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Speech Notes
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I'm sure you are all familiar with the old Chinese curse "may you live in interesting times". Its an interesting time to be leading what used to be "just the state coal miner". But interesting, not in the sense of the Chinese curse. Quite the opposite.

It's a great time to be leading a diversified – and rapidly diversifying – energy company. It's a wonderful time to be active – and leading – in the New Zealand and the global energy sector. What we in this room do, decide and influence in the next 5 – 10 years will shape NZ for decades to come, and may largely determine NZ's place in the world for most of this century.

Why?

This should be "New Zealand's century". We live now in a world that changed – forever – 9 years ago, around 1999. After several millennia of human development at a slow pace, humankind discovered that energy could be harnessed to create a better world to live in – to rapidly accelerate industrial development, accelerate economic growth, achieve economic wellbeing, and achieve social wellbeing – and to create these at rates never before even imaginable. We today are the beneficiaries of those achievements.

So for just over a century humans capitalized on the resources – mainly fossil fuels, and especially oil, as though they would never run out – and as though there was no tomorrow.

Well, in 1999 the world entered a new phase. We have discovered there is a tomorrow to be accountable to – and the tomorrow isn't so rosy.

Setting aside climate change for a moment … for the first time since oil was discovered in 1861 the long-term growth in demand for oil – and for all energy – and, incidentally probably around the same time the growth in demand for fresh water, and good agricultural land that didn't require cutting down old forests – accelerated ahead of the long term growth in supply.

The century old stable price trend – where the price was simply the marginal cost of new supply – was broken, forever. For energy, and soon after for almost everything else that supports economic growth as well. This changed trend is continuing and it is accelerating rapidly. We will never return to the "good old days".

"Sure sure", I hear some of you saying. "He doesn't understand economics". Or, to repeat the words of a senior government official to me 2 years ago after my talk on this same subject at this same conference, when oil had just touched $60/bbl and I predicted it would pass $100/bbl by 2012, *"Good on you Don. Always looking for a new angle to promote coal"*. Well, at the time that made me a little angry, not because it was patronizing (which it was) but because it implied a senior government advisor had a closed mind to an issue that I believed then, and believe even more now, would become one of NZ's greatest economic risks, but also would also present some of NZ's greatest economic opportunities.

So this should be NZ's century. All the things the world needs, just to sustain basic standards of living, let alone economic prosperity and social wellbeing, all these things NZ has in abundance. Great land, great climate for growing things, fresh water, and the worlds richest energy resources per capita, so we can densify our food and other resources and add value to them before we export them to "feed to the world". In fact, this isn't just our opportunity. Increasingly, other countries are seeing, and will see, this as our responsibility. Even as our obligation.

But this isn't currently our plan. So, surprisingly perhaps, I'm not so upset now at what I see happening around the energy sector, energy policy energy investment and energy decision-making.

I have no need to be upset, because in a market of uncertainty – or lack of understanding – opportunities abound. Opportunities to innovate. Opportunities to supply. And opportunities to grow business, and take market leading positions, and take these global, and profit – yes, profit – from that.

Solid Energy is already – by some distance – NZ's largest producer of primary energy at over 130 PJ pa. That's almost as much energy as NZ's entire annual consumption of electricity. But, despite the rather extraordinary over-focus on electricity at a key conference like this, worse still on near-term issues, and the public fixation on electricity, we have to remember that electricity is only about a quarter of the total energy we produce and use in this country.

So I'm going to share with you today something that conventionally should be confidential. I'm going to share with you the key elements of Solid Energy's business plan. For 8 years now we have had a 20 year business plan, that we roll forward each year based on our latest analysis of the global business environment we work in.

Solid Energy's business plan, which we are already advanced on as I'll discuss, will see us addressing key energy security and affordability issues for NZ, and enhancing NZ Inc's economic competitiveness. It will see our current 130 PJ pa double, if not treble, within 10 years, and it will see our revenues, currently about $600M pa, nearly quadruple. I won't share our views on how our bottom line – nearly $100M last year – will grow, but I am sure you will be able to more or less deduce that for yourselves.

