Key to sections of the Official Information Act 1982 under which information has been withheld.

Certain information in this document has been withheld under one or more of the following sections of the Official Information Act, as applicable:

[1] 9(2)(a) - to protect the privacy of natural persons, including deceased people

[2] 9(2)(b)(ii) - to protect the commercial position of the person who supplied the information, or who is the subject of the information

[3] 9(2)(f)(iv) - to maintain the current constitutional conventions protecting the confidentiality of advice tendered by ministers and officials

[4] 9(2)(g)(i) - to maintain the effective conduct of public affairs through the free and frank expression of opinions

[5] 9(2)(i) - to enable the Crown to carry out commercial activities without disadvantage or prejudice

[6] 9(2)(j) - to protect the commercial position of the person who supplied the information, or who is the subject of the information; to enable the Crown to carry out commercial activities without disadvantage or prejudice; and to enable the Crown to negotiate without disadvantage or prejudice

[7] 9(2)(ba)(i) - to protect information which is subject to an obligation of confidence or which any person has been or could be compelled to provide under the authority of any enactment, where the making available of the information would be likely to prejudice the supply of similar information, or information from the same source, and it is in the public interest that such information should continue to be supplied

[8] Information is out of scope or not relevant.

Where information has been withheld, a numbered reference to the applicable section of the Official Information Act has been made, as listed above. For example, a [3] appearing where information has been withheld in a release document refers to section 9(2)(f)(iv).

In preparing this Information Release, the Treasury has considered the public interest considerations in section 9(1) of the Official Information Act.
Within one generation (25 years) world GDP is expected to increase by as much again as it did in the past 200 generations (5,000 years).

Many in the developing world, 80%+ of the world’s population, now aspire to attain within their lifetimes the standard of living (GDP/capita) we in the developed world enjoy today.

This can not occur if global supply of most resources, and food, do not nearly double in this period.

Almost all global natural resources are becoming increasingly scarce and production constrained.

New Zealand’s natural resources are, per capita, the world’s richest.

This defines our primary future global responsibility. It also offers us a once only opportunity – unique in history – to achieve a huge and permanent economic step change through a major increase in exports.

Purpose

To summarise how New Zealand can achieve a huge and permanent economic step change by acting boldly on a set of substantial opportunities.

These Made in New Zealand, Made for New Zealand opportunities are unique to us, at this point in history, and simply result from our natural strategic strengths and competitive advantages.

However most will not happen on their own in the near-term, regardless of how much we “free” the market and remove barriers, and regardless of how “attractive” we consider them to be. They require specific decisions and investments to be made jointly by the government and the private sector working together.

Draft paper prepared by Don Elder, November 2009.

Information and data are from a range of sources, not all fully attributed in this draft. Conclusions in this paper are generally my own and do not necessarily reflect the views of any organisations I am associated with, although they closely reflect the general position of several including Solid Energy New Zealand Ltd.
Background

In 2006 Treasury’s first Long Term Fiscal Statement said our economy may go into deficit in about 25 years as our population aged, but we had ample time to address this. The global recession has put us into substantial deficit already. Public debt is now rising by 1% of GDP every 7 weeks and without strong action our public debt could exceed 200% of GDP within two generations – growing at an increasing rate, and unbounded. Today 25% of government spending is on 12% of the population over 65 years old. The number of over 65s will double in the next generation.

This is the challenge we face at home. But the global challenge is much greater. The global economy changed forever around 2000 as China (and India) became significant global economies, and continued growing rapidly with high demand for resources.

Within one generation it is expected that the global population will increase by 1/3 and global GDP will double. Global demand for most commodities and food (including for another 2 million people) and for natural resources - arable land, fresh water, energy and primary resources - will all nearly double.

There is insufficient arable land, fresh water, energy and resources to achieve this growth easily, let alone sustain it. Technology-driven productivity improvement will contribute, at conventional rates, only 25% of the 100% increase. Supply will again fall short - as in 2008 when shortages occurred in most resources and commodities, with food riots in nearly 50 countries.

