

## U.S. Climate Policy: Toward a Sensible Center

June 24, 2004

Excerpt: Questions and Answers on Science Security Economics

Well, we would like to open the floor for questions. And given the tremendous expertise in the room, also to short interventions on the topics that have been raised this morning.

First hand is Dan Colbert.

MR. : [Off microphone.]

It's a two-part question, but both parts I think require very short answers.

First, keeping in mind that the [off microphone].

And number two, you mentioned the possibility of taking some or all of that money and investing it in other environmental activities. Would that affect the incident, number one? Would that have any effort on the [off microphone]?

MR. : Well, I think the two questions are so intimately interrelated that I'll punt in terms of a single-point answer.

In rough terms, I would think in terms of taking back half the price gain from the change in the global price. If we could get the global price cut roughly in half, I would tend to think in terms of taking half that back with a gasoline or carbon tax, but I would want to figure out much more thoughtfully than I just said how you'd want to use those revenues and, indeed, what the overall economic environment at the time was.

There is a third option, of course. The U.S. faces massive and growing budget deficits. The budget situation is out of control. One might want to, at least for a while, pocket those revenues in reducing the overall budget deficit, further strengthening the economy, reducing pressure on interest rates and the like. Unless the next administration and Congress come up with some more persuasive budget policy than we have got so far, you might have to do part of it for that reason.

And, incidentally, for those of you who would like to see an energy tax, that might become a very strong political driver to get one because if bringing the budget and the external deficit back under control does require some revenue raisers, your basic choice is to raise marginal rates, which most people don't like, going to some new value-added tax, which a lot of people don't like either, or possibly using an energy tax in part for revenue-raising reasons as well as the environmental and climate change benefits that it would have, as you implied.

So there is a complex of variables that go to the answer to your question. I'm sorry I therefore didn't answer it as briefly as you might have wished, but I think that's the honest conclusion, a whole bunch of things would have to be taken into account in setting that level, and dividing up the kitty.

MR. : Sir?

MR. : Carliaga (phonetic) from the Potsdam Institute of Climate Impact Research.

I am very happy to have you here because you bring up the old recurring question of who gets the rent. At the same time I would like to dramatize what you said. The French did it, they actually succeeded in taking a larger share of the rent on oil from North Africa natural gas. But this ties to very, very heavy political conflict, and I think you are fully aware of the fire you are playing with.

It seems to me that the only realistic way of doing this is to be very clear about who shall get the rent, and you were ambiguous. You created the impression that there is a lot of

money for everybody in there, and that would create a situation where everybody would block everybody.

It seems to me that if you are serious about saying we can use part of that rent to finance the transition to a carbon-free economy, which I think you said at the end, well, then, we should talk with the people in the Middle East that they should use their revenues in part for that purpose.

It is my understanding that the emirates of Abu Dhabi, places like this, are consciously moving away from oil. It's just the Saudis who didn't understand it. And there may be a scope for a cooperative initiative of the kind you talk about if we frame it explicitly as financing that transition.

If we don't, then we are frightening these people very, very directly and they can't be so stupid as not to understand this.

MR. : Well, it's a fair question, and I agree with your bottom line. But there is another element in the idea, and I have only referenced it briefly. One of the other objectives of many of the countries, particularly in the gulf, has been to get more value added out of their primary fuel production. They have not been very successful in that.

One reason they have not is frankly European countries have kept high import barriers on petrochemicals and have limited the prospect for all the gulf oil producers and gas producers to use their raw material to move upstream in the production process.

I would certainly envisage big liberalization in that area as another element in the scheme.

I think what you said is right, but again, on the probable reality that we've got another couple of decades at least of fossil fuel-based energy, I think a big appeal to the producing countries that are trying to diversify their economy, as you say, is to help them diversify it on the basis of their true comparative advantage, their fossil fuel. And we can make big contributions to that by changing our trade barriers, by promoting investment that will help them and bring the technology in to produce those kinds of industries.

I think we can sincerely, and to our own benefit, incidentally, as consumers, help them diversify their economies even before you get to alternative energy technologies, which even though there is a fair amount of wind in the gulf, and a lot of sun, may not be their comparative advantage like fossil fuels.

MR. : I would just like to add one little point about the difficulty of what Fred has proposed. It's a wonderful opportunity if it can be made to work, but it is really hard to get consumer and producer interests to align themselves, and if you doubt that, just think about how many times we have tried to do it for agriculture domestically in this country and failed.

MR. : Ward.

