WTH will the 2020 election mean for US energy dominance? Daniel Yergin on America's emergence as an energy superpower

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Danielle Pletka: Hi, I'm Danielle Pletka.

Marc Thiessen: I'm Marc Thiessen.

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

Marc Thiessen: Well, what the hell is going on is there's an election, obviously, and one of the big issues in that election is energy. We have a situation where the United States has become an energy superpower and the reason is because of the boom in fracked oil and natural gas that has not just put us on the path to energy independence, but also made us a major exporter of energy around the world. That has huge national security implications. All the people who are concerned about wars in the Middle East—why are we so concerned about the Middle East beyond the issue of human rights and all the rest of it? Because of energy security, right? Russia has tried to use energy to squeeze the necks of the Baltic States and the countries in Eastern Europe, as a tool. Well, American energy exports help with that.

Marc Thiessen: Any part of the world where you look, our emergence as an energy superpower has had positive impact on American foreign policy and our interests. And we now have a debate in the campaign over whether we should continue to invest in fracked oil and natural gas, or whether, as Joe Biden wants to do, we should get rid of fracking and eliminate fossil fuels. What do you think Dany?

Danielle Pletka: It's obviously not as black and white an issue as fracking or no fracking. There are environmental considerations that we care about. What we see is that fracking has caused no small amount of controversy, but if you talk about the benefits, and I think you've laid them out very importantly, the fact that we're not dependent on Saudi Arabia, on Russia. The fact that we are able to help control the price of oil and gas globally has genuine implications. For example, for European dependence on Russian oil and gas; Ukrainian dependence on Russian oil and gas; on our dependence on OPEC countries. All of those things give us a lot of leverage, but I think there are downstream elements of this that we forgot about. People say to themselves, one of my favorite Upper West side comments, "You don't need to have that gas guzzling, disgusting car. You can just buy a Tesla."

Danielle Pletka: The answer is, well, A, no. That's not right. But also, where does electricity come from? Where did Tesla's parts come from? Where do the parts that make all those windmills come from? You need to use rare earths, which come from China in order to be able to make these hugely expensive windmills. We can't have a conversation without using a label, "climate denier" or "slave to the oil industry." There's no middle ground, it's pathetic.

Marc Thiessen: Well, it's funny as you mentioned, Tesla. My daughter's hockey coach got a Tesla and I'd always tease him and say, "How do you like your coal powered car?" It's like the old steam engine, shoveling coal in there to get your car moving.

Danielle Pletka: I'm sure she spent lots of time on the bench paying for that comment.

Marc Thiessen: I'm sure she did. That's only the beginning of ways that she's paid for me. The thing is that we obviously, over time, through the free enterprise system are going to transition to renewable energy because that's what free markets do. They find the most efficient ways to do things and the cleanest ways to do things. And people have a value on clean energy, so that's a good thing. The whole push for clean energy, at least on the right, started not because of global warming, but because of the dependence on Saudi Arabia after the Persian Gulf War. Then all the troubles we had in the Middle East, in the last decades, a lot of conservatives said we should get behind clean energy because that'll make us less dependent. Then along came fracking, which got us there a lot faster.

Marc Thiessen: Energy independence is a national security imperative and if you think back during the Cold War, one of the things that made us a superpower was our nuclear arsenal. We were a nuclear superpower. Today we're an energy superpower. Just as it was insane in the 1980s, the nuclear disarmament movement that wanted us to unilaterally give up our nuclear weapons, or get rid of that advantage that kept the Soviet Union in check, today we have an energy disarmament movement on the left. "We should all give it up and have the Green New Deal. We have to get rid of fossil fuels." Yeah, we'll get rid of fossil fuels eventually over time through innovation, but right now we've got this fracking moment where we are an energy superpower and it's advantaging us vis-a-vis Iran; vis-a-vis Russia; even vis-a-vis China and a lot of our adversaries around the world. Why on earth would we want to give that up?

Danielle Pletka: Well, I agree with you in the sense that there should be a very reasoned discussion about it. When we look at-

Marc Thiessen: I thought that was very reasonable.

Danielle Pletka: Well, you laid out all of the advantages. I think there are people who have environmental concerns, although they haven't been borne out by actual science. People have concerns about oil exploration in national preserves. I understand all those things, I really do. As I said, I wish we could have a rational conversation because I think that when you talk about renewables, we have to give credit to people who have been pushing hard on the environment. Yes, of course the market takes us places because renewables are better for us in the long term, but people who care about these things have a role to play.

