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Thank you very much. Ladies and gentlemen, I would like to thank the German Advisory Council on Global Change for giving me the opportunity to participate today in this forum on low carbon prosperity.

I will attempt to make three points. The first one is a perspective on actions of the United States government on the topic of climate change. The second one involves a description of some actions of the Mexican Government. The third point is a summary of my personal view on what else is needed to effectively address the climate change challenge.

An important question is whether society is confronting the climate change challenge realistically. Although we already heard the setting for this from Chancellor Angela Merkel and from John Schellnhuber and Dirk Messner, I will add my own perspective. I want to stress that I am not giving you this information as an official representative of the US Government or the Mexican Government; it is really just my personal opinion.

I will mention a few examples describing US actions. One is that President Obama put in place fuel economy standards that will nearly double the efficiency of the vehicles employed in the United States over the next decade. This step will reduce oil consumption by more than two million barrels a day by 2025. Also, earlier this year President Obama proposed a new energy policy focused on renewals.

As you probably know, there are some tough internal political problems in the United States connected with the climate change issue. Other issues, such as energy security and the economy, receive a great deal of attention. So, this new energy policy proposed by President Obama has also as a goal to decrease the dependence on foreign oil, and it is a response to increase demand for oil in China, India, Brazil, etc., and to instability in the Middle East. Furthermore, the idea is that promoting renewable energies in the United States will create jobs. It is good for the economy. Other proposed actions by the United States

Government include putting an end to a century of subsidies to the oil industry, which is indeed is ambitious goal. Just a couple of days ago, President Obama announced that he is pressing congress to invest in American clean energy manufacturers. This investment will create jobs through innovation and development of new technologies and new fuels that reduce the reliance on fossil fuels, and leads furthermore to more secure energy sources.

Let me move to the second point. In Mexico we and others are working on developing a credible, economic development plan that has low carbon emissions. We are doing this in collaboration with international institutions, including the GTC, or now the GIZ—that is *Die Deutsche Gesellschaft für Internationale Zusammenarbeit* here in Germany. The goal is not only to work in Mexico, but to build a coalition of developing countries with similar perspectives on the climate change issue. In fact, the Mexican congress just passed a new climate change law with the compromise of reducing greenhouse gas emissions by 50% by 2050. That again is fairly ambitious, and this goal is contingent on the successful implementation of an international climate change agreement; it remains to be seen whether such an agreement can be reached in the next few years.

What Mexico is promoting at the moment are the so-called win-win measures, such as those connected with improving energy efficiency, removing energy subsidies—along the same lines as the United States. Also, I would like to mention another point: this past February the United States, Canada, Sweden, Mexico, Ghana, and Bangladesh are starting an initiative to cut methane, hydrofluorocarbons (which are replacements for the CFCs that deplete the ozone layer), and soot, that is, black carbon. These are compounds that contribute significantly to climate change, accounting together for about 40% of the rise in global temperatures.

The main idea is that emissions of these compounds can be controlled with existing air quality regulations. Hence, the controls can be implemented even in the absence of international climate change agreements. I have been involved

in some of the research that leads to these conclusions. Let me clarify, however, that we are not proposing to reduce the emissions of these compounds instead of those of carbon dioxide, but in addition to those of carbon dioxide. The time scales are important: we are talking about short-lived non-CO₂ climate change forcings, and the advantage of controlling their emissions is that the maximum temperature to be reached in the next few decades will be reduced. But this will matter little if CO₂ emissions continue with business as usual.

Here is my last point: we know that in Copenhagen, in 2009, well over a hundred heads of state agreed on the aspirational goal of limiting the average surface temperature increase to 2° C. It is often said that this is what science tells us, and that reaching the goal avoids dangerous interference with the climate system, minimizing the chance of reaching certain tipping points that might lead to irreversible changes in climate. But, in fact, science does not tell us what to do. It just tells us what might happen if we continue or not with business as usual.

The 2 degrees goal has to do with economics as well. It is a reasonable compromise in the sense that a tighter goal might be too expensive. We are talking about a cost to society of the order of one or two per cent of global GDP. The message is that business as usual emissions will most likely lead to a larger cost to society, as has been so effectively communicated by Lord Nicholas Stern; we will hear from him in a moment.

I want to make another point. We are not just talking about a problem that will materialize towards the end of the century—a long-term problem. We are actually beginning to see effects such as extreme weather events. In fact, here in Germany in Potsdam, there is some very important work pointing to the reality of these climate changes that are already happening. Thus, the point is that it is the economy not just for the future, but for the very near future as well. We have to get started, but society is not responding yet, and the 2 degree goal is perhaps no longer achievable. In my view, incremental or voluntary measures

are not sufficient, and we do need an international agreement that places directly or indirectly a price on greenhouse gas emissions so that the necessary changes are actually implemented.

There are difficulties with achieving such international agreements, such as coming to consensus between developed countries and emerging economies—but in principle such problems can be dealt with. On the other hand, a major bottleneck at the moment has to do with internal politics in the United States: at present the US Congress will not ratify a climate change treaty, and hence countries like China or India are not likely to reduce emissions or to ratify international agreements.

The Republican Party in the United States has embraced a position of denial of climate change science, which is, in my view, a position totally unacceptable in terms of a rational interpretation of the facts based on science. This political reality is the reason that the words “climate change” do not appear in the announcements on energy policies made by President Obama that I referred to a minute ago. President Obama is, in fact, personally convinced that we need to work hard to achieve these goals, but the political reality prevents dealing with stronger positions.

Yet, the science of climate change is well-established—both by theory and by observations, as evidenced by the support of major organisations worldwide, such as the National Academies of Sciences and other professional organisations. Of course, uncertainties do remain in the science as well as the economics of the climate change issue. But, there is little doubt, in my view, that the risk of inaction is truly significant. There are plenty of precedents for society and for people to act in the face of uncertainties that are much larger than those characterising the climate change threat.

But let me finish by stating that I am cautiously optimistic. There are indications of divisions within the Republican Party in the United States. Taking into account that extreme climate events, such as heat waves, floods, droughts, will

most likely continue in the next few years, I believe that society will be further convinced—even in the United States—that the climate change threat is real, and that urgent action is warranted; science and rationality should in the end prevail.

Let me end by stating that in my opinion increasing the investment in clean energy, technology, and energy efficiency is crucial, and that economic growth is not threatened by reducing emissions of greenhouse gases; it is actually threatened by continuing with business as usual. Incremental measures are not sufficient to properly address the climate change challenge, and truly revolutionary measures dealing with fossil fuel consumption, deforestation and various other activities of society are needed and can be accomplished most efficiently through an international agreement.

Thank you.