Port Marlborough
Marlborough Environment Awards 2025

Sound environmental management is good business

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Judges' Report

CATEGORY:

Business Innovation

Kinzett Tomatoes & Matt Gale Contracting

Waste to Energy and Emissions Reduction

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JUDGES	Dorien Vermaas, Helen Smale, Mya Hopkinson, Heath Stafford

INTRODUCTION

Kinzett Tomatoes and Matt Gale Contracting are two small businesses who have partnered to develop an alternative energy source into a viable industry.

Growing tomatoes in glasshouses in Marlborough year-round is dependent on heating. Historically, South Island growers have been limited to using coal. In 2004, Kinzett recognised both the environmental and economic benefits and converted to a biomass sawmill woodchip by-product. Seeking higher energy density fuel, Kinzett have experimented and trialed a number of biomass alternatives over time. Each fuel source for heating has pros and cons, for example, coal has the greatest ratio of energy output but also has greatest GHG emissions compared to green woodchip. Rising carrbon costs of coal were also a driving factor in choice alongside their sustainability credentials.

This is where Kinzett Tomatoes relationship with Matt Gale Contracting started. Kinzetts needed a more efficient fuel source than the high moisture content wood fibre. Matt, with a background in forestry contracting turned his mind to amount of waste wood-fibre left behind post harvesting, and the environmental implications, and embarked on an innovative way to process forestry slash into value added dry woodchip that would otherwise remain in the forest as waste. Together, they formed a solution for both of their individual problems and one that stacks up financially, and environmentally.

Working in with local foresters, Matt Gale Contracting process forestry slash into dry woodchip. Matt Gale can provide Kinzett with the size and specification they require and is working on making this a standard product offering.

Kinzett has been successfully using the dry woodchip to power their boiler supplying hothouses with heat, citing the overall benefits as outweighing coal by having a consistent and ample supply.

The benefits of green woodchip over coal:

- Woodchip is a more sustainable resource than coal.
- Over a 12-month production cycle woodchip has reduced fossil fuel emissions by ~3000t CO2, a reduction of 97%.
- Woodchip is safer and cleaner to work with than coal.
- Woodchip can reduce annual energy costs by ~20%.
- Produces significant less particulate matter (PM10's) for breathable air quality.

Additional benefits of dry woodchip over green woodchip:

- Dry woodchip has double the calorific value of green woodchip due to the lower moisture content and will further reduce gross renewable Co2 emissions and transport movements.
- Significantly less carbonic acid produced due to less water content.
- Utilises forestry slash, a waste product as a valuable fuel source. This enables the local circular economy because local forestry debris is used. This diminishes the carbon footprint of Kinzett produce further and has environmental benefits to the local Forestry Industry.

Utilising a waste product has additional benefits such as supporting more jobs in the region, reduces the number of transport units on local roads and diverts premium grade sawmill byproduct into composite wood materials for export for its highest and best use.

The broader community also benefits from less gully erosion on forestry sites that contribute to landslides and issues and slash during rain events that can affect roading and other infrastructure. Crucially, waste wood fibre that would otherwise be left to rot onsite is adding value to the region.

GENERAL INFORMATION

Energy and its emissions (GhG and particulates) are intrinsically linked to a global shift toward more efficient energy production and less harmful emissions. Energy efficiency is primarily driven by the cost to produce and transmit or transport and end users wish to benefit from lower costs and lower environmental impacts from its production.

There are several constraints to shifting base energy production from the current and predominantly fossil fuel source to renewable energy and other alternatives such as nuclear and hydrogen. Businesses of scale are likely to access and benefit from energy transformations more so than small businesses due to the high cost to build and economies of scale.

Despite this, small businesses are a key source of innovation for energy efficiency and alternative sources of fuel. In some cases, viable alternatives are of a scale too small for large business or research and development organisations to invest or investigate but is viable at a regional level where production is in close proximity to the fuel source.

THE FUTURE

At this stage dry woodchip is being used for energy by Kinzett but Matt Gale also has customers who use chips for other purposes. The combination of MGC and Kinzett also presents the opportunity to form a circular economy within the region where other biological waste from the production of fresh tomatoes - grown with the energy from forestry waste are recycled into products that can be used by end users in edible gardens, and compost for vineyards.

Matt Gale contracting has also designed and locally manufactured an extension on German built woodchipper. This is a patented vine-pulling extension which significantly reduces the time and cost to remove grapevines for vineyard redevelopment. Grapevines have more energy density than Pinus radiata and are a potential boiler feedstock also.

CHALLENGES

- Although slash is a hazard during weather events its economic value is questionable. The industry is waiting to see viable alternatives emerge before committing to integrated solutions. This can pose a challenge to MCG who double handles slash by sorting it after a site has been logged. To date, foresters have not been incentivised to manage waste. Post Cyclone Gabrielle, there is an opportunity to do so.

SUMMARY

This initiative is a step on the journey by Kinzett to evolve their energy base for efficiency, cost and sustainability and a demonstrated need to act locally and benefit the region.

Partnering with MGC has provided the innovation to join two seemingly separate businesses into an exciting venture with benefits beyond them and into the community and region.

The risks taken by the venture are significant, well measured and have the potential to unlock significant value.

THE JUDGES WERE IMPRESSED BY

- The long-term commitment by Kinzett and MGC to innovation and finding solutions to real world problems.
- Designing a system to solve an issue that was in the "too hard basket" and required a combination of skill bases, innovating thinking and grit.
- The desire to work together simplistically and avoid creating unnecessary barriers getting in the way of progress.
- The potential for a local circular economy benefiting the community.
- The trust and respect the two parties have for each other - they work in true partnership based on high ethical shared values.
- The endurance to keep going - even without being able to access any government funding.

- The commitment from Matt Gale contracting to his own business and massively invest in new equipment and innovation through his own private assets.
- the innovation- insights behind this project: Matt realized he could use his 20-year forestry harvesting experience in sourcing dry woodchip from vines.

JUDGES' RECOMMENDATIONS

- The judges commend both entrepreneurs for their tenacity and vision and building a platform between their two businesses that delivers commercial outcomes while also delivering real environmental sustainability outcomes - this could be an excellent business case to be copied in other sectors!
- The judges understood that the large Eco-gas bottle in front of the glass houses is not being used by Kinzett tomatoes anymore. Since the big gas-tank in the front paddock is contradictory to Kinzett's story the judges recommend asking eco-gas to cover the tank or at least have signage to remove any reference between Eco-gas and the tomato grower.
- That this project might be scaled up in the Top of the South and brought to other regions in New Zealand where forestry slash and debris is a big problem, (ie. Gisborne).
- That the companies tell the story of their success and work on their public relations for this project to get attention from central government and the forestry industry so it can grow bigger, faster and better.