Danielle Pletka: The problem is that there is this monomaniacal attitude towards all of this as if somehow there was a magical answer. That it's basically, you either give it up or you're ExxonMobil after spilling oil and killing ducks and eagles and things like that. There's no middle ground. If we look at what's happened to our friends the Europeans, what we see is that they are absolutely trapped at Russia's mercy and that is because they opposed fracking; that is because they have opposed innovation; that is because they've opposed in mindless fashion nuclear energy, despite the fact that if you want to talk about environmental safety, nuclear energy is one of the most efficient and safe ways of going forward.

Danielle Pletka: What has it given them? It's given them this reluctance to go after Vladimir Putin. It's given them this reluctance to be tough on Russia. The very things that people say about Donald Trump, we are constantly seeing coming from our friends in Berlin. But we also see other things. We see the Chinese, who in their desperate pursuit of energy security are trying to take over parts of the South China Sea; that are forging relationships with countries like Nigeria. And those things have costs for the American people in our national security and in our relationships. If we're going to have a conversation about this, we need to have a conversation that discusses all the aspects rather than simply pretending there's good Mr. Sunshine and evil Mr. Oil.

Marc Thiessen: You are underestimating the challenge of having a rational conversation because, for the left, this is not a subject of national security and environmental policy. It's a religion. You're as likely to have a rational conversation with an Islamic radical about how to reform Islam as you are to have a rational conversation with the environmental radicals about climate change and energy policy. "We are destroying the earth. This fracking revolution is not a positive development for America. It is extending the period of fossil fuels that is poisoning the world. It's going to kill millions of people. New York is going to be underwater within our lifetimes and everything is going to fall apart. The world is ending and you are, Dany, by your reluctance to take this seriously, you are destroying the earth." Have a rational conversation with those people.

Danielle Pletka: Yeah, I know. Look, I've been in the middle of that before, and I really didn't enjoy it at all.

Marc Thiessen: Now we're going to be in the middle of it again.

Danielle Pletka: Thanks a ton there, Marc.

Marc Thiessen: You're welcome Dany.

Danielle Pletka: One of the reasons that I am very fond of, and a man who I've known for a very long time, a man named Dan Yergin, is because he is one of those people who is able to understand all the aspects of energy markets and has really been at the forefront of the national conversation about what these energy needs are, about what oil dependence means, what prospects are for the kind of energy independence that we always thought was a pot of gold at the end of the rainbow. We're lucky enough to have him on today talking about his new book, which is called "The New Map: Energy, Climate and the Clash of Nations."

Danielle Pletka: Dan Yergin is the vice chairman of IHS Markit, which took over his is very well-known Cambridge Energy Research Associates. He's a Pulitzer Prize winning author. He wrote a really fantastic book, "The Prize: The Epic Quest for Oil, Money, and Power." He followed that up with "The Quest: Energy, Security and the Remaking of the Modern World." Now he's got this new book. We're lucky to have him here with us to talk about the new book, and we encourage everybody to take a look at it as it's a really interesting read.

Marc Thiessen: Dan, welcome to the podcast.

Dan Yergin: Thank you very much. Glad to join you guys.

Marc Thiessen: You have a new book out called "The New Map" and it's about how the energy revolution has transformed the world to America's benefit. Tell us a little bit about the book and what you found.

Dan Yergin: What I tried to do was talk about how these dramatic changes in energy, indeed, the disruptions that we're seeing, has changed foreign policy. I look at it in terms of the US. I look at it in terms of Russia, the Middle East, what kind of cars we drive, and, of course, in terms of energy transition. But it's really just such a shift from what one would have thought was going to be the future a decade ago and on of the major changes is the position of the United States in the world.

Danielle Pletka: When I became a Dan Yergin fan was after reading "The Prize." I wonder whether you think that oil and gas remains a prize today? So much has changed.

Dan Yergin: Well, I think we've gone from "The Prize" to "The Quest" and now "The Map" to the future, and I think oil and gas remain the major parts of the energy mix, but the energy mix is going to be different. And I think that this change in the position of the US is very significant. We used to think of the world as OPEC versus non-OPEC. Now it's a world of the big three: US, Russia and Saudi Arabia, the world's largest oil producers. Who thought the US would be the world's largest oil producer once again?

