

Dr.Montgomery's lecture

Thank you.

I was an honored to be invited to return here to participate in this Symposium. And I want to thank the organizers and my friends whom I am seeing here again for giving me this opportunity.

Let me begin my remarks by saying that I have been participating in these meetings organized by GISPRI and other for the last several years. Initially I was very skeptical of both the prospects of sectoral policies and how they could be made to work effectively as a part of an international framework. As time has gone on, I have become more and more convinced that this is an appropriate and useful way to think about moving forward, and is probably consistent with the way the policies are developing in many of the major Annex I countries.

And that is what I would like to talk about today.

International negotiations do not take place in vacuum. And the climate negotiations, I think, are very strongly influenced both by the current economic conditions, and by the kind of domestic policies that are adopted in key countries. It is not possible to have an effective international regime unless it is consistent with the kind of domestic policies that have been adapted in the countries that need to participate. And the nature of those policies put some serious constraints on what type of international regime can be developed and how it would work.

What I would like to do in my talk today is to provide a bid of prospective from North America, because I have been working recently on issues about Canadian climate policies as well as the United States. I think there is an interesting development in Canada as well as the comparison between Canada and the United States that will be helpful to talk about

It is my observation now that many Annex I countries are retreating from the idea of using a comprehensive cap and trade system as the central part of their climate policy. Many countries like the United States and Canada still talk about cap and trade as the

central mechanism for climate policy, but when we actually look at what they are doing that is not what we see.

I think the reasons for this retreat have been part to do about the cost of competitive impact of cap and trade system under the current economic conditions. But I think that they are much driven very much by the political reality of how climate and energy policies are formed within these countries. Those political realities are moving us in many countries much more toward the adoption of regulatory measures and technology policies, which suggest that the sectoral approach to international negotiations might actually help to improve the situation.

The United States, I believe, is moving forward to regulatory measures and financial assistance for specific industries and technologies much more rapidly than it is moving ahead with the cap and trade system. Exactly the same thing is happening in Canada. Indeed Canada's proposals include intensity based limits that are differentiated by industrial sector as well as mandates for a particular kinds of technology for electricity generation.

Australia has announced cap and trade system but my colleagues in that part of the world tell me that it is now under strong attack because of concern about exports and costs in an economy that is so dependent on its resource-based and energy-based exports.

The European Union remains to be committed to its emissions trading scheme, for electricity and large industry. but I think that European industry is finally increasingly concerned about the impact of the system on their competitiveness. There is no prospect that this will, the trading system will, be extended in Europe to the building and transportation sectors where the rest of their emissions are occurring

The elections in North America were expected to clarify the direction of our climate policy. When the Democrats swept the congress and presidency in the United States that raised expectation about re-engagement internationally and that we would quickly see comprehensive legislation with mandatory caps passed in the United States.. The Conservative Party in Canada had endorsed the cap and trade approach, admittedly a bit of a strange one, and its victory was expected to reaffirm that approach.

But something happened. The recession at least intervened.

What we are seeing in the United States is that a stimulus package, which is creating a massive amount of government directed financing and funding for low carbon energy.. Market-based measures appear to be losing out rapidly to command and control regulations.

Last week, President Obama and Prime Minister Harper of Canada met, and their meeting suggested a very different courses developing in the North America.

Now, all this is highly uncertain. I'm an economist, not a political scientist, and neither one of those disciplines can really claimed to being able to predict the political development with any degree of accuracy.. But I think there are some bases for expecting a particular direction, though everything I am going to say from here on could very well be wrong.

What we have seen up until now in the United States and in North America is an action at the state and regional level, clear endorsement of cap and trade system by all of the important political leaders and a general perception that the United States is the one that has been holding up action in North America and in the world.

So Canada over the past couple of years has adapted an intensity based set of caps for major sources of emissions. These are intended to become tighter and tighter over time. The caps for oil sands and electric power sectors were based on the expectation that the Carbon Capture and Sequestration would become available soon. And generally the information on intensity based caps are intended to require reduction in CO2 emissions and GHG emissions per unit of output, but no constraints on the abilities of industries to grow at least until 2020 or beyond at which point they are expected to merge into some kind of a hard cap.