MR. : David, I was curious at your comment that BP reducing emissions for production of oil. It sounds very much to me like cigarette companies telling their employees not to smoke, and that solves the smoking problems that we have in society.

But I have a question for Fred. The appeal of what you are saying, as I understand it, is first get rid of existing distortions and then overlay it with sensible policy. But it seems to me a better place to look for existing distortions is actually in the global coal markets. A study that Brookings published in the mid nineties looked purely at coal subsidies and taxes globally, and it was found that the emission reductions from removing the distortions in the coal market, which is very similar to the agricultural market globally, was enough to get a

greater emission reduction in the Kyoto Protocol of '97 without the new things that have been added.

And secondly, increase global income, because you are reducing a very large distortion and making people better off.

I wonder what your view is of looking in these other areas where there are distortions, which are part of other systems such as the World Trade Organization would be much more fruitful than trying to solve the Middle East oil market problem.

MR. : Well, I'm all for what you just said, and I agree, it could have an enormous contribution, but I'm not sure I go for one or the other. When you get to the real world, it's obviously the political economy of each. As you know, and as I'm sure that study suggested, the political economy of dealing with the coal subsidies is not an easy one, either.

So I would simply try to proceed on all those fronts. You are absolutely right on coal, but again, as long as we are going to have a world economy that is based heavily on oil and gas, as I think it's going to be for another couple of decades, and particularly if you reduce coal subsidies and coal production, then I think you have to move in that sector as well.

So I would say given the salience of the overall problem, full speed ahead on both fronts, as best one can.

MR. : And along those lines, what impact do you see your proposal having on the fuel mix and electricity generation in the United States? You've got coal in that, you've got natural gas and oil competing at the margin on price. Would this affect substitution of natural gas for coal --

MR. : I think it would, and I probably should have said that, that at least in the U.S., but I think it's true in Europe as well, there is a pretty close tracking between oil and natural gas pricing. So if you could achieve what I was suggesting on the oil side, an additional benefit in the terms I was discussing, economic payoff and spillover then to other things, would be a more or less commensurate decline in the natural gas price with big efforts on the electricity mix.

MR. : Sir?

MR. : My name is Charles Sprawn (phonetic). My background is as a research physicist at NOAA for 25 years, and I do some climate modeling on my own. I'm one of the working scientists.

My response is to you, Don Kennedy, Mr. Kennedy, I would like to maybe make a comment, a brief comment on climate models that might add a little information to this discussion. The coupling between CO-2 and water vapor is very important. The fact that CO-2 and methane are greenhouse gases, that's basic physics. I don't think there is any controversy about that whatever.

But there are several interesting problems connected with it. In the polar region, where normally the water vapor concentration is very low, there's less of it to interact with CO-2, so that one would expect less global warming at the polar region on that basis alone.

Also it is puzzling to me that mountain glaciers seem to be melting because at higher elevations water vapor and the total pressure of CO-2 are also less, so one would expect less of a greenhouse effort there.

I am just suggesting that these are things that we the modelers have to try to sort out. I think that previous models, too, do not really explain why there was a little ice age from the 14th through the 18th centuries, roughly. I've been talking with some colleagues about the effort of solar activity on this and so on. These are correlations, but they are not established as causes.

So this, of course, leaves other people sort of a wide open target of opportunity to criticize the climate models and to minimize the efforts of global warming. My own very personal opinion is that if we don't act in some way, we are definitely taking a gamble. I mean certainly automobile consumption in this country and lower gas mileage and so on seems to me we really are taking a gamble that is unnecessary, in my opinion. There are other modes of transportation available, intercity railroads, carpooling, and metro and so on.

Thanks.

MR. : Thank you very much.

MR. : Thanks for the additional points about the models. I would agree that there is certainly some uncertainty about the explanation of the little ice age.

As to the importance of water vapor, it is important. It's a major greenhouse gas. Of course, it's exchanged rather rapidly.

I think that the problem in the higher Arctic is very likely that the changes in albedo (phonetic) are probably overcoming the small contribution of vapor. But that's a guess, and modelers will continue to disagree about those.

MR. : Could I ask you to elaborate on both those points, then, in slightly more layman's terms, Dr. Kennedy? On the exchange rates, are you referring to the different residence time between carbon dioxide and water vapor?

MR. : Right.

MR. : And then maybe you could explain what albedo is.

MR. : Water vapor doesn't stay around very long. Albedo is simply the degree to which the earth reflects incoming solar radiation instead of absorbs it. If you have got a large area of land that's covered with snow and ice, and the snow and ice melt back, leaving brown earth beneath, you tend to hold more of the heat and reflect less.