Marc Thiessen: Well, tell us a little bit about the premise and what's happened in the world that has made the US the world's oil producer? Because there are a lot of people pushing for renewable energy and we have this in the political campaign now where the Democrats want to get rid of fracking and get rid of fossil fuels and wean us off of this over time. It's actually fracking that has put us in this position, isn't it?

Dan Yergin: That's right. The US now, just the month before COVID really struck in the US, was 13 million barrels a day, well ahead of Saudi Arabia, well ahead of Russia. And this shale revolution, if we can for the term to describe fracking, the impact has been felt not only in terms of oil supply, but it's created manufacturing jobs in Michigan; it's saved several hundred billion dollars on our trade balance; it's been an important source of government revenues; created several million jobs; and it's also given the US that flexibility and status in the world that it hasn't had for decades.

Marc Thiessen: We want you to take us around the world and we'll get to that in a minute. We'll talk about how it's affected the Middle East policy, how it's affecting our policy with Russia, but let's stay domestic for a second. The Democratic Party wants to pass a Green New Deal, which would dramatically reduce our use of fossil fuels. Would that have a dangerous impact on our national security?

Dan Yergin: We're certainly going to see, if there's a Biden presidency, he's out there with a $2 trillion climate plan, which is aimed at getting us to a net zero carbon by 2050. These are very lofty goals because sometimes people don't look at the numbers. As we speak today, fossil fuels provide 80% of our energy. There are 280 million cars in the US and about 279 run on gasoline. Wind and solar are about 3.7% of our energy. There's a gap, I think, between ambition on that part and the reality of the energy system. The US has this kind of key role today, that diminishing it would change it and what people aren't looking at much I think, is how the supply chains for renewables work. They don't just run through the United States, they run across oceans.

Danielle Pletka: I'm fascinated when I think about hostility to fracking. Why is there this left, right divide? You talk about it in very functional terms in your book and it has been a revolution, and it has been transformative not just putting the US at the pinnacle of the oil market, but also creating jobs, lowering the price of oil and gas, taking power away from those who sought to wield it through their sales of oil and gas. We're talking about Iran, about even Russia. Why is this so controversial?

Dan Yergin: You know, Dany, that's a question that I actually scratch my own head when I hear some of the politicians say, "We want to ban fracking." I want to say, why? The beneficiaries of banning fracking would be Russia and Saudi Arabia, who would fill the gap that will be created in the market. And I think about the fact that when let's say somebody, a prominent political figure, goes into the hospital to have a stent put into his heart. Most of the tools that are used in the hospital room and equipment is plastics. The tools that put the stent into his heart are plastic. You ban fracking, well, how are you going to put a stent in your heart next time? I think people just don't understand. I want to say to people, "You take Tylenol. Have you ever taken Tylenol? Tylenol is an oil product."

Dan Yergin: I just struggle to understand the gap between the slogan and the reality and it gets to that "why?" question. I think it's emotional. It rouses the population or part of their base. Maybe also just because, unfortunately, the word "fracking" itself kind of sounds negative. Maybe if some other term had been used, like "hydraulic fracturing" or "well stimulation," you wouldn't have people out there on the campaign trail saying "I'm against well stimulation."

Danielle Pletka: It doesn't fit on a bumper sticker. That's for sure.

Dan Yergin: Yeah. It's being against fracking, but I think it's just puzzling and not thinking through what the consequences of it would be.

Marc Thiessen: When I was a speech writer in the Bush administration and we'd write about energy policy, it was always forbidden to use the word "energy independence" because that was unattainable. We could never be energy independent. We're becoming pretty energy independent, wouldn't you say? How has that

transformed our national security policy, that growing energy independence?

Dan Yergin: Well, it's quite striking. I'm struck by what you said because that's true because it's sort of like … What's the point of talking about energy independence? And at the time it seemed like, well we should just be talking about, "Could we be energy less dependent?" Now, we're not there. We were pretty close, production's gone down, but essentially we're almost there and because we produce one kind of oil and import another for our refineries, we're actually one of the world's major exporters of oil. One of the major customers for our oil exports today happens to be China. You would not have expected that a few years ago. In fact, that figures in that Phase One of the Trump trade deal with China is exports of energy.

