



WTH is really going on with the climate? An Obama administration scientist on climate myth and reality

Episode #102 | May, 12, 2021 | Danielle Pletka, Marc Thiessen, and Dr. Steve Koonin

Danielle Pletka: Hi, I'm Danielle Pletka.

Marc Thiessen: And I'm Marc Thiessen.

Danielle Pletka: Welcome to our podcast, "What the Hell Is Going On?" Marc, what the hell is going on?

Marc Thiessen: Well, Dany, what the hell is going on is we've got an Obama administration scientist here with us on the podcast today to talk about climate change. And he has written a book called "Unsettled" which is basically taking on a lot of the myths and the fallacies that we all take for granted in the climate debate. And I want to share just a couple of things to kick off our discussion about what he says.

Marc Thiessen: He says, "Heat waves in the US are now no more common than they were in 1900. The warmest temperatures in the US have not risen in the past 50 years. Humans have had no detectable impact on hurricanes of the past century. Greenland's ice sheet isn't shrinking any more rapidly today than it was 80 years ago. The net economic impact of human induced climate change will be minimal through at least the end of the century. And that's not all, tornado frequency and severity are not trending up nor are the number and severity of droughts. The extent of global fires has been trending significantly downward. The rate of sea level rise has not accelerated. Crop yields are rising, not falling. And global atmospheric CO2 levels are obviously higher now than they were two centuries ago, but they're not at any planetary high. They're at a low that has only been seen once before in the past 500 million years." Dany, that is not what I hear coming out of the Biden administration.

Danielle Pletka: No, that's for sure. The Biden administration has declared a climate emergency. So we should just remind everybody there's no emergency at the border, but there is a climate emergency. He said that our Pentagon should put climate at the center of its calculations, ditto for the intelligence community and we are going to spend a vast amount of money, even vaster than the amount of money that we're already spending, if anybody can conceive of that, in order to combat this climate crisis that Dr. Koonin really questions. It is fascinating to me, as an outside observer, to try to balance what the people who want us to light our hair on fire about climate say with what a scientist like Dr. Koonin says, because everybody accuses everybody else of cherry picking their information. And for the average Joe or Dany who lives in the United States, getting to the bottom of this is very

difficult.

Marc Thiessen: Agreed. And look, he is very clear that the climate is warming, that this is happening. But he's basically saying that this is, and I don't want to put words in his mouth, he's going to tell us in his own words in a few moments that this is not quite the existential crisis that it's made out to be by the zealots of the climate change movement, the political zealots who are often abusing or distorting the true science. And he is suggesting that we need to be aware of what's happening. Rather than trying to destroy our economy in an effort to stop something that we probably cannot stop, we need to find ways to adapt.

Marc Thiessen: This is going to unfold slowly over a period of a century between now and 2100, and the economic impact is not quite what the zealots say it is and we can adapt to this. We have to find ways to figure out how to live with the change in climate that don't involve destroying our entire economy, putting entire industries out of work, trying to speed technological transformations, not through improvements in technology but through stopping and pushing out old technologies before the new technologies are ready and proven. And we can do a lot of damage to ourselves along the way if we don't put this whole phenomenon in proper perspective.

Danielle Pletka: I think it's also important to understand that just as there are implications to warming, just as there are implications to the kind of temperature change that Dr. Koonin says are absolutely happening, there are implications to the choices that we make about how to mitigate this. Well, first of all, there's the spending, there's the profligate printing of money. But there's also the costs and the efficiencies of the methods that they're using to mitigate, so electric cars or as you like to call them coal-fired cars, because of course that's where the vast mass of our electricity comes from. So, coal-fired cars have these batteries in them that aren't terribly efficient, but worse yet we have no idea what to do with them. So are we going to have a Yucca Mountain where we shove all the batteries, and isn't that going to have implications? That's number one. Number two, solar panels. I love solar.

Danielle Pletka: When I lived in Israel, 30 years ago in Israel, this is a technology that's been in use forever. In countries where for eight months of the year, there's nothing but sun, it's awesome to have a couple of solar panels on your roof. Your hot water heater is fueled by it. I think that's fantastic and capturing that when you can is a great thing to do, but we need to recognize that the solar panel industry is now dominated by, oh yes, the People's Republic of China. Ditto by the way for this question of rare-earths. So you want to talk about wind power. We've all seen those windmills moving lazily around, screw the birds that are getting killed by it, because apparently those guys are no longer in vogue. But we need to understand that a vital component of windmills is made with rare-earths and the Chinese have developed a monopoly over these particular rare-earths, which are these very specialized kinds of metals that are used in the construction of these. All of that has real implications.

