

Regional Bioenergy Project



What is it?

- Project funded by the Victorian Government to promote bioenergy in Regional Victoria
- Established a demonstration site in Beaufort
- Developed an Investment Plan for the Wimmera
- Raised awareness amongst regional councils and the wider public about bioenergy

Beaufort Hospital Installation



- Containerised biomass heating system comprising 110kW Hargassner boiler and fuel store
- Fuelled with wood chips produced from sawmill waste at the local sawmill.
- Connected to existing hospital hydronic heating systems with existing LPG gas boilers retained as backup
- Fully automatic with minimal maintenance required

Expected Benefits

- System life of 25 years
- Saving on LPG of around \$55,000/year
- Total saving on heating cost of nearly \$35,000/year
- Reduction in greenhouse gas emissions of 140 tonnes per year
- Improved energy security using local sources
- Helps secure local jobs

Boiler System



Fuel Chips



Fuel delivery system



Chip processing system

- Shaker screen



- Chip storage shed



Wimmera Investment Plan

- Proposal to heat the Horsham Aquatic Centre with timber and green waste diverted from landfill
- Incorporated into the Horsham Rural City Sustainability Strategy
- Will divert approximately 480 tonnes of timber/green waste from landfill per annum and reduce annual heating costs by \$25,000

Horsham Aquatic Centre



Proposed fuels

- Shredded timber waste
- Shredded green waste




Green waste process system

Waste
Material Flow Management

Biomass
Fuel Production

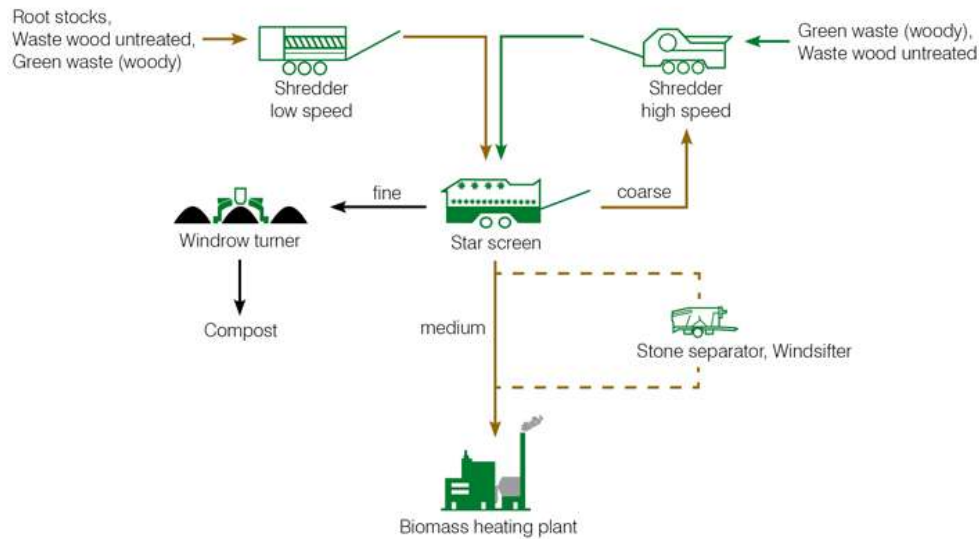
Products

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> Biomass > Fuel from green waste