Dan Yergin: I've seen it up close in terms of the relationship with India. There is more than one dimension to our relationships with India. India is in a tense situation with China right now, but in a very concrete way, exports of US LNG, liquified natural gas, and oil to India have created a kind of tangibility to the relationship that was not there before. And it's given us a whole new dimension of that relationship. That's just one example. Another example, whether you agree with the Obama approach to Iran or the Trump approach, or what might be a Biden approach, none of those approaches would work if the US was still back in that condition, Marc, that you described where we were heavily importing oil. The Iranians never thought the sanctions that Obama put in place would work because they thought the world needed the oil, but it turned out that Iranian oil was replaced by US oil.

Dan Yergin: Those are just two examples. And one of the major critics of US shale development is somebody who lives in Moscow named Vladimir Putin, who doesn't like shale because he sees it as bolstering US foreign policy. Outside the US, I find South Korea, they like this because it gives them alternatives in terms of dependence that they can turn to the US for LNG. You go to other countries and you find, in fact, they think the shale revolution is very significant politically, but that kind of gets lost into domestic political debates.

Danielle Pletka: One of the things that you talk about in "The New Map" is the impact that oil and gas and, obviously, the keenness to dominate it has had on China, on the Middle East, and Russia. Talk a little bit about, particularly about the South China Sea. An area where there's been so much tension and a huge passageway for trillions in global trade. What's the oil and gas role there for the People's Republic of China?

Dan Yergin: Well, let me first say that the issue of energy imports, energy security has been a very important issue for China almost since the Chinese Revolution. The Korean War, they lost access to US oil. Then the Russians cut off their oil when they had the Sino-Soviet split. Since then, the Chinese have always been concerned about dependence and right now, although they have a rather vibrant domestic industry—they're the fifth largest oil producer in the world—they import almost 75% of their oil, give or take. The South China Sea, it's very important in that. In "The New Map," I have the Chinese map, what they call the "nine-dash line" map, which is very interesting. This is a map that is fraught with tension.

Dan Yergin: It goes back to 1936, and I have the story of how this map developed. Both the nationalists and the Chinese Communists have adopted it. The South China Sea is significant for them for several reasons. One, it is the most important trade route in the world. It's the way that much of their oil comes to them, as well as other supplies. Secondly, there's a belief in some quarters, although many geologists don't think it's the case, that it may be very productive in terms of oil and gas itself. And of course, it also gets to the issue between the US Navy and China. That China doesn't want the US Navy to be able to move through that sea. As I say, the South China Sea may be the most important single body of water in the world from the point of view of the global economy. It's also one of the most dangerous today.

Danielle Pletka: Just a quick follow up for that. When you describe—we've talked a lot about the nine-dash line and about Chinese ambitions—but when you talk about it this way, one of the things that strikes me, particularly in the context of what happened in the Korean War and the Sino-Soviet split, is that the main reason that the Chinese want control over the South China Sea is because they worry in a conflict that their access to oil and gas will be limited. Which suggests that they're planning for conflict sometime in the future.

Dan Yergin: You know, Dany, I think that's exactly right. I compared, in "The New Map," the most recent defense statements from the US with the most recent defense statements from China, and of course, what stands out there is Taiwan and a question which has been out there for such a long time, in the event of something happening with Taiwan. When you say, "What's the scenario the Chinese have worked on the most?" That's probably the one, and therefore the ability of the US Navy to respond in the South China Sea and the Strait of Malacca. In the book I talk about what's called the Malacca Dilemma, that strait which leads into the South China Sea.

Dan Yergin: That's what they worry about and if you look at what's happened with the islands that have been built in the South China Sea, or built up, they have been turned into, what some call, stationary aircraft carriers. They're military bases. The Chinese have recovered, I think the number is 3,200 acres of new land that they've built facilities for military reasons. I think this is very much driven by these deep geopolitical issues that hang out there.

Marc Thiessen: Going back in history, one of the reasons why the United States and the free world prevailed in the Cold War is because we were a nuclear superpower and the left at the time supported nuclear disarmament. They wanted to get rid of the nuclear weapons that were critical to our success in winning the Cold War. Well, now, as you point out in your book, America, because of the shale revolution, has become an energy superpower and it seems like, once again, the left wants to disarm us of the tool that has made us a superpower in that way. Do you see that analogy and is that something we should be concerned about?

