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GLOBAL ENERGY CRISIS EMERGENT

Presented by:

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TO

ASPO IV INTERNATIONAL WORKSHOP

On Oil & Gas Depletion

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Central Building, Calouste Gulbenkian Foundation

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** Premier of Manitoba 1969-77; Governor General of Canada and Commander-in-Chief 1979-84; Canadian High Commissioner to Australia, Papua New Guinea, Solomon Islands & Ambassador to Vanuatu 1984-88; Visiting professor at universities in Canada & Europe on Energy & Strategic Resources in Global Context 1990—2002; Chancellor, Brandon University, Brandon, Canada 2002—;*

Mr. Chairman

I feel very much obliged to those associated with The Study of Peak Oil and Gas. They have systematically, (and without fear or favour) but with determination, brought a focus of attention to a major problem looming toward crisis. The problem of oil and gas depletion and greenhouse gas emissions impact has been long a work-in-progress.

It is building up to a scenario which has all the signs and omens of a global energy crisis — impacting in a way which challenges our imagination — our very ability to act rationally to minimize, if not avoid entirely, the looming disaster of peak of net energy production capacity in the face of undiminished demand.

The historical evolution of energy resource dependency and moreover, a dependency on fossil resources under ever growing patterns of depletion is a most sobering story. Furthermore, this sobering story is now before our eyes playing out toward an evermore dangerous and, increasingly more likely, tragic conclusions here in the first quarter of the 21st Century.

Those who helped organize The Association for the Study of Peak Oil 4 years ago and who began, perhaps 10 years before, that to articulate the dilemma of the oil and gas economy (and indeed, civilization) deserve words of appreciation and commendation. They were, at first, either studiously ignored or, if acknowledged, then pointedly as far out — outré — as crackpots.

In the last 18 months there has been a sea change toward acknowledgement of the real possibility of peak oil and even growing acceptance of the thought that it is an impending reality — about to become harsh reality within the first decade — perhaps even a matter of months. Up

until now the conventional wisdom was that there was no probability of chronic rundown of hydrocarbon supplies. This attitude or “conventional wisdom” was so predominant in the countries of major production and major consumption that the common sense of sober analysis, contingency planning and of preparation for maximum substitution by renewables. I mean all renewables — wind, large and small; hydro, large and small; solar; biodiesel, etc. — for they will all be needed in order to make a difference of meaningful scale.

It is sad, even tragic, how enthusiasts for each of the renewables have tended to either hype their particular energy form and “poormouth” and denigrate other forms of equally renewable, and therefore sustainable, energy. There is some truth apparently to the old adage that “every duck praises its own slough”. Unfortunately, this attitude has resulted in deferrals and postponement of projects, both large and small, to harness wind and water, especially since the 1980s and therefore — directly, or indirectly — it has played into the hands of those who were intent on depleting ever-increasing volumes of oil and gas.

Now we have a right to ask — are we leaving enough lead time to put in place these alternative energy projects and these much needed enhanced conservation practices? Or, are we running out of time?

Indeed, given that major projects and u-turns involving thousands of megawatts incremental and millions of tonnes of oil decremental — we must ask if we have not already waited far too long?

We are not talking about little mini or micro scale efforts as being equal to the task. Interesting — yes — but significant answers to a dangerous overdependency on a nonsustainable resource and modality — hardly. So we have not only the right to ask — but a duty to ask — what are we doing to responsibly prepare for a sustainable energy

future and, conversely, to avoid accelerating our current fast track depletion of oil and gas.

We can hardly justify any faster tracking of depletion — and concurrent reduction in lead time for engineering and construction of alternative renewables — unless, of course, we don't want to think of the implications for the very next and ensuing generations.

Do we fail to act out of the secure knowledge that we will manage to avoid decreases in supply capacity for another entire generation? Obviously not? Is it, then, ignorance or greed or impunity or psychological denial that causes us to act in a way that has these past 20 years been so nonchalant; so indolent; so uncaring of the future consequence. Perhaps all of the above — in varying measure.

