

**Submission
No 177**

INQUIRY INTO 'ENERGY FROM WASTE' TECHNOLOGY

Organisation: Active Tree Services

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Upper House Committees
Legislative Council
Parliament of New South Wales
Macquarie Street
SYDNEY NSW 2000

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

I would like to speak about 2 specific issues.

1. That urban tree waste is differentiated from all other tree waste as an **Eligible Waste Fuel** in the **NSW Energy from Waste Policy Statement**
2. The current policy of the EPA appears to make it very difficult to use **Eligible Waste Fuel** from woody sources as a heating or energy generation system particularly in urban areas.

I am the chairman of Active Tree Services (ATS) a national tree management company with about 700 direct employees and a similar number of contractors. I have been in the tree industry for 42 years. . When I first started trees could be burnt on site or loaded on to a truck and transported to landfill. In 1980 the first woodchippers were used to convert branches to mulch and the sale price would cover the cost of producing the mulch. After open burning was banned we used a technique called ‘Trench Burning’ for large land clearing contracts for civil and industrial clearing. Sydney has become a city with vastly more trees than it had 40, then 20 years ago. As a consequence of land filling charges very large amounts of mulch are being produced and it is now common for the tree person to pay for disposal of this mulch.

In 2016 the **Mulch Order 2016** was issued by the EPA. This essentially designates mulch as a waste product which limits where it can be used and creates a chain of responsibility for its end use. For the purposes of differentiating the mulch we produce I will refer to it as Urban Tree Waste (UTW) not forestry or garden or kerbside. **UTW is defined roughly as** *Any vegetation defined as a tree (AS 4373 Pruning of Amenity Trees) which is being trimmed or removed for purposes excluding agricultural land clearing or forestry and can be processed through a wood chipper or mulching machine.*

Eligible Waste Fuel

There are numerous sources of “mulch “ or compost in the Greater Sydney Area (GSA). The volume being generated has for a number of years exceeded the amount of product being recycled. As a consequence there are some large stockpiles and the value chain for this material



has severely diminished. In 2016 in response to the likely future and current oversupply, in support of a proposal to be granted **eligible fuel status**, ATS commissioned a report **the Greater Sydney Area Recycled Organics Market**. (This is attached as *Appendix A*). Our application was not successful as we were advised that now was not a good time to be asking for the policy to be changed and if we proceeded it would be long and expensive. An alternative to get permission to use our material as a fuel was, we were advised, to find a site, build the plant then apply for permission. An extremely high risk method. So we abandoned the idea.

I would refer you to the **NSW Energy from Waste Policy Statement** in particular page 5 3. **Eligible Waste Fuels** There are 8 listed waste fuel types. I refer you to the following

1. Biomass from agriculture
2. Forestry and sawmill residues
3. Uncontaminated wood waste
7. Source Separated green waste (used only in processes to produce char.)

The argument of the EPA as to why UTW is not an eligible fuel is that it has a higher use. The EPA has a hierarchy of priorities for the efficient use of resources. (Please see attached *Appendix B*). in their opinion spreading the UTW on the ground is a higher order use. There are 2 arguments for the basis of why this is not correct.

- Items 1, 2 above can be used in the same way. In fact eligible fuel generated from forestry is hauled into the GSA as a backload for mulch being hauled out of or within the GSA. The production of char can clearly be shown as a very non-viable proposition.
- The breakdown of mulch emits a similar volume of carbon as burning to the atmosphere and leaves some carbon in the soils and essential nutrients. The use of UTW as a fuel also emits carbon and the nutrients can be reclaimed from the ash. As a fuel UTW replaces coal or natural gas and is a carbon neutral or a renewable energy ie mulch on the ground has little or no effect on new carbon being released to the atmosphere. (which is the argument used in the **Waste to Energy policy** to promote the use of **Eligible Fuels**). Also the composting of mulch to produce compost releases many gases..

On top of this the EPA is not able to consider the process as a global process.