Dan Yergin: Marc, I haven't thought about it in those terms, but that is a striking analogy in the sense that the shale revolution has really been a big contribution to US energy security, national security, our position in the world. Were that to be demolished, were we suddenly not exporting LNG anymore, were we suddenly importing much more oil than we had in the past and go back to where we were in the

past, as opposed to the recent past, that would weaken the position of the US in the world. We certainly know that other countries are very jealous of the position that we're in today.

Danielle Pletka: Yet they're jealous of the position that we're in today, and yet they don't wish to use our example to recreate it. When I look at the choices that the European Union has made, basically to prefer to remain subservient and dependent on Russia, to continue to, in some ways, subsidize the Putin regime through projects like Nord Stream, it seems to me to be odd when they have choices.

Dan Yergin: Well, I think they do. Let me offer a different perspective on that. The key word you use is "choices." When the Russians cut off the gas through Ukraine in 2006, the Europeans were not in a good position. Since then, two things have happened. They have made their whole system of natural gas much more flexible, so you can move gas from one part of the continent to the other. The pipelines can go in one direction or the other. And secondly, going back to what we're talking about, is the development of a global LNG market of which the US has been a really central element. They have their choice on economic terms, "I'll buy Russian gas, I'll buy gas from Qatar, I'll buy gas from United States or Australia." I think that in a way, the gas market—this may sound funny at a time when Nord Stream is on the very tip of the spear right now, Nord Stream II, the pipeline from Russia to Germany, and is so controversial.

Dan Yergin: In a way, if there was leverage in the past, that the Russians have that leverage, has actually gone away, because as you said, people have choices, flexibility, and you see that Gazprom has to bring down its prices to stay competitive. It's more of a market, but of course, right now it's become intensely political again and with that focus on Nord Stream II. But if you didn't build Nord Stream II, Russian gas would just come to Europe through other pipeline systems.

Danielle Pletka: That's what's so confusing, if I can just follow up on this question. The Trump administration has made no friends in Germany through first of all, Donald Trump's weird and almost fanatical dislike of Angela Merkel.

Dan Yergin: Dany, why don't we say complex?

Danielle Pletka: Okay. His "complex relationship." But what's striking here is that despite having these options, Germany has remained so committed to Nord Stream II even in the wake of the Russian attempted assassination of Alexei Navalny, the opposition leader. It seems weird to me, understanding the global environment that you've drawn about oil and gas supply, that they would remain so committed to this, which after all is something that's very important to Russia.

Dan Yergin: Yeah. Well, I think partly because it's almost built. Remember when Nord Stream I was built, it was much less contentious. What this is basically is doubling the pipeline capacity. I think they're probably less committed post-Navalny. I think the Germans resent what they see as extra territoriality by the United States, telling them you can't build a pipeline. There's probably two other dimensions to their point of view. One is the gas is going to come one way or the other. It's going to be Russian gas. It's going to come because Russia is a major supplier. Two, they probably think that breaking the relationships entirely and polarizing

them may not be in the interest of stability.

Dan Yergin: I think the other way to flip it around, and you were going in this way, Dany, is that we've been talking about how energy's a source of strength for the United States. I think our alliance system is also a source of strength. That's something that China doesn't have and it's something that Russia really doesn't have. I think you guys probably think that way too. This alliance system and our relations with the Europeans is important for us from our own security point of view.

Marc Thiessen: No doubt. Let's talk a little bit about the impact of the pandemic. Oil prices have dropped a lot as demand has dropped. At one point, I think oil went to less than $0 a barrel.

Dan Yergin: Much less. There was one day when it went to -$37, and just to tell you how complicated the world is, the people who lost money on that, you'll never guess who it was. It was retail investors in China who had invested in US futures.

Marc Thiessen: Oh, wow.

Danielle Pletka: My heart breaks for them.

Marc Thiessen: I really wish it was possible at that time to buy all my gasoline for the year and store it somewhere. But talk about the impact that the pandemic has had on the new map in terms of energy.

Dan Yergin: Well, I have a chapter in the book called "The Plague" where I really... I only finished this book in July, so I was able to capture COVID in a way that I think will feel very up to date to readers. When the big shutdown came in April, world oil demand went down by more than a quarter, almost a third. Gasoline demand in the United States went down by half. Now it's recovered, but if gasoline demand in the US was down by half it's now down by 17% or 18% compared to a year ago. It seems to have plateaued as the economy has plateaued, as COVID has plateaued. That's the kind of immediate impact, but I think longer term, you asked very interesting questions about how has COVID changed our lives and therefore how will it change how we use energy? Are people going to work substantially at home?

