  
23          citizens and how active participation in  
24          RGGI can help you seize those opportunities.

25           As the Chairman mentioned, my name is

1 Franz Litz. I'm a principal of my own  
2 consultancy. I consult to state governments and  
3 policy think tanks and philanthropy. And for the  
4 past 20 years, I've worked with state governments  
5 to develop sound policies to drive investment in  
6 a 21st century energy economy. And that means  
7 bringing new choices to consumers; good, durable  
8 jobs for workers; and a cleaner, healthier  
9 environment for communities.

10 From 2001 to 2007, I worked under the  
11 Republican Governor of New York, George Pataki.  
12 Pataki, you may know, launched RGGI. And I led  
13 New York's efforts to develop and launch the  
14 Regional Greenhouse Gas Initiative. And Andrew  
15 McKeon mentioned that it's always been a  
16 bipartisan effort. And in those early years, six  
17 of the nine governors who joined us around the  
18 table were Republicans. And we were working on  
19 an instrument that was, of course, made popular  
20 by President George W. -- George H. W. Bush in  
21 the Clean Air Act Amendments of 1990.

22 Since leaving my post in New York, I have  
23 worked with other states in the northeast and  
24 mid-Atlantic as well as in other regions. For  
25 example, recently I assisted the Virginia

1 Department of Environmental Quality in its  
2 successful effort to launch its program and  
3 participate in RGGI. And I'm currently active in  
4 North Carolina, where a similar effort to  
5 participate in RGGI has officially started.

6 I can answer questions during the Q and A  
7 about some of the questions you may have about  
8 what it means for a state to consider joining  
9 RGGI. I'd be happy to do that. I wanted to,  
10 though -- when we started working on RGGI with  
11 those other Governors in 2003, things were very  
12 different. Over the past 20 years -- in those  
13 first 20 years of this still pretty young  
14 century, we've seen such remarkable changes in  
15 our energy economy. Lower costs have given us  
16 options for supplying electricity, including  
17 lower costs for wind and solar and energy  
18 storage.

19 As consumers, average residential  
20 consumers and big businesses alike, we have new  
21 options and new ways to keep costs down. That is  
22 why many major energy-consuming businesses now  
23 insist on access to solar and/or wind power as  
24 conditions to locating their operations in a  
25 community, not just because it's clean -- and

1 more and more businesses do care that it's  
2 clean -- but it provides electricity at a low,  
3 stable cost.

4 As landowners and homeowners, we can now  
5 participate in the energy economy like never  
6 before. Wind and solar have opened up new  
7 opportunities for landowners and homeowners to  
8 benefit from this energy economy. Maybe you know  
9 some of these landowners in your districts.  
10 Seizing opportunities at the State level requires  
11 good policy. Take Iowa, for example. Like  
12 Pennsylvania, Iowa is an electricity exporter.  
13 And across successive Republican administrations,  
14 Iowa remains determined to export more and more  
15 clean wind power to its neighbors to the east,  
16 bringing jobs and economic prosperity to Iowans  
17 in the process. This is the result of active  
18 affirmative decisions by six successive Iowa  
19 Governors and Utility Commissioners.

20 As consumers, as I mentioned, we're  
21 empowered like never before. Technology has  
22 brought us new ways to save energy and monetize  
23 those savings. For example, if I voluntarily  
24 turn over my smart thermostat to the utility on  
25 the hottest days of the year, I can earn sizable

1 credits on my utility bill. If I drive an  
2 electric vehicle, I can stop sending petroleum  
3 dollars out of state or out of the country. I  
4 can stop dealing with wildly fluctuating prices  
5 at the gas pumps. Instead, I hold onto more of  
6 my money, and I use electricity generated here  
7 close to home. If I install a heat pump in my  
8 home -- which are getting better and better as  
9 the time goes by, this technology, working much  
10 better our colder climates here in the  
11 northeast -- I dramatically improve the  
12 efficiency of my home heating system. I reduce  
13 the amount of fossil fuel I consume and pay for,  
14 all while staying warm in the winter and cold in  
15 the summer.

16 I want to recognize here, as I talk about  
17 all of these great things that consumers can do  
18 now, that these are not all available to  
19 low-income consumers, or at least they're less  
20 able to take advantage of these new options. But  
21 we do know how to design policies and make  
22 investment systems in ways that can make sure  
23 low-income consumers share equitably in these  
24 benefits and these opportunities. Energy  
25 efficiency is kind of the old -- the old measure

1 on the table, but it still remains a huge  
2 opportunity.

3 We can make our homes and buildings more  
4 comfortable while saving homeowners and business  
5 owners money. The increased potential for  
6 electrification of buildings and vehicles only  
7 amplifies dramatically the opportunities for  
8 energy efficiency. These are just some of the  
9 many opportunities a twenty first energy economy  
10 offers Pennsylvanians: more choice, lower costs,  
11 more comfortable buildings, and cleaner air.

12 It isn't all opportunity, of course.  
13 There are challenges, as well. Some communities,  
14 particularly those with coal-burning power plants  
15 that can no longer compete against low-cost  
16 competitors, need our help in the transition  
17 already underway. Low-income consumers need  
18 special consideration to make sure that they are  
19 not bearing the burden of new investments they  
20 cannot afford. As I said, the good news, though,  
21 is that we know how to help these communities and  
22 we know how to safeguard low-income households.

23 Participation in RGGI. Participation in  
24 RGGI can help Pennsylvania take advantage of  
25 these opportunities, while also meeting those

1 challenges I mentioned. First, RGGI sends the  
2 right signal to the electricity marketplace. It  
3 says to power companies, make investments that  
4 will position our communities for prosperity in  
5 this century. This message has proved very  
6 effective in the states already participating in  
7 RGGI.

8 Second, proceeds from the sale of RGGI  
9 allowances can be used to seize the benefits to  
10 Pennsylvanians. The current RGGI states, as  
11 Andrew McKeon mentioned, have had great success  
12 driving economic and job growth while improving  
13 environmental and health outcomes and lowering  
14 electricity bills. Finally, and crucially, RGGI  
15 money can be used to help communities with  
16 retiring coal plants to reduce electricity bills  
17 for low-income consumers and improve the  
18 environment in communities that have historically  
19 carried more than their fair share of  
20 environmental and public health burdens.

21 Thank you again for the opportunity to  
22 speak here today, and I welcome any questions you  
23 have.

24 MAJORITY CHAIRMAN METCALFE: Thank you,  
25 gentlemen.

1 Representative Rapp.

2 REPRESENTATIVE RAPP: Thank you,  
3 Chairman.

4 Thank you, panel. I hail from the great  
5 northwest of Pennsylvania, the land of  
6 conventional oil and gas wells. I --  
7 interesting testimony. I did hear recently on  
8 the news that California just proclaimed a green  
9 out, that no one was to charge their electric  
10 cars the other night. And as far as I know, even  
11 Californians are driving on asphalt. And I also  
12 heard recently on the news that China is building  
13 10 new, at least 10 new coal plants, which I  
14 found very interesting.

15 So I'm, you know, a little leery of the  
16 direction that we would be going under  
17 renewables. And as I said many times sitting  
18 here on ER&E, solar and wind produce one thing,  
19 electricity. I have yet to hear from --

20 MAJORITY CHAIRMAN METCALFE:  
21 Representative Rapp, not to interrupt, but do you  
22 have a question?

23 REPRESENTATIVE RAPP: Yes, I do, sir.

24 MAJORITY CHAIRMAN METCALFE: Thank you,  
25 MS. RAPP.

1           So what is the plan from those who  
2 propose renewables, wind and solar? Because in  
3 the years past, we've looked at reclaiming mines,  
4 the coal mine land. We've also had problems with  
5 well plugging of conventional gas.

6           So what is your plan -- because I've also  
7 seen many articles on the difficulty of disposing  
8 turbines after they've reached their life cycle.  
9 And also, what is your plan of disposing of solar  
10 panels after they've gotten to the end of their  
11 life cycle? Because I have not heard anyone  
12 speak of how -- what your plan is for the  
13 disposal of. Or are we going to wait until we  
14 come to the end of coal or the end of what you  
15 would like to see, oil and gas wells?

16           What is your plan? And how much land  
17 would you have to acquire for huge solar fields  
18 in Pennsylvania to produce the same amount of  
19 energy that oil and gas does today?