Lets start with energy prices. Lets dismiss the conventional but academic economic view that the oil price and all other energy prices will continue to be set – as they were for most of the century before 1999 – by the marginal cost of new production, and that as prices rise new production will come onstream and maintain this price point. That hasn't been true for 9 years now and it won't be true in future. Oil isn't $100/bbl (5 times its average price for the whole of the last century) and coking coal isn't $350/t (10 times the price in 1999) and thermal coal, gas, uranium, dairy and grain prices likewise, because that's what they cost to produce.

Because supply is unable to keep up with demand, all these prices are now set by the marginal willingness to pay – and in a world that levers energy very strongly into economic and social prosperity that marginal willingness to pay is very high – and is still significantly higher than today's record prices. This is no longer an oddball view of some peak oil theorists. It is the mainstream view around much of the world – and a view that is essentially shared – publicly – by the US, the EU, the IEA and by almost all the worlds major energy companies, from the oil companies like Shell and BP to the diversified energy and resource companies like BHP. They have said it publicly, and where they haven't they are saying it even more strongly in their behaviour.

Sine 1999 the price of oil has gone up 5-fold. Since 2002 it has quadrupled. So have all other globally traded energy commodities. Market capitalisation is the best indicator of how a company, and its shareholders and markets, see the total value of a company. Not share price, which hides a range of other factors, but market cap. So what have the market caps of these companies done since 2002 when oil and energy prices have quadrupled? Presumably they have gone up by somewhat similar ratios? We've been doing some significant work on this see whether this information supports our own business thinking.

Let's start with BHP – the most diversified of them. BHPs market cap has increased 10-fold since 2002. Partly due to uplift in all these prices, and partly due to BHPs aggressive acquisition and development of new resources – i.e. both its prices and its volumes are increasing. Rio – another diversified company – market cap increased 5-fold since 2002. Makes sense.

But what about the major oil companies? Sure, some of their share prices have increased. But let's look underneath at their market caps which presumably have increased at a similar rate? No! Shell - market cap has increased <3-fold since 2002. ExxonMobil - <2-fold. BP – only up 10% in 5 years! And in the past year when oil prices have gone up from $60 to $100/bbl (almost 70%) the market caps of all the oil majors have actually declined! Why is this? What is happening?

Actually, if you trawl through all the reports and data the answers are very simple. Yes, they are generating cash flat out. But … where is the cash going? Not into growth, like BHP and Rio. Not even into stability. Several of the oil majors have now been reporting declines in annual production. And … the amount of its operating costs BP is currently consistently reinvesting in exploration? About 0.4%. So where is the cash going, if not into exploration? Well, BP is spending about 17 times this much on share buybacks, and has bought back something like 60% of its own shares since 2000! Exxon is spending about $30 billion pa on share buybacks. The others the same.

So back to my point. Oil – and energy – and other some other essentials of modern economic growth – have passed a turning point (oil, which drives almost all global energy prices, back in 1999). Despite the high prices, investment isn't going into new exploration and production because the return is too poor compared to buying back your own shares. We've done the analysis of where actual share prices might be if these buybacks hadn't been occurring, but I'm not going to share that today because I'd then be moving from fact to speculation. Suffice to say that it is not pretty.

So where will oil – and energy prices – be in future? In 2006 at this conference when oil was $60/bbl I projected $100/bbl within 6 years – by 2012. I was wrong – but only by 4 years and on the conservative side. But others have been much more wrong. As part of our work we commissioned the world's leading expert in supply/demand work to give us a projections for a range of end products from our lignites coal to liquids plant. Those projections were worse than useless. For example methanol – they projected US$131/t with standard deviation $67/tonne. With the methanol price currently close to $700/t in some markets we are over 7 standard deviations above their projected price. That's why methanex is outbidding, and will continue to outbid if it chooses, any electricity generator in NZ for surplus available gas.

So to Solid Energy's plans. We have now moved well past talking about these issues, and about possible opportunities they present.

Our forecasts in Solid Energy now, on which we have built our business plan, are probability based. We drive most of our pricing for export and NZ energy pricing off the global oil price using correlations which are very strong and, we believe, now well proven.
We have a 50%-ile projection, 20/80%-ile and 5/95%-ile projections. Our 5 year projections for 2013 for oil are:

50%-ile = US$150/bbl; 20/80%-iles = US$110-200/bbl; 5/95%-iles = US$75-300/bbl.