Others speaking before me will no doubt describe in detail the geological basis for the mounting concern — some might say — indignation as well, given the blank wall of inaction to date. I personally will listen with rapt attention to the description of the events and past attitudes that lead to our current circumstance.

Let me in turn focus on the sequel to the above, i.e., what can and should we be considering as intelligent policy responses to our unenviable plight?

It might be useful to begin by looking back almost 3 decades — 32 years to be precise. This was the first event during my lifetime to give rise to the thought that energy supply could not always be taken for granted. This — not merely on the basis of local disaster and temporary shortage — but admitting the possibility of serious, widespread, even global, shortage.

This thinking gave rise to political and policy responses in the highest per capita oil consuming countries, i.e., the 22

OECD countries (the US and Canada in particular) to try to meet the problem and the challenge.

One of the results was that the IEA was formed and a nominal agreement or protocol was adopted to define the threshold of shortage and the formula for sharing emergency supplies if and when that threshold was breached. Within each country, various energy saving practices and programs were discussed — some were urged for voluntary compliance and some were mandated — especially in the time of Presidents Nixon, Ford and Carter, 1973 - 1981.

There was some genuine progress in facing up to collective responsibility. Fuel efficiencies in cars were greatly improved in the 1970s and early 1980s — only to be dropped back in the 1990s (more about this later). Speed limits were set (perhaps a touch to low and too rigidly) in 1975. Insulation standards and codes were revised, etc. Some real progress.

But then came the mid-1980s and in my country (Canada) and in the US and in a few of the OECD countries, a certain school of thought set in — motivated to remove all or initially all of the guidelines for rational accountability (i.e., regulation and the process of regulatory hearings; evidence and proof) and substituting a dogma of market determination and competition or alleged competition.

Between 1985 and 2005 many jurisdictions (though by no means the majority) have surrendered democratically accountable regulation and accepted a deregulated utility sector. For most of th..... there have been a series of bitter lessons to be learned — the most dramatic of these perhaps being Ontario and Alberta in Canada; California and Montana in the US — along with the Enron scandal of epic proportions.

There is great and growing confusion in the body politic among the general public. Much of this is no doubt due to the conflicting information served up by via the mass media by industry spokesmen, stock market analysts alongside a curiously silent and passive government leadership — silent and passive since about the mid-1980s. It became the conventional wisdom of the 1980s (for the next 25 years) that

~~(a)~~ There was no need to worry about energy efficiency. Why drive less than 200hp or 300hp muscle cars with 4 wheel drives? Who needs 35 miles to the gallon or 15 kilometres per litre cars? There's lots of oil out there. All one needs is more investment generated by more profit and this will combine to find more oil for evermore. Amen.

This thinking prevailed in the late 1980s and through the 1990s, even though there were clear patterns of proof already 10 to 20 years old showing that oil wells, then oil fields, then regions, then entire national oil production can and do go into irreversible decline. Today, we see the oil fields of North America, the North Sea, Alaska, Indonesia, etc. — all in decline.

In the meantime, the damage of the thinking of the 1980s/1990s has been done — in SUVs — in attitude reversals.

The notion of saving, of storage, of husbanding of stewardship, of acting less like a grasshopper need to be encouraged anew. In this respect I am not a pessimist. I am at one with those who do believe that many citizens wish to be responsible toward the environment and toward the next generation by avoiding the fast track depletion of oil and gas which are also major contributors to CO₂ emissions and possible climate change. They look for some indication of direction and challenges to be tackled, but instead they get conflicting statements from the energy industry and

silence and/or inaction from government these past 20 years.

It should not take any genius to comprehend the importance of lead time and of relative stability and longer term contract security concept; the engineering and building of any large scale energy plant; that regulatory hearings must be held in public so that there be less, rather than more, opportunities for secrecy and market manipulation should be discontinued and replaced by a deregulated free-for-all — i.e., Ontario, Alberta, California — during Enron's apogee — you know that major change is being manipulated.

