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REFLECTIONS ON SUSTAINABILITY

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ABSTRACT

An overview of sustainability and climate change issues is carried out from a political point of view. Various ways how these issues have been tackled in the past from different disciplines are analyzed with their advantages and shortcomings. The important role of politics and science and engineering is particularly stressed along with a need for a more vibrant cooperation in the future between these two fields in order to achieve a sustainable world.

Keywords: Sustainability, Science, Engineering, Politics.

Note: In the speech the references to "Florian" are references to Dr. Florian Kongoli summit opening speech entitled: "Role of Science on Sustainability: Diagnostic and Strongly Remedial".

Thank you Florian,

I am going to talk about the contribution made by politicians, engineers and scientists. Although significantly different all three are needed particularly in the areas that I talk about, on sustainability and climate change, for which I am involved for quite a period time since the negotiations of Kyoto in 1997. I need to start with an apology: I have no slides, no pictures, all brilliantly presented in the previous two presentations. I'd rather talk from paper and rather not from slides. I do not think it is quite as good as the slides, but I am rather a bit beyond all that technology and mine is an art not a science. That means that I make the speech and as I go along.

Let me say how greatly honored I am to be speaking and address this International Summit on Sustainable Industrial Processing and indeed the very relation between the science, the engineers and the politicians is a framework which is absolutely essential if we have to secure the sustainability that we talked about and which Florian actually brilliantly exposed the difficulties in just assuming the name of sustainability, but how we achieve it? And now I want to address my attention from my own personal experiences to that. I must admit, I am surprised to speak to an audience of engineers and Chief Executives, including prestigious Nobel Prize winners. It's rather intimidating. It is usually other politicians I have followed and used to look at them when I make my presentations. My background is entirely different as a politician and that influences a great deal for the conclusions I would come to. I was 10 years a seaman, I come from a mining background. I was an engineer steward at sea, that the nearest I think I got to engineers discussing the manuals rather than engines. And I used to organize strikes for sea ferries.

I would call myself a social scientist in a way, but the ship owners had different words for me as the captains, too much for me to be repeating here, though to reduce it here to what they said was that I was a barrack room lawyer and to that extend that this is part of my background. And of course I have different experiences reflected in my prejudices, if you like, which would come out during my presentation.

After my expulsion from shipping, due to, as they say, to my indifference to political discipline, which included the charge of mutiny, I transferred to University studying economics. My degree is in Economics, as a Bachelor of Science, later to become a Doctor of Science. But to be truthful, I am neither a doctor, a bachelor nor a scientist in any real sense of the word. But yet British Universities while they describes it as a Bachelor Science, the rest of the universities considered it to be an art's. And it is in that distinction, I think, between what are the skills of the arts, the degree of the arts and the degree of the science, and there is a considerable difference, and is reflected, I think, in the views one expresses about that.

I was curious to what the distinction was in this matters, so I looked Google and dictionaries to see what the difference was. And it says that the degree of science as discipline field of study or actively concerning with theory rather than method requiring the knowledge of systematic applications of the principals rather than relying on traditional rules, acquired by intuition which is my background. I think the engineer has the similar background: it is a combination both of the discipline of ideas and also the art of implementation. It certainly the area where I am operating in and in regard of sustainability if you ask me to comment upon it is those kind of experiences that influence me and my judgement.

Of course as a politician I am concerned with the legal framework in which any of these things it operate or how sustainability can have a framework of operation where priorities were the sciences dictate the line we should take.

So, as a MP to 40 years, a member of European parliament, UK Deputy Prime Minister and now leader of the British Delegation of the Council of Europe in Strasbourg, that gives me a tremendous experience in the use of development of conventions, legislations and implementation of the accountability.

COUNCIL OF EUROPE

The Council of Europe was established after the war in 1947 to deal with the issues of applying human rights and their consequences for 44 countries in Europe. It encourages debate and hearings and only last week in Strasbourg I attended one of the hearings which was called "Manufacturing a New Human Species". It was quite frightening to think on the implications of that and I certainly was freighted to listen to the scientists and the evidence given of the advance of technology of science affecting the ethic relationships particularly in regard to human rights which the Council of Europe is actively involved in.

We are establishing now a European legally binding instrument such as Convention of Human Rights and a biomedical convention. So, my contribution is indeed to listen to what the scientists and engineers tell us about a particular problem and then trying to find the kind of legislative framework for accountability that it is involved. And that is why I think I mentioned that to show that my contribution therefore is to see how we get a proper framework for sustainability or to be specific climate change itself.

