Wood Energy South Assisting Regional Business to Transition from Fossil Fuels

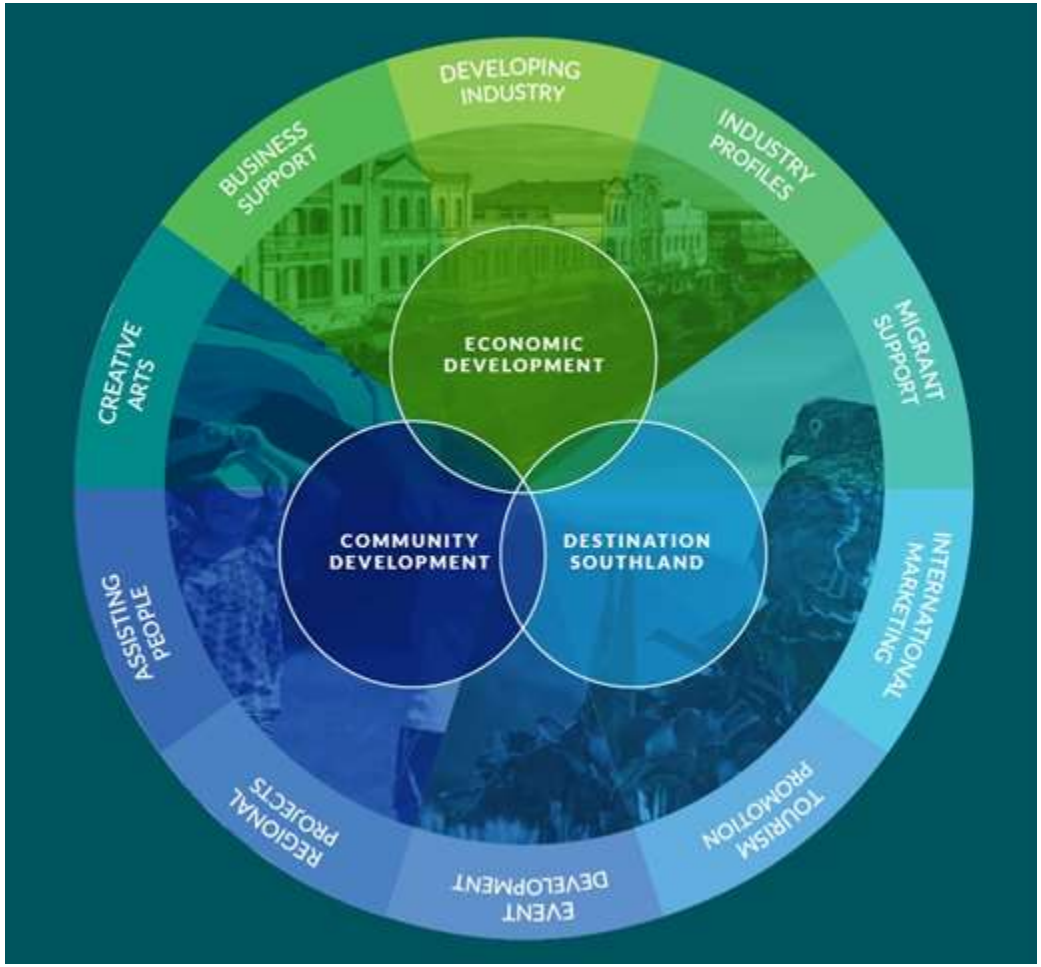
Presentation to BANZ conference Nov 2016 –
A Venture Southland perspective

Venture Southland
Business • Tourism • Community • Events

Overview

- Venture Southland
- Regional Projects
- Wood Energy South Overview
- Aims
- Project Framework
- Establishing Foundation Elements and Building Confidence
- Project Stimulus and Development of Resources
- Implementation
- Importance of Collaboration
- Empowering Policy

