RICHARD GNODDE: I'm actually delighted that Mark is joining us this morning. Good morning, Mark.

MARK CARNEY: Good morning, Richard. It's a pleasure to be here.

RICHARD GNODDE: I actually just want to acknowledging the enormous role that you've played in terms of highlighting the risks, but both the risks and the opportunities that come from, you know, this broad topic. I remember your comments back in 2015. That speech you gave when you were still Governor of the Bank of England. Your old job. Breaking the tragedy of the horizon. And the impact that that had in terms of catalyzing the private sector and helping driving momentum.

When I was preparing for this discussion, I was trying to organize my thoughts. One side of the paper I wrote private sector contribution. And the other, you know, public sector. And of course it's got to come from both. So maybe just starting on the public sector side. The build back better, the Biden phrase. And I know the UK thinks about that, the Green Deal across Europe. What's your assessment of the political will behind these? How do we actually bring these to reality?

MARK CARNEY: I think the politically will is quite strong, in part because, I mean, to some extent politics lags society and there's a very strong view in society we've seen in recent years of, you know, this is an issue, climate being an issue that just needs to be sorted out. And there are various reasons for that attitude. But part of it is scale of more and the frequency and the prominence of physical manifestations of climate change. And so, any given one can be explained away. But the accumulation of them.

And I have to say, as somebody who until recently had ultimate responsibility for managing the insurance and reinsurance industry, that's an industry that's very aware of those numbers and manages it exceptionally well. And it was no accident, you kindly referenced the tragedy on the horizon speech, it was no accident that was given at Lloyd's of London because that's the one crowd in 2015 who clearly knew what was going on and was managing against it, that could see what was coming down the track.

So, from a political will perspective, I think it is strong. But as in many cases, governments need help. They know the issue. They have the general orientation. But exactly which levers to pull and in what order and what will have the maximum impact, I think that's partly where they need help. And candidly, that's why for the private finance agenda, which we'll get back into in a moment, that's why we're leading on the private sector and not having things designed in, you know, the cubicles of Whitehall, as wonderful as they are, but in a way that's perfect that doesn't actually work for the markets. And so, we want the markets to design these solutions for the markets.

But just on policy, if I can just make-- you know, when you look at the Green New Deal, you look at the what's likely to come in the UK. And we've seen the first phases of probably what's going to be quite an ambitious policy program out of the UK government, what's likely to come in Canada. I think of it as you have three Fs, if you will, to what the government's doing. First the fiscal spending. So, that can be support for home retrofits. It can be specific support for certain types of renewable power, to get it over the edge. And you see very important initiatives at the European level and at the German and French level around hydrogen. I think the UK also will participate there. So, some pretty exciting things being done to shift hydrogen down the carbonomics cost curve. Down the positive, right, to get them in a better position. So you have a series of fiscal initiatives.

Then you have the second F, if you will, is around framing. So, these are the types of regulatory initiatives in the real economy that are as important, if not more important, than some of the spending. So knowing when the internal combustion engine is, you know, you stop making them. It's 2035 at present. It's a good chance that that's going to come in by a few years even faster. So that orients a bunch of private spending around that. Hydrogen fuel mandates as a blend. Again, that's a regulation. But that tells me where to invest or suggests where the opportunity is. Those are hugely important.

And then lastly around finance and getting the finance agenda right. Because it's great to have all these policies and the orientations, but finance needs the information, and in some cases needs also some markets and market infrastructure to take maximum advantage of it. And all of those come together.

The good news is that-- I mean this sounds somewhat remarkable, but it's true and I've participated in it, the UN summit of, you know, 80 world leaders and this is what they're talking about. And that's not-- those of you who haven't been burdened by going to these things, this is normally not what the conversation is about. And these are sort of the moments where, and I've seen them a couple of times in my career, where moving together works. With the financial crisis people were much more willing to do radical or different things because everybody else was. There is a herd mentality to governments as well, I guess I'd put it. And this is a positive example of it at the moment.

RICHARD GNODDE: But the point you're making, which seems to me a really important one, fiscal budgets are clearly going to be strained because, you know, one, debt levels are already high. There are going to be a lot of-- the health sector, I mean, there will be a lot of claims of fiscal spending. And here really, the point you're making, I think, is there's obviously some fiscal spending that governments will need to do. But maybe more important is setting the framework and the incentives so that the private sector can really come in here behind this and get this done.

So, you know, it's really about appropriate regulation, not excessive regulation, but setting frameworks that can then attract private capital because there's plenty of private capital looking at this space.

