

THE BROOKINGS INSTITUTION

LEADING CARBON PRICE PROPOSALS: A BIPARTISAN DIALOGUE

FEATURING U.S. SENATOR CHRIS COONS
AND U.S. REPRESENTATIVE FRANCIS ROONEY

Washington, D.C.

Thursday, June 20, 2019

PARTICIPANTS:

Welcome and Introduction:

STEPHANIE AARONSON
Vice President and Director, Economic Studies
The Brookings Institution

Discussion:

MODERATOR: ADELE MORRIS
Senior Fellow and Policy Director, Climate and Energy Economics Project
The Brookings Institution

THE HONORABLE CHRIS COONS (D-DE)
United States Senate

THE HONORABLE FRANCIS ROONEY (R-FL)
United States House of Representatives

* * * * *

P R O C E E D I N G S

MS. AARONSON: Good morning. It's my pleasure to welcome you here to Brookings for this important discussion on how to address the increasingly urgent problem of global warming. It seems that every day brings news of the impact of global warming on our biosphere and we face time pressure to come up with policy solutions to avoid the most harmful outcomes.

As I'm sure you know, an extraordinary and long-standing consensus among economists supports placing a price on greenhouse gas emissions to lower the risk of dangerous interference in the earth's climate, for example, through a fee, tax, or emissions trading system. The recent economist statement on carbon dividends, which supports such an approach, was signed by over 3,500 economists, including 4 former chairs of the Federal Reserve and 15 former chairs of the Council of Economic Advisors, equally divided between those serving in Democratic and Republican administrations.

The idea behind greenhouse gas emissions pricing, which we also refer to simply as carbon pricing, is to change the relative prices of different sources of energy in a way that reflects how damaging they are to the earth's climate. This harnesses market forces to reduce emissions at least cost with current technologies, and it raises the profit potential of new low carbon, low cost technologies.

In fact, the U.S. pioneered such an approach to pollution mitigation with the Clean Air Act Amendment of 1990, which were passed with overwhelming bipartisan support. The Amendment established a cap and trade system for reducing sulfur dioxide emissions. This program exceeded pollution reduction goals and at much lower cost than was anticipated. Of course, other policies might also be necessary to support carbon emission reductions, such as Federal support for basic research and development. But economists agree that carbon pricing is a keystone of an economy-wide economically efficient policy portfolio.

For more than two decades Brookings has been a leader in research on the design of carbon pricing policies, starting in 1997 when Nonresident Senior Fellows Warwick McKibbin and Peter Wilcoxon published a series of papers on tradable carbon permits within the context of the Kyoto Protocol, and continuing through last month, when Adele Morris, a senior fellow in Economic

Studies and our moderator today, released a major co-authored paper summarizing the policy implications of a multi-model study of carbon tax policies that she co-chaired. I will add that the paper is available on the Brookings website at Brookings.edu.

Given the grave challenge that climate change poses and Brookings long-standing expertise in carbon pricing policy design, we are especially pleased to welcome here today two law makers who were at the forefront of climate change policy and have incorporated important economic insights into their legislation, Senator Chris Coons, a Democrat from Delaware, and Congressman Francis Rooney, a Republican from Florida. Adele will give them a more fulsome introduction.

But before I turn the floor over to her, I want to stress the importance of what we are doing here today, bringing together climate policy ideas from both Republicans and Democrats. It will take durable, long-term incentives to de-carbonize the global economy, and bipartisanship will be required, not just to pass legislation mandating a meaningful price on carbon, but also to ensure that it endures through inevitable fluctuations in the political climate and the economy.

I feel that one of the most important roles that Brookings can play in the policy arena today is to foster the dialogues and relationships that make such bipartisan collaboration more likely. So I'm particularly excited to have you all joining us. We hope that our discussion today is another step toward a cleaner, safer future. (Applause)

MS. MORRIS: Well, welcome everybody. Thank you, Stephanie, for your remarks and for your excellent support for our carbon pricing research agenda here at Brookings.

I'm Adele Morris and I'm a Senior Fellow here in the Economic Studies Program, as Stephanie mentioned. I'm also the Policy Director for our Climate and Energy Economics Project. And I would, as another shameless plus for our research, invite you to check out our research on Brookings.edu. You'll find a great deal of research there that supports the kind of ideas we're going to be talking about today.

You know, I really want to emphasize the importance of having these two gentlemen here today, because we're going to learn today about some significant common ground in their policy ideas. So as Stephanie said, it's going to take leadership and vision from all sides to make

progress on climate and we are blessed today to have some leadership and vision right here. And so I'm going to welcome Senator Chris Coons from Delaware and Ambassador Rooney from Florida. And I say ambassador because Congressman Rooney has been a U.S. ambassador to the Holy See from 2005 to 2009. He represents Florida's 19th District, which includes the seaside city of Naples, Florida. He has led successful businesses in the construction industry, among other things. He is a graduate of Georgetown Law Center and he holds an important license as a mariner. Maybe I should call you Captain Rooney (laughter).

QUESTIONER: Captain, Ambassador, Congressman. This is great.

MS. MORRIS: And he has done a lot of work, bipartisan work, on Everglades restoration. And I think he has a terrific track record in working across the aisle on important issues. And pertinent to our conversations today, he's the Republican co-chair of the Climate Solutions Caucus in the House. And I understand you guys are re-launching that Caucus --

MR. ROONEY: This afternoon.

MS. MORRIS: -- today. That's fantastic. Making new here already.