Venture Southland

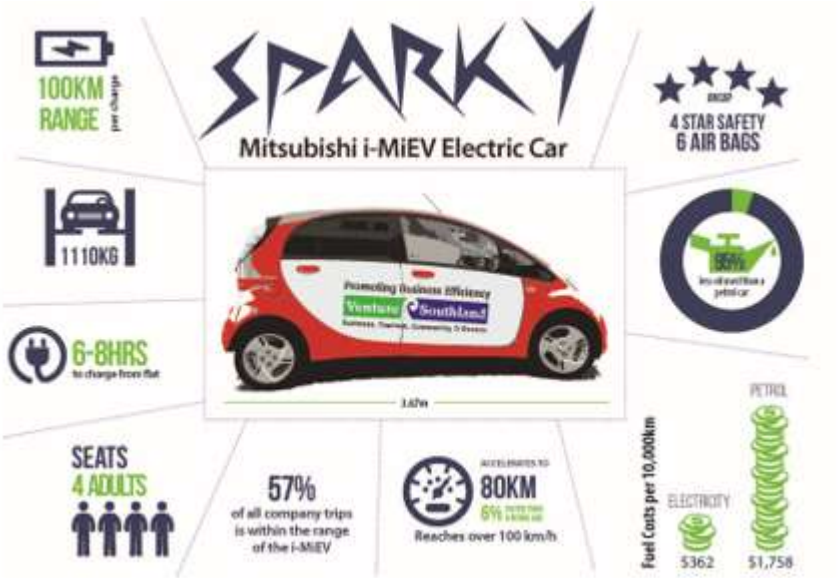


Mission:

To actively work with groups and organisations to identify opportunities and facilitate the development of projects and initiatives that will enhance the prosperity and quality of life of Southland communities.

Understanding the Opportunity to Convert Waste to Energy

WOOD ENERGY SOUTH



Understanding the Opportunity to Convert Waste to Energy

Background

- Southland Energy Strategy 2005, and updated in 2012
- Dairy Energy Efficiency Assessment 2008
- 2010 Wood Energy Forum
- 2011 Wood Demand Assessment
- 2012 Waste to Energy Report – Regional Opportunities Identified
- 2015 Otago and Southland Forest Residue Supply Assessment

Wood Energy South

3 year project (2014-2017)

$1.5 mil EECA contribution

Reduce 195,000t of CO2 emissions

Aims to:

- Utilise local waste wood
- Lower carbon emissions
- Improve air quality
- Demonstrate the cost and life-cycle benefits of wood fuelled heat plant systems
- Build industry knowledge and capability
- Build a woody biomass market

Venture Southland
Business • Tourism • Community • Events

Project Framework

Phase 1	Phase 2	Phase 3
• Establishing foundation elements and building confidence	• Project stimulus and development of resources	• Implementation

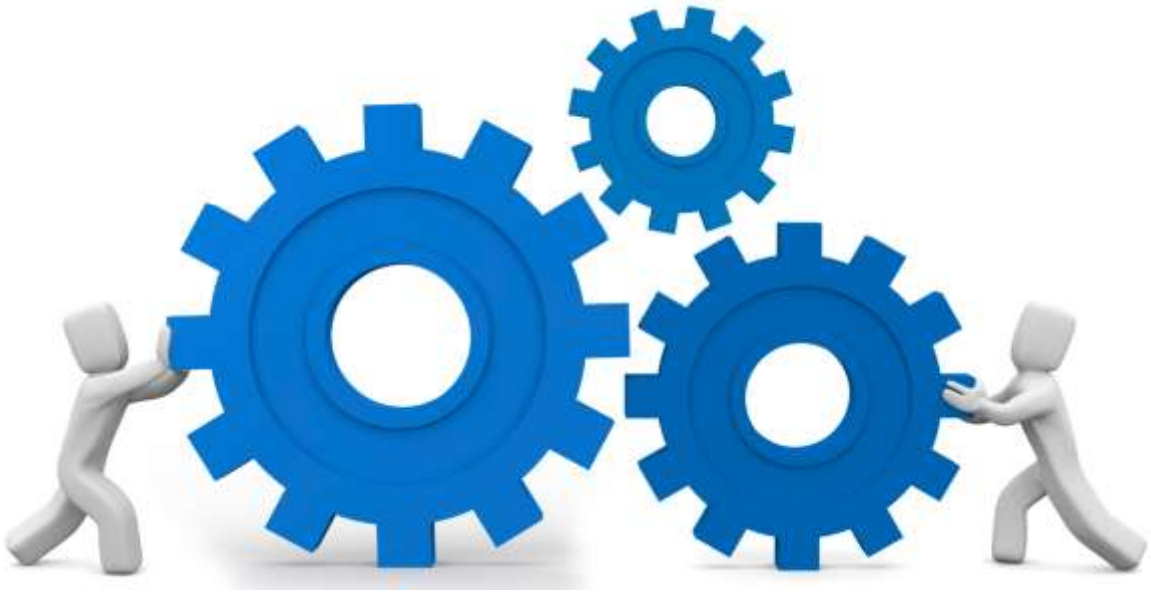
Phase 1 *Establishing foundation elements and building confidence*