Price spikes of 2007-08 were not bubbles, but the inevitable result of demand outstripping supply capacity. The recession pulled demand back below 2008 levels and supply capacity. Prices fell and stayed lower through 2009, until rapid Chinese recovery caused supply to become tight again. At the end of 2009 prices of many commodities are already 50-100% above 2009 lows.

During 2010, despite a possible “W” recession in Europe and the US, China/India growth alone will push global demand for most resources to 2008 levels then beyond. Once again, supply capacity will not keep up – exacerbated by underinvestment.

Prices of most resources will rise to 2008 levels, then eventually pass them and continue rising into the future. Future oil prices represent a good proxy for prices of many resources (see appendix for others).
New Zealand – the Luckiest Country

In this new world, countries reliant primarily on imported resources will be major losers. Many may not be able to afford or access sufficient resources, and will experience shortages. But some countries – those with significantly more natural resources than they need for their own populations, will have huge opportunities to prosper.

In this world New Zealand is the luckiest country. Almost all the things the world will need more of, but will be increasingly short of, we have in relative abundance: good agricultural land; fresh water; a good year-round growing climate; primary resources and energy. In each of these our readily accessible natural resource is probably the highest per capita in the world. We do not fully utilise most of these resources. And, unlike other countries, much of our natural resources is either renewable, or huge in proportion to our current production levels or our own needs.

We export close to 95% of our food production – enough food to feed nearly 100 million people. We use only 4% of our fresh water – about 3% for irrigation, and we have significant un-utilised or under-utilised land that needs only water to be highly productive. We have barely started to tap our vast on-shore and off-shore energy resources, and our non-energy mineral resources are substantial. We have highly productive, efficient primary industry – in many cases, the best in the world. We have good technology, well educated people and stable government. And internationally we are rated as the world’s most corruption-free country. It is no wonder we are rated by the IMF as the second most attractive country in the world for investment.

This defines the opportunity – and the responsibility – very clearly for New Zealand. The opportunity is awaiting us to take a huge economic step up.

The challenge: be bolder than a “stand back and wait” approach

Over the past year many people in New Zealand have talked about increasing our economic growth rate. The government has proposed a national goal of closing our GDP/capita gap with Australia by 2025, although Australia is already 35% (NZ$60B) ahead of us, and pulling away fast.

Many groups, and the government, have discussed ways to achieve this. Most ideas are enabling and facilitating. They are intended to remove “unnecessary” barriers and constraints and improve the general business environment and investment attractiveness, but leave actual economic activity to the market”. There is significant risk that despite all these initiatives being useful and even necessary, little new economic activity will result in the near future and meanwhile our huge opportunities will dissipate.

Our challenge is not to make New Zealand an attractive place to invest. It already is, and has been for some time. That has not been enough to date, and won’t be enough in future when capital will be more scarce. The challenge is to initiate, accelerate, control and benefit from these opportunities through a proactive approach that turns the opportunities into projects - without relying on others to take the lead, but drawing in others to facilitate better and earlier outcomes.

Our Economic Objective

In a world of conventional economics and prices the opportunities we have can potentially add $15 to $30 billion or more to our export revenues and GDP within a decade. But in the new world we are now re-entering the economic gains from each opportunity will be higher – very much higher.

If we move rapidly, before the supply side for major resource projects again becomes constrained and expensive, we can complete many of these developments and be delivering their value within 3 to 8 years, and the economic gain could be $30 to $50 billion or more – and continuing to rise with rising international demand and prices. A $50 billion step – possible within a decade – would close the GDP/capita gap with Australia that has taken 35 years to build.
Specific Opportunities

The list of opportunities identified here is not exhaustive; neither are the quantitative estimates intended to be highly accurate or relied on without further work. Attached is a potential list of top prospects identified from a range of sources, including confidential internal company analyses, public reports, government reports, industry reports, and other public or generally understood information. It is intended to provide a first estimate indication only of the size of the possible economic prize from developments that either create new exports, or directly replace current imports. It includes only resource-based opportunities.