And Senator Coons is in the Senate and he is serving in the Senate after leadership positions in county government. So he actually knows how to run things at the local level and understands the local impacts of a lot of the decisions that we're facing today on climate change. He also has been a leader in forging bipartisan energy and environment legislation. And you have several bipartisan bills, including enabling clean energy projects to utilize tax advantage financing, you sponsored a carbon pricing bill in the last Congress with Senator Jeff Flake of Arizona, and you also have a bill on energy efficiency in the Federal Government that's bipartisan as well.

So I'm really pleased to have these gentlemen here today. We're going to start with three-ish minutes of opening remarks and then I'll moderate Q&A for a while and then we'll open it up to the audience.

So, Senator Coons, why don't you start us out?

MR. COONS: Thanks, Adele, and thanks to Brookings. And thank you, Ambassador, Captain, Congressman (laughter), for being a great partner. It is encouraging to be with you today and to continue a bipartisan bicameral conversation about how do we tackle one of

the most important existential threats facing our globe and our country.

I think it is clear that climate change is real, that humans are driving it, and that we have to take action to address it. I serve in the minority in the Senate in a place where there are still precious few of my Republican colleagues who are willing to say all three of those things publicly, but we've got quite a few willing to say the first now. They're noticing the cost, the impact, the \$300 billion a year in damage that a change in climate is already imposing on the American economy.

There is question and debate about whether it is anthropogenic or not, but I think the real issue, do we need to take a significant step forward that's going to invest in more research and innovation, that's going to scale and deploy cutting edge technologies -- yes, yes, and do something bold that's actually going to achieve anything like the Paris Climate targets -- so far, no.

I was grateful to friend and colleague, Senator Flake of Arizona, who worked with me to introduce the only bipartisan carbon pricing bill in the last session of the Senate, and I am working, I am searching for a Republican co-sponsor for a bill I will soon introduce in this session.

As you noted in the introduction -- thank you, Adele -- most of my bills are bipartisan. I have a bill that would take something called master limited partnerships and open them up to all forms of renewable energy, to carbon capture, and sequestration as well as renewable energy generation. It's an essentially an all of the above technology neutral investment approach and it's got five strong well known Republican co-sponsors, including the chair of Energy and the chair of Banking. That's the way I typically work, because as we were discussing before we came out here, if you introduce legislation that only has support from one party, it will not last very long and it will not send the sort of strong and predictable signal that drives the power of the private sector that we both see as being so exciting and important about putting a price on carbon.

You referenced my 10 years in country government. I'll say that it was my eight years with a global manufacturing company that gave me the insights that I think I could hear are so common in what the Congressman brings to his work, which is I sat in rooms as we decided as a company where to build plants, where to invest, which technologies to try and move forward. It was a company that, in response to the Clean Air Act Amendments that were referenced in the introduction, deployed a new technology that dramatically improved cleaning air coming out of coal

fired power plants, for example, and cement kilns. So it was one of dozens of American companies that was encouraged to invest in new technology and then led to significant advances in clean air.

If we send a long-term market signal through a carbon price, we can deploy consumer power, market power, and the private sector. And I think we're both very strong believers in how that lever is the biggest and strongest and longest to move our country and then the world to take advantage of the crisis in climate that's upon us.

Thanks for the chance to be with you. And I want to specifically thank Dr. Leah Rubin Shen, who leads my energy and environment team. I've got a terrific group of folks. Dr. Drew Story is also with us today. We have a great group of folks in my office. They do all the work, I'm just a pretty face, which tells you just how much trouble we're really in. (Laughter)

MS. MORRIS: Well, thank you so much Senator. I really appreciate those remarks. And as you will see from the research, that much of what you said is supported by a large body of peer reviewed economic literature. So you have the economic science behind you as well.

Ambassador Rooney?

MR. ROONEY: Well, thank you for having me, Adele. And, Senator, it's really an honor to get to know you a little better. In the half hour that we've had to visit I've already learned an awful lot from Senator Coons, and I look forward to learning more from him. And I also see a few faces out there, some of the environmental people that do a lot of studies and have been very helpful to our office as we've tried to move the ball forward in a fairly small group of Republicans that are trying to do that. So we're really dependent on your help.

I might also thank Brookings again. Some of the slides I always carry around with me are Brookings slides. These are slides showing the cost of climate over the next 50 years. And the irony, which I try to tell my colleagues in the Republican side of things, the counties and cities that are going to pay the highest price for inaction are ours, the red ones. I find that kind of ironic, you know. And, certainly, look at all those red dots down there in Florida. So I agree with Senator Coons. What he said is that we're trying to make headway to get -- like St. Francis said, first seek understanding, then to be understood. Trying to get a few people to talk about climate, having man having a role. I always say to my Republican friends, go read the IPCC, you know. It's more

nuanced than the newspapers say it is, liberal or conservative, talks about manmade causes in terms of things other than just carbon. It talks about development. And I would say look at the difference between how Houston recovered from its hurricane and how we recovered from ours. We were dry in three days because we've got trees and grass where the water could go down into. Houston is 60 square miles of parking lot. So there's a lot of ramifications to this in addition just to carbon, but I've got to tell you, what the Senator and Adele said, and the other lady that opened this up, it seems to be inevitable that if we can put less carbon in the air and beat those Paris goals, we'll be on the goal to stopping a lot of really bad problems.

In our area, sea level rise is existential, and I think probably Delaware, since Delaware is the lower state than Florida. I just want --

MR. COONS: We are the lowest mean elevation state in America. One of those facts I stunned him with before we came out. (Laughter)

MR. ROONEY: So we have sea level rise directly related to acidification in the sea and the air. Well, you can measure all that stuff. I don't know how you can deny it anymore, you know. And then we have in our area a very strong problem with offshore drilling and the risk that might post to our coast and estuaries. And I try to tell my colleagues that really in Florida to one degree or another everybody is an environmentalist -- to one degree or another. But some aren't quite as far out there as maybe me and Senator Coons are.