A major difficulty for the politicians of course, working in so many countries and the Council of Europe 44 countries, there are such different social, ethnic approaches, religions that makes it extremely really difficult to be bring together some of these principles into a framework of an accountability.

If we look at the world today we can see and recognize that it is a world, all of us, whether engineer, scientist or politician, must agree that humanity has evolved where our species is moving backwards. We are destroying more than we build. Every year the world economy grows by $1.5 trillion whilst we devastate the planet to the tune of $4.5 trillion and we have officially moved into reverse, laying waste to more than we create.

Florian mentioned a report, at the same time I do not know if it is the same report, by the Club of Rome. In the 1970s when I read the Club of Rome I was impressed by its conclusions that we would run out of all the resources and food by the end of the century. As Florian pointed out it turned out to be quite wrong: Science and technology developed to such an extent that that did not materialize as was advocated by the Club of Rome. We hear some of those same claims now being made in today's world as Florian pointed out and I therefore say that the concentration as we have been on economic growth and prosperity where the law of economics, the invisible hand of the market would rule and keep it in balance. Frankly if we look upon what is happened in the world today in fact it has not happened that way at all. The natural law of economics has not worked, certainly not to achieve the sustainability and as one economist said, probably was the largest failure of the market operating system to keep it in balance. So, we have a serious issue beginning to develop on the whole question of how we manage in a growing economy.

The United Nations IPPC, the group dealing with climate change, in reports by Dr. Pachauri, show that production of carbon and greenhouse gasses is affecting climate change and is a direct result of human activity.

I think pretty well, everybody accepts that now, and indeed that is a body that has 2000 scientists analyzing and making judgements and recommending to the politicians that if you continue on this course of action the climate change will be directly affected largely because out of the growths of the economy we produces so much carbon. The implication on that is if you want to achieve the reduction or to prevent climate change and the temperature going more than 2 degree Centigrade you are going to after act on the production of carbon. That by implication inevitably going to be that if you set the growth on carbon you have to change the economy that produces high carbon outputs or you will be implicate to limit the growth in a different way. That is a major implication for future economic growth if sustainability and climate change becomes the issue. Club of Rome was about resources now we are faced with the criteria and suggests to you that if you want to do it, and the science tell us we have to do it, then you must limit growth by carbon output that means you move from high growth , high carbon growth, through which we became rich countries in the last 100 years, to low carbon growth which is a major challenge to find a new way forward on the essence of growth both by the engineers and the scientists and quite clear politicians who must find the balance of that on the advice of research.

So, the conclusion is clear that the production of carbon, heavily related to fossil fuels and the climate change and personal health are affected by that.

LEGAL FRAMEWORK

So, the first step in my first experience was indeed the Kyoto convention in 1997 because Britain had become the presidency of EU and I as the Deputy Prime Minister was responsible for negotiating for Europe the concept of Kyoto Convention.

That was the first major step to find a framework to allow the economic growth without damage to the environment, to find the most sustainable way of growth. That's what Kyoto did. But it only applied to the 44 industrial countries. And from the 44 industrial countries some complied, some didn't. So, to that extent I worked with Vice-President Gore at the time though unfortunately Bush arrived and he did not believe in any kind of science. But that Kyoto formula involved 190 countries of various stages of economic, social and political development in each country that were not the same: they vary from America to small developing countries and national targets were set for the advanced countries and resources were committed for the adaption of mitigation not only of the rich countries but the poor countries that were moving to the high carbon growth to try to provide for the damage that was caused from high carbon growth which we benefited from but poisoned the world in the last few decades.

So, that was the first step. It was the legal framework and that is the argument now for the Paris memorandum taking place in December this year. There are still many difficulties: finances, the carbon targets, differential responsibilities, legal framework, they are real difficult problems. But we were concerned as UK government that looking at the implication of climate change, carbon and the effect upon climate, we were concerned about the economic of climate change and we appointed Lord Stern, a very eminent person, to look at the economics of climate change.

And Lord Stern review in 2006 moved the debate from the issue of climate change to the economics of climate change and it was a pro-growth strategy where mainly right decisions were

made on carbon pricing, technology and governance. If we do that, then we can avoid the catastrophe that is predicted if we go on "business as usual". He concluded a number of things but one was that the global economy growth will get larger by 3 to 4 times by 2050. But the staggering law was that if we want to achieve that growth we have to reduce the emissions from today to almost a quarter of what it is today. Now, that jump to the change in that kind of emissions in a growing economy to 3 or 4 times is quite frightening it will need an awful lot of radical changes particularly about the economy. He also told us that if you have to look at the tonnage of carbon that was pushed into the atmosphere then what he would say is that this 50 billion now have to be reduced to 20, by 2050.