Water and Land

These are largely inter-related. Irrigating land increases productive capacity, whether the land starts as very low value marginal land or land in existing use, shifted to a higher value use. Estimates from various sources suggest that at least 1 million hectares of additional land could be available for irrigation – increasing total irrigated land in NZ three or four fold. This would increase the irrigation use of New Zealand’s total fresh water from about 3-4% up to 12-15%. Potential values from irrigation are hard to generalise and highly location-specific, but previous studies scaled to today’s values and prices suggest incremental revenues from additional yield from irrigated land could be more than $2,000/ha/yr today and $5,000/ha/yr or more in future.

Forestry Fishing and Aquaculture

In most cases is the highest value use of land after agriculture and brings many co-benefits beyond direct wood value. Aquaculture and fishing studies confirm New Zealand’s vast marine resource is underutilised but growth is subject to significant constraints that will require careful planning and management.

Energy and Minerals

In-ground resources are a huge economic opportunity. While oil & gas are often assumed to be of most interest, they are speculative, involve significant risk capital and NZ is unlikely to capture significant value without a new national oil company taking the lead on exploration and initial development. However coal and lignite resources are huge, known, on-shore, secure and (relatively) easy to develop.

A recent report to MED by McDouall Stuart (2009), suggests we could reverse our balance of payments deficit and increase our GDP by nearly 10% through a successful strategy based on minerals wealth alone.

This figure significantly underestimates energy resource opportunities - coal & lignites, oil & gas, and the huge potential of seafloor gas hydrates. NZ’s EEZ, the world’s 4th largest, could have among the world’s largest and most accessible gas hydrate deposits with “rich” deposits perhaps 5 times the size of the Maui gas field and a potential total resource at least 100x this size.

The real value of all these opportunities is far bigger than indicated by assessment based on current prices.

Within a decade it is now likely that most commodity prices could be two to three times higher and rising. The value of these opportunities rises accordingly. The table below shows the potential significance of these future higher prices.
<table>
<thead>
<tr>
<th>Resource / Development</th>
<th>Size</th>
<th>Years of resource</th>
<th>Export-equivalent value (pa)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>current prices</td>
<td>future prices</td>
</tr>
<tr>
<td>Lignite – briquette &amp; export</td>
<td>5 Mtpa</td>
<td>&gt;2000</td>
<td>$0.5B</td>
</tr>
<tr>
<td>Lignite to fertiliser</td>
<td>1.2 Mtpa</td>
<td>&gt;5000</td>
<td>$0.5B</td>
</tr>
<tr>
<td>Lignite to diesel</td>
<td>40,000 bpd</td>
<td>1000</td>
<td>$1-2B</td>
</tr>
<tr>
<td></td>
<td>120,000 bpd</td>
<td>300</td>
<td>$3-6B</td>
</tr>
<tr>
<td></td>
<td>200,000 bpd</td>
<td>150</td>
<td>$5-10B</td>
</tr>
<tr>
<td>Iron sands – bulk export</td>
<td>10 Mtpa</td>
<td>&gt;100</td>
<td>$1B</td>
</tr>
<tr>
<td>Iron sands – new steel plant</td>
<td>5 Mtpa</td>
<td>&gt;100</td>
<td>$3B</td>
</tr>
<tr>
<td>Other mining</td>
<td>-</td>
<td>50?</td>
<td>$1B</td>
</tr>
<tr>
<td>Silicon metal plant</td>
<td>-</td>
<td>&gt;100</td>
<td>$0.5B</td>
</tr>
<tr>
<td>Gas hydrates</td>
<td></td>
<td></td>
<td>$1B</td>
</tr>
<tr>
<td></td>
<td>100 Pjpa</td>
<td>100?</td>
<td>$1B</td>
</tr>
<tr>
<td></td>
<td>500 Pjpa</td>
<td>50?</td>
<td>$5B</td>
</tr>
<tr>
<td>Oil &amp; gas</td>
<td>40,000 bpd</td>
<td>?</td>
<td>$1-2B</td>
</tr>
<tr>
<td></td>
<td>200,000 bpd</td>
<td>?</td>
<td>$5-10B</td>
</tr>
<tr>
<td>Total from minerals &amp; petroleum</td>
<td></td>
<td></td>
<td>$10 - 26B</td>
</tr>
<tr>
<td>Fish &amp; Aquaculture</td>
<td>5x increase</td>
<td>‘Forever’</td>
<td>$2B</td>
</tr>
<tr>
<td>Forestry – exotics for wood/energy</td>
<td>+50%</td>
<td>‘Forever’</td>
<td>$1B</td>
</tr>
<tr>
<td>Forestry – natives for CO2 sinks</td>
<td>1M ha</td>
<td>100</td>
<td>$0.5B</td>
</tr>
<tr>
<td>Forestry – pest control for CO2 sinks</td>
<td>80% of NZ</td>
<td>20 – 50?</td>
<td>$2B</td>
</tr>
<tr>
<td>Water &amp; land – irrigation and intensification for agriculture &amp; horticulture</td>
<td>1 Mha</td>
<td>‘Forever’</td>
<td>$2-5B</td>
</tr>
<tr>
<td>Total from resources direct</td>
<td></td>
<td></td>
<td>$17 - 32 B</td>
</tr>
<tr>
<td>Associated economic activity (100%)</td>
<td></td>
<td></td>
<td>$17 - 32 B</td>
</tr>
<tr>
<td>Total direct and indirect</td>
<td></td>
<td></td>
<td>$30 - 60 B</td>
</tr>
<tr>
<td>% of BAU GDP</td>
<td></td>
<td></td>
<td>18 – 35%</td>
</tr>
</tbody>
</table>
Key Energy and Commodity Price Projections