20           Thank you, Mr. Chairman.

21           MR. SZYBIST: I will answer that,  
22 Representative Rapp. On the question of  
23 renewables, I mean, you make a good point that  
24 they are intermittent, by definition. Solar  
25 panels generate power when the sun shines. Wind

1 turbines generate electricity when the wind  
2 blows. So we need to build out a system that can  
3 accommodate that kind of intermittency. Part of  
4 the solution is building the resources where the  
5 resources are best. So off-shore wind is a huge  
6 opportunity to serve the tremendous load on the  
7 east coast. We need to build new transmission to  
8 bring the renewable resources from where they're  
9 strongest to where the demand is. And we need to  
10 build a lot more renewables everywhere,  
11 especially locally, because you lose electricity  
12 when you're transmitting it.

13 On the question of recycling, you know,  
14 there are waste issues associated with every type  
15 of power production. Respectfully, the waste  
16 generated by coal mining and coal burning and gas  
17 fracking and gas burning far exceed the waste  
18 from renewable energy. However, it is important,  
19 as you point out, to deal with solar panels when  
20 they reach the end of their lives, wind turbines.  
21 So we need to build up a recycling industry to do  
22 that.

23 In fact, a significant industry already  
24 exists. And I know those issues are being  
25 debated in other circles in the General Assembly

1 right now. But you know, waste is a huge issue.  
2 Plastic waste is a tremendous problem. We have a  
3 lost of waste problems. We need to build an  
4 economy that can solve them.

5 REPRESENTATIVE RAPP: But you have no  
6 definite plans at this point?

7 MR. LITZ: If I may --

8 MR. SZYBIST: I don't work really on  
9 recycling so much. I know that I have colleagues  
10 who do, and I'd be happy to introduce you to them  
11 and get their perspective.

12 REPRESENTATIVE RAPP: Thank you,  
13 Mr. Chairman.

14 MAJORITY CHAIRMAN METCALFE: Thank you,  
15 Representative Rapp.

16 Did you have something to add, sir?

17 MR. LITZ: Yes, if I may, Mr. Chairman.

18 I think one of the reasons we don't hear  
19 a lot about what happens to solar panels when  
20 they're -- when they retire is across the country  
21 we're seeing all these coal plants retire because  
22 they're facing really tough competition from gas,  
23 and we're really struggling with the transition  
24 for those coal communities. And one of the  
25 things that I really hope you leave today's

1 hearing with is a feeling for how RGGI can help.

2 RGGI was used in New York. It was  
3 re-used in Massachusetts to help communities that  
4 had coal plants that retired. They gave money to  
5 the coal plants to replace the tax base. And so  
6 I think that's the reason why we're not hearing  
7 about solar panels because it's not really a  
8 thing yet, but coal plants retiring is a thing  
9 and those communities could use our help.

10 MAJORITY CHAIRMAN METCALFE:  
11 Representative Vitali.

12 MINORITY CHAIRMAN VITALI: Thank you,  
13 Mr. Chairman.

14 I wanted to talk about the use of RGGI  
15 proceeds, and in particular, the use of RGGI  
16 proceeds for non CO2 purposes. And I'll say in  
17 advance Marc is a trusted advisor, and I've  
18 already discussed this with him. I'd be  
19 interested in hearing from others.

20 Obviously, you know, under current law in  
21 Pennsylvania, RGGI proceeds would need to be  
22 diverted to the Clean Air Fund and used for air  
23 pollution purposes, which would include CO2  
24 reduction. You know, I'm concerned, or have  
25 queries rather -- and it just seems the sweet

1 spot there, if you like things like insulating  
2 homes of poor people, achieves the dual purpose  
3 of reducing CO2 emissions, plus helping the poor  
4 and creating jobs, installing solar and energy  
5 efficiency and wind and so forth can also achieve  
6 these dual purposes of creating employment and  
7 also CO2 reduction. But then you get to issues  
8 like using it for, let's say, recreation.

9 MAJORITY CHAIRMAN METCALFE:  
10 Representative Vitali, could you get to the  
11 question, please?

12 MINORITY CHAIRMAN VITALI: Yeah. I was  
13 just about there.

14 MAJORITY CHAIRMAN METCALFE: We're on  
15 limited time for our work panel today.

16 MINORITY CHAIRMAN VITALI: So my question  
17 is a discussion of how RGGI proceeds, the  
18 dependence upon the use of these proceeds as  
19 opposed to the cap and trade, how dependent are  
20 we on the proceeds for the needed CO2 reduction  
21 and what's the experience of RGGI states with  
22 regard to the use of RGGI proceeds for CO2  
23 reduction versus non CO2 reduction?

24 MR. MCKEON: So let me start with the  
25 first part of that and Franz can handle the

1 second.

2 So the RGGI proceeds do play a role in  
3 reducing CO2 through energy efficiency, but the  
4 RGGI signal also plays a more significant role in  
5 sending the market signal to renewables and other  
6 energy sources. So I think our data is showing  
7 on the investment of RGGI proceeds something like  
8 in the order of 40 million short tons of  
9 emissions being averted as a direct result of  
10 those investments in energy efficiency.

11 But if you look at the RGGI states and  
12 how they've done compared to the U.S. as a whole,  
13 we've reduced carbon intensity and CO 2 emissions  
14 twice as fast as the -- as the rest of the  
15 nation. So -- which is a significantly larger  
16 number than 40 million tons. So there's two  
17 aspects of it. There the market signal, and then  
18 there's the reinvestment of proceeds.

19 And the other thing I'd just add before I  
20 hand it over to Franz is that, you know, you  
21 don't get to reducing customer bills faster in  
22 the RGGI region than the rest of the country  
23 without cleverly figuring out how to use those  
24 proceeds. And I think, although the states are  
25 independent and make their own choices, I think

1 they understand what works and that they've  
2 actually -- that there's alignment between what  
3 they've done. Doesn't mean they're independent  
4 and don't make their own choices, but that  
5 alignment has resulted in this reduced costs to  
6 consumers, while reducing CO2 emissions.

7 MAJORITY CHAIRMAN METCALFE: Yes, sir.

8 MR. LITZ: If I may, Mr. Chairman. Thank  
9 you.

10 Chairman Vitali, I would just note I  
11 thought that answer was great. I would just --  
12 my only thing I would add is New York is probably  
13 the closest analogy to Pennsylvania. It is --  
14 they also allocated the allowances to an entity  
15 like the Clean Air Fund. They allocated it to  
16 NYSERDA. And so NYSERDA is limited to spending  
17 the money within the purposes that they have been  
18 authorized by statute, so it's energy efficiency  
19 and the like.

20 when you have legislative approval,  
21 generally true, this -- I'm not speaking to  
22 Pennsylvania law. I am trained as a lawyer, but  
23 I'm not a Pennsylvania lawyer. Generally  
24 speaking, legislatures have a much more broader  
25 -- you would have, you and your colleagues would

1 have a much broader realm of things you could put  
2 money towards. In Virginia, for example, they  
3 put half of the money to low-income consumers,  
4 and they put half of the money to infrastructure.

5 MINORITY CHAIRMAN VITALI: My real  
6 concern is how do -- do you endanger the benefits  
7 of RGGI when you start using these funds for  
8 really non CO2 reduction purposes?

9 MR. LITZ: See, that's really -- that  
10 would be your call.

11 MINORITY CHAIRMAN VITALI: That's the nub  
12 of my question.

13 MR. LITZ: Yeah.

14 MAJORITY CHAIRMAN METCALFE: Thank you.  
15 Representative Lee James.

16 REPRESENTATIVE JAMES: Thank you,  
17 Mr. Chairman. Simple question -- or simple, I  
18 hope, question. I'm listening to all of the  
19 testimony and I'm not clear on what the source of  
20 the so-called proceeds might be. So where does  
21 the money come from?

22 MR. MCKEON: So I had mentioned about the  
23 quarterly auctions, that a RGGI-participating  
24 state would be participating in quarterly  
25 auctions.

1           So RGGI -- you know, RGGI is sort of an  
2     idea. RGGI, Inc. is a 501(c)3 that supports this  
3     idea, but RGGI is an idea. And the idea is that  
4     you cap CO2 regionally, and then you take that  
5     cap, and there's an apportionment to each  
6     participating state. So Pennsylvania, if they  
7     were a participating state, would get an  
8     apportionment of that regional cap. The  
9     emissions in Pennsylvania being where they are --  
10    I think the draft reg has them at 78 million --  
11    and that would be on the order of something like  
12    a total of 130 or 140 million. Maybe I'm getting  
13    that a little bit off, but a significant part of  
14    that.