But we will keep trying to push the understanding. And just the last few weeks we've had a few Republican leaders talk about climate change being real, talking about man having a role. So we'll just take those starts as we find them and try to move the ball down the field.

And I do have my 100-ton captain license, so if things get really bad and I (inaudible) on every other job, I'll go drive a tugboat. (Laughter)

MS. MORRIS: Well, terrific. You know, we love common ground here at Brookings, and so I've looked at your legislation, and just comparing your most recent bill, Ambassador Rooney, it's called H.R. 763, the Energy, Innovation, and Carbon Dividend Act, and I've had the privy to have a preview of coming attractions of Senator Coons' bill. I think there's a number of really important common grounds. So let me just go through some of those things that we see a lot of similarity.

First of all, both bills price carbon and other greenhouse gases economy wide. So we're talking all fossil fuels and some non CO2 gases. So this is really an approach that has tremendous breadth across the economy. Both bills impose that carbon fee upstream in the supply chain of fossil energy. And what's important about that is you can price the vast majority of U.S. greenhouse gas emissions with few actual people who have to pay that fee. So, for example, the Congressional Research Service recently updated one of their very useful parameters on this. They said that we can price 76 percent of U.S. greenhouse gas emissions with under 3,000 payers of the carbon fee. So that's an incredibly administrable approach. And many of those entities are already reporting mineral production under existing excises. Both bills have a fee that starts at \$15 and goes up from there each year, slightly different trajectories, but similar in concept. And you both have a schedule for emissions targets. So, you know, you've put in environmental benchmarks, and if those aren't met the fee goes up a little faster. You both offer a rebate for carbon that's not emitted—either it's sequestered underground or otherwise not emitted—and you both include a border carbon adjustment that would impose a duty on imported goods that have a lot of greenhouse gas emissions in their supply chain and provides a rebate for those similar goods upon export from the United States.

So that right there is a ton of common ground. Now, there are a few nuances, and so we want to get to that on some of the other design ideas. Let's talk about revenue for a second.

Both of you have a fee trajectory that's going to raise upwards of or beyond \$2 trillion over the first 10 years. Now, that's a lot of revenue to grease the wheels of a deal perhaps.

MR. COONS: That's a fine technical academic term. (Laughter)

MS. MORRIS: That's right.

MR. COONS: Grease the wheels of a deal.

MR. ROONEY: Make a lot of sausage.

MS. MORRIS: So, Senator Coons, why don't you talk a little bit about your vision for how the revenue of a carbon fee might be used?

MR. COONS: So just broadly speaking, the bill that Senator Flake and I introduced in the last Congress was a complete rebate bill. The bill that I am introducing soon in the Senate,

which is at this point likely to be Democrat only, takes significant pieces of the revenue and invests it in infrastructure construction, in clean energy, R&D, and in transition effects. Now, I'm recognizing that a rapid transition away from a carbon intensive manufacturing and extraction community in states like, for example, West Virginia or Kentucky, will have significant dislocation impacts. And the political reality is that in order to get support for an industry wide and an economy wide carbon fee, we will likely have to invest proactively in retraining and the impacts on the local economy that both go to individual households in terms of strengthening their ability to afford higher energy costs and in skills and potentially even relocation for workers, but mostly in up-skilling and then in investments by state and local governments in new economic opportunities. So significant investments will be in the bill I'll introduce in constructing new resilient infrastructure using American labor, which will also create job opportunities. Significantly ramping up Federal R&D in clean energy and in resiliency, but then also in transition impact.

That's a real difference from the bill I'd introduced in the last Congress. And, frankly, as we discussed before we came out, there are lot of ways to spend -- our estimate is \$2.5 trillion over 10 years -- but there are also lots of things that are politically at the moment fraught. We don't have a resolution to how we deal with a rapidly growing deficit and the disconnect between what are now temporary tax reductions for individuals and some of our entitlement costs.

So I think the things I'm proposing in how to spend this new revenue are tightly targeted around the issue of climate change, its consequences, how to deal with them while also making our economy more competitive and reducing the transition effects on families and states. But there will be in the sausage making of Congress other purposes to which other folks will want to put some of this dramatic amount of new revenue.

MS. MORRIS: Excellent. Ambassador Rooney, H.R. 763 really implements the vision by the Citizens' Climate Lobby. And in full disclosure, I'm on their advisory board, but I do not lobby and I do not endorse specific pieces of legislation.

Now, that approach is pretty much a 100 percent fee and dividend approach where rebates go back to households. But you've also sponsored the Market Choice Act in the last Congress with Representative Curbelo that would have had a very different approach to swapping

out the Federal taxes on gasoline, diesel, and aviation fuels and backfilling that revenue and the expected deficit in the Highway Trust Fund.

So you've had a couple of very different visions your legislation. How are you thinking about the revenue uses now?

MR. ROONEY: First, I think you get -- like the Senator said, there's a lot of different ways to figure out how to divvy up money that we don't have yet. (Laughter) If we can somehow get it then you've got to say, okay, what -- as the Senator also said, have a combination of things that gets you enough votes to get over the finish line. And your way is probably the better way, and that's similar to what Carlos' bill was. I also liked the simplicity of this one. John Delaney and Don Beyer were the progenitors of the one that I introduced, which is just basically saying let's tax pollution not people and give it back to the American people. I don't know which one's going to get enough traction. I mean, you know, you go fly fishing, you throw the fly, you see like five fish go under and no one bites. You know, which one is going to get the right combination of fish.

