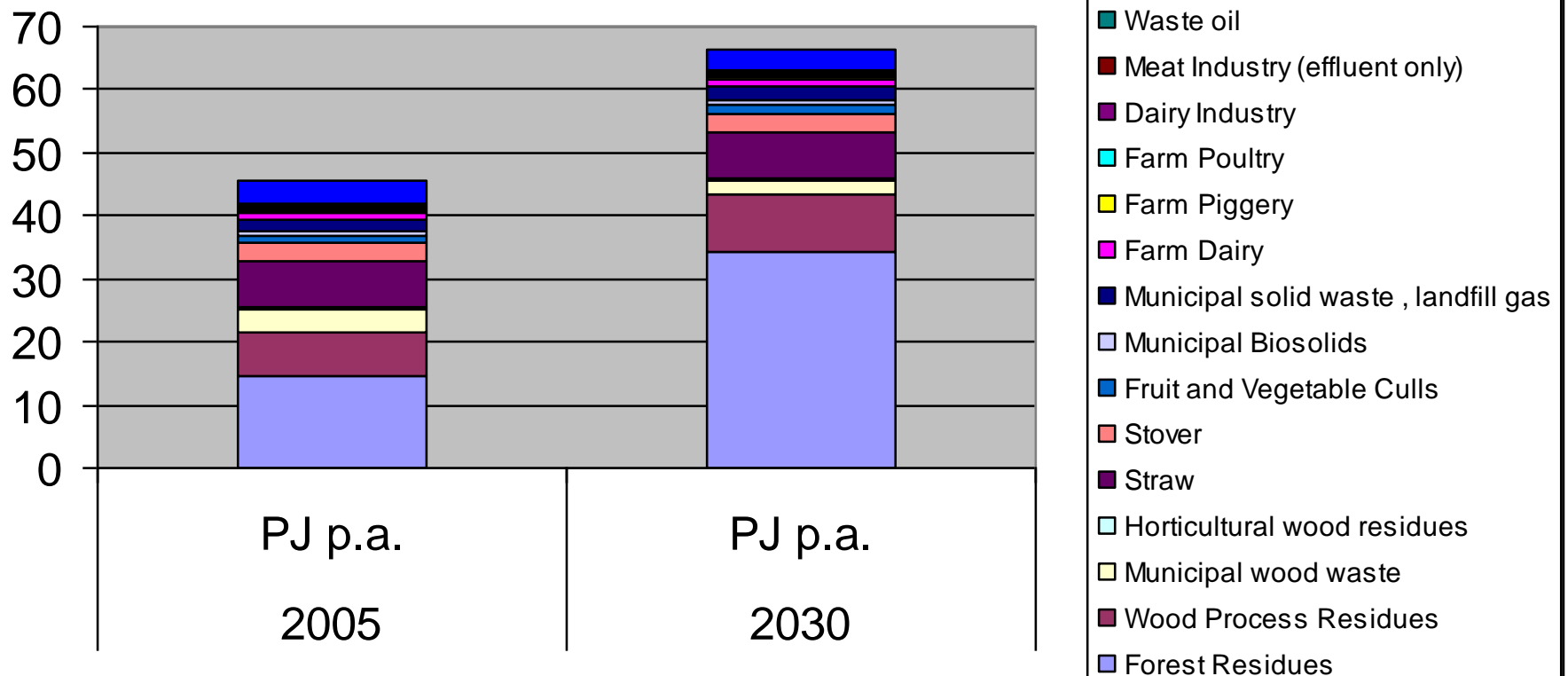


# Biogas in a Biomarket

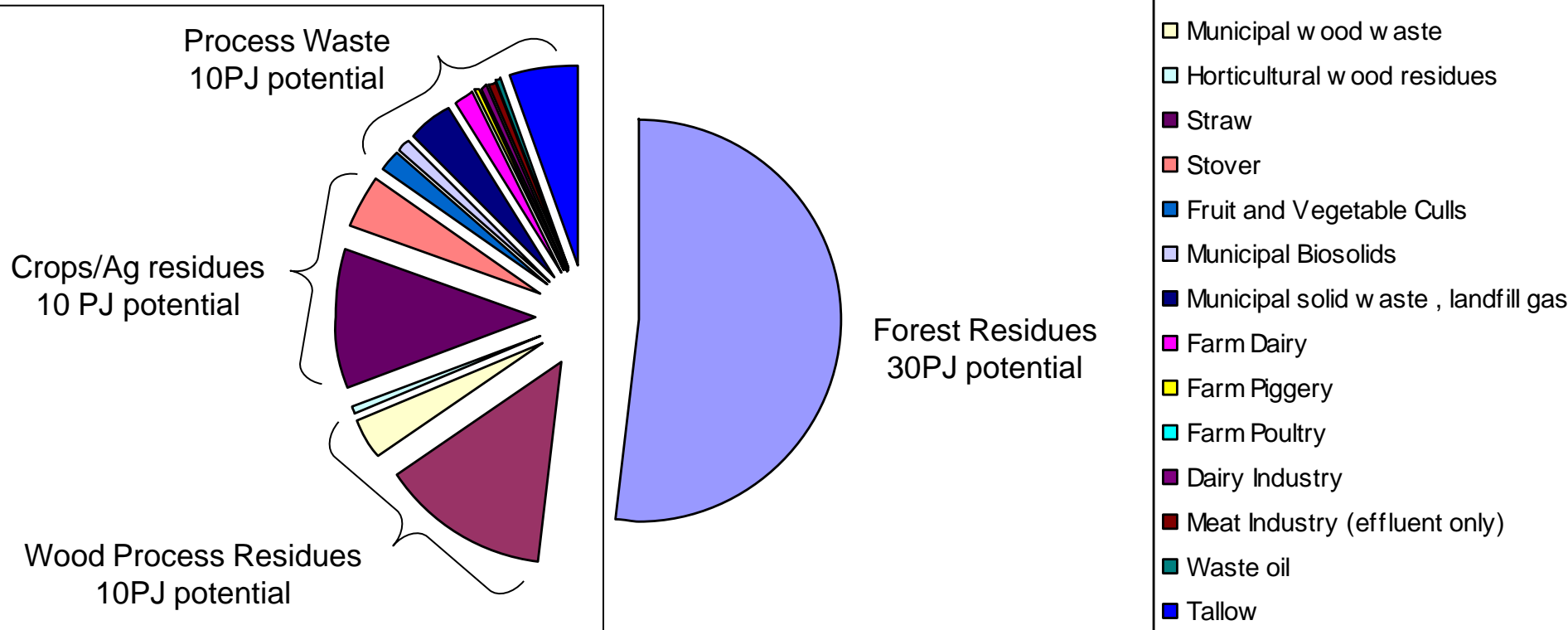
BANZ Ch-Ch Workshop  
May 2010

Grant Smith

## NZ Consumer Bioenergy Potential



# NZ Consumer Bioenergy Resources



Source: Scion 2007  
BANZ Strategy Paper 2009

Locally Valued

Supply Chain Led

# Bio-gas markets

## **Challenges:**

- <10% of potential bio-energy resources
- Local market opportunities – logistics driven
- Highly dispersed and lacking energy market scale
- Some technical and delivery issues
- Variability and quality of fuel feed

## **Opportunities:**

- Great fuel characteristics for heating markets
- High beneficial use of “natural” waste streams
- Shared infrastructures possible
- Low feedstock costs possible- could even get paid!

Is biogas a problem seeking a solution, or a solution to a problem?

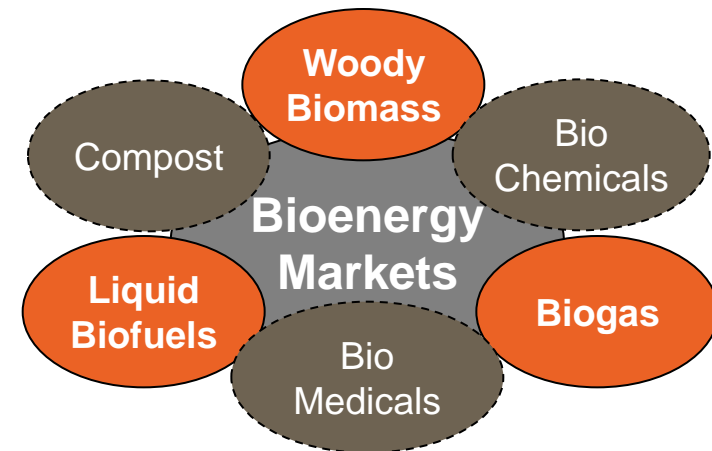
# Bioenergy Markets

## Challenges:

- More capital intensive
- Less fuels security
- Fuel quality less stable
- No clear market price

## Opportunities

- Aggregation of bio-fuels
- Longer term contracting
- Capital investment
- More innovative use of bio-products



Bioenergy is only part of a larger market integrated solution – i.e. getting more sustainable use of our natural resources

# EFI Experiences # 1

- **Nelson LFG Project**

- 2.5MWth system running successfully since 2005
- Includes landfill site facility, supply pipeline and boiler system
- Reduced CO<sub>2</sub> by ~5500 t/y for 15 years+
- Received allocation of government ERU's and has secured a small number of offshore VER's
- Very positive outcomes for the local hospital and council – >60% reduction in coal use.



- **Challenges**

- Small landfill site – not economic for generation
- Low quality LFG with significant air ingress possible
- Municipal location - consenting
- Two institutional customers to bring together