15           So the apportionment would go to  
16    Pennsylvania. Pennsylvania would mint their own  
17    allowances, issue allowances, and sell them at  
18    auction. And the proceeds would come from the  
19    sale at auction. Whatever the auction price is  
20    times the number of allowances sold, that's where  
21    the proceeds come from.

22           REPRESENTATIVE JAMES: So businesses?  
23    Businesses who generate the pollutants, if that's  
24    the right word, correct?

25           MR. MCKEON: well --

1           REPRESENTATIVE JAMES:  It's not a direct  
2 tax on my constituents.

3           MR. MCKEON:  So the participants in the  
4 auctions, the bidders, compliance entities, those  
5 businesses that would be required, often  
6 participate in the auction.  Also, there's  
7 financial market players that participate in the  
8 auction.  And this is very important for the  
9 liquidity of the market.  It also allows  
10 compliance entities to not necessarily have to  
11 participate in the auctions if they just want to  
12 buy allowances in the secondary market.  So the  
13 bidders of that, and the folks actually buying  
14 the allowances, can be a variety of participants.

15           But yeah, if you're a compliance entity,  
16 you need to have allowances to meet, basically  
17 the right to put CO<sub>2</sub>, a ton of CO<sub>2</sub> in the  
18 atmosphere.  You need to buy an allowance to do  
19 that.  That's the whole purpose.

20           REPRESENTATIVE JAMES:  Thank you,  
21 Mr. Chairman.  What I believe I'm hearing and  
22 understanding is that this is going to be an  
23 additional cost to businesses, any way you cut  
24 it.

25           MAJORITY CHAIRMAN METCALFE:  Thank you,

1 Representative James. I would agree with that.

2 Mr. McKeon, it was great to have you  
3 respond and to be here today because I'm sure  
4 that you're aware that I sent you a letter as far  
5 back as January 14 of 2020. And the reply that I  
6 received back from you was this, one sentence:  
7 This is to acknowledge receipt of your letter and  
8 thank you for your interest in RGGI.

9 So it was good to have you actually  
10 present some information before us today that  
11 gave us a little more insight as to who RGGI is.  
12 And then we followed up, of course, on May 4 of  
13 this year with another letter that was signed by  
14 many members of this Committee -- actually, the  
15 majority of the members of this Committee. We've  
16 not received an answer back to that letter, even  
17 that you were in are receipt of it. I would  
18 assume that you have received it.

19 Have you received the May 4th letter that  
20 we had sent?

21 MR. MCKEON: Yes, I did.

22 MAJORITY CHAIRMAN METCALFE: Because as  
23 you know from those letters, there's many of us  
24 that have a great concern. Even though people  
25 affirmatively state that the Governor has the

1 authority and we'd be blocking it, as was  
2 testified to, with the legislation that we've  
3 moved and another bill that just moved to the  
4 Senate, I believe, with a veto-proof majority  
5 from that most recent vote in the Senate, that  
6 the Governor doesn't have the authority to tax.  
7 I know that in your testimony, you claim this is  
8 not a tax.

9 Are you an attorney, sir? From your  
10 background --

11 MR. MCKEON: No.

12 MAJORITY CHAIRMAN METCALFE: Thank you.  
13 Because we have had attorneys testify before the  
14 Committee that have spelled out for us from clear  
15 court decision in the past the difference between  
16 taxes and fees. And when we're collecting  
17 additional money from the pockets of businesses  
18 or taxpayers or ratepayers in Pennsylvania, it's  
19 above and beyond what's used to administer a  
20 program, and that's a tax. And that's the money  
21 that would then be redistributed, as I understand  
22 it.

23 It was also interesting in your testimony  
24 that up kind of parse words with whether or not  
25 somebody joins or is a participant. I think

1 immediately when I heard that, you know, from  
2 your testimony -- and I kind of reviewed your  
3 testimony beforehand, because you had sent it in  
4 to us, which we appreciated -- I think of school  
5 sports, you know, you don't tell your son or  
6 daughter, you know, that I'm glad you're a  
7 participant in that sport, that you're not on the  
8 team. You know, like you don't participate and  
9 not join. You don't join and not participate.  
10 It's like kind of joining and participating --  
11 you also spelled out that it's not a compact,  
12 which I'm really curious -- and I'm working on a  
13 letter to our congressional delegation and  
14 Congress because, as you know, Congress has to  
15 approved state compacts. States are not allowed  
16 to enter into compacts without congressional  
17 approval.

18 So I understand why RGGI is proffering  
19 that it's really not a compact, but it really  
20 seems to be functioning as a compact. It seems  
21 to be a compact, you know, so I'm not sure -- you  
22 know, if a duck quacks, I think it's kind of a  
23 duck. So we're kind of interested in following  
24 up that end. And as you know, we've made the  
25 arguments in a letter to you that our Governor

1 does not have the authority and that litigation  
2 is expected.

3 So have your participants been made aware  
4 of the letters that we've sent?

5 MR. MCKEON: Yes, they've been shared  
6 with the agency heads.

7 MAJORITY CHAIRMAN METCALFE: So I would  
8 assume that they have liability in any potential  
9 lawsuit. Has that topic been taken up by the  
10 RGGI member states as far as Pennsylvania  
11 joining? And my understanding is there's not  
12 another state that's joined without legislative  
13 approval, other than specific -- other than New  
14 York, which had been the creator of it, it sounds  
15 like, from Governor Pataki, who I certainly  
16 appreciated some of the work he had done, but it  
17 seems like I don't appreciate this, which I just  
18 found out that he was the head of it.

19 They have -- I understand their law gave  
20 broad approval to their executive branch to join  
21 something like this, but other states have taken  
22 legislative action to do so, which we have not,  
23 as you know. Has your board been made aware that  
24 Pennsylvania is trying to do something that's  
25 kind of an anomaly to what other participant or

1 member states have done?

2 MR. MCKEON: Well, based on your letter,  
3 there were discussions about this. And my  
4 understanding of the view of New York is that  
5 what Pennsylvania and the Governor of  
6 Pennsylvania is doing vis-a-vis RGGI is very  
7 similar to and aligned with how New York  
8 approached this. New York basically said we have  
9 the right to -- the DOC has a right to regulate  
10 air pollutants. CO2 is a pollutant. Greenhouse  
11 gases are considered pollutants, you know, by the  
12 Supreme Court decision. Plus, they had state  
13 regulation in place.

14 My understanding is Pennsylvania has  
15 state regulation in place, the 1960 Air Pollution  
16 Control Act, which allows for the regulation of  
17 air pollutants. So there's not a lot of  
18 difference there. I don't think what  
19 Pennsylvania is doing seems to be very different  
20 from what New York did. But I also think it  
21 should be understood that -- and Franz, with the  
22 history that he has, he's helped me understand  
23 this better, that the states didn't feel they  
24 needed legislative authority to begin this  
25 participation. However, as he alluded to

1 earlier, it makes it a lot easier to figure out  
2 what to do with the money if you have legislation  
3 that authorizes that.

4 Am I saying that --

5 MAJORITY CHAIRMAN METCALFE: That's okay.  
6 We've run out of time for this panel, but I do  
7 appreciate you coming today, so I could ask you  
8 some of the questions. I wanted to make sure  
9 that you did receive my letters and it's good to  
10 hear that the member states are aware that  
11 they're facing probably historic litigation along  
12 with a continued legislative battle. And I'm  
13 personally going to be calling on Congress to  
14 identify you all as a compact and shut you down.

15 Thank you. Have a great day.

16 Our next panel is going to be Mr. Mark  
17 Morano, Executive Director from Climate Depot,  
18 Dr. David Legates, University of Delaware --  
19 excuse me, we already had Dr. David Legates.

20 We now have Dr. Patrick Michaels,  
21 climatologist, Ph.D. senior fellow with the CO2  
22 Coalition, and we also have Mr. Joe Bastardi,  
23 chief forecaster, Weatherbell Analytics, LLC.  
24 And we're going to lead off with Mr. Michaels.

25 Good morning, sir. Thank you for joining

1 us little. Green light has to be on.

2 DR. MICHAELS: There we go.

3 MAJORITY CHAIRMAN METCALFE: Thank you,  
4 sir.

5 DR. MICHAELS: My green light is on and  
6 shining. I would like to address a larger issue  
7 here, which is the Governor's Executive Order  
8 2019-07, which was in response to something  
9 called the Pennsylvania Climate Action Plan of  
10 2018. And I want to address two areas that are  
11 relatively simple, easy to understand: one,  
12 whether the Pennsylvania Climate Action Plan  
13 followed what we call best scientific practice;  
14 and number two, whether the emissions scenario --  
15 and we all have to make guesses, if you will, or  
16 informed guesses as to how much CO2 is going to  
17 go in the air in the next 50 to 100 years --  
18 whether that scenario was correct; and finally,  
19 if I have time, I will go to the amount of  
20 warming that would be prevented if Michigan  
21 stopped all of its emissions 10 years ago.