But the third one I think is important to think about is the alliance from market solutions approach, which is use it to offset the cost of hiring workers, very market based. And a lot of corporate CEOs are for that.

So if you add all those things together, you get corporate CEOs, you get municipal and county governments that have to deal with infrastructure, you get ideologues on all sections of the spectrum that may find some common ground. Maybe we'll get something over the finish line.

MS. MORRIS: Excellent, excellent.

So one of the potentially more contentious issues that's going to arise is, you know, if we have a carbon fee bill with the kind of ambition that is expressed in your legislation, what happens to the future of the EPA's authority over greenhouse gases under the Clean Air Act, and perhaps other Federal environment and climate policies?

I'm really interested in how you think about that issue. Would you suspend Clean Air Act regulation, would you eliminate that authority, would you do something else to modify existing statutory authority?

How do you think about that, Senator Coons?

MR. COONS: Well, neither the bill I introduced in the last Congress nor the one I'm going to introduce in this Congress touches the EPA's ability to regulate greenhouse gases. But I recognize to get a strong bipartisan bill in the Senate that may very well be one of the items on the menu.

As I've debated and discussed this with Democratic colleagues, I've said it's important to recognize where we are. The Clean Power Plan has now been fully replaced by an alternative by the Trump Administration, and the process of actually implementing the EPA's ability to regulate greenhouse gases will take years. So from where we are today, even the most ambitious timeline for restoring a Democratic administration, restarting the rule making process, re-implementing greenhouse gas regulations through the EPA, and then reapplying something like the Clean Power Plan is years away. And so a recognition of that would seem to be an abrasive reality. But that's not always what happens in my legislative environment.

That is going to end up having to be I think in order to get a whole bipartisan bill, something that Democrats in the Senate will need to accept. The question will be what timeline, with what terms, with what claw back, meaning if we get a certain number of years and we aren't making emissions reductions targets, which mechanism is more purposeful, which is more likely to be successful, amping up the per-ton carbon fee or having a claw back or a re-imposition of the EPA regulatory authority. I suspect that's exactly one of those important push pieces that will be debated when we get to this point. But we would be getting ahead of ourselves to try and negotiate that now.

MS. MORRIS: Sure enough.

And, Ambassador Rooney, what's your perspective on the regulatory authority that might be amended by a carbon fee bill?

MR. ROONEY: Well, you know, one thing that occurred to me just right now, since we're the people that don't like regulation and don't like government, the whole bit, maybe one of our arguments for the carbon tax is that this is an alternative to as much regulation, opens the door for people like the Senator to drive a bargain. You know, I'll be a little bit more optimistic here, at the risk of getting in political trouble, which is a perpetual threat to me (laughter). I'm going to be kind of hopeful that the EPA doesn't end up getting to go as far as it seems to be in the *Washington Post*

newspaper today. I'm hoping that there are going to be some people that know more than I do, like the Senator here, and figure out how to slow them down.

MS. MORRIS: So another issue that I think is going to arise is this question about whether energy companies are going to be liable for economic damages associated with climate change. Not just energy companies, but any company that might have contributed to the climatic damages that we're seeing now and will experience in the future. Some groups have proposed suspending any kind of liability like that as part of the carbon fee deal.

What do you think about that, Ambassador Rooney? Would you support something like that?

MR. ROONEY: Well, the only case I've really read much about was the Exxon one, which seemed a little specious to me. I mean we talked earlier about that analogy of tobacco or something. I don't think it's quite there. So you might have a different level of honesty in how to approach it. But it seemed to me there should be some way to have a safe harbor or a standard that says for a company that's engaging in good practices, sequestration, and capturing their carbon, and trying to use alternative fuels and things, that they get a little bit of protection. I mean you ought to reward Chevron and BP for getting with the program on solar and wind and things like that, for example.

MS. MORRIS: Mm-hmm, mm-hmm.

MR. ROONEY: Now, they speak out of both sides of their mouths. I understand that. But they are doing some very positive things, Chevron and BP particularly.

MS. MORRIS: So I've heard from my environmentalist friends some discomfort with suspending that kind of liability.

Senator, are you hearing about this issue and do you have a view on it?

MR. COONS: I'm not aware of there being any specific or concrete proposal that would relieve potential liability. But it is something that energy companies, particularly those who funded and drove misinformation and disinformation campaigns to deny climate change and to undermine or marginalize scientific efforts.

You know, look, the frame for a mass tort liability suit is was there a harm. And I

think the evidence is building that the harm is dramatic and significant and expensive. And then second, is there a remedy, and then is there a duty. It is the duty that is the more attenuated. If you were selling tobacco that your scientists told you was killing people for decades and you intentionally concealed the science and then lobbied in order to prevent any accountability, that's ultimately what led to massive lawsuits against the tobacco industry. Really what gave extra gas to that was that states were bearing the costs of caring for the people who had been harmed by tobacco.

This similarly is going to be a piece of the conversation as state and local governments are bearing higher and higher costs for responding to climate driven impacts. There is going to be a look for where's the revenue. And mass tort litigation is not a particularly finely focused vehicle for both accountability and revenue for something as diffuse as climate change, but it's not something I'd take off the table until we were in sort of the final stages of a conversation about truly bold levels of investment.

I'll remind you, a carbon price, the kind of mechanisms we're talking about, if it raises \$2.5 trillion over 10 years, and that is available to be reinvested in responding to some of climate impacts, and energy companies genuinely actively pressed for it, that would weigh in favor of there being some accommodation. But if they continue to fund and support and advance climate denial and actively oppose market based mechanisms that are actually broadly supported by bipartisan leaders of previous administrations, that begins to build more and more of the case for some moral liability, if not legal liability.

