

## Bioenergy in New Zealand – The way forward

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### 1. THE BIOENERGY MARKET PLAYERS

- Wood processors
- Biomass fuel suppliers
  - Trade in waste
  - Wood pellets
  - Fuel handling equipment suppliers
- Energy companies
  - Investment
- Researchers
- Government
  - Energy Efficiency and Conservation Authority (EECA)
  - Trade and Enterprise
- Bioenergy Association of NZ (BANZ)

### 2. THE BIOENERGY ASSOCIATION

- An industry association to represent the interests of commercial parties
- A single point of contact for bioenergy
- Provides members
  - Opportunities for networking
  - Latest technical and market information
  - Opportunities for brand exposure
  - Coordinated research and information preparation and dissemination
  - An avenue to influence market policies and issues
- Members
  - Sawmillers
  - Wood processors
  - Energy researchers
  - Energy suppliers Consultants
  - Manufacturers
  - Investors

### 3. THE AIMS OF THE BIOENERGY ASSOCIATION

- Encourage the utilization of New Zealand's abundant biomass resources
- Promote renewable energy in the form of heat, electricity and transport fuels in a sustainable and cost effective manner
- Promote to the wider community the environmental benefits of Bioenergy including greenhouse gas mitigation and waste avoidance
- Facilitate implementation of commercial Bioenergy projects.

## 4. BANZ KEY OBJECTIVES

- Facilitate research and development
  - Fuel sourcing
  - Fuel preparation/handling
  - Energy conversion plant
- Assist government develop policies which support bioenergy
- Prepare and distribute information useful for investors
  - Workshops and seminars
  - Handbooks and good practice guides
  - Reference projects

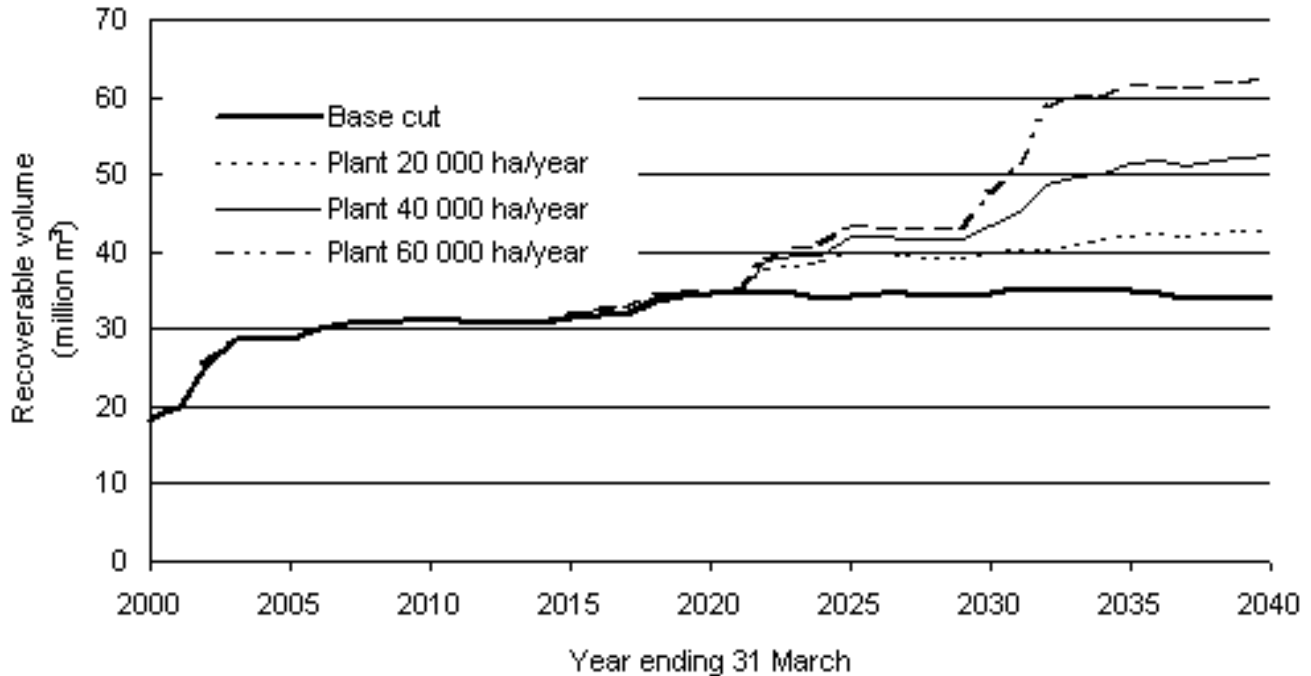
## 5. PRIORITY BANZ ACTIVITY AREAS

- Capacity building for the industry as a whole
- Small/ medium sized wood processors
- Industrial and dairy sector
- Future liquid biofuel markets
- Preparing for future electricity production from biomass