Dan Yergin: Is there going to be less commuting? That's one side of it. On the other side of it, we see people avoiding public transport. You see people telling go back to your offices, but we prefer you don't take public transport. And people owning cars, this rush to buy used cars because of that. China's oil demand is now actually higher than it was last year, partly because people want to drive rather than take public transport. Electricity demand went down, but nowhere near as much. And in terms of, if anything, our work patterns and electricity use, we've become a more electrified society. We were talking before about Zoom. Many people had never heard of Zoom six months ago. Now these kinds of communications, which depend upon electricity systems, are greater.

Dan Yergin: The last thing to probably recover from this will be air travel. The jet fuel market is very weak right now. I think COVID will have lasting impacts. But probably by

next spring, we'll be able to have a clearer view of it. Some people want to say, "Well, we saw demand went really down in the spring, therefore we're going to see this. That's what the new energy future will look like." I say, no, that was a shutdown, which had never happened before. We've had supply and demand crises and so forth, but we've never had basically governments mandating a shutdown of their economy. I don't think we can generalize from that, but I think a big question is, what will work look like when we come out of this?

Danielle Pletka: It's absolutely fascinating and completely unknowable and unpredictable. I want to ask you another thing because we spend a lot of time talking about Elon Musk and his various adventures. And Tesla has been a huge market disruptor, and he's been an interesting guy and obviously a risk taker and a visionary, and electric cars are coming to the fore. I don't understand why people think of electric cars as a great new environmental innovation, because where does electricity come from again?

Marc Thiessen: A lot of it comes from coal, right?

Dan Yergin: Right, and of course there's also by the way, a lot of plastics in electric cars. I have a great photo section in the book and there's this picture of Thomas Edison standing by his electric car and Elon Musk and it's almost exactly the same posture. But Thomas Edison really tried hard, put a lot of money into it and it failed. Elon Musk, of course, has put it on the map. I had an extensive conversation with the chief technology officer, the guy who really did a lot to make Tesla happen. It's a fascinating story of just risk taking and how you can pivot on a dime and tried this technology, that technology in that startup culture in California with something that seemed totally impossible.

Dan Yergin: Now it's turned into a massive disruptor and a drive for the electric car. But at least in the numbers that we do, when we look out in our work and I have in the book to 2050. Maybe in 2050 there may be 600 million electric cars, but there'll be still 1.4 billion cars that still run on gasoline. That's maybe why, Marc, you'll need to store some gasoline in your basement.

Danielle Pletka: Boom!

Marc Thiessen: Exactly. I think that could be dangerous. How long will it be in your view until renewable energy becomes economically viable enough to overtake and replace fossil fuels? You've made the case that at least people have an argument for … that climate change is a great threat and so therefore we need to speed this transition, but you've made a case that the shale revolution and our discovery and our energy independence has put us in a really strong geopolitical position. How long naturally would it take to make that transition and how long will that period of being an energy superpower last for us?

Dan Yergin: Well, if we look at it historically, the key moment in the first energy transition, which was from wood to coal was, and I pinpointed in the book, January, 1709. It took two centuries before coal was half of the world's energy. Now, obviously circumstances were a little different in those centuries and these centuries. I talk about the shale revolution, but there is a solar revolution too. Solar costs have come down very dramatically over the last decade and solar is a lot more

competitive than it was. Of course, part of that is technology, but part of that is the Chinese manufacturing juggernaut, which just dominates the world solar production market. Wind costs have come down too, so they're more competitive. I think in the future, it's really a competition in electric generation between natural gas and solar and wind.

Dan Yergin: Sometimes people kind of forget that solar and wind don't actually go into automobiles. Most automobiles run on gasoline. Solar and wind don't really address oil. I think that the competitive edge there is with natural gas and I think it is going to be competitive because those costs have come down. That said, and this is a subject of a greater argument, there's still government support and incentives to people. I was talking the other day to a lady who put solar on her house and she went through the federal tax credit and the state tax credit, and some other things that she'd gotten, which had made it economic.