Therefore, when a political ideology dictates that long term supply contracts are out—long term supply becomes passé. Short term spot market pricing is in (à la Enron); The casino crapshoot replaces contractual stability, natural gas replaces coal, hydro, nuclear, etc. I am not optimistic about a scenario where relative stability, longer term pricing and a process of regulation is being replaced by a system that resembles most closely a casino crap shoot.

Can anyone really be surprised by the advent of erratic pricing when utilities are forced into a casino atmosphere — especially when the promise of competition is undercut by mergers, acquisitions, impractical unbundling, etc., etc. To cap it all off, this complex retrogression to the decade of the 1920s is, we are told, to be described as utility “reform”.

In a genuine democracy all this will be challenged. I am pleased to see evidence of this already.

It is, from my perspective of a 50 year overview, a good sign that the public is becoming increasingly skeptical of the promise of leaving these acute problems to a market place of invisible hands. That has been vigorously promoted these past 15 years by those wanting to shut down the

probing analysis of regulatory hearings and the results to date indicate that the casino alternative is counter-productive. So if a consensus does develop that there is, in fact and in truth, a crisis emerging in world oil and gas supply (oil and gas accounts for 65% of commercial energy consumption) we will have to move quickly and boldly. The challenge and the task is large in scale and size and made even more drastic because of the very energy density and potency of oil and gas. Replacing it will require concentrated, focused, integrated effort.

Nowhere is the task more imminent and self evident that in North America, where per capita consumption, industrial practices and needs, lifestyle, habits, etc. have created the greatest degree of danger of dislocation and discontinuity. There are profound ethical imperatives involved as well that affect other regions of the world.

I do assume that, after a late start caused by profound denial, a consensus builds that there will be convincing demonstration of peak oil globally this decade followed by acceptance almost simultaneously of peak natural gas in North America — also within the next 4 years.

The result will be, I should think, an acceptance of the need to move away from a belief in passive marketplace solutions toward a more pragmatic and active embrace of sustainability options. A call for action and life support activity will become more loud and outspoken. It will join "fast track depletion vs. 'attenuation'" with and those calling for more effective measures to combat greenhouse gas emissions. In some countries, the oil and gas depletion scenario will become a far greater motivation than is the concern regarding greenhouse gases. In reality and ironically, the compelling arguments in support of "attenuation" of oil and gas as opposed to the current, ever faster, track of depletion is also the most effective policy in

stopping (and perhaps eventually reversing) the ever-increasing annual emissions of carbon dioxide.

If we ever arrive at a day when we simply cannot justify (or even long surmise) a business as usual policy; if we no longer can accept shortsighted denial as a policy option then by definition certain emergency measures and preparedness plans should trigger and take effect.

You know — as we had during air raids atomic bomb bunkers and evacuation routes — flood control and mitigation plans and measures, etc. But in respect of an energy emergency, lo and behold, there have been between 1982 and last month, very little that has been added and, in fact, much has been subtracted — taken away. The following are some interesting examples:

1. Speed limited legislated in the 1970s were removed in the 1980s.
2. Increases in auto fuel efficiency and car engine downsizing in the 1970s were reversed in the 1990s. In some ways, one might say — with an attitude by the major carmakers of a sort of “in your face” SUV impunity and vengeance.
3. The International Energy Agency was formed 30 years ago with one of its more tangible functions being to administer a contract for oil sharing if global supply to its members were to be reduced by approximately 4 million barrels per day.

It is, I submit, significant that the IEA, which has tended to describe its world energy outlook each year in the most diplomatic “business as usual” terms, has, in April 2005, sponsored a report on oil supply shortages that acknowledges the need for active specific emergency preparedness. For openers, this should be welcomed even if the proposals are a curious combination of the severe and the insignificant. Still — who can ignore the title “Saving Oil in a Hurry”? It suggests carpooling and certain driving

restrictions; motorway speed restraints; special lanes for shared cars; a more compressed working week; more electronic office links to homes, etc., etc.

Not very scary to be sure. But on questions of public transit and of effective rationing, there is either silence or equivocation or outright internal contradiction. One should welcome the initiative but also state that it surely can only be regarded as a beginning of a major and demanding, but undeniable essential.