22 with regard to best scientific practices,  
23 the Pennsylvania Climate Action Plan relies upon  
24 computer models. And what they do is they look  
25 and -- how do I advance that forward? Two,

1 please. There we go.

2 what they do is they took -- look at all  
3 of the little colored spaghetti on that slide  
4 right there. That's the thin guys right in here.  
5 Oh, this is a non-absorbing screen. That's nice.

6 Anyway, and the solid red line is the  
7 average of all the computer models. And beneath  
8 that are the observations. This is in the  
9 tropics from 1979 to now. The observations  
10 include weather balloons, satellite data, and  
11 something called reanalysis of three dimensional  
12 data in the atmosphere. They all look the same.  
13 And they look nothing, nothing at all, like that  
14 colored spaghetti.

15 But look carefully, if you could. And  
16 I'm going to -- because I can't get my thing to  
17 work. When you look through the observed data,  
18 there's one model that works out of all 102. It  
19 probably -- we probably need a special counselor  
20 because it is the Russian model that works  
21 perfectly.

22 Now, in the real world, when the  
23 meteorologist in Ann Arbor makes the weather  
24 forecast for the region, he doesn't take all of  
25 the weather forecast models -- and there are 10

1 to 15, depending on how you count them -- every  
2 day, average them up, and then come up with a  
3 forecast. No. What he or she does is they look  
4 at the model or models that are working today for  
5 this particular weather situation, maybe a  
6 developing low pressure system to the -- best  
7 scientific practice is to use the model or models  
8 that work.

9 well, the Pennsylvania Climate Action  
10 Plan doesn't. It used all of that colored  
11 spaghetti over there, weighted them equally, and  
12 came up, obviously, with a forecast that's far  
13 too warm. I recommend that you use the model  
14 that works. And one of the things that we can do  
15 is we can adjust -- I'll call it PCAP. We can  
16 adjust PCAP's forecast, or the difference between  
17 the models they used, which is that colored  
18 spaghetti on the top of the picture, and the  
19 model that works, which is the single line of  
20 light spaghetti that goes through the data,  
21 courtesy of the Institute for Numerical Models,  
22 modelling from the Soviet Union. And that  
23 requires us to reduce the warming  
24 proportionately.

25 PCAP and the Governor's proclamation are

1 based upon an assumption of 5.4 degrees  
2 Fahrenheit of warming from the year 2000 to the  
3 year 2050. Well, because the sensitivity of the  
4 Russian model is so much lower than the average  
5 sensitivity of the others, we have to reduce that  
6 warming by about 2.1 degrees, 2.2 degrees. So it  
7 drops from 5.4 to 3.2 degrees. Still a warming,  
8 but not as much as it was.

9 Now, here's the rub. PCAP used the wrong  
10 emissions scenario. They used a scenario called  
11 RCP8.5, which stands for representative  
12 concentration pathway 8.5. That says that 8.5  
13 more watts per meter squared of radiation are  
14 downwelling onto the surface of the Earth. It  
15 is, according to the United Nations, according to  
16 everyone who's looked at it, the most extreme  
17 scenario for emissions.

18 And in fact -- I want to go forward, if I  
19 could -- backward -- forward, forward -- this is  
20 not the same slide like I sent. Okay. Go  
21 backward and we'll come to it. Otherwise, I will  
22 be able to work through it just verbally.  
23 Backward. Backward. Backward.

24 This is from a nature magazine article in  
25 2020. And the top case there is RCP8.5. Nature

1 magazine, mind you, not exactly the willy-nilly  
2 weekly, says that scenario is highly unlikely and  
3 is often wrongly referred to as business as  
4 usual. The reason for that is it's not business  
5 as usual. We have the Paris Agreement. We have  
6 all sorts of emissions reductions and mitigation  
7 things around the planet. So it's not likely.

8           When we go down the chart, the third one  
9 down there is likely, given current policies.  
10 And that is an RCP not of 8.5 meters squared, but  
11 between 4 and 6 watts per meter squared. And so  
12 when we put that RCP into the predictions from  
13 PCAP, what we have to do is reduce the warming an  
14 additional 1.4 degrees F. The result is 5.4  
15 degrees F turned to 1.8 degrees F from '20 to  
16 2050. That's a degree C. I am sure policies are  
17 going to drive that down further.

18           Now, let me, just for the heck of it, run  
19 a thought experiment with you. We are amongst  
20 the most fortunate human beings on the planet,  
21 despite the turmoil that rules this country. We  
22 all know it. We get in our car and look around  
23 and say, wow, this is a beautiful place. We --  
24 our life expectancy -- well, almost all of you up  
25 there and certainly all of the older folks here

1 should be dead now if it were 1900 that we were  
2 born in, but life expectancy doubled, and per  
3 capita wealth increased twelvefold from 1900 to  
4 now while the Earth's surface temperature warmed  
5 up about a degree Celsius.

6 That's called adaptation. People are  
7 adapting to it. That's called human progress. I  
8 find it absurd to believe that if it warmed up a  
9 mere half a degree more that there would all of a  
10 sudden be this dramatic reversal of all the  
11 prosperity and wonderfulness that we assume.  
12 There's no mechanism that can make that occur.

13 But let me sum up what I've said here  
14 today in my hopefully understandable way, though  
15 I can't tell. The models that are used in the  
16 Pennsylvania Climate Action Program, the models  
17 that are used are wrong. There is one model that  
18 works. And if the Pennsylvania Climate Action  
19 Program, and Professor Short -- Shortell were to  
20 do best scientific practices, they would do what  
21 weather forecasters do every day. They look at  
22 the model that works, not all of them. They  
23 don't average them up.

24 And the Russian model is the coldest of  
25 all the climate models. It has a warming of 2.05

1 degrees for doubling carbon dioxide. The average  
2 of all the other models is 3.4. The Russian  
3 model has been revised, and it has now dropped to  
4 1.85 degrees of warming. It is by far the  
5 coldest, and it is by far the most accurate.  
6 What would you use? I suggest you would use what  
7 works. If a television meteorologist uses what  
8 doesn't work because he thinks it's cool, he  
9 doesn't have his job for very long.

10 And then, secondly, again, the emissions  
11 scenario that was chosen was extreme. Nature  
12 magazine is full of an article by Zeke Hausfather  
13 in 2020 where he says, literally -- and you don't  
14 see this in a scientific paper. He says, quote,  
15 stop using the most extreme model. It is not  
16 business as usual, and it's not the way things  
17 work.

18 So PCAP bases the Governor's executive  
19 order. PCAP has to be revised to reflect the two  
20 realities: one, that the model -- the model  
21 Sweden is choosing doesn't work. They have a  
22 model that works; number two, the rate of  
23 enforcing the carbon dioxide that they have is  
24 far too high and unrealistic. We don't live in  
25 the world where we're not doing something about

1 this. We live in a world where we are. And the  
2 most likely combination of those two factors  
3 drops the prospective warming from 5.4 degrees  
4 Fahrenheit, between '20 and 2050, all the way  
5 down to 1.8 degrees Fahrenheit. That's one  
6 degree Celsius.

7 I suspect not only are you going to live,  
8 I'd like to live that long. Unfortunately, I  
9 will not be granted that, but I would like you  
10 all to live and prosper because that's what's  
11 going to happen, unless you tax people into not  
12 being able to prosper.

13 Thank you.

14 MAJORITY CHAIRMAN METCALFE: Thank you.  
15 Who's going next?

16 MR. MORANO: (Microphone malfunction) --  
17 former staff of the United States Environmental  
18 Works Committee. My book, if you go to the next  
19 one -- well, that's my -- go back a second.  
20 Government Can't Control Earth's Climate, that's  
21 the sub-heading, but my book is Green Fraud. Go  
22 forward. It was released just this year, and it  
23 details the entire climate agenda. And I got to  
24 tell you, it's not about controlling the climate  
25 as much as it's about controlling you, and I mean

1 the citizens of Pennsylvania.

2 Let's go forward two slides, one more.

3 Okay. The USA has a friend in Pennsylvania.

4 Now, this is what actually we should be --

5 instead of slowing trying to begin the death of a

6 thousand cuts to Pennsylvania's fracking energy

7 miracle, that is the envy of the world, I believe

8 that we should be praising it. Now, the U.S.