Danielle Pletka: And I think that the problem is not that we shouldn't admit that there are important things to talk about in terms of mitigating the impact of climate change, the problem is that the mitigants themselves need to be discussed as

well,. Is that a word by the way, mitigant? I don't know.

Marc Thiessen: It is now. You've made it a word Dany. Here's the other thing. You need to balance things in public policy. We need to listen to the science. That's become the vogue phrase now, let's all listen to the science. But science doesn't always determine policy because it's not just science that needs to be taken into account. Anybody who's looked the last year under this COVID pandemic, all the lockdowns, the school shut down, the economic devastation that has been caused by these lockdowns.

Marc Thiessen: This is basically the model, because the reason we had all this is because we listened to the scientists and we put the virologists and the immunologists and all the CDC in charge of our economic policy. And we didn't balance the danger of the pandemic with the danger of the devastation that's done with kids feeling suicidal, with drug addiction, with all these other things that we've explored on the podcast. And so we just instituted these lockdowns and now we're seeing, even now that we've got half the population vaccinated, they still don't want to let it up. There's still wearing masks outside. There's still only half the schools are open. We can't get the scientists' grip off of our economy.

Marc Thiessen: If you liked that, you're going to love climate science running our economy, because that's the exact mindset they bring to it. Climate change is the only thing that matters and we're going to do any damage to the economy we have to in order to stop this danger. And I'm sorry but that's not the only thing that gets taken into account. The jobs of people in West Virginia matter, and you can't just destroy their lives and destroy their economy because of your-

Danielle Pletka: Marc, it's not just West Virginia. I'm sorry. That's the thing that everybody likes to think.

Marc Thiessen: No, it's just one example.

Danielle Pletka: Yeah, no, but it's a great example but it's not just West Virginia, it's industry in general, it's everybody who works for BP and Exxon, it's everybody who drives a car, it's the company that you work for. This is the problem. The problem is not that these companies shouldn't take a hit or that some job categories need to change or that retraining needs to happen. I think those are all very valid conversations. The problem is this is totally a one-sided conversation and that's exactly what I discovered. When you express that, "Hey, I have some questions. I have some doubts. Is this worth it?" You are immediately labeled a climate denier. And in the context of-

Marc Thiessen: Which is meant by the way to evoke Holocaust denier.

Danielle Pletka: Which it's disgusting. It's disgusting the inability now to have a debate about anything in America. And the fact that you are basically accused of being a person beyond the pale if you ask these questions is I think so detrimental to balance in our society. Anyway, I'm looking forward to seeing what's going to happen to Dr. Steven E. Koonin who wrote this book that we're talking about here today. His book came out this week. It's called "Unsettled: What Climate Science Tells Us, What It Doesn't, and Why It Matters."

- Danielle Pletka: And Dr. Koonin's bio is a particularly interesting one. He's a physicist, he's a leader in science policy in the United States. He was the Undersecretary for Science in the US Department of Energy under Donald Trump? No, no, no, no, under President Barack Obama, and he was the second person who ever held that title. He was the lead author of that department's strategic plan, he did their quadrennial tech review, he's a professor at NYU and their Stern School of Business. He's a pretty serious scientist and I'm really excited about our interview.
- Marc Thiessen: Here's our interview. Dr. Koonin, welcome to the podcast.
- Dr. Steve Kooni...: Good. Good to be here chatting with you.
- Marc Thiessen: Well, thank you. So it seems like every time we have a weather event of some kind, there's a hurricane or there's a forest fire or there's a heat wave or a drought or something like that, people jump up and say, "Ah, climate change." And everyone just assumes climate change is the cause of this. And in your book you note that that's not actually true. Can you tell us a little bit about what the actual data says about this?
- Dr. Steve Kooni...: Yeah. So we need to distinguish between climate and weather. That's a very important thing to understand. Weather is what happens every day, climate is a long term average of what happens every day. Typically about 30 years, we average over. And so, if you see a storm this week and you don't see another one for a few years, that's not a climate or at least not a change in climate. But if you see an unusual one this year, and then again, next year, and then again a couple of years later and they start to add up and average over 30 years, then that's a change in climate. And what was seen, and this is again in the official records, not Steve talking, is that yes, the average temperature of the globe has warmed by about two degrees Fahrenheit over the last century, since 1900 or so. But many other weather phenomena show no changes outside of normal variability, even as human influences have grown over the last 60 or 70 years.
- Marc Thiessen: So are there more heat waves now than there were 100 years ago? Is there more human impact on hurricanes? Are there more forest fires than there were?
- Dr. Steve Kooni...: Those are great questions. Yeah. So let's do the heat waves first. If you look in the official US government report from a couple of years ago, issued by the US Global Change Research Program, what you see is that heat waves across the 48 US states are no more common today than they were at 1900, and the warmest temperatures across the country have not gone up in more than 60 years which is kind of surprising even as the globe has warmed. Another thing you'll find in there buried somewhat, you got to go to page 700 and something to see it, is that there have been no detectable human influences on hurricanes over about 100 year's worth of data, which is again a little bit surprising.
- Dr. Steve Kooni...: If you look at forest fires or wildfires more generally, we've been observing those from satellites since 1993 with pretty good confidence all over the globe. And the global number of wildfires has gone down by about 25% over the last 17 years. And that's despite the very active and horrible fires that we saw in California and Australia last year. Last year was one of the least active fire years