- Oil and Coal projections are those used by Solid Energy in its business planning (charts 1-3) based on considering a wide range of factors and knowledge of international energy markets.
- Other projections are derived on a similar basis but are considered to be more indicative.
- Projections are long-term trends. Prices will vary around these trends with cyclical/other factors.
- Charts show mid, low and high trend projections. Low and high projections are generally equivalent to Solid Energy’s view of the 20%ile and 80%ile ranges around the mid projection.
- Past data are international benchmark prices from definitive sources. Projections are by Solid Energy.
- Prices are in constant 2009 US dollars (that is, in real terms).

**Crude Oil**
USD per barrel

**Natural Gas**
USD per 1 quid cubic metre
Solid Energy New Zealand Ltd

NEW ZEALAND NATURAL RESOURCE DEVELOPMENT
SOLID ENERGY’S INVOLVEMENT

To: John Palmer
From: Don Elder
Date: 8 March 2010

1. Purpose

To summarise initial discussions between you and me, and subsequently with senior Ministers, on Solid Energy playing a major role in the future development of New Zealand’s natural resources.

While our discussions were initially exploratory, the reception to these requires specific actions. As discussed, we are preparing a detailed update and presentation for the Board.

2. Background to this note

NZ’s natural resource wealth per capita is among the highest in the world. The value of our in-ground resources include coal and lignites, iron sands, oil & gas, methane hydrates and other minerals. Our relative abundance of water required for most manufacturing processes, increases the potential end-value of many of these.

Late last year, in response to requests through the year from other exporters in the International Business Forum, I prepared the short paper attached on NZ’s future economic opportunity from natural resources. The paper suggested potential value, objectives and principles but did not lay out a clear path to create this value, or to capture it for New Zealand. The paper was only circulated to the IBF Board, who asked me to expand on it and provide it to Government.

Rather than do this straight away, recognizing the potential importance of Solid Energy in such a strategy, I discussed the opportunity and issues with you before Christmas, and suggested that if NZ was to achieve these goals Solid Energy probably represented the core of the best strategy for NZ. We decided to approach the PM and request a meeting to discuss this.

This note summarises the opportunity for NZ, issues in capturing value, why Solid Energy’s position is so important, and our recent discussions with senior Ministers.

3. The opportunity for NZ from accelerating our natural resource development is HUGE

NZ’s exports are currently $35-40B and, except for the temporary effect of Tui oil and high 2008 commodity prices, have in recent years been declining sharply as a relative share of our economy. This contributes directly to a declining GDP growth rate (especially per capita) relative to other countries and a consequent decline in our ability to keep funding the increasing needs and expectations of our growing population.

