

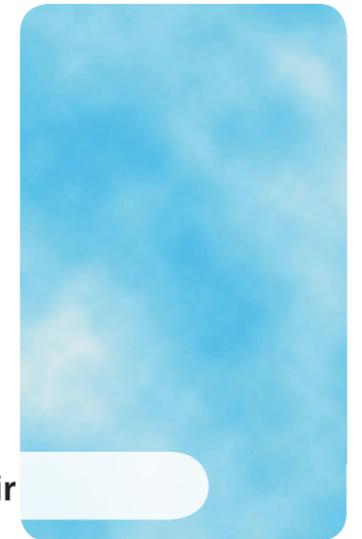
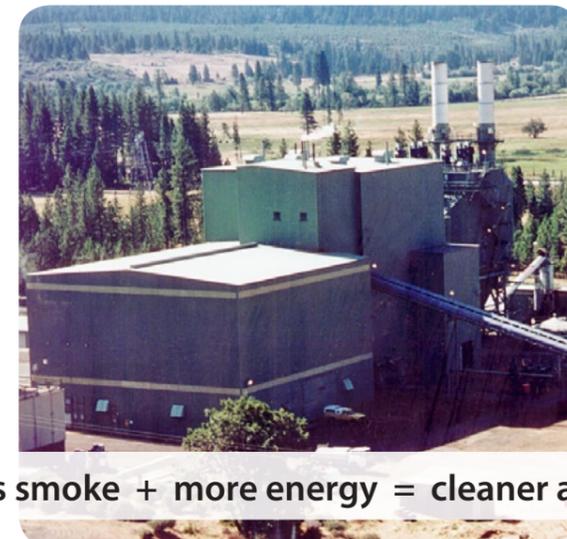
¹ Bauen, A., Woods, J. and Hailes, R. (2004) *BioPowerSwitch! A biomass blueprint to meet 15% of OECD electricity demand by 2020*. Report and brochure prepared for WWF International and Aebiom by Imperial College London's Centre for Energy Policy and Technology and E4Tech (UK) Ltd. (Excerpt from brochure).

² US Department of Energy Federal Energy Management Program (2004) *Biomass and alternative methane fuels Super ESPC Program fact sheet*

³ Confederation of Forest Industries (Confor), UK Forest Products Association (UKFPA) and Wood Panel Industries Federation (WPIF) (March 2010) *Wood fibre availability and demand in Britain 2007 to 2025*

⁴ Garnaut, R. (2008) *The Garnaut Climate Change Review*. Cambridge University Press, Melbourne. (For example, see page 542).

⁵ Mclennan Magasanik Associates (2009) *Report to Tasmanian Climate Change Office, Department of Premier and Cabinet: Tasmanian Greenhouse Gas Emission Reduction Project - Understanding the Potential for Reducing Tasmania's Greenhouse Gas Emissions*



less smoke + more energy = cleaner air

A 25mw biomass plant at Southwood would:

- Reduce smoke and particulate emissions from regeneration burns by up to 70 per cent.*
- Reduce the forest industry's reliance on high intensity regeneration burns.
- Make productive use of 250,000 tonnes per year of waste wood from harvesting and processing.
- Through biomass power plant technology, remove particulates, nitrous gases and sulphurous gases from emissions, thereby reducing the total emission of CO₂ equivalents relative to open air burning.
- Meet most of the energy needs of households south of Hobart.
- Involve capital investment of about \$70 million.
- Generate about 160,000 Renewable Energy Certificates per year.
- Accept wood waste from farms and orchards, thereby reducing burns and related emissions on private property.

*To maintain invertebrate habitat, at least 30 per cent of the biomass will be left in the bush. The remaining 70 per cent can be salvaged for biomass energy.

Planning and environmental approvals are already in place for a wood fired power station at the Huon Wood Centre. Other locations around the State are also suitable, but generally at a smaller scale (related to the quantity of waste wood available in each of those locations). Potential locations include Newwood Smithton and Bell Bay.

Other locations

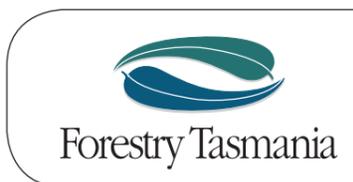
- Smaller five to ten megawatt plants costing \$20m-\$30m each is an option.
- High voltage transmission lines connect to the electricity grid at each site
- The smaller units would deliver the same environmental outcomes, with the benefits distributed throughout the State.

Exporting bioenergy

- Waste wood (either as chips or pellets) could be shipped to Europe and Asia where demand for biomass energy is growing as a result of strong government subsidies.
- However, the "carbon miles" involved reduces any climate change benefits.
- Also, the extra handling and transport reduces the financial and economic outcomes.



Forestry Tasmania
GPO Box 207
Hobart, Tasmania 7001
1800 FOREST
(03) 6235 8390
forestry.tasmania@forestrytas.com.au
www.forestrytas.com.au



Biomass: a renewable energy opportunity for Tasmania

"If we really want to prevent catastrophic climate change, we will have to make radical alterations to the ways in which we generate energy. One major solution lies in the contemporary, cutting-edge use of the oldest fuel known to man – wood.