- Heatplant Database
- Technical Support
- Industry Engagement
- Governance
- Website
- Project Launch
- Identifying the barriers

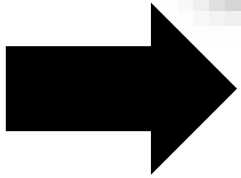
Phase 2 *Project Stimulus and Development of Resources*

Barriers	Opportunities
"Coal Country"	Adoption of Biomass by Local Industry
Lack of Knowledge Around Biomass Systems	Awareness Programmes, Symposiums, Case Studies and Resources
Inability to Evaluate Feasibility and Life Cycle Costs	Specifier Practise Paper
Lack of Confidence in Supply	Southland and Coastal Otago Supply Studies
Air Plan Regulations	Supporting Decision Makers
3rd party decision making	Support and Assistance

Phase 3 *Implementation*



“Coal Country”



TAKITIMU SCHOOL TURN TO WOOD ENERGY

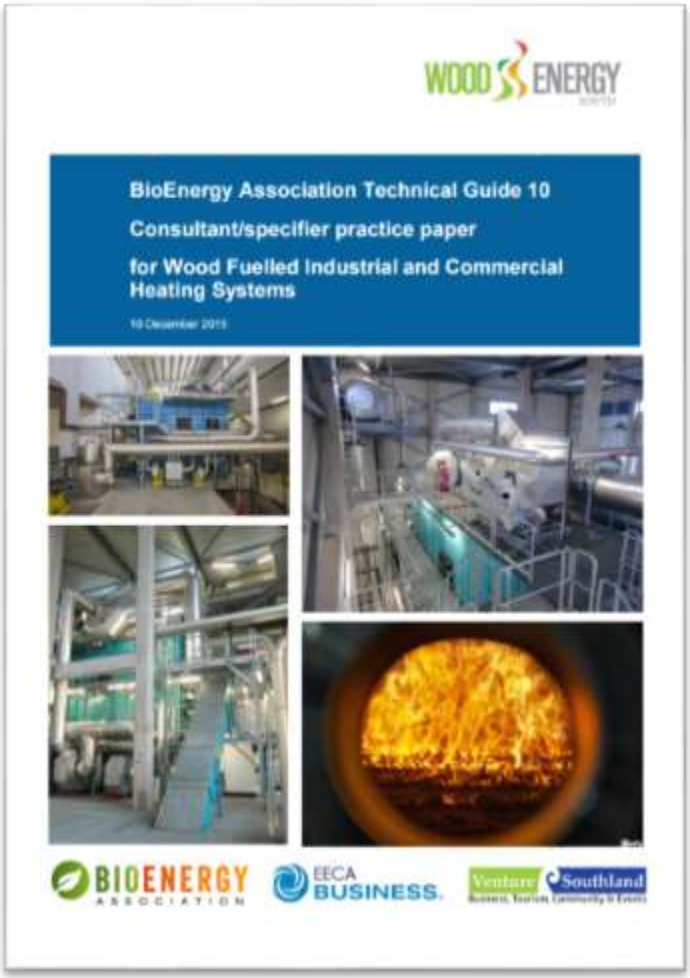
September 14, 2015

The next 25 years heating at a Southland School in the heart of coal country will be provided by wood energy.

