Opportunities for Large Scale Production of Residential Timber Houses
Innovative Technologies and Outlook

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Today’s Subject Material

1. **Outlook** – short and medium term
2. “**Large Scale Production**” - what comes before this?
3. **Barriers** – some things we have to overcome
4. **Some examples** – some live examples of both problem solving and some “yet to be solved” ideas
1) a) The Short Term outlook is not good

(With thanks to BNZ Analyst Tony Alexander)
NUMBER OF DWELLING SALES

12 month totals
Source: REINZ

DWELLING SALES GROWTH

% seasonally adjusted three month change

Source: REINZ
1 ) b) The Medium Term Outlook is a little brighter And we do have a few things going for us. Let's not forget them!

Exchange Rate Assumptions

Read science fiction instead. Some of what Arthur C. Clarke wrote has come true.

<table>
<thead>
<tr>
<th>Year end</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>Risk</th>
<th>2012</th>
<th>Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>NZD/USD</td>
<td>0.73</td>
<td>0.80</td>
<td>Higher++</td>
<td>0.81</td>
<td>Higher+</td>
<td></td>
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<tr>
<td>NZD/AUD</td>
<td>0.74</td>
<td>0.78</td>
<td>Higher</td>
<td>0.86</td>
<td></td>
<td></td>
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<tr>
<td>NZD/JPY</td>
<td>64.2</td>
<td>69</td>
<td></td>
<td>70.0</td>
<td>Higher</td>
<td></td>
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<tr>
<td>NZD/GBP</td>
<td>0.44</td>
<td>0.49</td>
<td>Higher+</td>
<td>0.50</td>
<td>Higher</td>
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<tr>
<td>NZD/EUR</td>
<td>0.51</td>
<td>0.55</td>
<td>Higher</td>
<td>0.58</td>
<td>Higher</td>
<td></td>
</tr>
<tr>
<td>USD/JPY</td>
<td>88</td>
<td>86</td>
<td>Lower</td>
<td>86</td>
<td>Lower</td>
<td></td>
</tr>
<tr>
<td>GBP/USD</td>
<td>1.66</td>
<td>1.63</td>
<td></td>
<td>1.62</td>
<td>Higher</td>
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<tr>
<td>EUR/USD</td>
<td>1.43</td>
<td>1.45</td>
<td>Higher</td>
<td>1.40</td>
<td>Higher</td>
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<tr>
<td>AUD/USD</td>
<td>0.99</td>
<td>1.03</td>
<td>Higher+</td>
<td>0.94</td>
<td>Higher++</td>
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</table>
Key Forecasts

<table>
<thead>
<tr>
<th>Dec. year</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP annual average change</td>
<td>1.4</td>
<td>2.0 - 2.5</td>
<td>3.5 - 4.0</td>
<td>4.0 - 4.5</td>
</tr>
<tr>
<td>CPI on year ago</td>
<td>4.0</td>
<td>3.0 - 3.5</td>
<td>2.5 - 3.0</td>
<td>2.5 - 3.0</td>
</tr>
<tr>
<td>Official Cash rate end year</td>
<td>3.0</td>
<td>3.0 - 3.5</td>
<td>4.5 - 5.0</td>
<td>4.0 - 5.0</td>
</tr>
<tr>
<td>Employment on year ago</td>
<td>1.3</td>
<td>2.0 - 2.5</td>
<td>2.0 - 2.5</td>
<td>2.0 - 2.5</td>
</tr>
<tr>
<td>Unemployment Rate end year</td>
<td>6.8</td>
<td>6.0- 6.5</td>
<td>5.0 - 5.5</td>
<td>&lt;5.0</td>
</tr>
</tbody>
</table>

Energy is merely a Surrogate Villain for Carbon

Energy demand

- Fossil fuel burning
- Energy is a surrogate for carbon

Carbon

Global warming

Our wood is 52% stored carbon
There are two kinds of Carbon emissions

1. Capital Carbon
   - Real measurable emissions which are incurred during manufacturing
     - carbon footprint
     - embedded carbon

2. Future Carbon
   - Future emissions (savings) which may (or may not) occur at some time in the future
     - operational carbon
     - energy efficiency

Future Carbon is where all the greenwash takes place!

Solid Timber is the only building material that starts it life in CREDIT!
CARBON LIFE CYCLE PROFILE
Wood vs. “the rest” (schematic)

-30 yrs
Plant trees

Today
Make House

25 yrs

100 yrs
End of houses’ life

Trees eat carbon & store it in the wood (house)

Energy Efficient wooden eco house carbon emissions

Normal wooden house carbon emissions

Energy Efficient non wooden eco house carbon emissions

Normal non wooden house carbon emissions

The solution to capital Carbon

BUILD YOUR HOUSE OF SOLID WOOD!
And all of the other wood advantages – including

New emerging irrefutable proof that wood withstands earthquakes better than any alternative for low rise buildings even with current practice technology

The Christchurch Story............

2) Large Scale Production

This needs some pre-requisites:
- Large scale marketing to the modern day home owner – the right messages to the right audiences per the right media
- Overcoming misperceptions of wood
photos supplied courtesy of Chris Howe
Some Lockwood Examples

OLD, DARK, WOODY AND CREAKY. IT’S AMAZING WHAT A LOCKWOOD ISN’T THESE DAYS.

For over 60 years, we’ve been making homes for New Zealanders. As our country has changed, so too have we. At the very heart, we offer an excellent range of contemporary, archetypal-inspired designs. Whether you’re after a classic Lockwood design – or a modern one – we’re sure to have a home to suit you.

Call 0800 Lockwood or visit one of 15 show homes around the country.

LOCKWOOD
New Zealand’s Home. For Good.
3) Other barriers to scale

- Fashion/perceptions about Wood
- Mis-information by competing materials
- Preservation issues
- Regulations NZ and offshore
- Forex
- Low cost-low quality and rotting timber

As always there are more issues than answers!
4) Working together
What can we “the Wood Industry” do together?
• Educate the decision makers (engineers architects home buyers)
• Develop standard solutions
• Solve the technical issues (preservation)
• Develop the building standards and codes
• Lobby for a better legislative environment
• Go on the front foot with the green wash
• Change perceptions of wood *

Substitution by imitation
• The oil industry example
  – Glass
  – Leather
  – Rubber
  – Earthenware
  – Fabrics
  – Wool
  – Wood etc
Growth opportunities

Customised
- Selling a dream
- Single buyer
- Single product
- Less price conscious
- NZ
- Smaller growth

Standardisation
- Selling a solution
- Single buyer
- Mass production
- Price sensitive
- Overseas
- Large opportunities

White space opportunities

Innovation
White space opportunities

- NZ is a tiny bit world player
- What is big to us is small to world markets
- Where are these opportunities?
- Here is one such example
- A brand new locally developed wooden weather board that doesn’t rot, twist, warp, shrink, bleed or crack like other wooden products – and is sustainably grown!
Summary

• There is no panacea
• No one entity can do it all
• Wooden buildings still remains the best visible way to add value to our resource
• The biggest problems are marketing, product development and product positioning