9 Energy Information Agency, the United States as

10 of 2019 has returned to a position of energy

11 dominance for the first time since the 1950s.

12 The last time the U.S. energy production

13 exceeded consumption was when Dwight D.

14 Eisenhower was President. And the last time we

15 exceeded -- our energy exports exceeded energy

16 imports was when Harry S. Truman was President.

17 The U.S. has been doing all of this while leading

18 the world in CO2 reductions. We blew out all of

19 the European nations who wagged their finger

20 because we had withdrawn from the U.N.-Paris

21 Agreement.

22 This is the nonsense. And the same U.S.

23 energy information in 2010 did their predictions

24 of the energy and they were completely wrong.

25 They predicted carbon dioxide emissions would go

1 up. They predicted fracking -- natural gas would  
2 be stable. What actually happened between 2010  
3 and 2019, quote, blew up energy predictions  
4 according to an Axio analysis. In fact, CO2  
5 emissions dropped.

6 Now, the paper The Investors Business  
7 Daily had a great idea. If the Nobel Prize  
8 Committee really wanted to reward those who did  
9 the most to reduce greenhouse gases, they would  
10 withdraw Al Gore and the UNIPCC's Nobel Prize and  
11 give it to the United States fracking industry  
12 for fracking replacing coal. So if you are  
13 concerned about CO2, you will do that. That  
14 would have many benefits by the way.

15 For one thing, we would have Michael Mann  
16 of Penn State can stop falsely claiming to be a  
17 Nobel Laureate because the Nobel Prize would go  
18 to Pennsylvania.

19 Go back one. So I am here to say today  
20 at this hearing, thanks, Pennsylvania. The shale  
21 fracking natural gas revolution, the U.S. now  
22 leads the world in both oil and natural gas  
23 production. I think it's worth a round of  
24 applause for Pennsylvania. This is the bottom  
25 line.

1           Go forward two. why would we now look at  
2           Pennsylvania, which is the envy of the world, and  
3           have Governor Wolf come in -- a wolf in sheep's  
4           clothing -- and want to be a wannabe planet saver  
5           and throw that out, start this death of a  
6           thousand cuts. So instead of championing the  
7           energy, RGGI, the Green New Deal, the U.N.-Paris  
8           agreement, are now going to start throwing this  
9           awesome legacy into the ash bin of history.

10           Climate reality, this is one of my  
11           favorite quotes for the layperson. U.K.  
12           professor and scientist, Philip Stott. Climate  
13           change is governed by hundreds of factors or  
14           variables. The idea that we can manage it  
15           predictably by understanding and manipulating at  
16           the margins one politically-selected factor is as  
17           misguided as it sets. It's scientific nonsense.  
18           Yet that is what RGGI is based upon. That is  
19           what they believe, that government can somehow  
20           regulate one of the hundreds of factors of  
21           climate and come up with a predictable future and  
22           save our climate.

23           Next. These are the some of the past  
24           predictions. We heard a lot about the models,  
25           the extremes. Well, in 1970, Paul Ehrlich, the

1 famous over-population guru predicted that four  
2 billion people, 65 million Americans would perish  
3 in the great die-off. Let's see a show of hands  
4 in this room. How many survived the great  
5 die-off that Paul Ehrlich predicted?

6 Okay. Maybe a couple of them didn't. I  
7 didn't see a couple hands go up.

8 In 2006, Al Gore warned of 10 years. In  
9 2019, Ocasio-Cortez, the Green New Deal advocate,  
10 warned of 12 years. This is their failed  
11 predictions of the past and future. Controlling  
12 carbon is a bureaucrat's dream. If you control  
13 carbon, you control life. That's from MIT  
14 scientist Dr. Richard Lindzen.

15 Well, what does he mean by that? Let's  
16 go forward. The U.N. IPCC co-chair of the  
17 Working Group, Ottmar Endenhofer, admitted the  
18 U.N. redistributes de facto the world's wealth.  
19 One has to free oneself from the illusion that  
20 climate policy is environmental policy. They  
21 have almost nothing to do with it anymore.

22 And I could say you could put the word  
23 RGGI in that same category with all of these  
24 ridiculous auctions and trading schemes that the  
25 general public would never understand. They will

1 understand higher energy bills, and they will  
2 understand that it will not have any impact not  
3 only on the climate but on CO2 emissions  
4 globally.

5 The wacky world of climate. I come from  
6 Washington D.C. I'm going to give you an update  
7 on what Pennsylvania is wading into if they allow  
8 Governor Wolf to get them into this climate  
9 agenda through RGGI. The new ways we use to  
10 measure climate -- used to be, you know, sea  
11 level and carbon dioxide, just 15 years ago when  
12 Al Gore was filmed, but here's some updates.

13 Toxic masculinity as the reason for  
14 climate change. Is RGGI going to deal with toxic  
15 masculinity?

16 Next. NASA scientist, lead scientist,  
17 and other scientists, Pete Kumar [phonetic] from  
18 NASA now linking climate change to white  
19 supremacy. We'll never head-off a climate  
20 catastrophe without dismantling white supremacy.  
21 This is what NASA says is causing climate change  
22 now. How does RGGI deal with white supremacy?  
23 It's an incomplete program according to NASA,  
24 unless it does.

25 Cancel pet ownership. Hey, we don't need

1 RGGI. We need people to give up cats and dogs.  
2 This is now, according to Vox Magazine and  
3 scientists and professors in academia -- and  
4 they've never wrong of course -- we need to  
5 reduce the rate of dog and cat ownership because  
6 they have bad carbon footprints for the planet.

7 Vogue -- anyone here have children,  
8 grandchildren? well, guess what, Vogue Magazine,  
9 having a baby, pure environmental vandalism.  
10 Does RGGI deal with the environmental vandalism  
11 of having kids? It's an incomplete program.

12 Next. Andrew Yang, how many here own an  
13 internal combustion car? well, part of the  
14 climate agenda is abolishing private car  
15 ownership. One of the leading Democratic  
16 candidates, probably the next mayor of New York  
17 City, is proposing abolishing private car  
18 ownership and instead giving -- offering people a  
19 rental fleet of roving electric cars. That's the  
20 future you go when you start going down the  
21 nonsensical climate agenda.

22 Global warming causes more crime. Does  
23 RGGI deal with how to reduce crime?

24 Continue. Lower crime also causes more  
25 global warming. This is the New York Times.

1 Lowering crime could contribute to global  
2 warming.

3 Keep going. Inmates consume less than  
4 the average citizen, so fewer prisoners means  
5 higher overall energy consumption. In other  
6 words, if you lock people up, you have lower  
7 carbon emissions for them, carbon dioxide  
8 emissions. So next, if global warming causes  
9 more crime, as we've been assured by United  
10 Nations scientist, reducing crime causes more  
11 global warming.

12 Next. And what's the solution then? The  
13 new current pet -- out of Washington, defunding  
14 the police is a climate solution. So unless RGGI  
15 deals with defunding the police, it's an  
16 incomplete solution.

17 Next. There's no Green New Deal without  
18 police abolition. This is another Green New Deal  
19 advocate. So not only do we have to defund, we  
20 have to abolish the police in order to solve  
21 climate change. If you disagree with any of  
22 this, you are a climate denier and belong in  
23 jail. How do we know this? Robert F. Kennedy,  
24 Jr. wants climate deniers, what he calls them, at  
25 the Hague with all the other war criminals. Bill

1 Nye is open to jailing skeptics for impeding  
2 progress on climate change.

3 Next. We've redefined the evidence. No  
4 longer do we look at temperature, sea level,  
5 polar bears. Now we look at airline turbulence,  
6 rape statistics, crime statistics, vehicle theft,  
7 train derailments, police shootings, toxic  
8 masculinity. This is the wacky world of climate,  
9 which Pennsylvania may be about to enter if they  
10 allow this Governor Wolf to have his way in RGGI.

11 Climate lockdowns. How many people in  
12 Pennsylvania thought maybe Governor Wolf was a  
13 little overbearing with lockdowns? Well, let's  
14 see what's going on. Why would I mention  
15 lockdowns here? What's going on?

16 Next. We're flattening the coronavirus  
17 curve. This is the Washington Post. We can  
18 flatten the climate curve.

19 Next. If we shut down the world to stop  
20 a virus, it's also possible to do the same for  
21 climate. This is Vogue -- Teen Vogue Magazine.  
22 Everyone from Al Gore to John Kerry to U.N.  
23 officials, all praised the COVID lockdowns as  
24 great for the planet because they lowered CO2  
25 emissions 7 percent in the year 2020.