globally. Now a lot of that decline in fires has been due to the fact that people are not burning forest anymore for pastures and so certainly the climate-related fires are a lot less than what we've seen over the last 20 years.

- Danielle Pletka: So you have this new book out Dr. Koonin, it's called "Unsettled: What Climate Science Tells Us, What It Doesn't, and Why It Matters." What I'd like to do first is step back a second, because in some ways this is a book that is focused directly on the prevailing narrative that has taken hold. Marc's asked you about some of the aspects of that narrative but I would love to hear, just the big picture for somebody who's tuning in for the first time here, why are you questioning this? What is your big point?
- Dr. Steve Kooni...: Yeah. I'm not questioning anything. I see it as my job as a scientist to help inform society's decisions but not to determine them. And when I hear people talking about existential threat, climate crisis, and invoking "the science," I'm led to recall a line from the movie, "The Princess Bride" and you may remember there's a scene where Vizzini keeps saying "inconceivable." Well, people keep saying "the science." And Inigo Montoya if I were he, I would say, "You keep using that word 'the science.' I don't think it says what you think it says."
- Dr. Steve Kooni...: And in fact, when you read the official UN and US government reports, you find real surprises, some of which we've been talking about. And so I think it's very important that everybody be informed about the real state of what we understand and what we don't and then we can have the societal debate about exactly what we do about it, bringing in values, priorities, intergenerational equity, growth self-development and all the things that get tied up in this climate discussion.
- Danielle Pletka: So give us a couple of really important data points. As I went through your book, as I went through a lot of the articles and some of the criticisms, there were things that really stuck out to me. Among them, a lot of the mitigating efforts will have absolutely no impact during our lifetimes or even the lifetimes of our children. So where do you think we're going most wrong in the public understanding of this catastrophe, this disaster, this apocalypse?
- Dr. Steve Kooni...: Yeah. Alleged catastrophe. So look, let's suppose we decided CO₂ really is a problem and the effects that it's having on the climate are something we really need to forestall or prevent. What people don't understand is, first of all, that CO₂ is not like other effects on the environment. If we stop emitting CO₂ today, it would still be there in the atmosphere for hundreds of years. And so as a consequence, the CO₂ is just accumulating in the atmosphere and if we manage to reduce emissions a little bit, it'll just accumulate at a slower rate but it'll still go up. If we want to even stabilize human influences through CO₂, we've got to take global emissions to zero in the latter part of the century at levels that people would say would be safe for the environment.
- Dr. Steve Kooni...: That means not only the US and Europe, but it also means the rest of the world. And right now, emissions are bigger from the rest of the developing world than they all from the developed world and they are growing much more rapidly because people need energy to improve their lot, and fossil fuels are right now the most reliable and convenient way of doing that. And so the fundamental

problem is, who's going to pay the developing world not to emit? And I've been asking that question for 20 years and nobody's given me a good answer. So I don't think we're going to be able to stabilize, let alone reduce human influences by let's say the end of this century. And so we've got to look to other courses of action.

Dr. Steve Kooni...: And I think the course of action that will be most adopted and will be effective is adaptation. People have learned how to adapt to changing climates. We had the little ice age 400 and some odd years ago, and society certainly survived. It wasn't easy in Northern Europe, pretty cold, crops were not doing very well. In a modern society, we have much greater resilience and understanding and leverage to be able to adapt. After all, society has lived from the top of Hudson Bay down to the equator and they do just fine. And it will not be sudden, it will be gradual and human ingenuity will certainly get us through this, if not allow us to prosper.

Dr. Steve Kooni...: Now that's true in the developed world. The developing world is more difficult and I think the best thing we can do for the developing world is to help them make progress as quickly as possible, that of course takes energy, but also to strengthen their institutions, their capacities to execute large projects to make graceful changes in their society. That's what the world is going to do because trying to reduce emissions, let alone reduce concentrations, is just inconceivable, to use "The Princess Bride" word again.

