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## VIABLE BIOMASS FUEL SOURCES IN NSW



### Large scale biomass fuel sources

Delta Electricity research has identified four potentially viable, large scale biomass fuel sources; Mallee Eucalypt, licensed woody weed residues, clean recycled timber and radiata pine plantation residues.



These biomass sources have high calorific values and can be co-fired with coal during the remaining lifespan of baseload power stations at Vales Point and Wallerawang in NSW.

#### 1. Farmed Mallee Eucalypt energy crop

Mallee Eucalypts are favoured for large quantity, long term biomass supply and can be planted around existing cropping areas without impacting food production levels. Mallee plants take five years to grow to sufficient maturity for their first harvest. The Mallee then regrows (coppices) and can be harvested again every three years.

This provides additional benefits to farmers:

- A drought resistant, perennial, coppicing energy crop;
- Improved yields on crops which are surrounded by Mallee windbreaks; and
- The potential to improve marginal farmland yields.

In March 2010 Delta began a successful renewable biomass fuel trial to plant 200,000 Mallee Eucalypts on ten farms in the Forbes district.

#### 2. Local Radiata Pine plantation residue

NSW has a number of radiata pine plantations. Forestry thinning and harvesting operations create a quantity of residue that is not currently used. Since 2002 Delta Electricity has worked with plantation forest operators in the Oberon area to find ways to make use of their residues and this work will accelerate if biomass demand increases.

#### 3. Woody weeds from licensed treatment on agricultural land

In North West NSW previously productive agricultural land has been inundated by invasive native scrub. These plants, also known as woody weeds, could be an excellent source of biomass fuel that is available in large quantities for immediate use.

The Central West Catchment Management Authority has identified 12 million hectares of woody weed infested farm land and has already issued licenses to treat 2.2 million hectares.

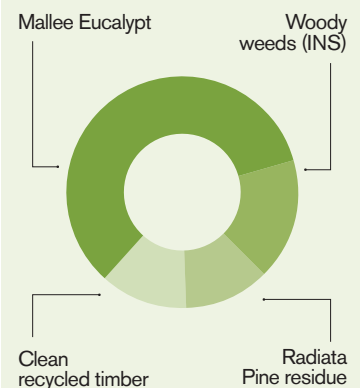
Using a portion of this licensed woody weed material for biomass fuel would assist farmers to fund treatment and rehabilitate native grasslands and grazing areas.

#### 4. Source-separated clean timber waste from recycling activities

Clean timber waste recovered from manufacturing operations and construction sites has been used by Delta Electricity for some years now in its low scale biomass co-firing operations. The opportunity exists to increase the uptake from these sources and Delta Electricity is discussing this with its suppliers.

Delta Electricity is working with a number of committed partners to create large scale biomass fuel sources in NSW. These include farmers, foresters, local councils, government agencies and innovative private enterprises which are building a cleaner electricity industry.

#### Vales Point 20% of energy fuel



Source	Tonnes per year from 2020
Mallee Eucalypt	500,000
Woody weeds (INS)	150,000
Radiata Pine residue	100,000
Clean recycled timber	100,000
Annual pellet reqt (kt)	850,000 tonnes
Biomass % of power station fuel	20%

#### For more information please visit

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Delta Electricity has Australia's largest electricity generation capacity, providing more than 5,000 MW of electricity from coal, gas, mini hydro and biomass technologies.