1           Next. I don't say this in a partisan  
2 way, but the parallels between COVID-19 and  
3 climate change are screaming at us both positive  
4 and negative. You could just as easily replace  
5 the words climate with COVID-19. That's our  
6 climate envoy John Kerry in April 2020.

7           Net Zero. Lots of talk of climate agenda  
8 about net zero. It's like a lockdown but  
9 permanent. Theoretically, the lockdowns for  
10 COVID end; climate lockdowns will not end. The  
11 pandemic -- Time Magazine -- remade every corner  
12 of society. Now it's climate's turn. So unless  
13 RGGI has a way to try to morph this, unless they  
14 deal with this issue of how the climate activists  
15 want to follow the model of COVID lockdown, this  
16 is again an incomplete program.

17           Next. Climate lockdowns. Equivalent of  
18 a COVID emissions drop needed every two years.  
19 This is what the United Nations has said in order  
20 to meet it. What the COVID lockdowns did was  
21 actually in line with what the United Nations  
22 demanded of global emissions. So the question  
23 is, are we prepared to go down that path of a  
24 COVID-style lockdown?

25           Next. Senator Chuck Schumer in New York

1 is urging Biden to declare a climate emergency,  
2 very similar if you're thinking about all of the  
3 COVID emergency declarations by blue state  
4 Governors like Governor Wolf.

5 Next. Climate death tolls. They're  
6 talking now about adding climate change to death  
7 certificates. Academics in Australia.

8 Next. That's a mock certificate of  
9 death.

10 Next. Feds -- federal government has  
11 already looked at whether global warming will  
12 cause more deadly car crashes.

13 Next. The new study, American Cancer  
14 Society. Climate change is increasing your  
15 cancer risk.

16 Next. Gore's health warning, every organ  
17 of your body can be affected by climate change.

18 Next. If you die from cancer, a car  
19 accident, organ failure, you could be listed as a  
20 climate change death. That's the absurdity in  
21 which our world is headed, and Pennsylvania is  
22 about to dive in head first.

23 Next. The reality, of course, destroys  
24 this. After 100 years of climate-related deaths,  
25 they're approaching zero, a 99 percent drop since

1 1920. There's the chart. This was a  
2 peer-reviewed study that came out earlier -- I  
3 think it was late last year.

4 Next. So the solutions. The era of  
5 constant electricity at home is ending. Look to  
6 Europe. In my book, Green Fraud, I have a whole  
7 chapter on what Pennsylvania can expect if they  
8 go down this route. People -- families will only  
9 have power when it's available.

10 Next page. And you're going to have  
11 chillier homes, particularly in winter. Requires  
12 personal changes. Home radiators will have to be  
13 10 degrees cooler. This is their Green New Deal.  
14 This is their version of the beginning of RGGI in  
15 Europe.

16 Next. So Governor Wolf is bragging that  
17 funds brought through RGGI will allow us to make  
18 targeted investments to support communities  
19 affected by the energy transition.

20 Next. But the ridiculousness of this is  
21 that he is going to be harming the programs, that  
22 targeted investments are going to go to workers  
23 that RGGI is going to help put out of business as  
24 it starts raising the costs and trying to shut  
25 down industries. Politicians will force

1 unnecessary unemployment and then portray  
2 themselves as the heroes.

3 Next. So Governor Wolf's claim of  
4 supporting workers is akin to saving someone from  
5 a sinking ship after they were the ones who put  
6 holes in the boat to ensure that it sank.

7 Next. Pennsylvania is ground zero for  
8 this. There's a warning here of all the  
9 different outside groups and inside groups  
10 funding, trying to get this climate agenda  
11 imposed and radically transform Pennsylvania.  
12 There's some of the groups.

13 Next. Go ahead. And I'm wrapping up  
14 here. The climate futility. There is no climate  
15 crisis, no climate emergency. If we actually  
16 faced one and we had to rely on RGGI or Green New  
17 Deal or U.N.-Paris, we would literally be doomed.  
18 And if we actually did face a climate emergency  
19 or crisis, you'd want to do the opposite. You  
20 would want to have no planned mandates, no  
21 auction programs, no administrative state, inside  
22 baseball terminology of people deciding who gets  
23 auctions and what price and who gets subsidies  
24 and who doesn't. We would want to promote  
25 economic growth, prosperity, innovation,

1 technological innovation.

2 So the next -- let's throw all of this  
3 out. Here's what's happened with all of the  
4 previous climate pacts, beginning with Rio.  
5 Carbon dioxide has had a complete steady increase  
6 regardless of all of the alleged solutions.

7 Next. Keep fossil fuels in the ground.  
8 That's what advocates claim. Pennsylvania has  
9 been doing it right. Keep your independence.  
10 They should keep RGGI in the ground. Permanently  
11 bury RGGI's cap and trade regulations. Thank  
12 you.

13 And there's Governor Wolf at the door.  
14 Reject Governor Wolf. Reject RGGI. Reject this  
15 whole idea. Celebrate Pennsylvania leading the  
16 world in energy, not only independence, but  
17 dominance.

18 Next. Thank you very much. That's my  
19 book. Green Fraud. And next, Cfact.org is my  
20 parent company.

21 Next. That's how you reach me. Thank  
22 you very much.

23 MAJORITY CHAIRMAN METCALFE: Thank you,  
24 Mr. Morano.

25 Mr. Bastardi, forecaster, weatherbell

1 Analytics LLC. Thank you, sir, for joining us  
2 today.

3 MR. BASTARDI: Yeah. Hi everybody. I  
4 notice a lot less people here, but I'm used to  
5 that. I used to be in a rock band. And by the  
6 time we got up on stage, everybody was walking  
7 out anyway because I was the lead singer.

8 So first of all, I'd like to say that  
9 anything -- I don't believe that's the first one.  
10 The first one starts with the computer models.  
11 So let's take a look at this here. Here we are.  
12 That looks good. Excellent.

13 By the way, all you carbon-emitting  
14 organisms in here, here's what we got to do to  
15 reduce, hold your breath. You exhale 100 times  
16 more than you inhale CO<sub>2</sub>. So if you stop it for  
17 30 seconds, we can cut this in half right here.  
18 But I've got a better solution later and I'll  
19 tell you about it.

20 First of all, for 45 years, I've been  
21 doing this. This is all I ever wanted to do.  
22 Some of you people saw me smiling here when  
23 people testified. I'm not laughing at them. I  
24 am just so grateful to God above what I'm doing  
25 what I was made to do. So I want that

1 understood. Okay.

2           Someone said to me, how come you're  
3 always happy when you're talking about the  
4 weather or whatever? I said, hey, it's like  
5 being a kid at Christmas. I get to open a gift  
6 every morning. But in working with this stuff --  
7 and the reason I'm still surviving in the private  
8 sector is I can beat the models from time to  
9 time. I'll take a tie with a model any time I  
10 can take it, but if I beat it 10, 15, 20 times a  
11 year, guess what, clients pay me. Okay.

12           In the private sector, we have to hit the  
13 forecast to get paid. That's all there is to it.  
14 So anyway, I want to show you something here.  
15 And Pat already touched upon it. I'm glad he  
16 talked about the Russian models. I don't want to  
17 be accused of collusion here, but it was the  
18 Russian model that saw what was going on. All  
19 right. It didn't have any CO2 feedback in it.

20           So you know, I just looked at that and  
21 said, you really want to trust those climate  
22 models to future policy? Or at least, you know,  
23 think about it. All right.

24           Now, I'm going to show you in a practical  
25 skill -- move to the next one here -- why the

1 over warming? why is that happening? Because  
2 models feed off their own forecast. If it's  
3 warm, then it's going to get warmer. Okay. So  
4 nature tries to fight that. We have Le  
5 Cheteliers Principle. I'm sure you all equated  
6 with that. And destructed -- what we call  
7 destructive interference. It's like, let's say I  
8 come into the folks on the other side, your  
9 committee, okay, on the left or, you know, who  
10 don't see climate change.

11 I come in there. All right. Naturally,  
12 the 10 that are in existence will resist the one  
13 that's added. Okay. It's the same thing in the  
14 atmosphere, except in many, many, many, many more  
15 variables. Nature tries to fight it with that.  
16 If the warming -- is the warming natural or  
17 man-made? The model that was closest had no CO2  
18 feedback in it.