It is very unclear what Canada is doing right now, because it was supposed to announce an intention to promulgate regulations implementing this by the end of 2008, and nothing has happened. But there is an increasing interest in direct support for clean technology particularly for electricity.

In the United States, we see cap and trade legislation that has been introduced in the

US Congress, but it has been stymied both by the recession and by the disputes over mainly who to compensate. Because it was realized very quickly in the United States that the value of allowances that are issued as part of a cap and trade system is huge. I estimate 2 billion dollars per year in the United States.

And our congressional system has no way of reaching an agreement about who should get those allowances. I think that that by itself stymieing our ability to adapt our cap and trade system, not to mention the concerns about vulnerable industry and the unwillingness to impose higher energy costs during the recession.

And we are now looking at the huge federally financed investment in clean technology.

So what happened last week when President Obama and Prime Minister Harper met was that an agreement that the implementation of new regulations including a carbon trading system is unrealistic and that the domestic regulation will be put off in order to harmonize approach and the dialogue between 2 countries will focus on technology development and particularly the development of for carbon capture and sequestration technology.

So assess what the harmonized system in North America would mean, and I think that I am asking this question not just because of the curiosity about where I live, but because I think this may suggest some potential direction in which international negotiations might go more broadly.

It seems very unlikely that there will be a comprehensive North American cap and trade system any time in the foreseeable future.

The heads of state have already agreed to joint technology development and R&D, with emphasis on Carbon Capture and Sequestration. That I think will happen.

It could be that we will start to see harmonized sectoral intensity targets. This is some thing that Canada has embarked on and could be attractive to much of US industry. But what I really expect to see happen is continued more or less independent development of regulatory policies in 2 countries, technology standards and the variety of subsidies for clean energy. This is, in fact, the way that I think we could see the international negotiation is also developing, especially under the Bali Action Plan,

while little happens on the Kyoto Protocol.

Let me talk for a few minutes about the likely sequence, I see, for US policy development. This is not a pure speculation. We have had a long history in the United States of passing energy legislation. And we can learn a great deal from how those previous kinds of energy legislation were put together.

The United States has never addressed a single problem in energy with a single simple piece of legislation that addressed the problem. The closest we ever came was the Natural Gas Policy Act in the 1970's, which tried to reform the regulation of natural gas. All that needed to be done was to remove price controls. What we got was something which did eventually remove price controls but contained a large number of other provisions.

The reasons we always see complex energy bills is really built into the US political system. In our congressional system, the leadership is very very weak. And the President has very little influence over the Congress. The reason of the leadership is weak is because each of 500 members of the House and the Senate are elected separately and they are elected almost entirely on the basis of their ability to provide support to important constituencies. Once someone is elected to the Congress, they almost never lose. All they have to do is to continue serving their constituencies.

This means it is very hard for the leadership to put through a comprehensive bill on any subject without paying off a large number of individual interests with the specific provisions that they want. That, I think, will also condition what kind of climate policy we see in the United States.

Right now the stimulus packages are a perfect example of this. The stimulus packages contain something for just about everyone in federal spending, for efficiency programs, subsidies for uneconomic existing clean energy technologies and a little bit of R&D.

I'm sure we will see a climate bill in this session of the Congress. I am told that by virtually every influential staff member and leader. But I think the purpose is likely to be to have something under active debate in Copenhagen, so the negotiators can point to something that US is doing. But no intention of passing a climate bill.

At COP14, I think the US and Canada will be under significant pressure to do something, but I think this bill will likely be what we will see them point to by negotiators.

The Energy legislation will be passed in the Congress within the next year or two. But my expectation is it will again be piecemeal legislation. It will certainly contain the low carbon fuel standard for transportation fuels. It is likely to include renewable portfolio standard, or generation efficiency standard for electricity, and other regulatory measures and technology standards. Each of those has a constituency, and the bill can be put together readily that way.

In fact, one of the most influential staff members in the Congress, who is now an advisor to the head of the Environmental Protection Agency, laid out exactly this scenario. We cannot convince the voters to bear the cost of cap and trade system. So instead we will have small regulatory policies, one small piece of legislation at a time, until we add up to a regulatory system that covers just about everything. And then we may pass a cap and trade bill.