MR. ROONEY: Can I make a comment about that?

MS. MORRIS: Absolutely.

MR. ROONEY: I'm in the oil business in a fairly substantial way in Columbia and in the United States, have been for a long time. And it's interesting to see the number of energy people that are supportive of a carbon tax and taking the responsible measures that the Senator mentioned. And we're starting to see kind of a dispersion between the responsible energy producers and irresponsible ones that just want to milk everything they can and sell their company or something.

MR. COONS: Right.

MR. ROONEY: And a further dispersion vis-a-vis coal. I mean every time that Mercer guy gets in the newspaper, one of his terrible comments, it just makes all of us feel a lot better about what we're trying to accomplish here. (Laughter)

MS. MORRIS: So speaking of coal, one of the things we know from the modeling of a carbon price is that the most dramatic emissions reductions and the least cost ones are switching out of coal to other fuels in the power sector. And that's both because coal is the most carbon intensive fuel, but also because it has a lot of substitutes. And so, you know, projecting forward what the means for coal producing areas in the United States, they're really looking at a very dramatic decline in their economic base.

You mentioned your approach for transition assistance. Ambassador Rooney, how do you think about what the Federal Government's responsibility should be in terms of these communities that are going to be impacted by this policy?

MR. ROONEY: Well, I won't say exactly all my personal thoughts on that, because I'm kind of a hard hearted rugged individualist entrepreneur here, but there is not a constitutional right necessarily to get a job where you are, although I do think the government owes its citizens an economy where they can all have a livelihood, provide for their families, and be part of growing prosperity.

So how you assuage those, the Senator mentioned job training and things like that. You know, that gets you into the whole education thing, CTE, which I've been working. You know, maybe Kentucky and West Virginia could become test cases for how to apply CTE on a broad scale to totally retune an economy for the jobs of today.

MR. COONS: CTE -- for those -- means career and technical education.

MR. ROONEY: Yes, exactly.

MS. MORRIS: Right, 21st century vo-tech basically.

MR. ROONEY: Exactly.

MS. MORRIS: Yeah.

MR. COONS: We grew up with vo-tech, now it's CTE.

MS. MORRIS: Yeah, yeah.

So now I've been comparing your legislation to each other, but it's really important that we think about this legislation compared to the alternatives. And you mentioned the regulatory future. And I have to say I think we're witnessing this very day the profound weakness of using the Clean Air Act to regulate greenhouse gas emissions in the United States, if only because it's so vulnerable to the priorities of the President. And, you know, maybe it would have evolved a little differently under a Clinton Administration, but still --

MR. ROONEY: You think?

MR. COONS: Or Bush. Or a Bush one.

MS. MORRIS: Yeah. But still, you know, we're seeing how these reversals are possible.

And if we have a Democrat in the White House and we don't have new legislation, we could see a return to the kind of regulatory agenda, you know, Climate Action Plan, that the Obama Administration undertook. And I think it's just clear this kind of see saw is not the way to steer the U.S. economy towards de-carbonization in anything like an efficient way.

So we need new legislation, and now the question is what is that legislation going to look like? And we've talked about your approaches. So let's talk about what the alternative vehicles out there might be. On the left we've got the Green New Deal, right, a vision statement about a cleaner future and a more socially just future. I'm interested, Senator Coons, in how you think about your legislation in relation to the Green New Deal concept. Do you feel like it's part of that vision, do you think it's an alternative to that vision? And how do you think the Green New Deal ideas are influencing the prospect for your legislation within your party?

MR. COONS: The Green New Deal is a two page bold framework that now needs specific pieces of legislation that detail how any of that would get done. So the Green New Deal is to a piece of legislation as, you know, sky is to scaffolding. (Laughter) I mean they are quite different things.

Broadly speaking, an ambitious vision to de-carbonize the American economy in a way that also creates opportunity in a more just society. Of course I support that. The challenge is the Green New Deal has been caricatured and demonized in no small part because it is a big bold

ambitious framework with no details, no specifics at all. What I'm trying to do is to move forward enactable pieces of legislation that would allow you to see what would the actual impacts be, would this price set this way, escalated on this timeline, actually have a dramatically positive impact on our emissions reduction goals and the competitiveness of the American economy and job opportunities for working Americans. I think the answer is yes, but rather than simply campaigning in bold strokes, we also need to begin building the scaffolding of what this legislative environment would look like. I think a carbon pricing bill is going to be a central or a key piece, but there's also room for how do you finance clean energy deployment, how do you invest more in Federal energy R&D. Those are smaller pieces, but they're important pieces.

I do think that the single biggest lever we could possibly deploy is a carbon fee. The alternative, the bigger alternative that's comparable on scale, is a cap and trade bill that would be Federal and bipartisan. That was attempted, unsuccessfully I'll remind you, a decade ago.

And to your core point, the single biggest power of a carbon fee bill would be its perceived permanence. If it is rammed through by one party only without a single member of the other party supporting it, the odds it will send that durable signal and then deploy investment and change consumer behavior and investor and capital investment behavior is much lower. We need something that is bipartisan.

Let me bridge briefly to one other topic. We also need something that is global because one of the biggest concerns I hear from Republican colleagues in the Senate is we can do a whole lot of bold and big stuff in the American economy, but if we don't have alignment with the direction of the Chinese and the Indian economies, they are going to deploy significant numbers of coal fired power plants. They are developing countries still to some extent, and unless we develop and deploy with them both transparency and accountability mechanisms around targets and base load generation that is lower carbon or carbon neutral; in the end we will not achieve our goals.

