

# **FINAL COPY**

## **WORLD ENERGY CONGRESS**

**ALISTAIR BUCHANAN**

**HIGH LEVEL DINNER**

**FRENCH EMBASSY**

**ROME**

**10<sup>TH</sup> NOVEMBER 2007**

Let me tell you a story about Jean – a man who lived in Paris. A few years ago Jean felt compelled to approach a Monastery west of Paris (quite near Levallois –Perret I believe) – a strict order of monks – they allowed each monk just one sentence a year to be said to the Abbot (or head monk).

After the first the year the Abbot visited Jean in his cell and Jean's comment was "I am hungry – can I have more food". After the second year Jean's request was "I am cold – can I have another blanket" and in the third year Jean's only sentence was "I am leaving". That evening the Abbot went to his senior colleagues and said "Jean is leaving and I'm glad - he's done nothing but complain since he got here".

My link from this joke to my opening comments is complaining – at times it seems as if everybody is complaining about the environment or complaining in its name:

- Many complain about the strength of political will ... we saw this in France two weeks ago as a reaction to President Sarkozy's two day environmental conference. The respected French TV ecologist Monsieur Nicholas Hulot was reported in the UK press to be complaining about French industrial interests pressure influencing the Sarkozy Government on the environment.

- There is complaining within the environmental lobby ... in the UK a good example is the conflict between the bird lobby and the pro wind farm groups. Indeed many people in Scotland, where many of the wind farms are to be sited, express the view that the bird lobby is a more effective group than Greenpeace or Friends of the Earth.
- And then there is complaining about regulators like me – for example I have a duty under UK law to protect the vulnerable and fuel poor ... am I carrying out my duty to them if prices go up because of expensive renewable power projects? So either the fuel poverty lobby complains or the environmental pressure groups do!

So why all this complaining? Is it because we don't care?

- No – at the Point Carbon Conference in Copenhagen in March I learnt that 65% of all major European companies do care and are actively focused on CO2 reductions in their businesses – that 65% is up from just 15% five years ago.
- No – domestic customers do care – even in America – in the USA the recent data is that 3/4 of people are worried about the environment – that's up from 2/3 who were not in 2002.

So why then? I believe that we complain – like my children doing new homework or learning a new piece for the piano – because it is so difficult that at times we complain due to frustration.

How do we grapple with the difficult task? ... All of us here tonight have a huge challenge ... surely not a problem with so many engineers here? Let us have a bit of fun and seek to define engineers: **“Normal people believe that if it is not broken don't fix it. Engineers believe that if it isn't broke – it doesn't have enough features yet”**. To be fair lets define regulators – who are often economists!: **“An expert who will know tomorrow why things they**

**predicted yesterday didn't happen today"** and just to show I am even handed in job descriptions, let me offer one for our excellent hosts tonight here at the French Embassy – we all know that diplomats are recognised for their charm and sophistication – **"a diplomat is someone who can tell you 'go to hell' in such a nice way that you will look forward to the journey"**.

Having established that we have complaints and that this is partly because of the difficulties that come with our choices let me take you to some 'dark places' of consumer opinion – that you the industry and I as a regulator must take very seriously.

In the UK my organisation – the regulatory body called Ofgem – carried out extensive market opinion research during 2007 through an organisation called the Henley Centre – and here are some sobering findings:

1. 8 in 10 people in the UK believe companies have to shoulder the burden of the environment to help society.
2. 69% believe that industry is at fault for causing our current environmental position.

These findings may be very unfair and arguably a massive denial of individual responsibility but it gets worse!

- 1 in 4 people have stopped buying from companies who they feel are damaging the environment.
- Of the 10 factors that make up 100% of votes possible ... 15% of customers cited the environment as the most important issue in energy matters today but one other category was above 15% ... at 38% ... for 38% of customers lower prices is the most important issue. (Source from this item: the work foundation 2006)

So lets pull together domestic attitudes – not only are companies getting the blame but you may well lose customers – possibly through a biased media story – and after all that grief the largest segment of the population value lower prices more than a “green and friendly land”.

Time for a long drink as I have more difficult news to bring you – don’t worry, in all movies the bad guys appear to be winning for the first half of the movie – the good guys (or good news) will be coming ... but not yet.

For, it is not just the domestic customer who presents a challenge to environmental progress. In a poll just published by the 3<sup>rd</sup> Annual Energy Industry Delegation to the Commission in Brussels ... their membership of large companies said the following things:

- 65% said EU targets on CO2 were not feasible by 2020.
- 71% commented that the current system of different national environmental subsidies across the 27 member states undermined the attempts to get a market in tradable environmental certificates to work. EurElectric summed it up nicely recently when they said “ we would rather have the carbon market as a driver than subsidies but we do need stability”

One last statistic please allow me ... but I do fear you may challenge me with one or both of Jay Leno’s (of NBC’s Tonight show) views on statistics:

**“There are two kinds of statistics ... the kind you look up and the kind you make up”.**

**Or “Statistics are figures that prove the best time to buy anything was last year”.**

... I guess those of you in the audience trying to buy copper or steel you will have a feeling for that last quote.