Marc Thiessen: I think that's such a hugely important message that we have to adapt rather than try and bury our economy. I was looking at some of the data, Biden says he wants to use reduce carbon emissions over the next 10 years to 50% of 2005 levels. And, correct me if I've got the data wrong here, but during the COVID lockdown last year when the economy ground to a halt, people were hiding in their homes, air travel stopped, all these different things. We only got down about 21% below 2005 levels, which still leaves at least 30% towards Biden's goal. So if the economy was shut down and we still couldn't get to those levels, how on earth are we going to get to those levels in 10 years?

Dr. Steve Kooni...: Yeah, well there are two big things that one would go after, and the Biden administration has I think properly identified those as the necessary things. The most important is electrical power generation. In power generation, not only do they want to get emissions down but they want emissions to go to zero by 2035 from the power sector. And that means no coal and no gas, and all wind, solar, hydro, and I think they grudgingly will say nuclear. And boy, that's a really heavy lift. It would cause the power sector to change at an unprecedented rate. And my worry about that is the reliability and stability of the grid. Wind and solar, which are the current favorites have two drawbacks...

Dr. Steve Kooni...: Well, they have several, but two important ones or that they're intermittent. You'll only get generation when the wind blows or the sun shines, but you need electricity 24/7. And the other is something that's not widely appreciated. Our electricity goes up and down at 60 times a second, 60 cycles. And that stability is caused by heavy spinning metal fly wheels in the generators. Wind and solar don't have that at all and it's going to be a real technical challenge to have the stability of the grid that we have now as we get to larger and larger amounts of

wind and solar. So I'm very doubtful that we're going to achieve the goals in the power sector and many people who have much more knowledge and experience than I in the utility sector basically say that's not going to happen.

Dr. Steve Kooni...: We'll reduce emissions somewhere to cost, coal is going away because gas is cheap but getting rid of gas is going to be really difficult because it provides the swinging, if you like, in the electricity system. You have to generate electricity when it's needed and that means you turn on and off generators during the day, gas turbines are wonderful for that. We don't have anything else like that right now. And the other sector that the administration has correctly identified is the transportation sector, reducing the use of gasoline and diesel. That was, by the way, the main cause of US reductions during the lockdown, people just stopped moving around. And there you have to... Well first of all, they hope to put in more stringent CAFE standards, fuel economy standards for the vehicles. And in fact, when I was in the Obama administration, we put into place some pretty stringent vehicle standards, about 50 miles a gallon.

Dr. Steve Kooni...: It's doable. You can build cars like that, it's just that they cost more money right now because they have fancy materials and fancy engines. But the main route will be through the electrification of passenger cars. And right now plug-in vehicles account for about two or three percent of sales, which are in turn only five percent of the total vehicle fleet and so it's going to take a long time. Electric vehicles in principle have many benefits, but we haven't really realized them yet because the battery technology isn't there, the charging stations aren't there, and frankly the grid is not yet ready to take the extra load that will be caused by everybody charging up their cars. So I think we will eventually get to electric cars being predominant in this country, with the intended benefits, but it's going to take 30 to 40 years.

Danielle Pletka: In 2019, the Presidents of the National Academies of Sciences said, "The magnitude and frequency of extreme events are increasing." And the UN Intergovernmental Panel on Climate Change, which is sort of the authority slapped it back and said, "That should be treated with 'low confidence'." What I can't understand is why it is that people like you, people like the UN Intergovernmental Panel on Climate Change are now no longer driving the narrative. The narrative is being driven by politicians, by teenagers, and I think by the press. What's happened? Why has this happened?

Dr. Steve Kooni...: So a small correction because it's really important to get the words right. The statement by the Presidents of the National Academy said, "Certain types of extreme events are increasing in frequency." Not all and in fact, that's a really telling caveat because when you look at the actual data and the IPCC statements, very few types of extreme events are actually increasing. Why has the narrative become dominated by politicians and non-experts? And I think it's like bad money drives out good. The scientists are cautious. We tend to caveat things. We don't seek the limelight. I never thought I would be writing a book like this. But I would hope that a plain exposition of the facts that is accessible, complete and unbiased as I try to do in the book will in the end carry the day.

Dr. Steve Kooni...: What I would like is that for thinking people to read the book, they will no doubt find some things in there that they will say, "Hey, that's a surprise. I didn't know

that. How come I didn't know that and what else am I not being told about climate?" And I think if we start holding the media and the politicians a little bit more accountable to a factual basis then we can have some interesting conversations and maybe get to a better place in terms of a discussion of what we should and shouldn't do about this.

