Supplementary Submission

No 177a

INQUIRY INTO 'ENERGY FROM WASTE' TECHNOLOGY

Organisation: Active Tree Services

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Legislative Council
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re: **Inquiry into 'energy from waste' technology - Call for submissions - Portfolio Committee No. 6**

Supplementary Submission

• Industry Overview

o I am here also to represent the arboriculture industry, not in an official capacity but I have held a number of roles in the 2 principal industry associations and ATS is the platinum sponsor of the national and major association, Arboriculture Australia). I have been interested in using biomass for energy for decades and have a degree in Chemical Engineering which I used for a year before I introduced into the tree industry . It is estimated that in Australia there are 50,000 people employed in the arboriculture industry and 20,000 in the private sector. In NSW it is estimated there are 2000 independent contractors and about 3000 woodchippers in use. To the best of my knowledge very little arboricultural biomass is landfilled although a significant quantity is delivered to landfill sites where it is recycled by composting or land cover/mulch . I would estimate that there is about 1.2 million tonnes of arb material chipped each year. On top of that where new roads are built and there are large quantities of trees I estimate another 200,000 tonnes are produced by a process called wood grinding which is essentially a giant hammer mill. By definition all the work done by the Arb industry is on trees or shrubs that are natural organic material and the process of chipping does not change the nature of the material but reduces handling costs and converts it to a useable product.

o Recently the EPA has published the Mulch Order 2016. This designates mulch as a waste so any conversation with using this material as a fuel starts from the same point as any other waste (IE the Eastern Creek Proposal) .In so doing they have identified their primary reason for nominating mulch as a waste is "*However, there is evidence linking the transmission of weeds, diseases and pests from mulch to the soil and living plants*". ***Waste to Energy is a far better solution for disease spread than the mulch order.*** Sydney has been in oversupply of mulch for a number of years and the problem is increasing. 5 years ago mulch could be sold for about $30 a tonne and now it costs between $30 and $60 a tonne if you cannot give it away. All these costs then flow back to the consumer. A reasonably significant side effect is illegal dumping of mulch in bushland areas. We think this material could be redefined as a **biomass resource** or **UTW** (urban tree waste).

- **Why use Biomass**

o The **Finkel Report** (attached Appendix A1) on pages 185 and 186 Section 8 **Beyond the Blueprint.** In this section of the report it is noted that Biomass is an important part **of future generation**

o Biomass is a renewable fuel promoted worldwide as an alternative to gas or coal. There is debate about harvesting existing timber for biomass fuel but not for biomass that is harvested regardless of its use ie Arb Biomass (UTW). (The argument about harvesting existing timber for biomass equally applies to biofuels.) Biomass is recognised in the NSW Renewable Energy Action Plan and in the NSW Energy from Waste Policy Statement there are some biomass fuels listed as Eligible Waste Fuels. Mulch is by any definition Biomass and many of the portions of a tree that are not mulched become firewood and are used domestically as a biomass fuel. There are 4 types of common fuel in the UK and I attach a description from Forestry UK (Appendix B1)

- **Biomass Industry in Europe**

o I have recently attended the largest Arboricultural Expo in the UK and by my estimate 70% of UK arboriculture material goes to energy and at the expo about 40% of exhibits were related to biomass to energy. I attach a description of using Biomass from the Forestry UK (appendix E1)

o In Europe and the US, boilers or energy producing equipment are manufactured to comply with a specific standard. These standards are for the output of the equipment and the manufacturer is responsible for the testing of the equipment and then once a model is approved then no further testing is required by the user. All boilers and, in many areas ,even fireplaces require an annual inspection and certification by an independent auditor. The only constraint on feedstock seems to be moisture content and some equipment has a maximum level and some can handle and level of moisture. Of note is most buyers of retail firewood use moisture meters to ensure the quality of their wood. This is very rare in Australia. I attach the US **National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers** which covers Biomass and **DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions (integrated pollution prevention and control, and The UK RHI Emissions Certificates for biomass boilers, (**Appendix C1**)** for some light reading.

- **Biomass Industry in New Zealand**

New Zealand has a comprehensive policy to encourage biomass use for energy. The over arching Government Authority is the Energy Efficiency Conservation Authority EECA. New Zealand generated 7% of their total energy from biomass, as opposed to about 1% in Australia. The industry group is the Bioenergy Association and they have produced a comprehensive technical guide, a part of which is attached and it is a ready made model for Australia. (AppendixF1 Bioenergy Association technical Guide)

- **Biomass Industry Constraints in NSW**

o The biomass energy from waste as an approved Eligible Waste Fuel is almost cost prohibitive. As stated in the Finkel report *"It has also been suggested that some aspects of the regulatory framework may present barriers to investment in biomass generation, including the absence of a stand-alone sustainability standard for bioenergy, and 'overregulation' by state environmental protection agencies"* From my perspective this is true, starting with an annual requirement to test 20 samples of biomass annually (this tests if biomass is actually biomass), a visual inspection will reveal this, then extensive testing of off the shelf European equipment after it has been installed but before site approval is give. There is 20 years of proven history in Europe that all Biomass is a suitable feedstock.

o In The **NSW Renewable Energy Action Plan** biomass is simply mentioned in passing .

o In the **NSW Waste Less , Recycle More Funding initiative 2017-2021** there is no suggestion that any form of Biomass to Energy funding has been considered. I understand that funds for this program come

from the Waste Levy and possibly as most of this material is not levied at the moment then it was not considered. The current government funding seems to be on material diversion rather than a global look at environmental outcomes.

o We have approached the **Renewable Energy Advocate** and were referred to the DPI. The DPI has put some significant resources into trying to increase the use of forestry and agricultural material as a biomass fuel. (Both these are Eligible Waste Fuels). At the recent conference it was clear that current NSW regulation was effectively adding costs to make most proposals unviable. In fact the EPA was deliberately not invited to participate.

- **Possible Outcome**

o I believe the current regulatory needs to be reviewed and it could by a NSW government initiative to fund the whole review process and change the regulation and permitting process to open up a significant new industry with good environmental outcome , significantly better than we have now, and provide some low tech employment in local communities. Our industry is unable to fund this process as we are mostly very small and the advantage to any individual business does not justify the investment. This is certainly how it is done in most of Europe and parts of the US. I attach the UK Bioenergy Strategy by way of example (Appendix D1)

o Much is said about local industry, the principal of proximity,(ie using resources locally), green energy, renewable energy, cogeneration, trigeneration and control of disease. I believe we could tick all those boxes very simply and economically. If the output of any boiler or generation system is the responsibility of the user then we need a specified minimum conformance level (which may vary by location) and then the regulator should step back and close it down if it cannot conform. We are certainly not talking about any dangerous emissions even if the plant does not conform. The bushfires and bushfire reduction programs create far more of the type of emissions that would be regulated than a poorly performing plant. No sensible business knowingly invests in plant that will not conform and consequently be closed.

o A by product of a comprehensive biomass energy program and a significant air quality initiative, could be the education of fireplace owners. Most do not understand the importance of moisture content of wood nor are fireplaces inspected for efficiency.

o The community benefit would be, lower prices for work on trees or vegetation, a few more jobs (Maybe up to 100 across the state), some other new investments that would become viable with lower energy costs (for instance greenhouses, food processing that needs heat) and we would be a bit closer to our national and state Renewable Energy Target.

I am very grateful to habe the opportunity to appear.

Mark Willcocks
Executive Chairman
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