I digress ... my last statistic is this ... that 96% of large energy consumers in that survey are most concerned – NOT about the environment – but getting the energy costs down. Yes they are worried about the environment but it's not their No 1 issue.

I mentioned a few minutes ago that you might need a drink but given this feedback it is surprising that utility CEOs and senior managers of the engineering companies are not "in a clinic" all the time ... and just to make your lives even harder there is no let up in pressure from politicians, and politics in a broader sense.

- Al Gore at the Copenhagen Conference I mentioned earlier put it like this:  
**"Multi National businesses are sometimes better positioned than Governments to deal with some of the most complicated challenges, such as climate change"**
- Monsieur Fillon, France's new Prime Minister commented just two weeks ago **" France is inventing a new form of governance – a green revolution and an ecological democracy"**

In addition to the demands from politicians and Governments for immediate action on the environment they also want to ensure we have some Security of Supply ... how do you ... we ... engineer this green revolution by 2020 (and 34% from renewables for electricity would be nothing less than a revolution) while ensuring that we have enough investment to keep the lights on from traditional sources.

As an example of these conflicting pressures last week I heard a senior diplomat from Lithuania – gas demand in Lithuania will grow by nearly 70% in the next

eight years ... in the same time the Ignalia Nuclear power station will close and oil shale will not be used due to environmental decisions ... therefore they have to build gas fired power stations and power links to other countries ... the renewables challenge – building wind farms et al – must seem almost fantasy politics to them.

Politicians provide one leg of the institutional pressure but the other leg is from people like me. Companies are being asked to take risks and therefore they want to be able to be sure that regulators will support the project (if regulated) or leave alone an entrepreneurial return appropriate for such projects. Two examples from the USA come to mind in recent years.

- Last year when I visited the USA I learned about American Electric Utilities who wanted to build an advanced clean coal technology power station but were concerned about post event regulation. Because of this they approached three State regulators to get support for upfront partial funding – the support was not given as the project was deemed too expensive. In the UK the regulator sets the prices before events but in the USA you generally go to see the regulator for funding after building.
- Only a few weeks ago the ICGT project planned at Mesaba in Minnesota was “canned” as the regulators felt compelled to reject the costs on public interest grounds. Although each regulatory jurisdiction has different rules I can assure you that such events worry me as it has an incremental effect on the regulatory risk applied to the cost of capital everywhere.

So to conclude this first section of my speech – there is pressure on you from every direction and I have not really discussed some to the practical engineering concerns (not enough trained staff, rising procurement costs etc).

**Now there is always a turning point – if I may use examples from the excellent Rugby World Cup in October – Michalak’s brilliance against the All Blacks maybe ... or (and apologies to my French hosts) Jonny Wilkinson’s drop goal against Les Bleus ... we have reached that point ... and I am sure that some of you will feel like the person who sits on the front row during a speech**

**‘During a speech recently somebody at the back shouted to the speaker “I can’t hear you” and the man sitting at the front yelled back “I’ll change places with you then”.**

So here’s the good news – and as often happens in life – it comes in threes:

1. You ... the industry – are working with a positive consumer mindset ... as an example in the UK 85% of consumers agree that they are now much more aware of the environment ... it is challenging ... and at times complaining ... but it is largely positive.
2. The behaviour so far by the industry is very encouraging.
3. There are great business opportunities – and you will get funding.

Lets start with the “positive attitude” ... this may sound quite febrile but in my view it is vital for success in the environmental challenge. If the industry can be trusted by the public on green issues then we will make real progress – in the UK I am very keen that green tariffs need to be sold clearly and simply. If the consumers trust is lost it won’t come back.

So what have we done in the UK?

Ofgem I believe has been a major facilitator in the development of smart meters, microgeneration, and green tariffs. In GB last year 350,000 customers signed up for green based tariffs but some customers are confused by what it actually

means. We are working on introducing a 5 star approach ... rather like hotels ... so that a customer can tell from the star rating what it is they are buying.

However our main job is to set the prices for the monopoly pipes and wires businesses.