So the cap and trade bill may be created in the United States but only, I think, after we have a set of regulatory programs and financing of technology investment by the government that pretty much make that cap and trade system meaningless.

In the meantime, there are several other possibilities that could happen. States in the United States are pushing forward ahead of federal government, and the Environmental Protection Agency has been ordered by the courts to consider whether it should regulate greenhouse gas emissions, and may do so. That will again be likely to produce a very complex set of regulatory programs.

Canada is also combining regulatory standards in the building sector and transportation sector in Canada, the entire policy is to use efficiency standards. But each industrial sector in Canada has been given individual intensity target which is going to be calculated based on the conditions of that sector, sometimes based on individual facilities because of their unique characteristics, sometime sector-wide, and in the case of electricity, it will apply to business entities in electricity generation.

Canada has ideas for many complexities, that there will be different targets for the

regulation and different sectors, there will be exemptions for uncontrollable process emissions, for example, in cement, the calcinations of lime stone which is a large part of emissions from the process would be deemed to be fixed process emissions that cannot be changed without changing the amount of output, therefore they will be exempted. So, Canada has a plan for very very differentiated sectoral system.

Given these kinds of domestic policies, it is very hard for me to see how a comprehensive set of global commitments to hard caps would be possible.

First we have a general problem of bringing China and India into an agreement, and I think it is even less likely now, given the economic hardship in those countries. China in particular, is retreating to much greater government direction of the economy. And it is not moving toward greater government regulation in favor of the environment. It seems to be they are abandoning the environmental policies and clean energy investments in favor of trying to do something in a short run to deal with unemployment.

An international system, in any event, with hard caps and carbon trading is impossible unless domestic policies in Annex I countries support emission trading. And a system of regulatory programs does not support emission trading, because there is either nothing for the businesses to trade, because cap and trade system internationally has to be supported by a national program, which defines what these emission rights are that can be traded

Or it will turn out that emission rights are essentially generated for free, because businesses are already required to undertake those actions by regulatory programs. I think we also see very strongly the sentiments for trade protection are leading the support of policies that allow flexible treatment of domestic businesses.

And in the United States, the difficulty of agreeing on how to design a cap and trade system, in particular the difficulty of coming up with a compromise who should be given those immensely valuable free allowances is allowing time for regulatory programs to be put in place first.

And stimulus packages in many countries are taking the place of climate policy. It has happened in the United States, and the Stern Commission and Lord Stern, Dr. Stern, (I

cannot remember his title was lord) has recommended that all countries should undertake massive amount of green investment as part of their stimulus packages. Who knows that carbon tax might even gain favor, but none of these lead to a set of domestic policies that can support international cap and trade system.

So, next year, I think the measures that are likely to be adopted in the United States are low carbon fuel standard for motor vehicles, which would be based on the lifestyle calculation of CO₂ emissions., or probably try to reward improved fuel economy and try to reward electric vehicles. It's also going to create some difficulties in our Northern neighbor, because one major purpose of low carbon fuel standard is to discourage the use of coal liquid technology, oil sands from Canada, and unsustainable bio-fuels. I am pretty sure we will see renewable portfolio standard for electric utilities that will strengthen state programs trying to provide consistent national definition. Standards and requirements for energy efficiencies both in power generation and in electricity use by the customers of electric utility are likely. And, we already are implementing the provisions of 2007 Fuel Independence and Security Act to improve fuel economy standards.

The Department of Energy got a substantial amount of new funding in the stimulus package, a little of this is going for R&D, most of it is going for grants to state governments, for energy efficiency programs, for loan guarantees and other financing for deployment of existing clean energy technologies.

This is the serious issue that I will return to because I agree with the introduction to the seminar that technology development is a critical part of climate policy and that is also not happening yet in the United States. We are at best subsidizing the application of currently available uneconomic technology which has little future potential.