"Woody biomass – also known as biomass from forestry and farming – has the potential to become a major source for future electricity and heat production. By utilizing modern and efficient technologies, biomass offers a source of clean energy that can gradually replace coal and other fossil fuels, bringing environmental benefits, supporting rural development and creating new employment opportunities."

WWF - Biomass Blueprint¹

What is biomass?

Biomass is both the oldest form of energy known to humans, and one of the key means by which we can meet the energy demands of a low-carbon future.

Essentially, biomass is an easily obtainable store of solar energy. It is derived from biological organisms, such as trees and crops, which, through the process of photosynthesis, use carbon dioxide to convert solar energy to carbohydrates. The energy stored in these carbohydrates can be released through a variety of processes to generate electricity.

When biomass is derived from sustainably managed resources, such as Tasmania's state forests, the energy produced is renewable because the trees and plants are regrown after harvest. It's also carbon neutral because the carbon dioxide captured by this regrowth offsets that released in electricity generation.

In comparison, fossil fuels such as coal, gas and oil, while also derived from organic matter, are non-renewable resources. It's now well documented that our use of them continues to increase atmospheric carbon dioxide and contribute to climate change.

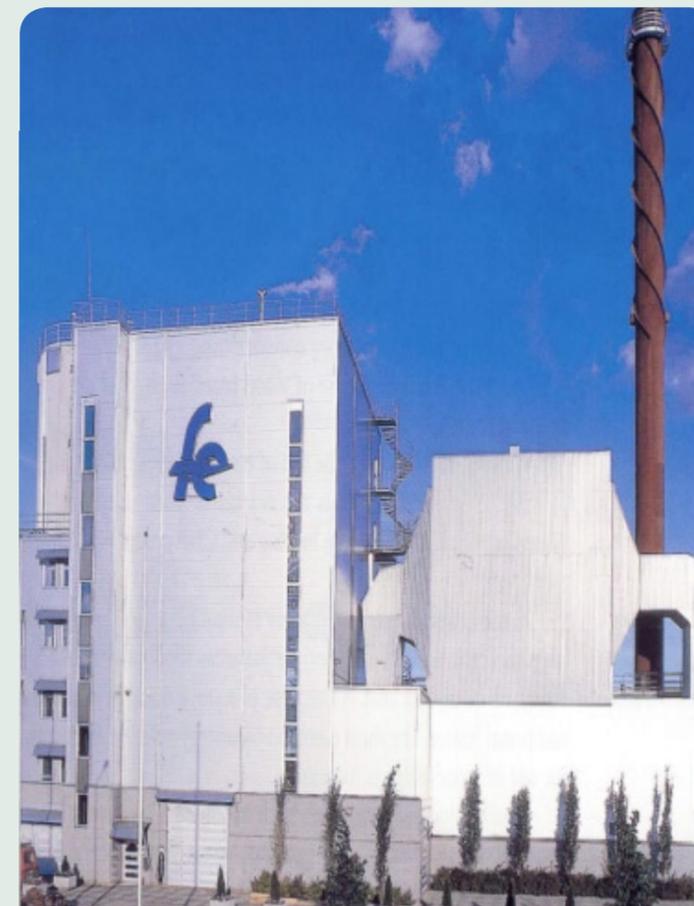


A biomass energy plant will reduce smoke and emissions from regeneration burns by up to 70 per cent.

A source of green energy embraced in advanced economies

Biomass energy has been embraced in many highly developed countries around the world as a means of reducing their carbon emissions. Throughout Europe and North America, wood fired power stations are now widely accepted as being preferable to those powered by fossil fuels. In the United States, biomass is the leading source of renewable energy, with the US Department of Energy noting, *"Wood waste is one of the most abundant, cost-competitive, and environmentally friendly biomass resources"*². In the United Kingdom, biomass sector's growing demand for woodchips and pellets is such that it is expected to outstrip domestic supply by 2012³. In Europe, the World Wildlife Fund is campaigning to have 15 per cent of the OECD's energy needs met by biomass.

Forssa Combined Heat & Power plant, 100 km NW of Helsinki. Supplies 48 MW of heat & 17MW of electricity (ref: TEKES Growing Power)



Forestry Tasmania's green energy plan

Forestry Tasmania manages the 1.5 million hectares of State forests so that no more than one per cent of this area may be harvested for wood products each year. All harvested areas are regrown.

We manage working forests to provide high quality sawlogs and veneer logs, and woodchips are also derived as a by-product of this harvesting.

However, after harvesting is complete, a large amount of currently unmarketable wood is left on the forest floor. Our current practice is to burn this wood to create a seedbed for the regrowing forest. We acknowledge that the smoke from these planned burns is a source of concern for many stakeholders, including the tourism industry.

Instead of burning this wood on the forest floor, our plan is to fully recognise its significant value as a source of renewable energy. This plan would see some of the wood salvaged for use in a biomass energy station, to be located at the Huon Wood Centre. This power station promises to generate almost all the electricity required to supply the towns south of Hobart. Planning approvals are already in place, and we are actively seeking investors to develop the project.

We have conducted extensive scientific research into the environmental impacts of salvaging timber for biomass, and have developed prescriptions that will ensure adequate habitat is also retained for flora and fauna that depends on rotting wood.

Forestry Tasmania will not harvest forests solely for biofuel - the waste wood for biomass will only ever be salvaged as a by-product of normal harvesting for sawlogs and veneer logs.