Fuel from green waste



Quicklinks

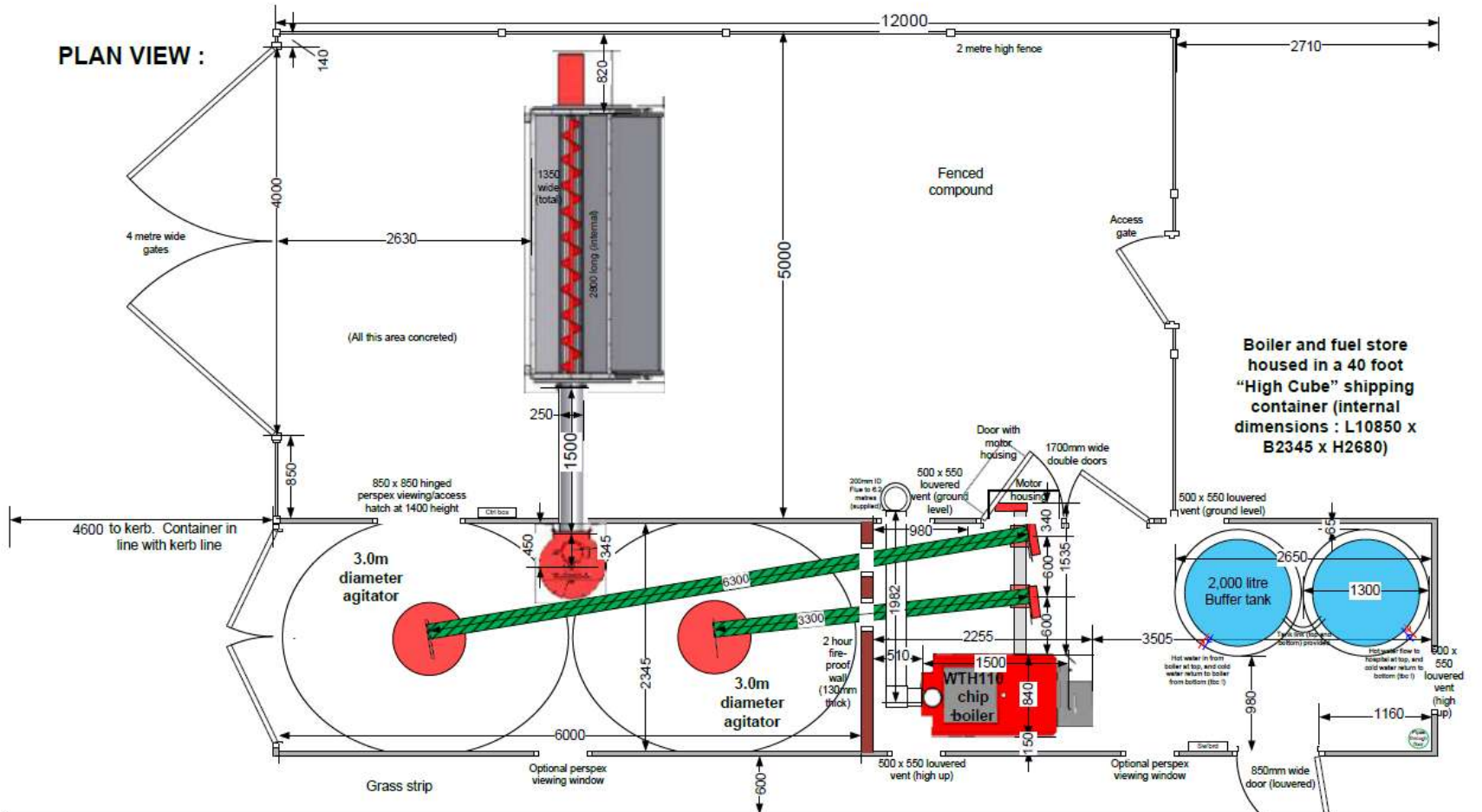
- ▶ Pre-shredder (wood)
- ▶ Universal shredder (wood)
- ▶ Star screens
- ▶ Drum screens
- ▶ Windsifter
- ▶ Windrow turners

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Containerised boiler system



What did we learn?

- Doing bioenergy projects between 30 kW and 1 MW is not easy in Australia.
- There are no system suppliers, few installers and good advice is hard to come by.
- There is limited fuel supply options and users have to develop their own supply process.
- There are emerging opportunities and hope!

Is bioenergy applicable for you?

- Are you spending more than \$10K per year on heating or waste disposal?
- Have organic material available to you at little or no cost?
- Then bioenergy may be applicable for you.
- Obtain some advice or do some research on line – there's a lot of information available on the web.

Next steps

- Determine how much energy you use (energy bills).
- Find out what types of potential fuel you have available and how much there is.
- Research bioenergy systems that will provide the amount of energy you want using the fuel you have.
- Then seek out potential installers.

Potential issues

- Budget – bioenergy systems are expensive but have a long life and low operating cost.
- Fuel supply – much sure there will be enough fuel available of the correct quality when you will need it – fuel quality can be critical.
- Start the planning process early – authorities and the public aren't familiar with bioenergy and will need to be brought on board.

Other bioenergy options

- Fire hazard reduction – huge amounts of biomass is burnt each year in Victoria to reduce the risk of bushfires.
- The US “Fuels for Schools” program is an example of how this material can be harvested and used to heat public facilities such as schools, hospitals and other public facilities.

Weed control

- Weeds are just another form of biomass – below are photos of the Biobaler system harvesting woody weeds for use as bioenergy



Conclusion

- What was easy and what was hard? The easy part was finding information on bioenergy. The internet is a marvellous tool. The hard part is finding a system installer and convincing people that it works.
- Hopefully this project has made that a little easier for those who follow.
- The take home message - bioenergy is a real option for reducing energy and waste disposal costs. It also creates a local economy (jobs).

Questions?



Victorian Adaptation
& Sustainability *Partnership*