MARK CARNEY: Yep, that's exactly right. That's exactly right. And the one other point I'd make, just if we go back to the fiscal deficits, let me round the numbers. Nobody take this as precision. But if we say for the sake of argument that the UK deficit this year will be about 20 percent of GDP, roughly half of that is emergency transfers because individuals who otherwise would be working, or business who otherwise would be open can't be because of social distancing and lockdown rules. So, as we roll into 2021, or at the moment as the health situation gets better, that goes away, or most of that goes away. Some of those jobs won't be there. Some of those businesses won't survive. But most of that goes away. So you move from 20 percent to 10 percent-ish of GDP, maybe high single digits, something like that.

Then the decision for the chancellor in this example, is how quickly do I move that down towards some balance? Or how quickly do I rebalance the spending within that envelope [UNINTEL] towards capital, towards the type of spending that is actual investment as opposed to the current spending, which is money out the door? And on top of it, this point you just reemphasized, which is how much can I amplify that spending through regulation? And when I say regulation, this is not additional regulation. We know we're going to a net zero economies, so at some point you have to have zero emission vehicles. The question is, can you tell me as an investor what is that point? What's the pathway? What are you doing to support that transition in terms of charging infrastructure, instead of subsidies for some cars, et cetera? And what are you doing to help with that? And tell me that today and give me a sense of the trajectory.

I'll give a plug for a paper that Janet Yellen and I wrote for the G30 a month or so ago. You don't have to read it because I'm going to give you the punch line in a sentence. Which is it basically makes the analogy with central banking with carbon pricing that if the market knows the path of carbon pricing with reasonable certainty, it will pull forward the adjustment because, obviously, you can see what the discounted cash flows are going to be, or have a better sense. And in effect that's what happens with central banking. That was the insight of having independent central banks because the market has greater certainty that the central bank will have a path of policy that's consistent with its mandate. It doesn't always work out, but there's a greater certainty. It's establishing those track records and those commitments and that credibility and predictability that will help amplify the private investment.

RICHARD GNODDE: So let's talk about the carbon price. And you know, maybe this is something that we overestimated the short-term impact and it's taken a bit longer to get going. But in the end, it seems to me, is still going to be a critical motivator for us to get to the finish line here. And you know, maybe starting with the sort of mandatory markets. Maybe the EU, their request for a border adjustment carbon tax, do you think that's doable? Does that break the stalemate? How do you think about that?

MARK CARNEY: Yeah, I mean, you gave the figure rightly. The global average is 3 dollars. I think only 20 percent of the globe is really covered by a carbon price. And therefore it's 15 dollars where it's covered and it's 3 dollars once you average it out. Again, what's important is partly where it is today, but where is it headed. And EU credibility for, internally, that it's headed towards 75 to 100 euro by 2030 will be quite important.

Now I was on something with Paschal Donohoe, as you know, the Chair of the Eurogroup who is the Irish Finance Minister [UNINTEL] and, you know, very clear that that's where it's headed in Europe and therefore in Ireland and people should prepare for that. But if you're in that environment and you're in Europe and you're potentially leading the world, to your question, well, what about carbon leakage? Are you just going to import the emissions, effectively? And shouldn't you have a border adjustment tax in order to minimize that? And the logic does goes there. And there's very strong support in Europe for that. And they have applied-- they're going through a process at the WTO to see on that.

And, you know, to some extent there has been positive noise inside of the incoming US administration around this. Again, I don't think it's really been tested, but they can see the logical of it.

A couple of comments though on design and implementation. I think that, at least my personal view is that you want to concentrate on the heavy emitting sectors. So, in other words, where this is most relevant. So, steel, cement, you know, the big industrial sectors are the first point. Secondly, the best is the economy of the good. You want some sort of threshold level. So, if it's just a small difference, you don't necessarily have it in place. And then thirdly, you may want to take into account, and this will complicate it, other measures that-- so if there's regulation instead of a carbon price in another jurisdiction which has this same effect or is having the same effect, do you take that into account? I'm less confident that that would happen. But just speaking as an economist, logically, you would do that just as you do it with non-tariff barriers and tariffs.

But let me pull it up. Having made those comments, let me pull it up. I think this is a real issue. And I think the design of this is one of the big issues for the next few years. But if I pull it up one level, which is just to say that there is, if we look at the structure of globalization and where it's headed, these types of clubs, if you will, so are you inside the border adjustment tax club with Europe and North America, maybe some others who are making similar efforts on addressing climate change, you could see similar things developing in areas such as elements of technology, treatment of data, cyber, artificial intelligence. This sort of move to different platforms that aren't global in nature, but have like minded objectives, efforts, and structures is a possible route where we end up having a high degree of integration, but not global integration.

RICHARD GNODDE: Well Mark, I'm afraid we're going to have to end it there. I really just want to thank you for all the time you've given us. And just really end where I began which is really applaud you for the huge energy and drive that you're putting into this. It's such an important topic. And your leadership is terrific and, frankly, having a huge impact. So, thank you for that. And thank you for your time today.

MARK CARNEY: Thank you very much Richard.