Here I believe we have evolved regulation dramatically. The most obvious example is in scale ... Ofgem has authorised a £25billion spend on the networks in the last few years - £1/2 billion alone on four wire routes connecting Scottish wind projects – this spend is a 100% increase on capex levels for transmission in the 1990s. Ofgem has given allowances for research and development in “green areas”, provided monies to cut network emissions (carbon monoxide is 1%of gas emissions in the UK), and provided financial incentives to companies to cut their losses. In evolving our role perhaps the biggest help was the introduction of a “Sustainable Development” duty for us in the 2004 Energy Law. Joan MacNaughton who now works for Alstom was the top British civil servant for energy matters and she was influential in this. Each country’s regulator will have to act as best they can for the environment but Ofgem has no problem with the challenge.

With a positive consumer mindset supported by positive regulation we have a good starting point

My second good news point was with the power industry's reaction. The industry appears to agree with UK economist Nick Stern's view that the cost of inaction puts at threat 5-20% global GDP over the next 30 years. But as Stern commented “there is still time to avoid the worst impact of climate change ... it is the investment that takes place in the next 10-20 years that will have the profound effects”. I am pleased to say that so far we have seen from industry

“Vision and Delivery” ... an important combination. Vision is a wonderful thing ... who isn't excited by Columbia University's work on Synthetic trees (where massive filters of CO2 in the shape of trees are erected) or Edinburgh University's work on the Cloud Shield (increasing cloud cover by using salt water spray to reduce the effects of the sun) but I am very impressed that industry is pushing ahead with “Vision plus Delivery”. Here in Italy we have one of the best examples where smart meters have been mandated across the whole country – a stroke of real leadership. Equally at a local level companies are looking for greener solutions – Alstom's recent plans for a big lignite coal plant at Belchatow in Poland being a good example. A massive €1.6 billion power station project using clean coal technology that meets EU environmental regulations and as required by the IPPC. Some of you in this room may be involved in the Belchatow project and I look forward to discussing it with you later.

The third piece of good news is that if handled properly this is potentially very good business for the industry. The scale of what lies ahead at a macro level is extraordinary:

- Alstom estimate a €140 billion annual spend on power generation to 2020.

- Possibly dramatic changes to the shapes of grids – both regional reforms and more local ... the International Energy Agency forecasts €390 billion in the EU alone over the next 30 years.

The scale is awesome in absolute terms but translates into tremendous growth rates – Alstom's order book increased by 65% in power systems in 2006/07 and it now sits on €12 billion of orders. These growth rates provide ambition not just for companies but national economies as well.

As an example I was in Scotland recently and they see the renewables opportunities as a defining issue for the country. Simply put – Scotland wants to be a global centre for the renewables industry ... much as Aberdeen and the North Sea is for the global oil and gas industry. For those who don't know Scotland – it is the windiest country in Europe and many believe the wettest ... as has been said of Britain:

**“It is easy to understand why the most beautiful poems about Britain in the spring were written by poets .... who were living in Italy at the time”**  
**Or Lord Byron’s famous comment “winter ends in July and recommences in August”.**

The opportunities for European industry are exciting because of the range of openings – many technologies will be needed to combat the climate challenge – but also the chance to take these skills outside Europe. I was in Moscow last week and it is clear that energy efficiency and the environment is a “sleeping giant” but at some stage it will become important. I mentioned American customer opinion earlier and across the USA – perhaps contrary to media stories – “that giant is stirring”. Over 370 cities in the USA have voluntarily embraced Kyoto, ten Eastern Seaboard states (called the RGGI states) are signed up to the Regional Greenhouse Gas Initiative, and California is pushing ahead to open an environmental trading market. In the developing world the opportunities are substantial – Alstom themselves have just announced two huge Hydro power orders in Brazil and China.

So tonight I have outlined the immense challenges but also I have given real cause for optimism by the reaction of the industry and of consumers ... what is it that might help going forward? My third and final section of my speech for tonight is focused on securing the right combination from a range of parties

“Ambition plus Realism”. I see these two like pen and paper – they really need each other. Flighty ambition will doom the project and pure realism could drive the lowest common denominator for solutions.

Who or what does “ambition plus realism” affect ... I would argue four factors tonight:

1. Firstly Governments, they have to be realistic on the two key issues of planning and of prioritising. On the latter point I mean Governments may have to choose whether CO2 abatement or achievement of a certain proportion of renewable power is a priority.
2. Secondly understanding that we may need a Plan B ... to go from A to C direct may not be possible. In particular I want to discuss what I call “the gas bridge to the renewables era”.
3. An appreciation of technological and practical limitations on our ambitions.
4. Finally, realising that the companies who are going to be the deliverers of these changes have a range of pressures on them.

I want to start with the last point ... having been an investment analyst and banker for nearly 20 years in the City and on Wall Street I fully understand the pressures on CEOs and senior managers, such as Monsieur Kron and Monsieur Joubert, our hosts tonight ... an expression we use in the UK is that the companies are often “the whipping boy” ... that is the opposite of a poster girl ... why is this so? ... because you the companies have to deliver all these environmental demands while maintaining dividends, eps growth, cash flow and a sensibly structured balance sheet.