19 However, I actually have a problem for  
20 this CO2 -- a solution for it. I want to talk to  
21 -- talk to people on the other side. I like  
22 taking questions from the other side. I love  
23 that stuff. You know, I'm an old greenie in the  
24 first place. So let's remember though, folks,  
25 the cat was left out of the bag in 2015. Let it

1 out of the bag when Gina McCarthy -- and I  
2 thought it was over when she said it -- only save  
3 .01 C, but it will be a great example for the  
4 rest of the world. Well, I got a better example  
5 I'm going to show why America can lead this if  
6 you have a fear of CO2. And I don't disagree  
7 with Greg at all. I think he's spot-on right. I  
8 agree with Will Happer. I think they're spot-on  
9 right.

10 But look, there's a huge fear of this.  
11 All right. I see it all the time. You see  
12 companies moving toward that direction, so I got  
13 to acknowledge that. All right. Let's keep  
14 going here. Let's look at just a practical  
15 aspect.

16 So I'm a long-range forecaster. I have  
17 energy companies, wind companies, solar  
18 companies. Listen, if you told me that Cheetos  
19 -- eating Cheetos and snapping your fingers, you  
20 know, will lead to global warming, I would say,  
21 you still need a forecast. Okay. So I don't  
22 care what your attitude is. I'm an old guy, old  
23 style guy who says, leave your politics over  
24 here, I'm going to make you a forecast and make  
25 the best one for you.

1           So anyway, I've got all these clients in  
2 the central plains, right. And what a February,  
3 right? And by the way, my company was the one  
4 that hit that 10 days in advance because I knew  
5 the maps from 1899. Believe it, I look at that  
6 stuff because I'm a complete geek and nerd with  
7 this stuff. That's all I binge watch.

8           So 10 days before, I'm advising clients  
9 on it, and I got a lot of energy clients,  
10 including wind and solar. So anyway, for the  
11 spring, look at that. Above normal, that's the  
12 European, the European. Let's look at the next  
13 one. There's the Canadian in lockstep. The U.S.  
14 model can't be out done here. Boom.

15           Let's go to the next one. It's torrid  
16 for March, April, May, right? Let's move on to  
17 the next one. Look what actually happened. It  
18 was cooler than normal. Then what happened was  
19 they predicted it to be very dry.

20           Move to the next one. Steve Martin.  
21 Okay. But you can see how dry it was predicting  
22 it to be. Look what actually happened. All  
23 right. Now, there's a Canadian forecast.  
24 There's the U.S. forecast. It's exactly  
25 opposite. Now, what are the implications of

1 that? well, not only over the three-month  
2 period, if you're an energy company, you have to  
3 take that into account and say, oh, listen, if  
4 I'm expected to be 2 above normal, it's 2 below  
5 normal, or if I'm in agriculture, I'm expecting  
6 no rain and it rains a lot, or vice versa, that's  
7 a big deal, right?

8           It also has an effect on the summer.  
9 Even though it got hot in Texas for five days,  
10 they've been running below normal. So instead of  
11 having a hot, dry summer, all right, guess what's  
12 happening. You see how much it's raining down  
13 there, right. Rain is nature's fight-back. All  
14 right.

15           And by the way, what happened to the big  
16 dust bowl that was supposed to be developing?  
17 Remember 2012, the start of the new dust bowl? I  
18 used to say, how the heck did we have the old  
19 dust bowl if the new dust bowl is because of CO2?  
20 The old dust bowl was really bad in 1930s. In  
21 any case, it had implications down the road. So  
22 I have to predict that. You got to understand  
23 that I'm probably the oldest bottom-line  
24 operational forecaster still willing to speak  
25 because it could get in the way of business. All

1 right.

2           Everybody is moving the other way. My  
3 attitude is stand up, say what's right. Don't  
4 force anything down someone's throat. If you  
5 want to talk to me, ask me questions, I'll be  
6 glad to show you stuff. It's great stuff, you  
7 know. That's what makes the world go round.

8           Now, on the past few winters, all right,  
9 of the last eight winters, four have been colder  
10 as the modeling had, as far as population, the  
11 way demand goes. Two have been warmer. Two have  
12 been good. I'd say good; oh, look at that winter  
13 forecast. It hit perfectly, right. You saw what  
14 happened in Texas, which was just unbelievable.  
15 It was like, what's going on? Ten days before,  
16 I'm sitting there going, look at this. Look at  
17 what has happened before, and the models are  
18 going the other way.

19           So that's not a good track record.  
20 Models can't see if it's going to get cold. Why?  
21 Because of that feedback. Remember I told you  
22 about that feedback. What happens is -- and I'll  
23 explain this with water vapor. The number one  
24 proxy for climate is water vapor, not  
25 temperature. Temperature is a very poor proxy

1 for climate. I'm going to show you why in a  
2 minute. which means if the forcing that led to  
3 where we are now changes, if something changes,  
4 there will be big problems. Cold kills more than  
5 warm. Cold kills more problems.

6 Every -- I ask people on the other side  
7 of the issue, okay, what do you want the Earth's  
8 temperature to fall to? Do you want it to fall  
9 back to the 1970s? Do you realize what that  
10 would do to crop production around the world?  
11 What about CO2? what's the perfect level of CO2?

12 Dr. Will Happer says we're in a CO2  
13 drought. And if you actually look at the  
14 geological history, we are. And also, how is it  
15 a climate emergency today -- and you can talk to  
16 Greg about this -- was a climate optimum in the  
17 entire geological scale of the planet? How does  
18 that happen?

19 Let's go the next one. well, points to  
20 ponder. Oceans are the largest source of heat  
21 and CO2. If the oceans warm naturally, due to  
22 many factors, among them natural cyclical  
23 intersection, multi-centuries cycle intersecting  
24 at the same time. Okay. It's like a rogue wave.  
25 If you've ever been out on the ocean and all of a

1 sudden, what the heck, where did this wave come  
2 from? There's no wind. It's because of  
3 intersection and various factors that created  
4 other waves that can't be seen in the ocean. But  
5 when they combine together, it goes off.

6 Long-term solar. We've had 200 years of  
7 high sun spot activity. I tell the solar  
8 scientists -- I say, oh, we're going into a  
9 little Ice Age now. I go, what are you going to  
10 do with the heat from the 200 years of high sun  
11 spot activity if it's sun spots, right? So  
12 there's, you know, that's involved, too. I argue  
13 with people on my side, too.

14 Underwater hydrothermal vents. What do  
15 you think would happen to CO2 levels and  
16 temperatures if the ocean warmed? Well, they're  
17 going to go up, right? Look what's happened. Go  
18 to the next. So what happens if the oceans of  
19 today -- take a look at this, right -- what if we  
20 cool back to the 1980s?

21 Next slide. What do you think is going  
22 to happen to the global temperature? Right. You  
23 say, well, the CO2 is warming the oceans. Now  
24 that's pretty interesting. You know why, because  
25 there's no meteorology that we use that

1 correlates CO2 to temperatures. We correlate  
2 water vapor to temperatures, but not CO2. Right.  
3 Oh, look at this, there's three times the amount  
4 of CO2 coming out of Houston. It means that  
5 something else is going to happen.

6 So what is used is this abstract idea  
7 that somehow this small, minute trace gas in the  
8 atmosphere is pushing around the thermal energy  
9 of the ocean, which is interesting. We can argue  
10 about it. Let's go to the next -- discuss; I  
11 don't like to argue. I argue with myself.

12 Let's go to the next one. So look at  
13 what just happened with the La Nina. Right. The  
14 temperature just dropped like crazy. Now, first  
15 of all, these are adjusted every 30 years. They  
16 adjust to means. My theory is these super ninos  
17 release immense amount of water vapor in the air,  
18 immense amounts, much more than just a regular El  
19 Nino. Once they do that, it takes a while for  
20 that to disperse.

21 when it finally disperses evenly across  
22 the planet, it can't really see the rise in the  
23 warmer areas, but you see it in the arctic. And  
24 I'm going to explain why in a moment. Let's go  
25 to the next -- next slide. So what would be the

1 effect? It would naturally cool because of the  
2 La Nina. We could argue about CO2, but consider  
3 this, the warmth of the past several years came  
4 in the wake of the Super Nino and the second El  
5 Nino. So you had back-to-back El Ninos.

6 This put immense amounts of water vapor  
7 in the air. The reason for the step-up function  
8 of temperatures because it takes 20 to 30 years  
9 for the atmosphere to wash that extra water vapor  
10 out relative to the temperatures. You see, at  
11 minus 40, it takes the increase of one tenth of  
12 one gram of water vapor to correlate, per  
13 kilogram, to correlate to a 10-degree rise.