Accelerating development of NZ’s in-ground natural resources could increase NZ’s export (or import replacement) earnings by $10 - 20B or more within a decade. However continued global demand growth, production constraints and resource decline mean future prices for almost all commodities are likely to rise strongly. At 2008 peak prices these increased earnings could be well over $30B, and potentially far higher if prices continue to rise and resources are developed more aggressively.

If this value can be largely captured in NZ, for NZers, it could double our export earnings, increase our GDP by 20-40% (allowing for multiplier effects), fund all our expectations from healthcare through education to retirement, and lead to New Zealand having one of the world’s highest standards of living. Even at high utilization rates most of our resources will last hundreds of years – and outlast most other global supply.

The best window to maximize the value of these resources for New Zealand in a sovereign controlled manner is almost certainly opening right now. Should the world transition smoothly to other substitutes these resources may eventually have no markets, remain in the ground and become largely valueless to NZ. Alternatively, if there are no easy substitutes, it may become increasingly difficult for NZ to maintain sovereign ownership and control over these to produce and sell them at prevailing world prices.

This window could remain open indefinitely, but potentially it could also close or be closed for us within several decades. Even if it remains open the pressure on global production is already, once again, causing rapidly escalating costs for technology, equipment, materials, supplies and skilled people and rapidly lengthening queues to obtain these.
But NZ will lose most of this value if offshore companies develop our natural resources

Multinational mining companies claim that when they develop resources about 50% of the total revenue remains in-country. (The rest leaves the country as payments for foreign management, suppliers, technology, equipment, and return on investment. Multinationals assert this %, plus the foreign direct investment and technical capability they bring as economic enablers, are favorable and support their case for acquiring and developing resources. The ratio is similar, but slightly higher, for domestic mining companies. This rule of thumb is supported by recent values quoted publicly, and by rough estimates using current data, for companies in the NZ mining and oil & gas industries.

However the 50% “rule of thumb” is based on historical commodity prices. Current prices are nearly double these. Peak prices in 2008 were three to five times higher. Future prices are likely to pass through 2008 peaks then continue rising. The part of the revenue taken out of NZ will increase to five to ten times historical levels – the total loss of value to NZ will be three to four times the total revenue at historical prices.

![Diagram showing the destination of total revenues](image)

### The current resource allocation regime is squandering our natural resource value

The current regulatory regime, and current Crown management of our in-ground natural resources, will result in the majority of value being captured by foreign companies with only limited benefits for New Zealand.

- **The existing regime for mineral permit allocation is based on:**
  - Priority-in-time process (first in gets first priority) for existing available permit areas
  - Block tendering process for newly released permit areas
  - Any entity regardless of ownership, size, capability, track record etc can apply for and receive a permit provided its work programme to explore or develop the resource is approved
  - The cost to apply and hold permits in NZ is very low

- **This regime has already resulted in a number of value destroying outcomes for New Zealand:**
  - **Extensive NZ resources are now controlled by offshore companies - with pressure to extend this:**
    - Much of NZ's petroleum resources and production is owned by offshore entities or shareholders
    - All NZ's iron sands resource has been permitted by offshore companies in the past 24 months
    - Govt is under pressure from an oil major to give it a major methane hydrate permit
    - Govt is under pressure from an Australian mining major to transfer Solid Energy's coal permits
  - **Key resources have been taken by speculators with no intention or ability to develop the resource, simply to extract value with minimal effort and cost by eventually farm-in or sale:**
    - RDT - coal seam gas permit - $0 invested, (from SENZ)
    - L&M - Mataura lignite permit - minimal $ invested, seeking share of SENZ lignite projects
  - **Overseas permit holders have extracted immediate value from resources simply by holding permits:**
    - OMV - obtained petroleum permit for minimum cost, undertook small exploration programme, sold 50% of the permit for $30M - NZ share = 0.
    - NZ’s share of future “super-profits” from these resources will be zero, and our total value limited to small local economic gains plus annual royalties and taxes
  - Just this week Solid Energy has been asked to buy the iron sands permit from one multinational

- Despite all this Crown Minerals, for the Government, continues to spend taxpayers money to actively promote NZ resources to offshore companies and encourage them to take out new exploration permits!
Major changes are required to maximizing value for NZ from our natural resources

Several recent reports (primarily the McDouall Stuart 2009 report) have identified these opportunities, the challenges to be addressed and the changes required. (The McDS report, which is very bullish, still significantly underestimates the opportunity since it does not factor in the significant future price increases that most international mining and O&G companies anticipate).