MR. : Thank you.

Richard Benedict.

MR. : Thank you. My name is Richard Benedict. I'm with Battelle Pacific Northwest National Laboratory, and I would just like to highlight a couple of paradoxes which I would ask either Fred or Don to react to.

One of the problems in climate policy nowadays is trying to stimulate a replacement of fossil fuels by renewable energies, solar and wind and so on, and one of the problems of that is that the prices of fossil fuels are so much lower that it's hard to get market penetration by renewable energies.

If we act to lower the price of oil even more, how will that affect this issue?

The second point is in point of fact, oil prices are already very heavily taxed. The Saudis in fact just last week said, you know, if you have a problem with the price of oil, just lower your taxes, and I can testify since I have an office in Berlin. I shuttle back and forth between Germany and the U.S., as Carlo knows, and there when I fill my Volkswagen Golf in Berlin, it costs me \$70. And yet it hasn't much altered my driving patterns. If you need to drive, you need to drive.

So raising the taxes -- although here it would be a furor, but in Berlin, in Germany, you still have, when you are on the Autobahn driving at a very economically inefficient, emissions sense inefficient 80 or 90 miles an hour, there's still that BMW that comes up on you six inches behind who wants to pass you. He's going 120.

So even the high price of oil is not markedly influencing consumer patterns in Germany.

Now these are, you know, just a couple of paradoxes to illustrate how difficult for me this situation is. We have to solve it. We need to replace fossil fuel with renewables gradually, as fast as possible, and lowering the price of fossil fuels may complicate that.

MR. : I would make two comments. A number, I suppose, could be made in response.

One is to suggest that price does have a major effort. You may not drive your Golf much less in Berlin, and I don't know what kind of car you have here --

MR. : The same.

MR. : Good for you. But I note that many fewer Germans or Europeans drive SUVs. There's a big difference in the automobile fleet or the transportation fleet more broadly, which at least to some extent, I think, reflects the fact that we have chosen, despite what I said about the high world price, to have a much lower domestic price.

So I think price is clearly a pretty important variable in the whole structure of the transportation network that we have. Europeans take trains, Europeans walk, et cetera. We know our whole society is structured around relatively low energy prices. And you're right, there is a paradox because I'm saying reduce them further.

However, I think that it's a folly and a mistake to say that our economic goals or even our energy policy goals benefit from letting the Saudis, the OPECers, the producers in general, set a price that is temporarily high, fluctuates all over the lot, may drop from 40 to 10 and then go back up, but be both noneconomic in terms of the underlying fundamentals of the industry, but also incredibly volatile. And therefore not leading to the kind of predictability that would underlie what I would regard as sensible policies on all these fronts.

Now it comes back in a way to the first question. If you got my outcome and then chose to raise the U.S. domestic price on a sustained, lasting basis with the rents coming here to be used for national purposes, you could go that way.

I said -- and probably that was a disappointing answer to the first question -- well, I think in terms of taking half of it back. But over time you could, of course, take all of it back or even more than that if you wanted to do so as part of a program in which you were then recycling that generated income from the energy tax to a variety of other national purposes.

And, again, you could make that quite neutral or benign in terms of the overall domestic economy because you were controlling the utilization of the revenue.

So if you chose to go down that road, you would only for a while achieve my first objective of obviating the criticism that you were hurting the economy by driving price up further from where it is now, but you certainly would position yourself to do much more over the medium and the longer run.

MR. : Ambassador Benedict reflects, I think, some ambivalence a number of us feel about oil prices and their impact on our other efforts, and I hear Fred going in the right direction now. I hear him giving more of it back.

[Laughter.]

MR. : And go. That's the right way.

MR. : My only objective is to get it there. Now I leave it to you guys to figure out how to go with it there.

MR. : All right.

MR. : Thanks. Gary Mitchell from the Mitchell Report. I would like to move to a sort of slightly different consideration of this issue. I have been sitting here thinking to myself, we live in a country where I think still a majority of people think there's a link

between al Qaeda and Iraq, and I'm not about to suggest how do we tie global warming to al Qaeda, but --

[Laughter.]

MR. : -- yet. My question is about -- I listened to Dr. Kennedy talk about the scientific research that has been done. I heard Bergsten talk about the economic implications, et cetera. I am interested in whether or not anyone has been doing some sort of communications research to understand how we can successfully talk about this issue in a public way. What are the hot buttons, what are the linkages, and is research being done there, and if it isn't, should it be.

MR. : I know there are some audience members who have thoughts about that, so I would welcome any of their answers as well as answers from our speakers.

