When we think of North American energy interdependence, I believe it would be helpful if we started at a global level and a global context. The first thing I would say is that people are becoming increasingly aware that energy is essential for sustaining life as we know it and powering economic growth and improving standards of living.

I would also say that it's clearly axiomatic that we cannot have economic and population growth and rising standards of living without increased energy supplies. In fact, when you have over one-third of the world's population living in poverty, increased energy use will be an essential building block for moving people to a more acceptable standard of living.

Over the next 25 years, we expect that the world's population will increase from about 6.3 billion people today to 8.1 billion by 2030, a short 25 years from now. Also, 85 percent of the world's population lives in developing countries, with an average GDP per capita of six percent of the developed world.

If we assume that world economic growth continues at historic levels for, say, the last three decades, which was around 2.7 percent GDP per year, and also assume that continuing advances in technology and efficiency will reduce average energy intensity by more than one percent annually, which is, by the way, better than our historic improvement since the '70s, then with all of these assumptions global energy demand will grow by about 50 percent by 2030, from about 220 million barrels per day of oil equivalent to 335 million barrels a day of oil equivalent. When I mean oil equivalent—that's oil, natural gas, coal, nuclear, hydro, biomass, municipal waste, renewables—all, everything. Meeting that 2030 demand represents the energy challenge that we face. To meet it, we need to avoid wishful thinking and face our energy future realistically, and I think maybe some facts would be also helpful.

First, it means that we need to recognize that oil and gas will continue to supply about 60 percent of the world's energy needs. When you add coal, these three sources will supply 80 percent of the world's demand today and well into the future. Simply, there are no other alternatives that can be developed on the needed size, the needed scale, and on a timely basis, and at reasonable cost, and with the same reliability and convenience.

I know there's a lot of discussion about renewables, and let me just give you one example. I will quickly say that all forms of energy will be required, but if you looked at wind and solar alone, even with an annual growth rate of 10 to 20 percent per year, these two renewables would still provide only less than one percent of our world's energy requirements by 2030.

At the same time, I would quickly add that fossil fuel resources are quite expensive and more than adequate to meet future demand. According to the International Energy Agency, the world has about 45 years of proved reserves—and I emphasize the word "proved reserves"—of oil, 65 years of proved reserves of natural gas, and well over 100 years of coal reserves. Total world hydrocarbon resources, both
proved and static, of oil, gas, and coal are well in excess of 150 years' worth of supply. If you add non-conventional sources, such as oil sands, oil shale, et cetera, you would add even more years to that projection.

Now, turning to global supply/demand dynamics, when looking at the world's four largest economies—the United States, Europe, Japan, and China—they are all characterized by one particular aspect: they are all significant importers of energy. When you look at most of the supplying countries, their supply capability is well in excess of their local and internal demand.

So, by definition, given these two facts, the concept of national self-sufficiency in the developed world is probably unrealistic. The truth is: importing nations are highly dependent on supplying nations, and the corollary is that supplying nations are quite dependent on importing nations. We are linked to an interdependent world energy system, and security is best assured by ensuring as great a diversity of international energy supplies as possible and by ensuring the free functioning of markets in support of that supply.

The challenge is to develop these supplies that are available and ensure that the availability of the investment capital needed is there. To develop that global energy, all forms of energy will require about $500 billion U.S. per year and about $200 billion per year for oil and gas alone. It's essential to have a global access to resources; smoothly functioning, efficient, international markets; technology advancement; and supportive policies, especially those supporting open and functioning global markets, which I believe is absolutely essential.

Let me turn now to North America. Canada is well positioned with significant untapped resources in the oil sands and in frontier natural gas. It is already the largest supplier of energy to the United States, with the potential for significant additional growth with the development of the oil sands. There is a well established infrastructure whereby the two countries are interconnected with a comprehensive oil and gas pipeline system, and Canada is the only G-7 nation with the potential to be a growing energy supplier.

Canadian resources in the oil sands, while immense, will need to be developed at a measured pace. Heavy oil projects are characterized by a lower ratio of initial production to reserves than say prolific deep water fields. In addition to the upstream facilities in the oil sands, many developments will require investments in upgrading facilities, typically found in refineries, resulting in extended construction time. Also, the resources in the area of our country that is relatively remote and the availability of labor is clearly a key challenge.

Finally, extra planning and design time is warranted to help counteract cost pressures. Today, what's going on in the oil sands I like to refer to as the dark side of high prices.

Mexico is another important energy supplier in North America, and rather than wade into observations on that, I look forward to Mr. Lajous's comments.

So for Canada as a trading nation, openness to international markets is particularly important for attracting global capital and human resources.

Now, today there is a question that's not too hot on the radar screen these days, and it is often asked, and that's about energy investments by China, both in Canada and in other countries. Again, I think it's important to stand back and look at this question in a global context. As I mentioned, there will be a 50 percent increase in energy demand in the world in the next 25 years. As a result, the oil and gas industry alone will need to invest $200 billion per year to meet that demand.
In addition, most of this investment will be outside the major consuming countries and regions of the world. The best assurance for future supplies to meet these demands will be for this investment to take place in areas of the world with the greatest potential of supply—places like Russia, the Caspian region, West Africa, and the Middle East, and so forth—and that these areas all have access to the needed capital and technology required to develop the resources.

Today oil is a globally traded, fungible commodity, available to all in a quite open and transparent market. Therefore, if capital investments and ownership improve the supply available and access for all, I would say that's a good outcome. However, if capital investments and ownership mean specifically designating these supplies to specific locales and results in reduced access versus being available to the total market, I would say that's a bad outcome.

So, if Chinese investment adds to supply and general access to the world, we should be indifferent and welcome investment by them and others. If there are other intentions, obviously, we have to be wary.

Where the system can break down—and I'll just give one example—is if countries start to enter into state-to-state arrangements for the supply of hydrocarbons. This will reduce access, Balkanize supply, and disrupt global markets. I strongly believe that enabling free markets to work is an imperative for supply security.

In conclusion, I cannot overemphasize the principle of interdependency, both within North America and the world. The free functioning of international energy markets that support the development of a wide diversity of energy sources is the best approach to ensure a sustained and secure energy future and supplies for all.

Thank you.

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