Our domestic policies, I think from this review, are becoming more sectoral and less effective. Intensity based regulation are inherently sectoral. They are designed to remove the limits on the growth by the sector, as long as technology continues advancing. And it is very difficult to incorporate them into a Comprehensive trading scheme, once you realize that those intensity targets have to be combined with very uncertain growth in output in order to come up with a set of allowances that would be issued to the sector so that those companies that beat the intensity target can trade with those who do not beat the intensity target.

Financing in the stimulus package is designed as sectoral and industrial policies that is the entire purpose. All of the speeches that are made about the stimulus policies are talking about how it is designed to be a sectoral policy and promote specific industries. But it is a stimulus package, which is only supposed to last for 2 or 3 years. So that does not provide the kind of long term stable incentives that are required for the private investment, and nothing for long term R and D.

We have already seen conflicts between energy security and climate objectives. Oil sands from Canada are critical to our North American energy security but they are going to be pushed out by climate concerns.

So from this, I would say that the outcome is not just likely to be sectoral, but it is likely to be much slower progress and much higher cost that have been predicted for expanding a Kyoto like emissions trading regime to the rest of the world.

For the US and Japan, I think there are some similarities and interests in potential areas of cooperation. For both reasons, I think both of our countries are adopting sectorally differentiated regulatory measures and standards. We are both see substantial political concern on the competitive impact. And most importantly, we perceive technology development to make effective climate policy possible, to make it affordable for our own countries and to make it affordable for the developing countries which must be willing to participate.

And for that, we participate in some promising international ventures. I still think that the Asia Pacific Partnership is absolutely essential as a way of bringing developing countries in because it deals with the questions of technology transfer, of foreign direct investment, of technology assistance, of capacity building in an corporation and industry level.

But I think that there are key technology development needs that has been neglected. It takes stable credible and long term policies in order to make a difference in a global carbon system. And those have to provide direct support for R&D, as well as policies to encourage sectors to reduce their emissions in a short run(and to). It also requires building human capital and global research networks that are capable of doing two things. One is to produce the fundamental breakthrough in knowledge and new

technology applications that are required to reduce emissions to essentially zero over a 50 year period. We need coordinated research and funding for key technologies, like carbon capture and sequestration. But most importantly, we need research network that include developing countries so that technologies acting for both of them can be developed.

So, this does not make me optimistic about the prospect of international actions on mitigation. Few countries are committed to cap and trade, so the goal of the global emission trading system is impossible until that happens. The unwillingness of non-Annexed I countries to discuss hard caps seems to make all of the speculation about the system of graduation over time they will finally become a part of the emissions trading system. Just that speculation

I believe that to make progress in negotiation has to accept that different countries will take different policy approaches. And the progress has to be measured by actions and not by commitments. This means a return to something that has been called policies and measures back in 1990's when we started on the route to Kyoto, and Pledge and review process, in which this parallel action in which countries take different policy approaches, but then, look to see what each other is doing and make sure that each of other countries is moving along in more or less parallel fashion. And I think Mr. Sugiyama will talk more about this and I am looking forward to hearing his views.

The US and Canada dynamics also suggest that technology cooperation is a logical thing to make come first. The US and Canada recognizes two key sectoral issues: Canadian oil sands and US coal-fired power generation. It is at least in some sense that we made fair regulatory actions that is overall caps as opposed to sectoral intensity caps in favor of joint R&D. And I think this is very much an appropriate model for developing country involvement

But none of this is going to lead to rapid action. Accepting that an effective international regime has to be one which proceeds slowly means thinking about what else we need to do in order to deal with the risks of climate change.

If parallel development of the national systems is likely, I think the developing countries can only be brought in slowly through programs like Asia-Pacific Partnership, which had the advantage that they would work, which non of the others, which the

Kyoto Protocol has not, but the disadvantage is that they work slowly through a very gradual process of discussion of cooperation in industrial level, of capacity building and technology transfer. That means that the danger of climate change is likely to remain severe. That suggested to me that we need much greater analysis in funding to adaptation measures in all countries, not just some small amount of money being given to the poorest of developing countries. And probably research on geo-engineering and solar radiation management as a potential safeguard against rapid catastrophic change..

All of these, I think, need to be put into the international agenda. Those are the thoughts that I would like to share with you today, and I am looking forward to the rest of our discussion throughout the day.

Thank you.