And one caution — no society that has ever experienced democratic processes and the expression of the democratic will, shall accept any oil saving regime that has several draconian features, but which does not allow for rationing based on priorities but only on market price. That is not likely to work and would not even have been attempted in the 1940s. If restraints are needed, then rational restraints transparently arrived at, will have to trump a simplistic market mechanism that would allow price only as the priority and value decision makers.

There are, after all, no easy answers, so intelligent choices must remain as the course open to us. There is need for societies and economics to seek to persuade their governments and their industries (and entire industrial sectors) to take concerted action to reduce dependency on fossil fuels (for many reasons — all reinforcing of each other). The obvious corollary of this is that governments and industry, as the obvious instruments of economic action and resource stewardship, that they must accept the responsibility to put alternative modalities in place up to the very limits of technological ability; resource sustainability; and economic and environmental stability. This should not be mistaken as a license to encourage greed.

To this end one can see a need for organized action in both domestic and international terms.

To put our respective domestic houses in order, there is need to encourage nationally the harnessing of renewables of wind, water and the biofuels. There is need to discourage the use of oil and natural gas in base load generation of electricity as was so flagrantly and egregiously allowed in the 1990s — one might say, even encouraged — by our respective national Energy Boards. All rather unbelievable — this decade of the 1990s — in managing resources as there was no tomorrow.

There is need to encourage biodiesel fuels and direct-electricity hybrids and, as soon as possible, grid rechargeable hybrids and eventually, a new generation of electric vehicles. And, if we are lucky — luck will be part of it — we may one day see hydrogen-fueled cell trucks, buses and tractors. In the meantime, watch closely to see if hydrogen and fuel cell is being used as a pretext to delay the introduction of ever more hybrids in order to prolong the era of 20 to 30 mile-per-gallon gas-guzzling cars.

There is need, surely there is need, for all of the foregoing reasons as outlined in all of the foregoing papers and speeches, for international cooperation and therefore international agreements/protocols. This is true, as much or more so, in the case of world energy problems as in any other.

Accordingly, most countries of the world eventually saw the need for an international agreement to try to limit greenhouse gas emissions. This happened 8 years ago in Kyoto, Japan. It has not been dramatic in its effect thus far. It may take another decade for initial impact to be detectable. But what responsible adult today would advocate its termination or abandonment??

In similar context, there is need for an international protocol on critical resource depletion. There are several

precedents to serve as a model. The Toyota Protocol has been mentioned. There are also relevant precedents with respect to endangered species' embargoes on trade; on biodiversity sustainability.

Surely, an international protocol on depletion of oil merits similar consideration. The stakes are high; the ethical dilemmas are profound. Inaction no longer buys time — it now also brings the likelihood of running out of time for conversion and substitution; the starting of the clock on the misery index — as living standards decline.

Some may think that all this is esoteric theory — that even if depletion is real — that nothing will happen because the greatest per capita consumers of the fast depleting resource do not see the need to sign on. To them, I reply that this is indeed the ultimate litmus test. My view is that unlike the greenhouse gas-limiting Kyoto Protocol, in the case of a "Depletion Protocol" it becomes very evident to the highest per capita users have the most to lose in a rundown to fast track depletion of oil.

The chaos this would bring to modern agriculture and food supply; to industry and to lifestyle, would be perhaps more abrupt and miserable to humanity on that continent than anywhere else.

So a Depletion Delaying or "Attenuation of Oil Protocol" is most emphatically in our future. Indeed, that is no longer even the main issue. What is more pressing is to understand the issue of timing — of lead time realities. If we begin the transition to renewables 10 to 15 years before peak, there will be a minimum of disruption and chaos. If we wait until we find that the peak of capacity to extract is less than 5 to 10 years, we are gambling recklessly and some considerable human misery will result. If the peak occurs within less than the next 3 or 4 years, we have waited far too long and the result will be devastating and tragic for millions of people.

Can we really pretend to justify continued postponement of a change in the course and direction?

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