Mario Molina – Rio+20

I am honored to have the opportunity to participate in this 2012 United Nations Conference on Sustainable Development. I am sorry I cannot be with you in person, but I appreciate the opportunity to be able to communicate with you today and to participate in this truly historic event: this Conference provides an opportunity to emphasize the need for society to undergo a mayor transformation towards global sustainability.

What I would like to do in the next few minutes is to review and to give you my own personal perspective of the reasons that justify this goal of securing a much needed renewed political commitment for sustainable development.

To begin with, there is a very powerful ethical reason: Sustainable Development is development that "meets the needs of the present without compromising the ability of future generations to meet their own needs", as defined by the Brundtland Commission in 1987, that is, 25 years ago. We are talking about needs such as achieving a satisfactory standard of living, and not just for a fraction of human population, but for the entire population of our planet.

But there is a second equally powerful reason, which has to do with the economy. Let me elaborate: I am talking not only about the economic wellbeing of future generations towards the end of the century, but I am talking as well about the well being of our own generation and that of our children. Let me further emphasize that it not just a matter of "being green" because it is fashionable, or even because it is good manners to protect the environment; it is truly a matter that is crucial for economic development throughout our planet, both for developed as well as for developing countries.

The root of the problem is that our planet has limited natural resources that are not being managed wisely by the more than 7 billion people that we now have on the planet; examples are fisheries, forests, water for agriculture and for human consumption, and so on. Yet another example is biodiversity, a natural resource that is clearly threatened by human activities. Our atmosphere is yet another natural resource, and it has a limited capacity to absorb without serious consequences many of the unwanted side products of our industrial, agricultural and every-day activities. So, I want to use climate change as an example to elaborate to further justify the need for sustainable development, because climate change is probably the most serious environmental challenge that society has ever confronted. The bottom line is that we do have the opportunity to address this challenge successfully and to engage in a process that will ultimately reduce the risk of severe damage to our environment with possibly catastrophic consequences.

A few years ago, at the 15th Conference of the Parties of the United Nations Framework Convention on Climate Chang (the COP-15) in Copenhagen, more than a 120 heads of state supported the "aspiracional" goal of limiting the average temperature increase of the Earth's surface below two degrees Celsius in order to prevent dangerous interference with the climate system. Achieving this goal will require most likely an international agreement that places directly or indirectly a price on the emission of greenhouse gases.

It is often stated that the two-degree goal is what science tells us; let me explain, though, that science does not tell us what to do; it only advices us what might happen as a result of different courses of

action. The two degrees figure comes in part because the risk of triggering nearly irreversible and potentially very damaging changes in the Earth's climate increases rapidly if the temperature increases by more than two degrees. But equally important is the fact that there are technological solutions to the problem at hand, and, that the cost of taking the necessary measures to achieve the two degrees goal is relatively small, namely of the order of only one or two percent of global GDP. But, most importantly, the consensus among economic analysts is that the cost of NOT implementing such measures is very likely significantly higher. In fact, postponing action and thus risking a temperature increase of four or more degrees could imply astronomical costs for future generations, threatening both our economic systems and our governance systems, and making it truly difficult to eradicate poverty in the planet.

There are in fact a number of well-documented scientific findings that tell us that if we continue with unabated emissions of greenhouse gases there is a significant risk of reaching certain tipping points in coming decades as the surface temperature increases, leading to changes in the Earth's climate system that for all practical purposes will be irreversible, such as melting of the poles, drying of the Amazon forest, or a disappearing Indian monsoon. Such catastrophes could have devastating consequences for literally hundreds or even thousands of millions of the Earth's inhabitants. And, even if the probability that such events will occur is a mere ten or twenty percent if society chooses to continue to move along a business-as-usual path, economics experts agree that this risk is the one that should actually dominate economic considerations, rather than the risk associated with the most probable outcomes.

So, energy and economics experts agree that there IS a feasible technological solution, and the cost of inaction is no doubt LARGER than the cost of taking the necessary measures. Let me just stress that all the countries of the planet win if you come up with the right solutions; they all loose if you don't. Now, I do not underestimate the magnitude of the challenge: we are talking about a second industrial revolution; developed nations do not want to lose competitiveness; and developing nations and emerging economies want to make sure that their economic development is not threatened. If, however, we all work together, with creativity we can actually improve the chances of achieving the desired economic growth by means of well-planned low-emissions development plans. Otherwise the impacts of climate change might well prevent a healthy economic growth as well as the eradication of poverty in many developing countries.

Let me underscore that the basic conclusion of the scientific community is that the climate is indeed changing as a consequence of human activities with potentially very serious consequences for society. Why, then, has the problem not been solved? You are all surely well aware of the fact that there remain many political difficulties, for example, those associated with the position of the Republican Party in the United States. One consequence of such political difficulties has been that in all sorts of media reports it has been stated in recent years that the basic scientific conclusion connecting climate change to human activities is questionable. There are powerful interest groups that have mounted a very successful public relations campaign to discredit climate change science.

The scientific community is of course aware that the current understanding of the science of climate change is not perfect, and that much remains to be learned, but enough is known to estimate the probabilities that certain events will take place if society continues with "business as usual" emissions of greenhouse gases. As expressed in the IPCC report, the consensus among the vast majority of climate scientists is that there is a 90% probability that the observed increase in global average temperature since the industrial revolution is indeed a consequence of the increase in atmospheric concentrations of greenhouse gases caused by human activities. The existing body of climate science is robust and extensive, and is based on many hundreds of studies conducted by thousands of highly trained scientists, with transparent methodologies, publications in the open scientific literature which have been rigorously

peer reviewed. Of course, we know that climate change science is not complete, and that many questions remain to be answered. On the other hand, the available scientific information is precisely what society and decision makers in government need in order to assess the risk associated with the continued emissions of gases that affect the climate.

I should also note that there are now several scientific studies that conclude that climate change is indeed the cause of many of the extreme weather events that are occurring with increasing frequency. The idea is NOT that such events would not have occurred in the absence of human-induced climate change; in contrast, the idea is that it IS the severity of the events in question that has been affected by this change in climate, which is of human origin. In my opinion, even if there is a mere 50% probability that the changes in climate that have taken place in recent decades are caused by human activities, society should certainly adopt the necessary measures to reduce greenhouse emissions; but here I am not speaking as a scientist, but rather as an individual who strongly supports universal ethical values, and who values the well-being of future generations.

In closing, let me emphasize again that the climate change challenge is urgent and that fast-action mitigation must begin as soon as possible. Our generation has the responsibility to address effectively the climate challenge as well as the other challenges I referred to at the beginning that are also related to sustainable development. There is still time to act, although the window of opportunity is rapidly closing. But I remain an optimist; I trust that science, common sense and our universal ethical values will ultimately prevail.

Thank you.