Recent Developments in the NZ Bioenergy Industry

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Presentation to Residues to Revenues
10 June 2009

Topics

1. What’s happened
2. What is happening now
3. What needs to happen
4. What can you do?
Massive World-wide Investment

- US$155,000,000,000 invested in clean energy in 2008
- More than two-thirds went to renewable energy projects, from geothermal and wind to solar and biofuels
- US plans US$800m for bioenergy
- NZ Bio-diesel has $36m, over 3 years
- NZ has $8m over 5 years for wood energy. 35c/pp/py

An Immense Carbon Neutral Energy Source
Residues to Revenues 2009

A Continually Growing Energy Source

Harvest Scenarios

- Actual
- Base cut scenario
- Early cut scenario
- Late cut scenario

Volume (000 cubic metres)

Year Ending 31 March

Wood Processing Sector
- 7MW boiler at Kiwi Lumber (Putaruru)
- 4MW boiler at Northpine (Waipu)
- 22.5MW at CHH Whangarei
- 2 x 2.5MW boilers in Wairoa
- Other

35MWth total
What Has Happened (continued)

Assisted greatly by $8m FIDA (WEGS) Fund
  – $0.35 per person per year

Outside Wood Processing : DEMAND
  – 9 new wood chip boilers
  – Over 20 schools using pellets
  – Skellerup using wood fuel in boilers
  – Various other customers looking to co-fire wood with coal
  – Industrial Customers : Yarn company won EECA’s Supreme award
  – Thousands of homes now using pellets
  – 8MW fluidised bed at Finnegans Meat company
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What Has Happened (continued)

• Outside Wood Processing : SUPPLY continued
  – Specialist bioenergy company’s (e.g. Ernslaw Bioenergy)
  – New specialist chippers
  – Others are diversifying (eg Crusaders Landscapes etc)
  – C&D waste being recovered, chipped and used for fuel
  – Foresters starting to look at options
  – Large new pellet plant at Taupo
  – Other smaller pellet producers
  – Briquette manufacturing
  – Heat Supply Agreements

• Other Activities
  – Trials (co-firing etc…)
  – Many studies (Dairy, glasshouse, beverage, etc)
  – Specialist Equipment available in NZ
  – Various sub-groups of BANZ have been started
    – Liquid Biofuel Interest Group
    – Biogas
    – Wood pellet
      – RFP’s issued
      – BKC
      – Wood Fuel Trading platform
      – Draft Fuel Quality Standards
Wood Pellets

- Quality fuel
  - Wide range of applications – schools, hotels, nursing homes etc

<table>
<thead>
<tr>
<th>Location</th>
<th>Capacity (T/yr)</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Rotorua, Taupo, Rolleston</td>
<td>150,000</td>
<td></td>
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<tr>
<td>Wood Pellet Fuels Ltd, Huntly</td>
<td>35,000</td>
<td>Currently for sale</td>
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<tr>
<td>Firelogs NZ Ltd, Hawkes Bay</td>
<td>5,000</td>
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<td>Waste and Energy Solutions</td>
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<td>Southern Pine</td>
<td>1,500</td>
<td>Briquettes</td>
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<td>Starwood, Timaru</td>
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<td></td>
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<tr>
<td>Invercargill</td>
<td>??</td>
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</tbody>
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How to get the $'s: What Can You Do?

1. Reduce Water Content
   - Millers: Oil on blades
   - Cover chip pads

2. Promote Bioenergy!
   - Talk it up…
   - Push your industry group

3. Actively Improve the Fuel
   - Use of Waste heat
     - Rotary Dryer
     - Bed Dryer

Residues to Revenues 2009
What can Foresters do?

- Start to understand how to add value
  - Do some trials
  - Plan infrastructure
  - Treat it well
  - Understand the Biofuel Standards

Talk it Up!

Consider options upon re-planting
- Douglas Fir
- Eucalyptus
- etc

What Has Not Happened

Has happened: NZ Air Quality Standards
But little other progress:
- Carbon tax did not come in during 2007
- ETS was announced in 2007
- …then put under review in 2008
- Still under review
- Rules for ‘Stationary Energy’ may be clearer later this year
- To take effect from 2010 for some?
- No renewed WEGS funding announced in recent Budget
So what will be the summary in 2011?

Stable and bi-partisan Legislation

Strong price signal, but combined with Capital Grants

Cap on grant raised to more than $200k – incl. for supply chain

Accelerated Depreciation

Procurement policies that show leadership

• Wood energy must be considered by all Govn’mt….

• Green-field sites also must consider wood energy

Policies that recognise the multiple benefits of wood:

Lower cost energy, carbon sinks, food miles, long-term jobs….

The Holy Grail for NZ Exporters?

• The New Zealand Wine Company was the first winery in the world to achieve carboNZero certification. Consequently, its wines gained preferential supplier status to UK supermarket giants.

• “We’ve been winning awards for our wines for years, but it’s carboNZero that has made people want to talk to us,” said New Zealand Wine Company CEO Rob White.

Source: CarbonNews 9th June ’09
So what will be the summary in 2011?

Hopefully the results of this legislation will be:

- Hospitals sourcing heat from wood fuel
- Prisons, swimming pools, hotels
- Dairy factories and more meat processors
- District Heating networks, etc, etc

As a consequence:

- Sawmills start covering chip pads and reducing use of water on blades
- Foresters start to think about fuel value of residues
  - managing low value fibre
  - re-planting decisions
- More forestation

Summary

- Much has happened
- A lot more could happen
- Wood Processing Industry should be the main beneficiary
- Start to think about how to be ready for the opportunity

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