For 2018, when all our currently planned energy developments will be operating, our projections are:

50%-ile = US$200/bbl; 20/80%-iles = US$145-280/bbl; 5/95%-iles = US$90-450/bbl.

Based on these projections we are planning over $1.1 billion worth of investment in new energy projects over the next 10 years. This capital expenditure will be split about equally between our traditional coal mining business and our new energy developments, which have already evolved from our $100M technology R&D programme that we commenced in 2003.

As I said before, Solid Energy is already New Zealand's largest producer of primary energy, producing over 130 petajoules of energy annually and earning about $600M of export and domestic revenue per annum. Within a decade we expect this to nearly quadruple, including another $500 million from our renewable investments in biomass and biodiesel alone.

In three years we intend to be producing 70 million litres of high-quality biodiesel per annum. That's fully half of the Government's target for all biofuels, not just biodiesel. We already produce 1 million litres of biodiesel each year. Development of the first stage of our new biodiesel production facility has just started near Christchurch and will be producing 15 million litres per annum by later this year, with rapid expansion to follow.

Through our biomass business "Nature's Flame" we have also commenced developing our third pellet fuel plant, in Taupo, to complement our two existing plants in Christchurch and Rotorua. The pellet fuel is manufactured from wood waste and used in pellet fireplaces to heat homes and pellet boilers for commercial and industrial premises. Pellet fires produce virtually no ash or carbon emissions.

Solid Energy is already New Zealand's leading solar hot water heating supplier. In mid March, we officially launched a new renewable energy business, called Switch, that provides integrated renewable energy solutions for businesses and homes. It will provide pellet fireplaces, pellet boilers, solar water heating and other energy appliances, with a network of distributors throughout the country.

We are also developing some very exciting opportunities with gas from coal in the ground.

The first is coal seam gas, extracting methane from coal seams deep underground. I'm pleased to announce that we have completed our appraisal wells, and that we are flaring gas today – in the Waikato. Potentially we are sitting on a resource there of up to 300 PJ, as big as the Kupe gas field.

The second area we're developing is underground coal gasification. This involves the controlled gasification of confined pockets of very deep underground coal. The "syngas" that is produced is piped to the surface and can be converted into a wide variety of products such as electricity, fertiliser, liquid fuels, natural gas and hydrogen. We are supported by the leading global technology provider in UCG, and we have been working closely for three years with other international companies in this exciting new energy technology that has the potential to revolutionise the fuel sector.

Because it is so deep underground and air supply is controlled and limited, the coal is gasified rather than burning. To shut the process down once you've extracted all the gas, you simply stop injecting air. Interestingly, we are building on a successful UCG trial run by the Electricity Corporation in the early 1990's – but with cheap Maui gas additional gas from UCG was not required back then. UCG projects have been successfully undertaken in the former Soviet Union, Australia and South Africa, and we have access to the latest technology. We are currently developing our plans for our initial pilot development. Eventually the gas produced could be sufficient to run one or more generating units the size of Genesis' e3p or Contacts Otahuhu C stations.

We are also progressing our coal to liquid fuels project in Southland which we anticipate can replace all NZ's imported diesel requirement and in addition have a significant benefit for NZ's balance of payments.

We have already recruited from around the world a number of key staff for all developments, and on all of them we have developed strong relationships with the leading international players.

In a decade, as I said, we expect our energy production to double or treble to near 300 PJpa. Only about 1/3 of this would be from our traditional coal business – domestic and export. Another 20% or more will be from our renewables, bioenergy, coal seam gas and underground coal gasification businesses. About 1/3 will be from a world scale, world class coal to liquids plant.

Most importantly, if we succeed with our plans, New Zealand will be able to maintain energy security, and just as important energy affordability. By 2018 NZ's energy prices could average up to 40% below world averages for our trade competitors, and improving every year. Economic analysis suggests that could reduce PPI by 4-6% from where it might otherwise be at that time (and below our competitors) and be adding 1.5-2% annually to our rate of GDP growth relative to our competitors.