Now, the scale of that change is not what we have talked about, it is assumed as almost if we continue with business as usual, you can if you want, but you will destroy the climate as the scientists say to us.

So, we have to think radically different than we do at present and very often not being as business as usual. You have to find a kind of framework that allows you to have a long term solution coming into it rather than short term and indeed the tremendous presentations I saw here look and the long term and short term is determined by the intelligence, the investigation and research. In our field, where the politicians operate, it is very difficult to get people to accept a factor like I am suggesting and want to still do business as usual. Now that is a real problem. Not only that, I can add but further difficulties we have to deal with.

COMMON BUT DIFFERENTIATED RESPONSIBILITIES

The UN principles of negotiation require any politician should recognise the UN principle of common but differentiated responsibilities. Well, that means that countries in different economic development, if you are starting your growth and reducing poverty then you will want to have a greater share of carbon whether the richer countries have got to say to themselves we will develop our economies with lower carbon output, otherwise it is going to be so failure. It was mentioned before that the population is growing to about 9 billion. What if we take Europe, and we take America, and we take China together that is about 2.6 billion population, they will take all the ratio of carbon that we know and the rest of the world's population of 6 billion would to have 0 carbon, not growth, that is unacceptable. To get a hundred and ninety nations to agree to such a formula it is just not possible and that is the challenge of the politicians have: we recognize the science, we see the formulas of change but to get in the consensus for it, is what Paris is about, what Kyoto started, we need to have an international framework in which we are to achieve that. That is a lot.

EXTERNALITIES

I feel also when I listen to all the arguments, the arguments of externalities keep coming on, that is the economists but the scientists tell us, you know, you put two materials together and presumably it is predictable. When the politicians get together around with the economists and bankers, leave bankers alone for the moment, we use all these things, they can use the same materials, but not guarantee you to get same the results. And sometimes, very often, you don't. And politicians and economists then come along and say: "Oh, it is due to externalities". The problem in climate change of externalities is that if you are polluting the atmosphere, and you can do it in a number of ways that are practical, often at the moment the real cost is not carried by the polluter, the real cost is carried by the society, that's what they called externalities and to an early

extend I think there is evidence that more and more people will use this as a reason why they are not able to achieve it. You know science is robust, it is very clear, we are talking about thousands of scientists who have studied this now for decades, so the science is robust and we will continue to be so.

BALANCE OF ENERGY

The consequences are clear, we can see in many examples of it today, but a very, very important issue that was mentioned by Florian is the balance of energy. You know energy and climate change are two sides of the same coin. Whatever you do on one will affect the other and that is a major problem for us. For the economy that is based on oil and fossil fuels as we do use, how we achieve prosperity, how we do make a change. I know some say "close the coal industry down" and that is exactly what we did in Britain, but I do not accept that proposition, of course there has to be a balance between renewables moving away from fossil fuels but we can't get an agreement while a total life out of fossil fuels, and the reality is that coal, nuclear and renewables will be at the central path. But we need an energy policy to achieve it, you cannot just live it to the market to decide it. For example, if I give you an example, of the oil industry. It is shattered, you know we have as much fossils in the ground now which is 8 times greater if we produce a carbon from that, than we can allow under in the restriction of carbon that the scientists tell us. So, all what is in the ground, we can't use it if we are going to do something about the consequences of climate change it becomes a carbon bubble and many of our finance companies invested in the worth that is in the ground, but as you all already see with the drop in oil prices it is already having a tremendous affect. If they begin you to realize you can't use of fossil fuels, if the energy policy brings change in it, then the fundamental challenge to the financial base on our economy and the bubble will be learning considerably. But as we found out with banks unfortunately: they are too big to fail. And I suspect that a lot of money will be found to support that failing industry whether on finance or another sides. So that is a very important point to get across about the energy. So, to that extend I think these changes are important.