So I do think a Paris 2.0, a bolder, stronger, global commitment to dealing with climate is going to be a big piece of the agenda of the next administration, whether a Bush or Democrat administration. I will grant your implicit point that a Jeb Bush administration would be doing different things right now than a Trump Administration.

MR. ROONEY: Sure. And W too. I mean W was much more like Nixon on the environment.

MS. MORRIS: Sure.

MR. COONS: The reality is we are running out of time. Our planet is cooking. We've got the solutions. We need to be bold and implement them.

MS. MORRIS: Well, I'm really glad you brought up the international dimension, because I personally think that a price on carbon is a far better tool to bring to the international negotiations than Section 111(d) of the Clean Air Act. Nobody knows what that is, or hardly anybody knows what that is, but I think everybody knows what \$15 per ton of CO₂, you know, incremented over time. And I think that's a potentially really strong advantage of the kind of approach you two are proposing.

Now, I want to turn to the Republican side. Now, we are seeing some movement and some support for an innovation agenda around climate and energy technologies. Now, I am as big a fan of Federal R&D as anybody, but I would just note the entire Federal research and development budget is maybe \$140-something billion a year, whereas consumer spending is over \$12 trillion a year, private business investment is \$3+ trillion a year, and private sector R&D is over \$400 billion a year. So we're talking about influencing a tiny slice of the overall economy. Certainly those technologies are important, but if they don't have a market ready for them, and they have -- you know, we have to wait until those technologies are not just developed but cheaper than their fossil competitors to get a market, that's a wait that could be too long.

How do you think about that Ambassador Rooney?

MR. ROONEY: Well, first of all, I think the Green New Deal has been a fantastic marketing opportunity for me trying to move Republicans down the field on a carbon tax. (Laughter) Note, it's the Republican says carbon tax and the smart Democrat says carbon fee. I just keep doing that. (Laughter) But I think --

MR. COONS: And we're both up for reelection.

MR. ROONEY: Exactly. (Laughter)

I think we need an all of the above. It could be when you connect up all the dots

that we're talking about here that the oil companies realize that some of the sequestration technologies are worth investing in as part of them building a safe harbor or a reputation that goes along with supporting alternative energies, getting out of the heavy kind of almost like bunkers, the heavy oil like up in Canada and stuff, and moving towards more natural gas. And then the simplest thing is carbon fee, carbon tax, because the market sets it and it's simple and everybody can understand it. And we've got the export thing on there that will at least make sure that no U.S. coal gets sold abroad without paying the price and that no foreign coal comes in without paying the price. And then we go to Australia and the Alsace Region of France and say, okay, why don't you guys get with the program.

MS. MORRIS: Okay, fair enough.

Now, I want to turn to building the political momentum for your ideas. And as I mentioned, Ambassador, you served as the Ambassador to the Holy See from 2005 to 2008. Just last week Pope Francis was quoted as saying that carbon pricing is "essential to stem global warming". I don't want to misquote Pope Francis. (Laughter)

QUESTIONER: That would be sinful. Could be the first time.

MS. MORRIS: Yeah, I know. (Laughing) Since his encyclical in Laudato Si in 2015, he has appealed to policy makers, energy company CEOs, and basically challenged all of us to listen to the science and adopt measures to ward off what he calls a threat to "the very future of the human family".

I'm interested, Ambassador, in your thoughts about how faith leaders are getting their message through to Republicans of faith and, you know, is that message being received? If not, are there other thought leaders who should be speaking out and aren't yet?

MR. ROONEY: I know the Bishops Conference and all that is trying to get the word out as much as I can, but I can't exactly say I've seen evidence of any great success. The Pope's bully pulpit is good. I mean maybe he could be a little more nuanced and some of the things he said be more practically -- get better results, okay. For example, in the IPCC, the Pope says, oh, the poor people are going to suffer. Well, yeah, you go to the IPCC, look at the maps of Africa, yes, the

poor people are going to suffer disproportionately worse than others. So maybe you connect up the dots a little, we can make that message more effective.

That's all. I thought it was good, but a little vague. And we've got to make the case more clearly.

MS. MORRIS: Okay. Well, that's great.

So I think we're going to turn it now --

MR. COONS: I'll just add a few sentences on that if I can.

MS. MORRIS: Oh, yeah, please do.

MR. COONS: One of the things that has been most encouraging to me is to see a broad range of folks, Evangelicals, Catholics, traditional sort of mainline Protestants, and more progressive Christians, all who view the planet we inhabit as creation, are aligning around an idea of stewardship. And stewardship doesn't give you a policy direction, it doesn't say which bill to write or which bill to endorse, but in important cases it gives you courage to recognize that your legacy as a legislature measured in geologic time, or as we say, from a kingdom perspective, may give you the courage to overcome what seemed to be temporary criticisms or challenges.

The Congressman has faced some withering criticism for co-sponsoring the Climate Solutions Caucus and co-sponsoring these bills. And it is important to have people of courage when we are facing a challenge as great as this is and to have a voice as important and central to one of the largest faith communities on the planet as the Holy Father, is an important voice that we shouldn't just move past. It is important that we use economic skills, and we talk about scale and correlation and consequence, but it's also a moment where we happen to have a Pope who trained as a chemist.

MR. ROONEY: That's right, yeah.

MS. MORRIS: Very good, very good.

Well, with that I think we'll turn it to questions in the audience. Do we have microphones available?

So when I call on you, please identify yourself and form your question as a question. Yes, sir, over there.

MR. ROONEY: Obviously no legislators in here. (Laughter)

QUESTIONER: Thanks very much. Good morning, Senator and Ambassador.

Thank you very much. My name is Josh Teba; I work for the UK government in climate and energy policy.