Dan Yergin: When I say the solar costs have come down dramatically, it's the solar panels that are manufactured mostly in China. But there's still the cost of putting it on your roof. I'd say the answer is that it's competitive. A lot of electric utilities feeling pressure from their regulators and their public are kind of talking about net zero carbon targets for 2035 or 2050. They have to respond to the political pressures they're feeling.

Marc Thiessen: Follow up question, the last question from me. Because the shale revolution has made America an energy superpower, and you've laid out all the benefits that has for our national security vis-a-vis Iran, vis-a-vis China, vis-a-vis Russia, don't we have an interest in extending that period of superpower? Do superpowers tend to speed the getting rid of the thing that has put them in a strong position? From a national security perspective.

Dan Yergin: You're saying should-

Marc Thiessen: Shouldn't we stay shale dependent?

Dan Yergin: Why would we want to hang up our championship jersey?

Marc Thiessen: Exactly.

Dan Yergin: I think that's a very good point and I think that's something that needs to be part of the discussion. I'm hoping that "The New Map," it's not a polemical book, it's a narrative book. It says, how did the shale revolution happen? Who were the people who made it happen? Just like, who are the people who made the solar revolution happen or the electric car happen? But that's right. This is a source of strength and by the way, something that we may hear about, before COVID, this was an industry, by the way, that involved 12.3 million jobs. Which is something that has kind of been lost in the discussion as well. I think what you're suggesting is that there's really some need for balance here and realism in the discussion.

Danielle Pletka: Balance and realism in the discussion. What's that? We sure do. Let me ask you my exit question as well. You've written about all of these innovations. It's funny for those of us old enough, we can remember the Jetsons, people flying around

in their wheel-less jet car things and having all these mod cons some of which have come to fruition. You did a lot of looking forward in your book. You talked in a balanced way about what could be done, what was in the realm of the possible, what impact some of these new technologies would have. If you have to look forward, what do you think is the biggest...

Dan Yergin: Biggest disruptor.

Danielle Pletka: What do you think is the biggest disruptor that we have yet to see on the ground? Not the new electric car, not the solar panel. What is the transformative disruptor?

Dan Yergin: Well, maybe mention a couple of them. One is actually carbon capture. Technologies to capture carbon in this current political environment and focus on climate would be significant. I think, secondly, something, as kind of a term I invented, called autotech. If you combine electric cars with ride hailing, which will come back after COVID, combine it with autonomous vehicles and a merger of sort of Silicon Valley and automotive companies into where you don't own a car anymore. The autonomous vehicle just picks you up when you need it. I think those are two of them. But let's get to the Jetsons and your personal flying taxi. One of the people in the book is a guy named Sebastian Thrun who started off developing robots to be guides in museums.

Dan Yergin: He's the guy, one of the two pioneers of autonomous vehicles. We're going to see more of them coming. There's this fabulous book of him when he won this great race for the autonomous vehicles. When I saw him for the book, when I was finishing the book, I asked him, "What are you working on now?" He said, he's not doing autonomous cars, self-driving cars anymore. He's now doing self-flying airplanes. Autonomous air taxis. I thought to myself, well, that does sound like the Jetsons. Maybe you will see those in your neighborhood in the not too distant future. Maybe that cartoon series from long ago will be prophetic about our future.

Danielle Pletka: Finally, George Jetson will have his day. Well, this is a wonderful book. We commend it to everybody, "The New Map: Energy, Climate and the Clash of Nations." Thank you, Dan so much for being with us.

Dan Yergin: It's great to be with both of you. Thank you, and I have a self-driving taxi waiting for me, so I better hop in.

Danielle Pletka: Careful. Thanks a ton, Dan. This was great.

Marc Thiessen: We have the author of "The New Map" and "The Prize." And the prize, as far as I can tell, is America is an energy superpower. And as they did in the Cold War, the left wants to give away our superpower status and unilaterally disarm. I'm all in favor of improving renewable energy, but there's two ways to do that. One is obviously Tesla is a success because the government supported Tesla for a long time and subsidized the coal power cars, and there's lots of ways to support and speed the development of renewable energy. But the other flip side of that is the coercive socialists' side, which is that the government is going to put fossil fuel out of business. That's what I'm against.