## 6. THE NZ BIOENERGY MARKET

- Approximately 5% of (35PJ) of primary energy supply is met by biomass
- Virtually all biomass is converted by combustion processes to provide process heat
- Majority used in the wood processing industry (pulp & paper and sawmills)
- Increase in forest harvest and onshore processing
- Potential for energy from wood process residues to increase by 50% over the next ten years
- The main growth in demand will be heat for timber drying
- Biomass is not competitive for electricity generation except for on-site wood waste fuel

## 7. FORECAST WOOD SUPPLY IN NZ

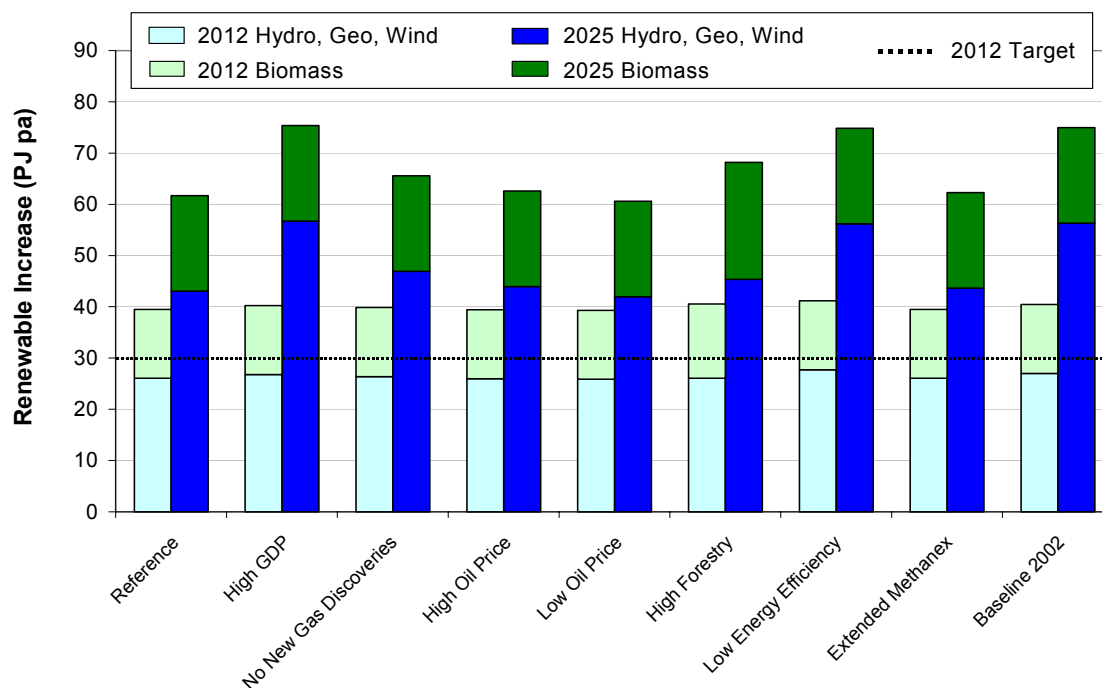


## 8. GOVERNMENT POLICY

- National Energy Efficiency and Conservation Strategy
  - Heat plat database
  - Information programmes
  - Increase use of biomass as an energy source
- Renewable Energy programme
  - Partnership with Bioenergy Association
  - Action Plan
- Climate Change
  - Projects mechanism
  - Small /Medium enterprises programme

## Short Rotation Crops for Bioenergy: New Zealand, 2003

### 9. THE IMPORTANCE OF BIOENERGY IN THE RENEWABLE TARGET



### 10. OPPORTUNITIES FOR UPTAKE OF BIOENERGY

- Near unlimited amount of waste woody biomass that is available for conversion to energy.
- An increasing acknowledgement that bioenergy has a fundamental role in realising a sustainable future.
- National Energy Efficiency & Conservation Strategy (NEECS) places a strong emphasis on sustainability issues and bioenergy.
- Government has adopted a Renewable Energy Policy
  - target of achieving an additional 30PJ of consumer energy from renewable sources by 2012
- identifies bioenergy as a key source for achieving that target.