- Marc Thiessen: Well, the myths that you blow up all over the place in this book are remarkable. One of the things that I noticed... because I remember as a kid and then growing up in the 1970s, I distinctly remember reading, I can't remember if it was Time Magazine or Newsweek, a big cover story, "The Coming Global Ice Age." And you actually say in your book that global temperatures decreased from 1940 to 1970, so they were actually people thinking that the ice age was coming. And you also point out that atmospheric CO2 levels are obviously higher now than they were two centuries ago. They're not anywhere close to a planetary high, they're actually some of the lowest we've seen in the past 500 million years.
- Dr. Steve Kooni...: And what I hope people will take away from the book is not only those surprises of fact of which there are many, but also the manipulation that goes on in the reports. And I give some examples of, the report says this in the front of the report but it actually says something contradictory in the back of the report. And that's due to I would say, and I'll use the word "corruption" of the authoring and review processes of these reports, which is then amplified by most of the media who love a dramatic catastrophe story.
- Danielle Pletka: Well, it's true that they do but I think that there are some people who suspect that there's another agenda behind this as well. But before we get to that, and I do want to get to that, I want to ask you some questions based on the criticisms that are being thrown at you. So we have your book, we have a couple of reviews from the Wall Street Journal, from National Review, there's one in Forbes, there's one on Fox News, but not all of other places. This is not the kind of information that the New York Times, the Washington Post, MSNBC is throwing around with great excitement. And so I went looking for criticism. And I wanted to give you an opportunity to respond to it because I think that it's very important for us to be able to figure out who the truth tellers are in this business. So, Inside Climate News, not something I read that often...
- Danielle Pletka: You always know that that it's bad when something starts out as "Koonin describes himself as a scientist." I had a sense of where this was going but their criticism of you is that you are taking figures out of context, that basically you're doing what we suspect a lot of other people are doing which is that you're cherry picking information in order to make a case. And I would love to hear what your rebuttal is.
- Dr. Steve Kooni...: So I've been very careful to take summary statements and summary figures out of the reports. Moreover, I have been very careful to word what I say myself to be consistent with what the figures show or the data shows. If this is cherry picking, I probably have taken most of the orchard. Show me what is in the report that contradicts what I say. And I don't think that's there. Some of the things I discussed are there in the media whether they are small things or not. It really is important to show people what the true science is about some of these things. Record high temperatures in the US is a small factor in all of climate science. But

nevertheless, it's what you see in the media and I think it's really important to show people what the science actually says.

Marc Thiessen: So we've been doing a lot of podcasts recently about obviously up to the last year about the COVID crisis. And one of the things we found, the scientists are put up on this pedestal that they're always right, they're always driven by data, they've always got the facts and we lay people just have to listen to them. And what we found with the pandemic is that the scientists got a lot wrong. They missed the pandemic because they were following a flu model, which doesn't travel asymptotically the flu, whereas COVID did. They told us not to wear masks because masks don't protect you and then they changed their mind about that. They told us we had to have six feet of distance and then it turns out that wasn't based on science.

Marc Thiessen: There's so many things that the scientists got wrong and had to self-correct. Can we extrapolate from that experience that maybe the climate scientists are getting some things wrong too and that we really don't have to take what they're saying as gospel and that maybe some of these things ought to be questioned by other scientists and challenged, and that this is not religion and it's not heresy to say maybe they're not getting it right and maybe their assumptions are wrong and maybe their data isn't 100 percent. Is that fair?

Dr. Steve Kooni...: I think it's fair. Certainly you always challenge science but some things are less challengeable than others. Of course, we can give some simple examples, the law of gravity, nobody challenges that except Albert Einstein did in 1918 or something and he was right. But for practical purposes, you don't challenge these things. But I think two things about science in the COVID situation are worth highlighting; one is that it was novel and it's the first time we had something that in modern society, Spanish flu, maybe was like that in the early 20th century. And the scientists were feeling their way. It was tough. We didn't understand the virus, how it transmits, how it affects people. We still don't really. There are lots of mysteries in that. So I think they didn't put the appropriate caveats on their understanding. Presumably over the next year or two, things will get more certain and one can have better guidance.