MR. : Well, it surely should be. You know, us amateurs go out there and try to say what we believe in as convincing a way as we can, and we meet with people on the Hill, and we meet with people in the press, and talk as intelligently as we know how.

Sometimes we use words like albedo and have to be pulled back and made to explain them, and then maybe we do better the next time.

I know of no systematic research effort about how to communicate effectively as a strategy. I suspect that politicians of all sorts of directions and stripes have mourned the lack of such an intellectual framework for how to get the message across.

I wish I had one on this one, but I know of none.

MR. : I don't have a good answer, but I share your puzzlement in a way. As I said in my remarks, it has puzzled me, having been involved in this issue in government, outside government, now for the entire 30 years since the oil regime changed so dramatically, as to why we have been so passive.

As I mentioned, if a cartel or a dominant supplier drove so dramatically the price of the most important commodity in the world within our borders, they wouldn't last a week. You know, it might be complicated, the court case might take some years, but you'd hit them.

Yet because it's been international and because it has had some of these ambiguous efforts and lead to ambivalence in terms of response around the world, it has been permitted to continue, and given the huge costs involved, even if you only think some fraction of the numbers that I mentioned is correct, and there's debate about that, but even if you only take some fraction of what I mentioned, it is so large and so outrageous in some senses that I have been really puzzled at the unwillingness or inability of leaders, not just in this country but throughout the world, to really address the issue in a fundamental way.

We wait until the price runs way up, or there's a war or supply shortage, and then we either send troops or we get very excited and lean on the producers, and they grudgingly kind of give way after having gouged for all this period, and will give some of it back, as we're seeing right now.

But it strikes me as a very strange phenomenon in terms of human reaction and political tolerance, and so I kind of share the sense that some communication strategy to put across what I think are fairly straightforward, simple and powerful conclusions is not only needed, but if devised, as I said, a U.S. President, I think, could make a lot of mileage out of it.

MR. : There are some disconnects, I think, between the natural and the political time scales here, Gary. I mean if you ask your average scientist whether something significant is happening here, they'll say yes, and you say what, and they'll say the temperature of the planet is going to go up, what, two and a half to 10 degrees Fahrenheit over the next century. And then you ask your average politician about that, I've got a

problem for you to worry about over your next election cycle, ma'am, the average temperature of the planet is going to go up, what, .2 degrees Fahrenheit, that presents some challenges from a political standpoint. It becomes about responsibility, I think, and taking responsibility for the future.

MR. : I was talking more about the energy price, which is the more immediate thing, but that's different than you were saying.

MR. : Yes.

MS. : I'm from Senator Olympia Snowe's office. Judy Warris (phonetic).

I just wanted to follow up with what Fred mentioned on the Sherman Antitrust Act, and for information there. There is a bipartisan group of Senators that have introduced what we lovingly call a NOPEC bill that indeed takes up that issue. Whether it has legs and are now ending our 108th Congress is probably in doubt, but at least it's on the table.

MR. : Back of the room, against the wall.

MR. : Rodney Pearson (phonetic) from American Petroleum Institute. This is for Donald Kennedy.

You were making some comments about Kyoto Protocol at the time I came in and I didn't catch all the comments. If you would reiterate those comments, I would greatly appreciate it.

MR. : Sure. It was a tiny sidebar. I said that the Kyoto Protocol targets were inadequate targets with respect to solving a significant part of the global warming problem as it was viewed even at the time.

And second, that the failure to bring both the developing world and the United States Senate onboard meant that it limped along, and what we have seen in the aftermath of Kyoto is business as usual.

MR. : We have time for about two or three more questions before our break. In the very back of the room.

MR. : David Nichol (phonetic) with the Center for Transatlantic Relations at Johns Hopkins University.

I would like to go back for just a second to a question that maybe hasn't drawn quite so many questions from the audience because Mr. Woolsey had to leave to testify. But I would just like to make a comment about how difficult I think it is going to be to really flesh out this security climate change, energy reorganization link that we have been talking about, because the implication is that by reorganizing the energy system, we will be able to somehow draw down the financial resources that were available to terrorists, and it seems that the financial costs of organizing September 11th were only \$500,000, whereas the numbers that have been thrown around on the stage are in the billions and even the trillions over time.

Here I would like to make a link to the question that Carlo posed, which is that in order to solicit the producer countries' cooperation in the reorganization plan, we are going to have to make it clear to them that we are not actually trying to drastically reduce the financial resources that are available to them, but to develop their economies in a direction towards a postcarbon future.