### 11. OPPORTUNITIES FOR UPTAKE OF BIOENERGY (2)

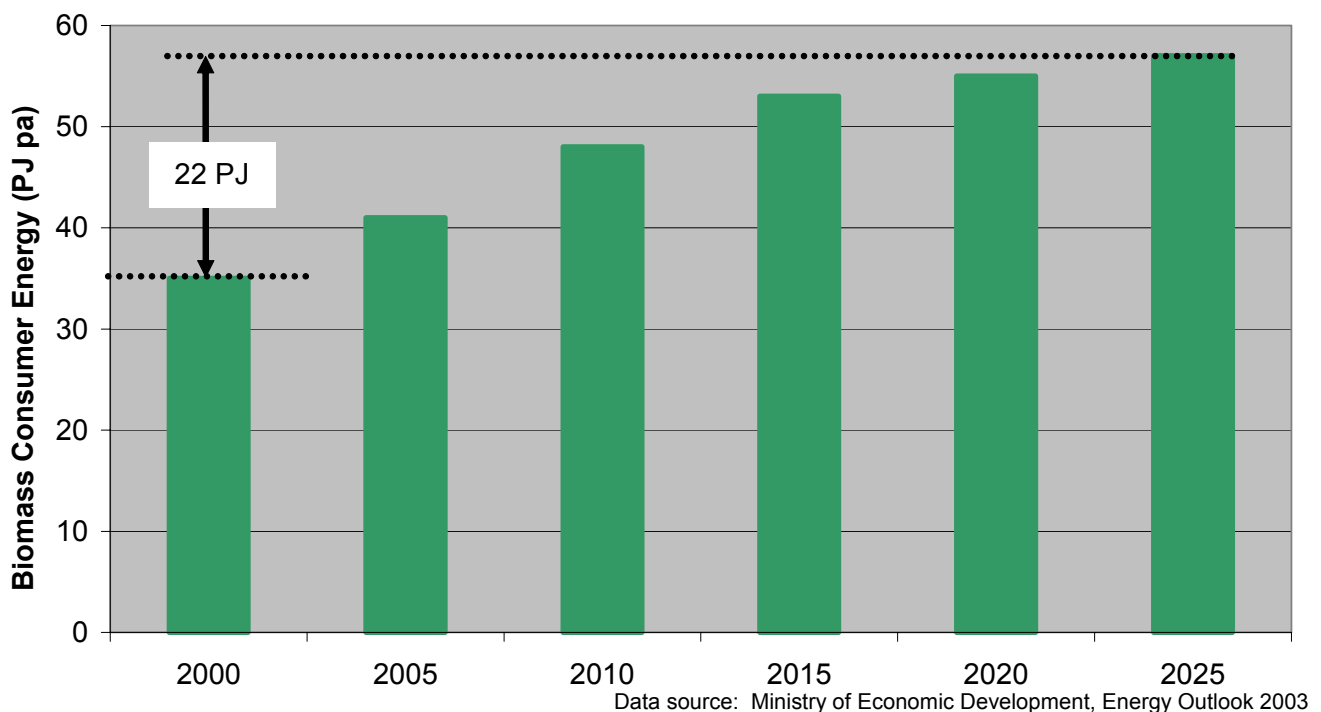
- The Government has indicated its intention to introduce a carbon charge from 2007
- The heat market is expanding (approx 40MWth pa),
- An expanding forest processing industry, provides opportunities for growth.
- There are new evolving markets involving energy forms such as ethanol and biodiesel.
- Anticipated increase in gas prices due to pending reduction from the Maui gas field,
- The cost of producing heat from bioenergy very cost effective relative to use of fossil fuels.

## Short Rotation Crops for Bioenergy: New Zealand, 2003

### 12. OPPORTUNITIES FOR UPTAKE OF BIOENERGY (3)

- The improving relative economics is already occurring for heat production and will progressively occur for electricity generation over the decade.
- There is a well established and historical use of bioenergy throughout New Zealand that provides a sound base for continued growth
- The wood processing industry will be investing in substantial additional processing plant aimed at adding value prior to export.
- Additional processing requires additional heat and electricity, which can be provided most cost effectively from bioenergy.