Dr. Steve Kooni...: A second point I would make, even though the epidemiology science was feeling its way in real time, the vaccine science was spectacular and we saw or have seen the payoff of three or four decades of investment in molecular biology and virology and that was an amazing achievement. The last thing I would say, and here the COVID situation does have a parallel with the climate story, is that the scientists can adequately I think illuminate risks, certainties, and uncertainties. And we saw that, Tony Fauci and others were doing that. But where I think they started to overstep their bounds was to become normative instead of descriptive and to say, "You've got to do this. You've got to lock down or you've got to do A, B and C." The balance between opening up the economy and taking risks associated with infection is fundamentally a societal decision that's driven by values, risk tolerance and so on much like the climate decisions are. And I think the scientists on the public health side got a little bit out of their lane as in fact a number of the climate scientists have also gotten out of their lane.

Marc Thiessen: I think you're making a hugely important point because what happened in the

COVID crisis is that virologist started setting economic policy and we had to weigh the danger of the virus with the damage that was done by the lockdowns and all the businesses that were shut down and all the people who lost their jobs and all the kids who were kicked out of school. And it was driven entirely by the scientists, sometimes incorrectly, and we weren't balancing that against the economic risks of what they were proposing. And it seems like this is the same thing in climate, isn't it? Whereas the scientists are saying "We have to do these things because science says X" and people who stand up and say, "Well yeah, but I also don't want to put millions of coworkers out of work and I don't want to kill 10,000 jobs and a pipeline over this." That we have to balance the economic risk would be with the science. Is that a fair comparison?

Dr. Steve Kooni...: In fact that's a very good description. And I would add in the balances that you were talking about with respect to climate, maybe even more importantly and morally, do you want to deny three billion people adequate energy that they absolutely need for their development? And I think it's immoral not to do that, but it is one of those balances that has to be done. And those balances should be set by our elected officials, President, Congress, Governors, Mayors, and not by the scientists, and the scientists in the climate business, I will tell you, at least as you read the reports have over-egged the custard, to use a British phrase. Exaggerated the hype in the reports for the public. When you look at the real science, it's not that.

Danielle Pletka: And we saw what happened this week, which is that yet another judge threw out the moratorium that the CDC issued on evictions, which was the quintessence of scientists deciding to engage, not just in economic but in social policy. But these questions, economic and social policy are really important and fascinating. Marc was about to ask you about the economic question. You worked in the Obama administration so I'm going to guess that you probably are not the rabid ideologue that Marc Thiessen is, there on the other side of the screen.

Danielle Pletka: But I think for a lot of us, and I've gotten in a lot of trouble for saying this, but I think for a lot of us, the exaggerations that are being trumpeted about climate science are not about hysteria about climate. What they are is an agenda driven set of statements that's much more about changing the nature of our economy. In other words, undercutting the work of corporations, undercutting big business, undercutting carbon based industries, all of these sorts of things, which we can debate. But which are actually much more about economics than they are about climate. Is that wrong?

Dr. Steve Kooni...: No, I think that's right. I'm not going to get into people's motivations. I think the job of a scientist informing policy is to stay neutral like a judge or the military that try to stay apolitical, but it certainly has that effect. What annoys me greatly is when people hope rationale for those changes onto a climate crisis. And it is the abuse of science or its use as a weapon in these political debates, incorrectly in my view, that really gets my goat and that's why I've decided to write this rather plain spoken, accessible book about the science.

Marc Thiessen: Well, let's talk a little bit about the economics of this because you watch Al Gore's movie and you listen to-

- Danielle Pletka: You've watched Al Gore's movie?
- Marc Thiessen: No, I didn't. I've read the reviews of it but I did not. But you hear Alexandria Ocasio-Cortez say that we've literally got 12 years before the planet is dead, all these exaggerations. What actually is going to be the economic impact if global temperatures rise by three degrees Celsius by 2100?
- Dr. Steve Kooni...: This is of course a dicey business. Economics is called the dismal science and I think the economics under climate change is a doubly dismal science because you've got so many uncertainties. Nevertheless, both the US and UN assessment reports talk about what the economic impact, net economic impact would be of a rise of three degrees or so, and let me remind you that three degrees is two or actually three times, depending upon where you count, two or three times what Paris is supposed to be limiting us to. And what they say, it's about four percent impact on the GDP of either the US or the globe in the year 2100. Now in the year 2100 if the US were to continue to grow at two percent a year which is relatively conservative by historical growth, the US economy would not be \$20 trillion as it is today, but it will be \$80 trillion.
- Dr. Steve Kooni...: And a three percent hit on that would make it 78 trillion or 77 trillion instead of 80. In other words, we would be delayed in our growth by a couple of years. This is said rather plainly in the assessment reports, except it's in the back of the reports. It's a little bit obscured and you've got to do a little bit of math to understand it, but nobody has contradicted me in saying that. And in fact when I published a piece in the Wall Street Journal a couple of years ago, pointing this out, I got a very nice note from a prominent energy economist who said, "I'm glad you made that point."
- Dr. Steve Kooni...: So the headlines that say, "Economic disaster, climate's going to crash the economy." They're just not founded in the science, what the official reports say. So where representative Ocasio-Cortez gets her numbers from, I don't know. I hope that she reads my book and then maybe we can have a conversation. The same is true by the way of Greta. I read her book. Here it is. I've got it. There it is. Okay. I did read it and I hope she reads mine.
- Danielle Pletka: So my exit question for you, Steve. I'm actually very selfishly asking this question. So a couple of years ago, I got in really a lot of trouble for saying that I really didn't understand anthropogenic warming, unfortunately on national TV. And you're not allowed to say that kind of thing. And the reason I said that is because the one thing I do know about climate is that we've had a bunch of ice ages, including the mini ice age that you referenced and yet we've come out of those ice ages without cars, without human beings. And my understanding is that there are also cyclical elements here. Why have those been given such short shrift when we talk about climate?
- Dr. Steve Kooni...: So what you need to understand is that the influences we're talking about both natural and anthropogenic, and I'm glad I can use that word since you've used it already. These are very small influences on the scale of what goes on in the climate system all the time. They're at that half a percent or one percent level. The system is very noisy, it's chaotic, it varies a lot. And so what actually happens with the climate system is really the sum or the totality of all the influences and all