14 You can't see that in the tropics, which  
15 is why when people say, oh, it's getting worse in  
16 the tropics, that's not happening. So this puts  
17 immense amount of water vapor in the air. Water  
18 vapor is correlated most strongly where the air  
19 is cold and driest. So once the water vapor is  
20 dispersed, most of the warming is in Arctic  
21 during its winter. There's no summer warming.

22 Take a look at the next chart. This is  
23 where the lion share of the warming is coming in  
24 the winter in the Arctic. So instead of freezing  
25 to death in a minute, you'll freeze to death in a

1 minute 10. You know, it's still very, very cold.  
2 But look at the -- can anybody here explain why  
3 it's not warming in the summer? Well, I'll tell  
4 you why. I'm like a lawyer. I ask the only  
5 questions I think I can answer.

6 Go to the next one. Okay. Water vapor  
7 increases make huge difference when it's frigid.  
8 We know that. Melting takes heat from the air;  
9 freezing adds it. Okay. So when you're freezing  
10 something, it actually warms it a bit. Snowfall  
11 -- now this is Le Chetellier, a natural  
12 fight-back of the atmosphere, increased water  
13 vapor, increased moisture.

14 What happens in the winter? Well, even  
15 though it warms up, it snows more because it  
16 doesn't warm up enough to counteract the fact  
17 that, yeah, if it warms from 20 to 22 or whatever  
18 it is, it still snows. What does snow do? Snow  
19 breeds snow. Snow breeds cold, just like drought  
20 breeds heat. There's all these feedback  
21 mechanisms going. It's amazing.

22 You know, I believe strongly in my  
23 Heavenly Father. And as I've grown as a  
24 meteorologist, I realize I know less, for one;  
25 and for two, the atmosphere, it's hard to believe

1       how majestic and infinite it is.

2               Next one. That's just the tip of the  
3       iceberg. Now, here's the question. All right.  
4       How do we get rid of CO2 since there's so much  
5       fear? Okay. So what I'm trying to do, I want to  
6       prove my point, let's make CO2 a moot point and  
7       then see what happens. All right. People,  
8       listen -- listen, the fact of the matter is this,  
9       people fear CO2. Now, we can argue about how  
10      much, but it seems to me that everybody is trying  
11      to hammer away at it, right?

12              So one, you -- and this is in my book. I  
13      was looking at Mark. With this COVID, that was a  
14      good forecast I made a year ago that they were  
15      going to go from COVID to climate, you know, try  
16      to equate the two. It's a false equivalency, but  
17      I have a book out, too. It's called the  
18      Weaponization of Weather and the Phony Climate  
19      War. But here's -- I also have a solution in the  
20      book. I also have a solution. Part one, U.S.  
21      agriculture, the Republicans actually have had a  
22      trillion tree global plan in the U.S. Congress.  
23      All right.

24              Nobody talks about it. Everybody -- but  
25      if you want to set an example for the world,

1 that's number one. Number two, come on, let's  
2 shake off the Jane Fonda syndrome from -- the  
3 China syndrome. It's the United States. Even  
4 France uses nuclear power. That's not to knock  
5 the French, but nuclear power, even James Hanson,  
6 on the other side, is in favor of nuclear power.

7 Finally -- finally -- I can't believe it.  
8 I included this in the book. And at that time, I  
9 did not even know about this technology. Carbon  
10 capture, and there's an efficient way out. And  
11 this is what I want to show people.

12 Go to the next one. Okay. First of all,  
13 our own Glenn Thompson, Central Pennsylvania,  
14 Bald Eagle graduate, wrestled up at Bald Eagle.  
15 Okay. He's got this in Congress. Nobody says  
16 boo about it. Agriculture can help -- help this  
17 situation. All right. And I will tell you why.

18 Go to the next one. Okay. Next one.  
19 Next slide. Okay. See what -- you know what  
20 this is? This is a keeling curve. I'm sure  
21 every one of you look at that keeling curve every  
22 day. I know I do, along with the Madden-Julia  
23 oscillation. See that, I'm geeking out here.

24 But why happens? But why does CO2 drop  
25 during the summertime? Isn't that interesting.

1       Because that's when the northern hemisphere gets  
2       green.  Guess -- see, I'm going to tell you how  
3       dangerous this whole thing is.  I walked by a  
4       tree the other day, it tried to hug me.  Okay.  
5       Because I'm a CO2-emitting organism.  Come on,  
6       that's funny.  I don't care who you are.

7                 All right.  So the point of the matter  
8       is, if you put more green -- you get the Earth  
9       more green, you're going to naturally keep  
10      pulling the carbon dioxide down.  All right.  
11     Now, see, the reason I want this out is  
12     supposedly get our CO2 emissions position down to  
13     zero, the United States.  Other countries have  
14     opted to follow.  So right off the bat, you're  
15     going to have to say, you guys have to follow us.  
16     If they don't, we know what their agenda is,  
17     right?

18                And let's say we get it to zero  
19     completely, globally.  No man-made carbon  
20     emissions, okay, no increase.  Then we can really  
21     figure out what's causing this.  See, right now,  
22     there's just too much smoke up in the air for  
23     this.

24                Let's go to the next one.  More green.  
25     Look at this.  Look at the vegetation increase,

1 right. Is that a bad thing? Anybody against  
2 food in here? No, I didn't think so. Okay. I  
3 know I like to eat. Okay.

4 Let's go to the next one.

5 MAJORITY CHAIRMAN METCALFE: We only have  
6 one more minute left before we have to --

7 MR. BASTARDI: All right. We're going to  
8 rock through this thing. It looks like a pretty  
9 healthy planet to me. Use nature to help get rid  
10 of CO2.

11 Next one. Here it is, right here, guys.  
12 I want to talk to you about this. A comment,  
13 there is actually technology out there, not  
14 carbon scrubbing, where you let it out and all  
15 that stuff. It's very expensive. But point of  
16 generation capture of carbon. And I would like  
17 to get some of the -- so zero emissions, you're  
18 not against zero emissions. Who's against zero  
19 emissions, right? Okay. So I would like to make  
20 sure that people on the other side come talk to  
21 me about this because I want to show it to you.  
22 All right. So you can be part of the solution.

23 Let's go to the next one. I got to sum  
24 this up. Even the Canadians are into it. Right.  
25 Because they understand you have to have a

1 booming economy to help people out.

2 Go to the next one. And I don't want  
3 people to fear tomorrow. I'm going to sum up  
4 right now. Okay. My daughter had a life-size  
5 Barbie. All right. That's all she ever wanted.  
6 We got the life-size Barbie for her. Within two  
7 weeks, she's scared of it. Right. You know what  
8 I did? I -- she told me that it was telling the  
9 nutcrackers in her room to attack her at night.  
10 This is what she told me. Right. I wonder where  
11 she got that from, her nut dad.

12 So what happened was, I didn't go burn  
13 down her room and kill all the nutcrackers. I  
14 just simply took the Barbie out. I removed the  
15 fear. Okay. So if you're -- I'm going to find  
16 out who's interested in this, the press, the  
17 other side. If you're really about getting CO2  
18 down to zero, listen, I'll reach across the  
19 aisle. I'll bring you the broom stick of the  
20 wicked witch of the west. But let's see what  
21 you're going to do with it. Okay.

22 So at least I'm different on that.  
23 I'll say, you know what, you got a fear of it,  
24 I'll try to help out. And I'll end with this,  
25 enjoy the weather. It's the only weather you've

1 got.

2 MAJORITY CHAIRMAN METCALFE: Thank you,  
3 gentlemen. Thank you for your testimony. I'm  
4 sorry we ran out of time. I appreciated what you  
5 had to present. Sorry we didn't have more time  
6 for Q and A. We do have to go to session. We  
7 start at 11 today. So we -- I know some of us  
8 are going to be getting together for a press  
9 conference here at 11:30.

10 So I look forward to getting together at  
11 that time again with some of our speakers. And  
12 currently, we're ready to adjourn.

13 Motion by Representative Rapp to adjourn;  
14 seconded by Representative Stambaugh. This  
15 meeting is adjourned. This hearing is adjourned.  
16 Everyone have a great day.

17 Thank you to our presenters today.  
18 (Whereupon, the hearing concluded at 11:02 a.m. )

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## C E R T I F I C A T E

I hereby certify that the proceedings are contained fully and accurately in the notes taken by me from audio of the within proceedings and that this is a correct transcript of the same.

*Tiffany L. Mast*

Tiffany L. Mast,

Court Reporter