Marc Thiessen: I'm all in favor of innovation, multiple sources of energy. It all strengthens our energy independence. It all strengthens us as an energy superpower if we're the first to get to some of these technologies, but I don't want to give up this ... It's not quite a unipolar moment when it comes to energy, but it's certainly a moment of American dominance. You and I are both national security people, America doesn't give up its dominance for no good reason.

Danielle Pletka: One of the things that I think that Dan really made clear to us is just how complex this question really is. He digs down and what's interesting to me is because he doesn't embrace the dogma, some of the reviews of his books were critical that he was insufficiently pious when it came to the challenge that climate change presents. The better thing is to understand exactly how this affects all of us before we start talking about throwing it all away in this mindless fashion. Because the generation that is most loyal to this notion that we should return to 1822—but without the slavery, but also without the fossil fuel and without the cars and without the trains and without the anything else—the generation that is most committed to that idea is also the generation that doesn't remember lining up for gas.

Danielle Pletka: Doesn't remember the days before Uber, doesn't remember what it was like during the great 1970s. The great Carter era in which we all couldn't get where we wanted to go, and on even numbered days we went to get gas and on odd numbered days we had to wait and watch while other people got to their offices. This is the perspective that a lot of people lack. I appreciate the fact that Dan laid that out. I also think what he says about China is absolutely fascinating. He got closer than many, I think have, to making the case that China is looking for security in the South China Sea because it's worried about the security of its oil supply in the event of a war.

Marc Thiessen: Absolutely. Also our policy vis-a-vis India is really involved here because of course the largest emitters of carbon in the world are China and India. Everybody wants to pressure China and India to reduce their carbon emissions. But what has embedded our relationship with India are natural gas exports that have tied us together. Is US national security enhanced if India uses less imported natural gas from the United States? I don't think so. There's this tension that no one wants to acknowledge between our national security interests and the environmental interests that are being promoted by the climate change lobby. They just seem to play it as cost-free. "We're going to get rid of all the cars. We're going to change every building in America. We're going to get rid of all the fossil fuels. We're going to get rid of—as Ocasio Cortez puts it—the farting cows and eat less meat and all the rest of it. And we'll just smoothly transition into this new era of the Green New Deal."

Marc Thiessen: The reality is not only will it hurt us economically, not only would it put millions of Americans who work in the energy industry and the fossil fuel industry out of work, but it will harm our national security in a lot of ways. I think that any rational discussion, if we're going to have one, has to take that balance into account.

Danielle Pletka: It's not an on and off switch. That means that if we make these decisions about our own energy independence, then we're going to have to buy oil from somebody else because we don't have an off switch. Once we do that, cui

bono? Guess who? Yes, it's the Russians and the Saudis, the very people who Trump is always accused of pandering to, in fact, will be the ones who benefit the most from any precipitous decisions made by the United States about its own energy independence. That is a really important thing for people to understand. This is why we need to ensure that we're not engaging in the kind of magical thinking that is being promoted right now.

Danielle Pletka: There isn't a silver bullet. Can we do better? We can. We can do better. I believe we can do better, but I also believe that there is a slow path, not a path that leads to 2030 as some have suggested or a path that leads even to 2050, that will put us in that situation in which we're back in 1822.

Marc Thiessen: Well, Dany, you're a heretic and we're going to burn you at the stake. But we would burn you with the stake, but that would emit carbon into the atmosphere, so we'll have to find another way.

Danielle Pletka: You'll burn me in a hermetically sealed room. Thank you. Excellent.

Marc Thiessen: With carbon capture.

Danielle Pletka: Actually, that was a cool thing. The carbon capture discussion that we had with Dan about that being a real innovation. That is the kind of innovation that really is exciting, but of course it goes against the orthodoxy. It goes against the notion that we have to end all industrial activity. It will be very interesting to see if we make scientific and technological advances on that, whether in fact that is well received or received as something that is just undercutting the need for us to go back to that 1822.

Marc Thiessen: Also, depends on whether we remain a capitalist country and not a socialist country because only capitalist countries come up with innovations like carbon capture.

Danielle Pletka: Amen to that. I'm a capitalist and a heretic. That's the note on which we can end. Finally, I'm in the wrong and Marc is, well, Marc's never in the right. That's just a definitional issue, but thanks for joining us. Hope you enjoyed the discussion with Dan Yergin. Please do go out and check out his book and send us ideas, send criticism to Marc, and we'll see you soon.

Marc Thiessen: Bye.