This was problem looking for a solution.....

## EFI Experiences # 2

- **Christchurch Bio-solids Drying Plant**
  - EFI heat plant under construction 2010
  - Wood and LFG fuelled system 2 x 4.5MWth
  - Part of an integrated city scheme
  - Local plant manufacture
- **Challenges**
  - Matching available renewable fuels
  - Creating a new fuelling opportunity in partnership with CC Council businesses
  - Developing a biomass fuels management hub – WENZ
  - Integration of EFI commercial facility/hub with the existing biogas supply network that's still growing - partnership



This is an integrated solution to a wider problem.....

# EFI Experiences # 3

- **Municipal Biogas Opportunities**
  - Reduce landfill emissions
  - Enhance landfill performance
  - Divert landfill waste
  - Improve value of landfill systems
  - but:
    - LFG is harder to get to market/s
    - Local body development paradigms
  
- **Customer Biogas Opportunities**
  - Reduce waste disposal costs
  - Improve business environmental footprint
  - Reduce future carbon cost exposures
  - but:
    - Higher development and gas quality risks
    - Maybe easier to burn

Biogas options are compelling on paper for both Municipal Authorities and for Customers, but further innovation is needed to get bio-energy working more as a system than a project.

## Municipal biogas opportunities– looking forward

- Biogas is a relatively small but important part of the future bioenergy value chain.
- As a catalyst, LFG provides Councils with a strategic opportunity to develop a wider bio-energy strategy.
- In our experience:
  - On its own, LFG is more a problem seeking a solution.
  - integrated with a bio-energy system, LFG and biogas becomes more a solution to a problem.
- Councils can through their planning role, assist the community to better understand and adapt to bio-energy systems.