And as recently as 2012, coal made up 40 percent of our energy mix and last year we had our first coal free day since the 1880s, and this May we had our first coal free week and coal free fortnight since the 1880s. And part of that has been possible because about seven years ago we introduced a carbon floor price, which came from the acknowledgement that the EU price on carbon wasn't high enough to trigger that transition. And so they introduced a (inaudible) ton measure to bring up that cost and it's had a radical impact on the transition from coal to natural gas and also to renewables.

So I was wondering when you're thinking about your proposals, how important is it to get the price right from the beginning in order to prove the efficacy of this model, or are you focusing more on getting the framework in place and then kind of working out the details later?

Thanks.

MR. COONS: Trying to do both. Trying to get a price that is strong enough, both at the outset, but then in terms of the certainty of its escalation that will drive significant changes in the marketplace and in emissions reductions. You know, but frankly, I'm at a point right now where I'll remind you not one of my colleagues in the Senate, in the majority party, is willing to join the introduction of a bill. We are a long way from enactment. If it were on the floor tomorrow, I suspect it would get 50 votes, 49, 48 (laughter). But the way our Senate is structured, if you can't clear the 60 hurdle, you're not going anywhere.

So we are in a building phase of building consensus, building confidence in the mechanism. It is very helpful to have concrete examples of comparable developed countries that have very similar traditions, that are close and trusted allies, that have also taken bold steps and then to see the consequences.

MS. MORRIS: Yes, sir.

MR. MAJKUT: Good morning. Thank you both. Joseph Majkut from the Niskanen Center.

Pivoting off Senator Coons' comments and a question to Mr. Rooney. One of the challenges we face, if you just do the Senate math, leaving alone the House, because the numbers are bigger, it's not just capturing 12 or 16 votes, but if you want long-term political debility and a real shift in the American approach to climate, you're talking 20-30.

Mr. Rooney, you've talked a lot about climate risk and the threats posed by climate change for future generations, Americans, particularly in the southeast, how much do you think climate risk is an important element of selling things like carbon pricing as opposed to the deregulatory aspects or the economic efficiency that can be garnered through carbon tax negotiations?

MR. ROONEY: I'm not sure I totally understand where you're going there.

MR. MAJKUT: So like as a motivating factor, right?

MR. ROONEY: Oh, yeah.

MR. MAJKUT: I mean you could sell carbon tax return as being pro-growth, as pro job, you can sell a carbon tax as being less regulatory than other options

MR. ROONEY: I got it, yeah.

MR. MAJKUT: Or you can say the fundamental reason we're here is climate change and reducing these risks. What do you see as the appropriate balance between those different factors?

MR. ROONEY: Well, what I always try to do is -- with the Republicans -- is focus on what looks like a fairly young group right out here. And the polling of people is so much more stronger for carbon tax and for dealing with climate change than any of these elected officials seems to want to admit. Even in our area, almost 70 percent of respondents say climate change is real, man has had a substantial role, and the government needs to do something about it. And that's an area that is -- by math you've got to get a whole lot of Republicans because there's not going to be Democrats down there. And you look at the young people. I carry around a study with me that says 78 percent of millennials vigorously oppose offshore drilling. And it's kind of like the mustard seed in

the Bible that hit the rock and didn't grow, that I keep sowing that mustard seed, you know, and trying to make all the arguments. There's economic, political, and then there's, as the Senator said, just good stewardship are arguments for moving forward on these things.

QUESTIONER: (Inaudible) from the World Resources Institute.

And Mexico introduced its carbon tax in 2014, \$3.50 per ton for gasoline and diesel and \$2.5 for coal. Would that help the U.S. bill move forward? I mean one of your three North American partners is already with a carbon tax.

MS. MORRIS: You know, and we see progress in Canada as well.

MR. COONS: I mean, look, it indirectly is helpful if our closest trading partners, regional allies, are also advancing a carbon fee. It's helpful to have examples of what's the impact. And it would be particularly helpful to reduce the consequences of cross-border trade.

But, frankly, the politics, the calculus that's being made by currently serving senators, doesn't look outside our borders at all and, frankly, doesn't look at future generations at all. It is very short-term thinking.

What impresses me about the Congressman is that he is engaging in generational leadership, in regional and global leadership, and in taking a stance that is wildly unpopular in the Republican Party in the Senate. That's what makes it hard.

Senator Flake, by the way, didn't just co-sponsor a carbon fee bill in his last month as a senator, he also co-sponsored one in one of his very first years as a member of the House. So he was someone who saw this clearly as an issue where a conservative -- and he's one of the most conservative members -- he was one of the most conservative members of the Senate. I mean he scored out there with Jeff Sessions on the right to left score on a lot of other things, but as an Arizonian, he saw clearly the impact of climate and the importance of leadership. And the U.S.-Mexico relationship is fairly central.

So if we're looking for leadership in the Senate, I am looking to folks to represent states that have a long tradition of both conservatism but also principle leadership that looks to the next generation, that looks to a sense of stewardship, of creation, and that sees us in global context.

MR. ROONEY: If I might say, I think in the Senator's comment there about where the politics are, there's two things that I think we can work with, and we need a lot of people's voices to do it.

One is the change in the deep ocean heat content and the prognostication for not more storms but bigger storms. I think that's on a lot of people's minds after watching Michael go through Florida, Georgia, South Carolina, like a whatever.

And then the other one is sea level rise. Because when it's lapping up in your front yard, like it is in Miami Beach, you've got to do something about it. And Miami Beach had the first chief resiliency officer. Ron DeSantis has appointed Florida's first chief resiliency officer. Maybe these are the kind of things we can start to write about and talk about and get more people taking concrete steps, if the politics are like you say they are, which I'm sure you're right about that.