But if in fact we are not taking financial resources away from them, we are not limiting the resources that would ultimately be available to terrorists if we are operating on the assumption that the financial resources that we make available to Middle Eastern countries and producer countries are going to terrorists.

It is that part of the link that I think we need to break by demonstrating that we are cooperating with them not only in our own economic and energy interests, but in their own interests in economic transfer of transformation from a postcarbon economy and also an attitudinal transformation.

Jonas Thomas Friedman (phonetic) often talks about the frustration in the Middle East, and that's not going to go away just because we organize the energy system in a different manner. So the links that have been discussed on the podium I think will need to be even broader than the already -- and I agree with the links that have been made.

MR. : Well, there's no doubt that what you say is right, and this is a huge set of problems, of even which the large one that I tried to address is only one piece. But as I mentioned, we are doing across the street a huge project on economics in the Middle East, and if you look at the era of high energy prices with those transfers of rents to the oil producers in the Middle East, to put it mildly, it is not a period of great success for that region. It's been a period of disaster for that region, even in the most straightforward economic term, let alone broader societal, cultural, and security implications, including the fragility with which some of those regimes now sit on their thrones.

So it is not as if we are asking them to contemplate changes in an enormously successful era in their histories. It could have turned out that way. I worked intimately with the Saudis back in the 1970s, when I was at Treasury, and they were pocketing the enormous windfall from the first two oil shocks. And I think many of them were sincerely devoted to taking that epochal change in their histories and putting their societies on a whole different and positive course. . .

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. . . in almost every respect one can suggest.

So acknowledging the difficulties of what you said, it is not as if we are trying to upset the apple cart of some enormously successful enterprise, and at least thoughtful people in that part of the world fully understand that, and I think would actually be quite interested in a regime change that would have a lot more promise for them.

To put it in shorthand, economists call it the curse of oil. It may have been a downer, not a winner. And they certainly need the diversification, and it would have to be part of a broader package of that type.

But I am not deterred by that thought simply because the bottom line for them so far has been so bad.

MR. : We're running over. Let me take the last two questions, right here and right here. Just maybe take them in order, and then ask our speakers for some closing thoughts.

MS. : My name is \_\_\_\_\_. I'm a counselor with the French Embassy. It's a question for Mr. Bergsten. I was kind of surprised by your intervention focusing very much on the price of oil and energy market because I am no economist, but I have a vague recollection that whatever the characteristics of the market are, whether there is an infinite number of suppliers and customers, there is a certain connection of the price and the supply and the demand. And I think you didn't mention in your presentation at no stage the question of the demand, and it's quite surprising in the context of U.S. policy because in the '70s, well, there was obviously real efforts on the U.S. policy to have an action on the demand and the efficiency, the energy efficiency, and it produced huge results, and it was a huge success.

On the longer term, and this is, I mean, of course, directly pertaining to our major topic, which is global climate change, the energy market is not only dysfunctional on the side of the supply, but also on the side of the demand, because I mean there are literally today dozens of countries who are literally energy starved, and that's going to be a major problem for the future.

MR. : I am sorry to interrupt. I want to be sure to give everybody a break before Senator Joe Lieberman comes here in about 20 minutes. So with apologies, I'll get a last comment here.

MR. : Let me say two things to that. I did mention U.S. energy dependence in terms of energy input per dollar of output has been cut roughly in half over the last 30 years. So there has been progress on the demand side. Not nearly as much as we would like. It has planed off in recent years. But there has been progress.

But, secondly, I think the instability in the regime is a big reason we haven't had more. You say, well, the price is \$40 today, but we'll hope it drops to 10 like it did only five years ago, and then we can go on with our gas-guzzling ways.

I think it's the instability and unpredictability of the regime in addition to the higher level prices that has distorted the demand response.

I agree with you, the demand response is terribly important. If you could therefore get a more stable regime, including with a higher domestic energy tax a la Europe, then I think we would have a much stronger basis for dealing with the demand side.

MR. : One very quick comment.

MR. : I'm Louie Cabot (phonetic), trustee of Brookings and former chairman of the board of Brookings.

I think this discussion has been very interesting, but it's a perfect example of what the problem is. We came here to talk about what are we going to do about climate change, and we have changed the subject pretty drastically, and that is exactly what America has been doing for the last 30 years on this problem.

Thank you very much.

[Applause.]

MR. : Thank you so much.

MR. : My only defense is that's what I was asked to talk about.

[Laughter.]

MR. : So, Louie, you may be right, but I was asked.

MR. : Thank you. Again, for our speakers, thanks very much.

[Applause.]

[Recess.]