Governments are understandably keen to press the “urgency” of their environmental vision on to the companies but there is no point in urging companies to take on unacceptable risks. Alstom itself successfully re-launched

on the French Stock Exchange, (the CAC-40) in July 2006, after a few difficult years. Alstom was not alone in being impacted by the over extension that affected the industry – particularly in the USA in the late 1990s/early 2000s. The corporate memory will provide a necessary dose of realism ... in my experience (having worked in both the private and public sectors) Government sometimes doesn't fully understand this and good communication is needed to them so that they understand the business parameters to this debate.

My second factor is about appreciating some of the practical difficulties – as the whole world gears up for renewables there is the very real danger of a bottleneck of demand on the equipment suppliers. This is compounded by the fact that the equipment suppliers have major orders for conventional plant. My latest information is that power station boiler lead times have stretched out from 20 to 30 months and that switchgear (for wires networks) from 12 to 24 months. It also means that power station “all in” costs have risen by 30-40% in the last three years and reservation fees – or up front fees - are now required.

This leads me directly onto my third factor – that Government must deliver on planning and realistic targets. In Scotland – the land of wind – only 4 projects have been approved in the last three years by the Government and each took 51 months of planning enquiry. I am pleased to say that Alex Salmond, the new Scottish First Minister, told me in Edinburgh a few weeks ago that Scotland will be pushing through an urgent law to dramatically speed up planning. This is to be very much welcomed – and the British Government announced last Tuesday in the Queen's speech that it will be doing the same thing for the UK.

If the UK is any guide – if an effective planning regime and stable target setting regime can be achieved the renewable plant will get built – and quickly. A huge 320 MW wind plant outside Glasgow should be erected this winter having got its

consents. I was recently assured by one of the major wind manufacturers believes that it can accommodate a growth rate of double the UK's current expected build to 2011.

My final point on the theme of "ambition plus realism" is that of a "Plan B" ... can we get directly to the renewables targets or will we need to accept that an interim phase is needed .... What I call "the gas bridge to renewables era".

Over the next 30 years it is estimated that the EU will have to spend €900 bn on replacing old coal, nuclear and gas plant. Hopefully a large proportion of the plant build will be renewables but realistically the scale of the build means that for a period of say 10-20 years new conventional plant will be needed. As gas has half the emissions of lignite and 75% the emissions of coal there is a very good chance that we are looking at a major gas build. This is **not** a negation of renewables, nor of CO2 reduction targets or a **rejection** of an environmental agenda. It is simply a recognition that a lot of the technology has still to be thoroughly tested – Denmark has had the only major offshore wind farm scheme in Europe and this has been a major learning exercise with blade corrosion. In Scotland a company called Scottish and Southern are testing deep water wind turbines in the Moray Firth but they rightly ask the question – who is going to volunteer to get in a boat and sail out to mend a broken turbine in the gale ridden waters of the North Sea, and finally the difficulties in setting wind turbines into the sea has been seen again in the UK at E.ON's Robins Rigg Offshore field.

A recognition of this "bridge" comes from the companies themselves but critically they are offering a "newly designed bridge". Alstom is doing this through its ground breaking designs for using chilled ammonia capture method to recover 90% of CO2 from combustion gases – a technology that can be used on gas or coal power stations. Six projects are already signed up.

So if we combine “ambition with realism” I believe the outlook for the industry delivering an environmentally friendly solution is good. Government must deliver on their side of the deal and regulators must do so likewise ... if both these institutions do this then I am sure industry will deliver ... we have already come along way .... look at Germany or Spain for wind development.

I have mentioned in my speech two twins I would like to repeat before I move on to my concluding remarks:-

- First twin: “Vision plus delivery”.
- Second twin: “Ambition with reality”.

My final comment rests with the need for good communications and clarity of messages ... a senior member of Eurelectric recently said to me **“we are the patient and the doctors (the EU politicians and civil servants) will not talk to us about the cure ... what kind of relationship is that”**.

If industry is kept in the “dark” about key elements of the environmental reform programme we will all be in trouble which leads me to conclude on a lighter note about being in the dark

**“Helen needed a few days off work but she knew her boss would say ‘no’ and so she decided to act crazy ... she decided to pretend to be a light bulb and she hung herself from the ceiling. Her colleague, Peter, said it would never work.**

**The following day the boss saw Helen hanging from the ceiling and said to her to take a few days off as she was stressed.**

**Peter then followed Helen out the door ... at which the boss shouted – where are you going?**

**Peter's reply was "I am going home too – I can't work in the dark with no bulb".**

I hope you all leave this Rome Congress enlightened and not in the dark.

Thank you.

**Alistair Buchanan  
CEO Ofgem**