MR. COONS: Politics are tough.

MS. MORRIS: Over there.

MS. TYGER: Hi, Ana Tyger, Tax Foundation.

So the design of this bill is to reduce and eventually eliminate carbon, which means that the revenue would eventually go away from the bill. Is that something that you're considering when designing programs for what to do with the revenue from the program?

MR. COONS: I think the revenue would go away on a timeline that exceeds my expected life service. (Laughter) So yes, if we had a completely de-carbonized economy at some point there would be a reduction in revenue. But I'll ask the economist. I would not expect that on a 20 year or 30 year time scale.

MS. MORRIS: Yeah, and that's exactly right. That's exactly what we see in the modeling. Depending on the price trajectory, we can even see an increase in revenue over the first couple of decades, but eventually --

QUESTIONER: First couple of decades.

MS. MORRIS: Yes. And then eventually revenue starts to decline because emissions back out faster than the tax rate goes up. But that is -- I think Senator Coons is exactly

right, that is sort of beyond the planning horizon of the current ideas of spending and rebates and so on.

It does raise the point, though, that ideally this is not a permanent source of revenue, right. Like we de-carbonize the U.S. economy, there's not going to be a source of revenue there. In that instance we'll be back in our current situation where we have to have other revenue instruments to prevent unsustainable growth in our debt to GDP and, you know, I think we'll have to leave that to future leaders.

MR. COONS: But this is a really good idea that you just mentioned to talk about, because I'm thinking here, you know, Ronald Reagan used to say the only true thing in immortality is a government program. Maybe this is another marketing lever we can use in op-eds and writing to say this debunks Ronald Reagan's thing, this will go away at some point. It might be your grandkids, but it will go away.

MS. MORRIS: Very good.

I think we have time for one more question. Yes, sir?

MR. JOHNSON: Yes, Steve Johnson --

MS. MORRIS: Can you wait for a microphone so we can hear you, Steve?

MR. JOHNSON: My name is Steve Johnson. I have a website called Americaunstuck.com.

When I look at the energy reports, I see 56 terawatt hours a day of energy being generated in the American economy. I also see 56 terawatt hours a day worth of energy being consumed. I hear a proposal that speaks to the generation side much more than to the consumption side. As a homeowner, my wife and I -- our furnace died four years ago, we got a geothermal heat pump because the incentives lured us into it. And we just got a Tesla because the incentives lured us into it. I think the journey to a clean energy future is a journey of 500 million capital budget purchases, you know, stoves, and ovens, and so on, cars.

And I don't quite understand how the carbon tax speaks to the capital budget -- it feels like an operating incentive strategy that isn't going to work very well for the capital budget part of our journey.

So I wondered if you could respond to that.

MS. MORRIS: Well, I think I understand what you're saying, and the question is, how would a carbon price influence consumer decisions and business decisions, and what kind of capital they acquire?

And the beauty of a carbon price is several fold. First of all, it gets you to use existing capital stock more efficiently, right. So day one, you have the carbon price. It changes the dispatch of the power sector, to which power plants are going to operate more. So you get that at the get-go. And at the same time it changes what kind of new power plant or industrial facility or home heat pump is going to be the most cost effective because those energy implications are going to be amplified.

MR. COONS: But, Adele -- to your point about buying a Tesla because of the incentives, those were temporary incentives that existed as long as there was an Administration that was able to push through Congress temporary incentives for electric vehicles. This carbon price would mean you can bet your bottom dollar that auto dealerships are now going to be saying to you, you buy this vehicle, you're going to be paying, you know \$1,200 -- I'm just making up a number -- you'll pay this much less per year in new increased costs for gasoline versus an all-electric car versus a hybrid car. You've got then a built-in permanent incentive to purchase a car that relies more on electricity rather than gasoline.

And to the extent there are carbon intensive consumer products, you'll begin seeing both switching by manufacturers in terms of their feed stock and supply chains, but you'll also see folks literally selling it that way.

You made consumer choices in terms of a heat pump or a Tesla partly because you're paying attention and your values had already moved you in the direction, but the marginal difference was made by some incentives that helped the rationale part of you, the accounting part of you, follow the values or the spiritual part of you. This will happen economy wide and it will happen with consumer pricing signals that I think will be very powerful.

So I just wanted to make sure the economist in you doesn't lead too much to the base load examples, which is what he was saying isn't big enough to move everything.

MR. JOHNSON: We did save \$400 a year.

MS. MORRIS: Well, look, you'll save even more when we have the carbon emissions priced into all those goods and services.

So I'm going to cut it off there. I'd like you to join me in thanking Senator Coons and Congressman Rooney. (Applause)

MR. COONS: Just a brief comment both about the challenge and optimism. Thank you to Brookings for being engaged, not just in good policy making, but in 20 years of thorough and disciplined and detailed research on carbon pricing. Let us all recommit ourselves to not being here 20 years from now talking about good policy and theory, but celebrating the first decade of the enactment of a carbon fee and dividend bill and all the different ways we worked out the logistics.

MS. MORRIS: Excellent, excellent. Thank you. (Applause)

* * * * *

CERTIFICATE OF NOTARY PUBLIC

I, Carleton J. Anderson, III do hereby certify that the forgoing electronic file when originally transmitted was reduced to text at my direction; that said transcript is a true record of the proceedings therein referenced; that I am neither counsel for, related to, nor employed by any of the parties to the action in which these proceedings were taken; and, furthermore, that I am neither a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.

Carleton J. Anderson, III

(Signature and Seal on File)

Notary Public in and for the Commonwealth of Virginia

Commission No. 351998

Expires: November 30, 2020