the natural variability. Yes, we've had ice ages. They happen every 50, 100,000 years and we understand them pretty well. They're caused by the way the earth goes around the sun and the tilt of its axis. They happen on very long timescales.

Dr. Steve Kooni...: We also have very short timescale variation. El Niño events happen every five years, roughly they last a year or two, they influenced the climate as I think we know in the US. The carbon dioxide is a human influence. It's not the only human influence. Aerosols are another human influence that actually cool the planet rather than warm them. They're growing on a pretty rapid timescale of 50 years or so going up. And so it's different but a challenge is sorting them out from the natural variations, some of which, by the way, besides El Niño, we also have natural variations that take 50 or 70 years to cycle, they're called the Atlantic Multidecadal Oscillation, the Pacific Decadal Oscillation. And so they have names and you can find them there in the temperature record.

Dr. Steve Kooni...: If you look at the temperature for years in the right way, you could see them go up and down on 60-year timescales. So the challenge is to sort all that out. And that's really tough because we don't have complete observations, we don't have observations over a long enough time, and the oceans which are an important part of the climate system are really tough to observe. So that's why I have titled the book "Unsettled" because there's a lot of important things about the climate we just don't understand yet.

Marc Thiessen: So I'm going to end on a really heretical question. You've described the economic impact in terms of GDP of climate change, in terms of producing GDP. Here's the heretical question. You point out the Greenland ice sheet isn't shrinking any more rapidly than it was 80 years ago but there's a lot of people who are saying that the Polar ice cap is going to shrink to the point where the Northwest Passage will be open all year long. Well, that would be pretty good for GDP. That would open up a trade route to Asia.

Dr. Steve Kooni...: Right.

Marc Thiessen: There's downsides to that in terms of ocean levels but there's upsides to that in terms of trade and again and balance. Are there positive economics of a warming planet that we're not taking into account when we think about these things?

Dr. Steve Kooni...: Yes, there is indeed. The foremost one that people talk about is the greening of the planet. And again, this is NASA data, not Steve's data. When you look at how green the earth is as a whole, it's greened up spectacularly over the last 40 years or so. The leaf area index is increased by, I can't remember the exact number, but 30% over most of the globe and that's due to the fact that plants love carbon dioxide and it fertilizes them. The increase in crop yields that we have seen since 1960 is in large part due to agricultural practices and plant genetics but in fact the CO₂ has helped as well. So this is not at all an unmitigated disaster as people would have you believe. We adapt and I think we'll learn to take advantage of whatever changes happen rather than simply tolerate them. That's what humans do and we're pretty good at it.

Danielle Pletka: And on that very optimistic note, thank you so much for joining us. This is absolutely fascinating.