### 13. EXPECTED GROWTH IN THE NZ BIOENERGY MARKET



### 14. BARRIERS TO THE UPTAKE OF BIOENERGY

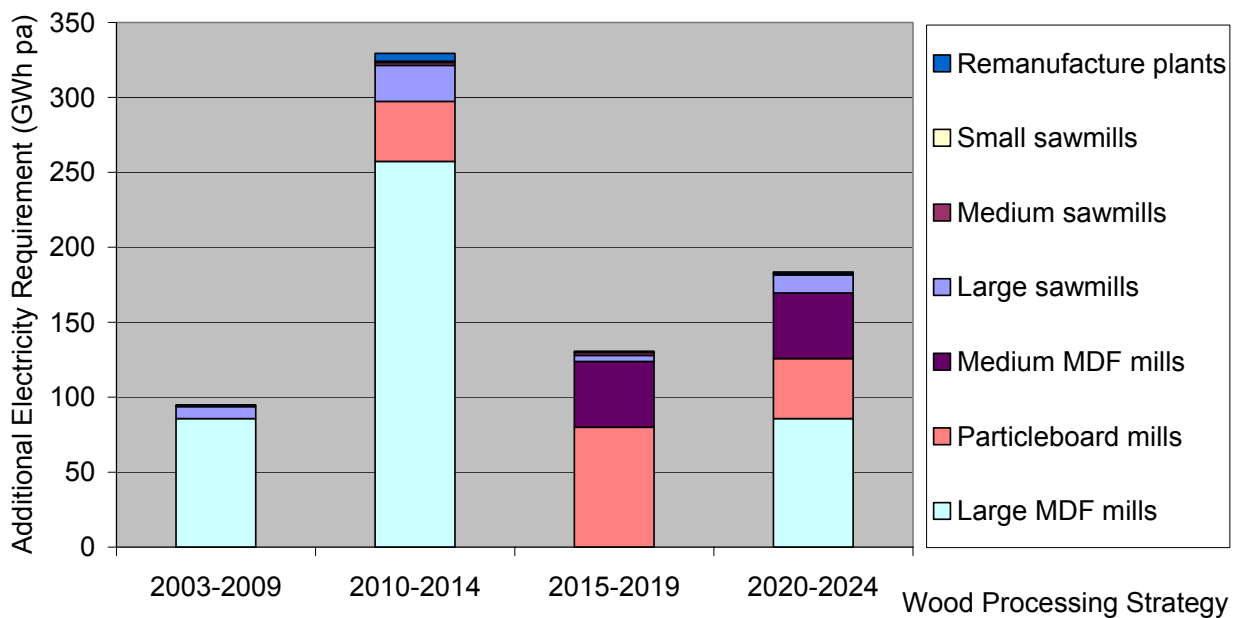
- The high cost of producing heat and electricity relative to alternative energy sources.
- The need for more detailed information on the economics of bioenergy to be available to potential investors
  - case studies
  - handbooks
  - good practice guides.
- The industry has a large number of small and medium sized companies who lack the financial ability to themselves undertake good applied research
- The wood processing industry slow to recognise the importance of energy input costs to improve international competitiveness.
- Shortage of funding for undertaking research and providing information that will assist the uptake of bioenergy.

## Short Rotation Crops for Bioenergy: New Zealand, 2003

### 15. BANZ STRATEGY

- Improving the knowledge and experience base for potential and existing bioenergy plant investments by collectively sharing the cost.
- Undertaking collective market research, identifying barriers to growth and assisting members overcome these barriers.
- Supporting the capacity building of New Zealand based manufacturers and suppliers.
- Building industry capacity for future investment
- Build on heat as a transition towards electricity generation

### 16. POTENTIAL WOOD PROCESSING PLANT ADDITIONAL ELECTRICITY NEEDS



### 17. WHAT DO WE HAVE TO DO TO GET SRC ON THE MAP?

- Build industry capacity on the back of heat plant
- Reduce the cost of SRC fuel
- Use forest residue as a transition towards use of SRC
- Monitor international experiences
- Ensure investors are well informed