The existing path to natural resource development is far too slow. Almost everyone in industry and government acknowledges this. It needs to be accelerated substantially. However accelerating development will simply accelerate loss of value to New Zealand unless it is preceded by major changes.

NZ needs immediate and radical changes to our approach to our in-ground natural resources. These represent a paradigm shift in vision, strategy and implementation. They should include, as a minimum, major changes to resource regulations and to the permit allocation, control and funding approach.

The changes required are no different to those already implemented in many other countries - increasingly they are the norm rather than the exception. As global demand for resources continues to grow against production constraints and resource decline and scarcity, many more countries will take back ownership and control of their resources.

Every month of delay increases the costs to NZ. In January RDT extracted $30M from Solid Energy. In February OMV extracted $30M from one petroleum permit. In March we have been asked to buy a major iron sands permit. Every month of delay also makes future change more difficult to effect. It is far easier to allocate permits appropriately than to seek to change existing arrangements.

These changes will require a major change in Government strategy. However we are not proposing "nationalization" of resources per se, with the international consequences that could have. Most of the changes could be brought about under the current regimes. Some statutory and regulatory changes may be required to support the details of the changes.

There would undoubtedly be political, economic and potentially legal risks to be managed, but the prize is simply too large for NZ to continue with the status quo and ignore the opportunities and the lost value.

NZ has several different options with very different outcomes

New Zealand has a number of options:

1. **Status Quo** – continuing slow activity most value lost to NZ
   - allocation of permits on the current basis mostly to offshore companies
   - occasional capital raising by small to medium size companies, flurries of activity followed by long periods of inactivity as companies assess results, raise further capital, seek partners
   - if and when development occurs, most led by offshore companies with most value going off-shore

2. **Accelerated Status Quo** – as above but accelerated exploration phase, most value lost to NZ
   - accelerated allocation of permits driven by Crown Minerals initiatives, mostly to offshore companies
   - accelerated exploration mostly by small to medium size companies with some larger player interest
   - accelerated activity not consistently followed through to development as companies assess results, abandon unsuccessful exploration, consider new prospects, raise further capital, seek partners
   - if and when development occurs, most led by offshore companies with most value going off-shore

3. **National Oil Company** – accelerated O&G activity only, other activity slow, much value lost to NZ
   - new greenfield NOC established, takes several years to build capability & scale and raise capital
   - allocation of some unallocated O&G permits to NOC
   - NOC need to partner with offshore companies due to lack of capability and scale for full value chain involvement and risk management
   - allocation of other resource permits on the current basis mostly to offshore companies but lessened interest due to perceived sector risks created by NOC model
   - occasional capital raising by small to medium size companies, flurries of activity followed by periods of inactivity as companies assess results, raise further capital, seek partners
   - if and when development occurs, much led by offshore companies with much value going off-shore

4. **National Natural Resources Company** – accelerated activity in all sectors, most value kept for NZers
   - national natural resources company (NRC) established 2010 includes key SOE and crown natural resource assets – capability & scale built within 6 months
   - first right of refusal to any unallocated natural resource permits
   - major public capital raising within 2 years
   - partnering with others by sector or project for specialist capability, technology, project capital
   - aggressive exploration and development across most of natural resources sector with objective $10-20B of revenue within 10 years
4. Solid Energy is the key to Option 4
   - Largest indigenous energy producer in NZ, owns/controls access to NZ's largest energy resources
   - Immediate scale and critical mass for capability building
   - Genuine promoter/developer of large scale resource developments in NZ (coal, CTF, CTL, UCG)
   - Widespread, diverse and high level international contacts and partners and markets
   - Fully NZ owned company returning profits/value to NZ
   - Strong existing cashflows and funding arrangements
   - Governance structure in place
   - But currently under threat from offshore companies attempting to access/undermine secure resources
   - The easiest, strongest, fastest (only?) path to Option 4

5. Our recent discussions with Ministers
   Over the past 12 months a range of discussions have been occurring at a national level regarding NZ's future economic direction. Increasingly these discussions have recognized the huge role nature resources can play. Solid Energy is regularly mentioned - in formal reports and informally - as a key part of the picture. Usually this is positive but occasional comments are negative - such as "Solid Energy is sitting on resources, take them away and give them to a company that will do something to monetize them".