- Dr. Steve Kooni...: Good.
- Danielle Pletka: Really. I enjoyed reading your book and understanding these issues better.
- Dr. Steve Kooni...: Good.
- Marc Thiessen: This is a really interesting discussion because you have experience in this, you transgressed the temple leadership. You cross the line into heresy and you got slammed for it. Because this really, I used phrases like zealots to describe this, it really is become a religion. This is not necessarily about science, this is about belief. This is about religion. And what Dr. Koonin has basically done is slammed and nailed his 95 theses on the church of climate change and said, "Listen to this. Here's what's wrong with what you're saying." And I'm fascinated in how their response is going to be because he is going to be labeled a heretic by the temple leadership just as you were.
- Danielle Pletka: Well and in fact all he is a Protestant, if we may stretch that analogy. Look, in a country, yesterday we're recording this, we're going to release it in a few days but yesterday was the National Day of Prayer in our country. We've had this National Day of Prayer for more than half a century here in the United States, the President, as all Presidents have, issued a press release, but in that press release celebrating the National Day of Prayer, the word "God" never appeared. In a country where God is not okay to evoke on the National Day of Prayer, it's no surprise that people are looking for other totems, it's no surprise that people are looking for other ways to define themselves and to define who is inside and outside the orthodoxy.
- Danielle Pletka: It's a shame for the American people but it's also just hugely dangerous. As indeed these religious debates were 500 years ago. Because heresy gets punished. People are canceled. Thank God nobody is burned at the stake anymore or auto-da-fé by the inquisition but that is-
- Marc Thiessen: We can bring that back Dany.
- Danielle Pletka: Listen, believe me, having felt it, I can tell you, it's unpleasant although I suspect auto-da-fé is worse. But there's just another issue here and I really liked what you brought up about the problem of science that we've learned with COVID, which is that science is yes, of course, it's science but there is an element of art to it as well. And the science of today is not necessarily the science of tomorrow. Galileo taught us that, Newton taught us that, Einstein taught us that. And this blind adherence to factoids, and they are factoids by the self-appointed bishops and clerics of this new religion like AOC, like Greta Thunberg is just really, I think intolerable.
- Marc Thiessen: Well, I don't want to go too deep into the Catholic bashing as a Catholic but you're absolutely right. Again, I started out in the beginning of the podcast talking about the comparison to the COVID lockdown. The reality is that during last year's lockdowns, when we ground the economy to a halt, when everybody stopped going out, when so much business shut down, factories shut down, people stopped driving, people stopped taking cruise ships. Economic activity fell dramatically, we only got 20% towards Biden's goal of where we should be in

10 years in terms of COVID emissions. That should tell you something. If we can only get to 21% of the Biden goal and we're 30% short then how the heck are we going to do that in 10 years? We need to understand-

Danielle Pletka: We're going to bring back the auto-da-fé. We're going to kill everybody who disagrees with us and that will definitely slow things down.

Marc Thiessen: Well, that will certainly reduce carbon emissions from those people at least, but the truth is, the most important thing I think he said is that we're not going to be able to stop climate change, we need to find ways to adapt to climate change. And there are going to be positive adaptations and negative adaptations. But mankind has been adapting for centuries to the climate. And the reality is that we cannot destroy our economy and destroy the livelihoods of millions of Americans, because that's what's going to happen... Whenever government bureaucrats come in with a 10-year plan or a five-year plan, as we've learned from the Soviet Union, to remake the economy, in order to achieve socialist goals, they cause more destruction than they do benefits, right?

Marc Thiessen: And this is what we're talking about. Climate is the new five-year plan of government. When the government comes in and says, "We're going to develop the technology, we're going to fund it. We're going to do all this." Guess what? The free market does it a lot better, a lot faster and a lot more efficiently. And we certainly should fund research into new technologies. We should certainly encourage the development of electric cars and clean energy technology, but let the free market decide when the era of fossil fuels is over and when we can depend on alternate energies. And that is a transition that's not going to happen in five years or 10 years or 15 years or whatever it is, it's going to happen over a half century to a full century before we have that.

Marc Thiessen: And we mess with the free market at our peril and quite frankly at the peril of the lives and livelihoods of the American people and quite frankly, even of our own country. We had Dan Yergin on the podcast last year talking about how there's national security implications to this too. We are now an energy superpower. We are the largest producer of natural gas in the world. We've supplanted Russia and the Soviet Union in terms of a lot of fossil fuel production and we have energy independence, and this has implications for our relations with China, it has implications with our relations with India, it has implications for our relations with Russia and all the rest of it. We go the wrong way on this and this could impact our national security in ways that really could be an existential threat to our country.

Danielle Pletka: The right answer is two things that we've emphasized in this conversation. It is adaptation and it is honest debate, and shutting down debate doesn't get us anywhere. So in that interest folks, if you disagree with us, if you want to tell us why we're wrong, if you want to tell us why we're right, we'd love to hear from you. And get out there, buy this book, "Unsettled: What Climate Science Tells Us, What It Doesn't, and Why It Matters" by Steve Koonin because I think as we did, you'll learn a lot, but no matter what we're grateful to you for listening. Thanks for joining us.

Marc Thiessen: Thanks for listening.