SCIENCE AND POLITICAL WILL

I would like to say though that from my experience as the Deputy Prime Minister negotiating the Kyoto Agreement, we accepted the target in one of the 44 countries, Europe is a whole, to cut down our carbon by 8 %. Britain, because it was more developed than Spain at that time, had to have a higher target of 12 % we allowed to expand - that is a framework in which you could operate. The point I want to make from that is when we carried out our policies we began to find after a journey of 10 year period we double the cuts in carbon, we increased it 200 by a million and our growth went up 30% in that 10-year period. So, the American argument used in Kyoto that this is a major damage on the actual economy is not true, but it does need you to have strategy, it does need you to something I recommended during these negotiations: a national climatometer. Britain had the first national climatometer..... which laid down your expected to do things, but we didn't direct it. If I take the industry which use most energy, we said to them there is climate change levy. I remember talk Tony Blair bringing me in saying: John we are bringing in a climate change levy. He was the prime minister. I said: Oh, you mean a tax? "No we do not talk of tax". Another problem dealing with this. But the climate change is accepted the industry: if here are by your target you can help us to bring together under the act, if you achieve them you do not pay the levy, but if you do not, you do pay the levy, so in a way a market operation submitted to a

scientific and social political goal was able to reproduce the kind of results that we got. I am sure we needed not only working together with engineers and the scientists, but also a good amount of political will. None of this will be achieved without political will, with all the scientific advices, with all the engineers' qualifications and contributions, it still we need politicians to bind the political will and then of course you ask yourself: where do we get all advice from? I sat here yesterday and saw the science of chemistry and wandering whether I would understand it. Clearly the scientists do. All I need to know in that is what is the commendation and recommendation. I can go to the scientists and say what is the best what is clear and what is being given and we will follow them. But can I rely in the industry, can I go to industry and say: look, what do you think, can you help us achieve. Without the oil industry, the coal industry you cannot achieve these objectives. Is not the best, isn't it? When we talk about the oil industry that wants to actually now drill for oil in the arctic where we have got eight times carbon in the ground as much as we can handle scientifically for climate change and they still want to send billions in that area of the artic which in itself is really unacceptable. And therefore there is this short term interest not a long term one which is it the heart of everything dealing with sustainability. And if we take the recent car example. I was delight to read about the electric car and I was going to say instead of the car business now fixing the technology: we have the industry to say we agree with the environmental objectives, but because of the competition in short term interest they fix the technology to show is different so the consumer use it, so we get more pollution from the car in the name of the short term interest. Then I thought why they did not spent this much money in building the electric car. It has just been explained to me the difficulties were involved. But this is a priority and this should be done if you take climate change and carbon production as one of those examples. So can't we always rise above that?

CHANGE

I will finish on saying, change is on the way, things are made different and I hope we can agree to Paris. I have just sent my own conclusions on behalf of the Council of Europe to the alternatives which I developed 18 months ago, half of it has already been accepted and I hope the rest will come, though it won't be easy. But changes are on the way. America and China are getting down together talking about modern obligations for Paris. These are big changes that are taking place hopefully enough to get the achievements necessary we need to get in Paris.

Can I give you finally one example of change: I have been in China 30 years, very actively involved in seeing what is happening, as it changes from a developing country to a developed one in the more sustainable way, right challenge in China. And I said to the Prime Minister, I was talking about these difficult negotiations, Prime Premier gave me a book about the economy, I read it and he asked me the next day what I thought about it. I said very good, you get growth five times greater that we had in Britain, that because you are in the early stages of industrialization. But I was a bit confused. He said what are you confused about, I said well if refers to the "socialist market economy", I said: what a hell is "socialist market economy". He replied to me that the British Prime Minister bought a Panda Bear. He went to ask for another Panda Bear to which he was told he has to pay 1 million dollars for the second Panda. Prime minister was a bit confused and said why it was nothing before and now 1 million dollars? The reply was "Oh, now it is the socialist market economy…"

There is changes in all these countries taking place. So, I would say that is useful. We must bring the change.

History has taught us that the 19th century nations produced on a massive scale. On the 20th century we learned to consume on a massive scale. The 21st century is now about sustainability which we must achieve on a massive scale. And as a politician I would say with the fair measure of social justice and its application.

The best way of getting Government to do the right thing is to get the best advice for that and I would say sustainability is the way forward, it is a new type of economy and therefore can I congratulate the organisers of this conference who brought together politicians, giving the political aspects, bringing the engineers and the scientists. More and more we understand each problems, more and more they help each one of us together across the bridge, how do we change the economy to stop damaging the world, not only for the present future, but our children's children. You could not have a bigger challenge than that and I can congratulate the starting of the debate with the people who will be responsible to find a solution for the sustainability of our planet.