   Last year the Minister of Energy & Natural Resources, Gerry Brownlee, asked if he could visit Solid Energy in Chch for half a day for him to familiarize himself with all our New Energy businesses and projects. This meeting occurred on 26 February. The week before the meeting the Minister suggested to me we should take this opportunity to present ideas to him on development of the sector, and we should be very broad and open in our thinking - "don't pull any punches". During the week before the meeting his office confirmed this was his expectation. At that meeting we presented all our New Energy business work but also presented a full range of ideas on how NZ could accelerate and capture the natural resource value.

   On Tuesday 2 March we had a substantial meeting with the Prime Minister and Minister of Finance, and subsequent followup discussions with the Minister of Energy and Natural Resources, and SOEs, who were unable to attend the 2 March meeting.

   In that meetings we proposed that Solid Energy be used as the core of "NZ Natural Resources Ltd" on the basis of option 4 above, with a mandate to accelerate natural resource exploration and development in all natural resource sectors.

   The Prime Minister and his colleagues were very supportive of this approach, and messages since have continued to support this.

   You undertook, with their agreement, to take this to the Solid Energy Board, then subject to the outcome of that meeting to provide the Prime Minister with a Business Case / Business Plan by early April. In the words you used to ensure there was no misunderstanding of what you were proposing to bring back to them, that business plan would be "audacious".

   We are preparing that business case/plan to provide to the Board at the March meeting.
<table>
<thead>
<tr>
<th></th>
<th>Commencement of Operations</th>
<th>Production Capacity ~2025</th>
<th>Revenue FY2025</th>
<th>Development Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Conservative</td>
<td>Aggressive</td>
<td>Conservative</td>
<td>Aggressive</td>
</tr>
<tr>
<td>Coal (SENZ)</td>
<td>Current</td>
<td>Current</td>
<td>4.2MT pa.</td>
<td>4.2MT pa.</td>
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<td>Kupe (GEL)*</td>
<td>Current</td>
<td>Current</td>
<td>1,000 bbls/d</td>
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<td>Lignite Upgrading</td>
<td>2016</td>
<td>2014</td>
<td>1.0MT pa.</td>
<td>5.0MT pa.</td>
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<tr>
<td>Coal to Fertiliser</td>
<td>2017</td>
<td>2015</td>
<td>0.6MT pa.</td>
<td>2.4MT pa.</td>
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<td>Coal to Liquids</td>
<td>2022</td>
<td>2018</td>
<td>17,000 bbls/d</td>
<td>34,000 bbls/d</td>
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<tr>
<td>Carbon Capture &amp; Storage</td>
<td>2016</td>
<td></td>
<td>0.0 MTCO2 pa.</td>
<td>5.0 MTCO2 pa.</td>
</tr>
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<td>Coal Seam Gas</td>
<td>2012</td>
<td>2011</td>
<td>13 PJ</td>
<td>13 PJ</td>
</tr>
<tr>
<td>Underground Coal Gasificati</td>
<td>2015</td>
<td>2015</td>
<td>135 PJ</td>
<td></td>
</tr>
<tr>
<td>Oil and Gas</td>
<td>2022</td>
<td>2018</td>
<td>25,000 bbls/d</td>
<td>50,000 bbls/d</td>
</tr>
<tr>
<td>Iron Sands</td>
<td>2014</td>
<td>2012</td>
<td>5.0MT pa.</td>
<td>12.5MT pa.</td>
</tr>
<tr>
<td>Methane Hydrates</td>
<td>2025</td>
<td>2016</td>
<td>100 PJ</td>
<td>300 PJ</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Kupe revenues and production are average production and revenues over the production life.