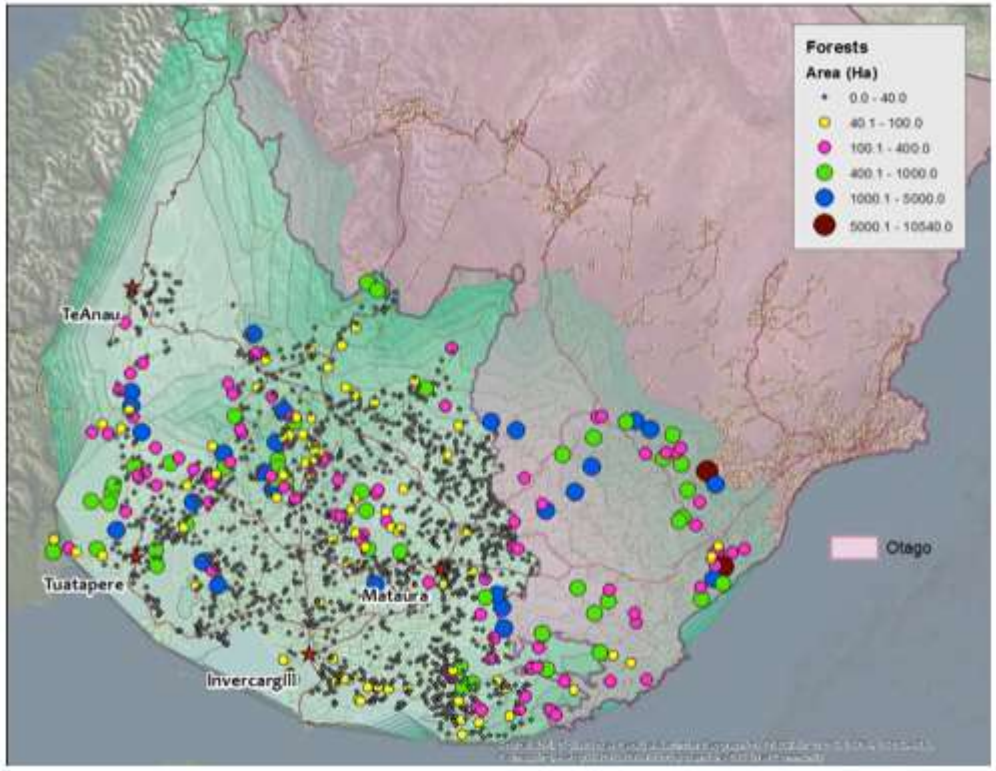
Dissemination of Information

- Events
- Presentations
- Reports
- Submissions
- Resources

Evaluation of Feasibility and Life Cycle Costs



Supply



Forest areas within the Southland Region

Building confidence in the security of supply

An assessment of waste wood volumes has been completed including sawmill waste, low value logs and unrecovered wood. Wood chip (<30% moisture content), wet chip and hog fuel options have also been considered.

Residue waste wood predicted for energy:

2015-2018: 180,000t pa

2019-2028: 320,000t pa

2029-2033: 450,000t pa

2034-2039: 500,000t pa

2040-2045: 580,000t pa

Predictions exclude mixed biomass options

Clean Air

An **optimised biomass boiler** produces low levels of harmful particulates

		>PM_{10}	PM_{10}	Condensable	Total
		(mg/m³, dry, 0°C, 1Atm)			
1 Invercargill Vekos (Coal converted to Wood Chip)	Boiler Un-scrubbed	910	420	540	1870
	Fresh Water Scrub	50	80	20	150

- Emissions monitoring at McCallums Group
- Working with SIT
- Presentation to the National Air Quality Working Group
- Submissions and engagement with Environment Southland
- Preparing Businesses that regulation changes are coming

Current Conversion Examples

Industry and Local Council

- McCallums Dry Cleaners
- Skinkskin Thornbury
- Splash Palace
- Environment Southland
- Parks and Reserves
- Bowmont Meats
- Balcrom Concrete
- Sherwood Hotel

Strong Leadership from the Ministry of Education

- Makarewa School
- Tisbury School
- Donovan Primary
- Takitimu School
- Waihopai School
- Ruru School
- West Gore School
- Menzies Collage
- New River Primary

- Large scale ‘carbon zero’ processing plants considering wood biomass boilers – 10-12MW

Ehara taku toa i te toa takitahi Engari, he toa takitini

Success is not the work of one, but the work of many

Empowering Policy

- That all **state sector agencies be encouraged to take a lead;** as demonstrated by the Ministry of Education and adopt Energy Efficiency and the use of **biomass low emissions heating/boiler systems**
- That **regional emission reduction targets** be set rather than just national emissions reduction targets – resulting in a broader level of engagement and accountability
- **Resource Efficiency in Business** – Lean Processes will further enhance performance and business competitiveness
- It is important to **recognise that there is no one magic bullet to reduce Emissions - a multifaceted approach is required**

Thank You

WOOD ENERGY SOUTH

www.venturesouthland.co.nz
www.woodenergysouth.co.nz