- Currently mulch that is not disposed of locally by tree companies is trucked for many kms to a collection site on the outskirts of the GSA , consolidated possibly further processed then trucked further out. The traffic, pollution and burning fuel are not a consideration.
- The **Mulch Order 2016** has proclaimed UTW as a designated waste. There are potential issues of disease and spread of weeds that are better managed by burning the UTW.

Use of Eligible Waste as a Fuel

In Europe the use of wood as a renewable fuel has been accepted for many years, including a power station in the UK called Drax which burns over 1 million tonnes of biomass. In the UK home heating systems that use biomass are subsidised at the rate of about 13c per kWh and many European towns have town central heating where the fuel source is biomass. In the US and Japan wood or biomass heating is very common and encouraged. There are numerous standards for equipment and for emission levels in all countries. The European Community, Great Britain and the other European countries see this as an important part of the reduction of carbon in the atmosphere.

There are a number of ways green waste including UTW can be used as a fuel.

- It can be woodchipped and used in a boiler (see attached example *Appendix C* Froling Germany)
- It can be pelletised and used in boilers also see Froling
- It can be shredded as a multi-dimensional fuel and used in a moving grate (as per *Appendix D* Justen)
- Sawdust can be mixed with coal and burnt for electricity generation as is in the Liddell Power Station.
- There are small generating systems that can cogenerate heat and electricity (for example *Appendix E* Spanner)
- It can be gasified and the gas used to heat or produce energy. (For example *Appendix F* Arbor Green UK)

In my limited experience, getting permission from the EPA to use only eligible fuel as a heating alternative or a cogeneration system in NSW let alone Sydney is a complicated and expensive challenge. There are a limited number of large scale sites and most have been in existence for many years. Of note is the sugar mills at Condong and Broadwater that use in addition to bagasse large quantities of wood derived from road clearing, removal of weed species and forestry debris. (See *Appendix G* Cape Byron Power)

The smaller scale heating systems tend to be centred around sawmilling operations and are used for drying timber or some food processing, ie Bega Cheese. There is only one new facility in Sydney . It is in Pitt St and uses wood chip to supply energy for Legion House. To my knowledge it is very successful after it moved away from using waste paper as fuel. This system would never be economic but is a great example of how wood energy can work. (see *Appendix H* Legion House) The only other project I am aware of is a large cucumber farm in Peats Ridge where they are still going through the certification process.

In November 2016 I attended a workshop to promote the use of biomass as energy and it was sponsored by the Department of Primary Industries. This is mostly about forestry and agricultural biomass and was attended by many participants who are able to supply the technology and those who have the resource and those who can use the energy. These were very well run and it was clear that there was extreme frustration at the impediments to using biomass.(see attached *appendix I* Proceedings of the North Coast Biomass Workshop)

As in most business decisions there are alternative technologies and supply options. The primary considerations are cost and risk. In NSW these two are likely to exclude many if not nearly all new proposals for biomass to energy. The maze of permitting and the monitoring systems specified and the length of the process, plus the unknown outcome due are likely project killers. On the one hand you have the DPI and the NSW Energy Advocate promoting the process and the other agencies such as the EPA who have their own remit or agenda which is very conservative, restrictive and out of touch with overseas thinking. This not only stops better environmental outcomes, but leaves NSW as an Australian no-go zone for biomass based thermal renewable energy. Also, energy off-takers such as greenhouses and investments of \$100M plus have now given up on NSW due to the restrictions on the use of biomass and rather direct their investments towards other States.

By way of example, if one buys a truck, which emits plenty of detrimental gases, one does not spend years getting permission to buy it and then installing a pollution monitoring system and then only being able to use a specified brand of diesel. The equipment and woody feedstock for energy production is nearly as well known or specified as the truck. Yet there is zero recognition of this. In my opinion the process could be simple and swift and sure there should be a monitoring system but not overly complicated and not to a specification that is Australian designed but to an EC standard or US. With current communication technology these monitoring systems can report directly to the authority.

I would very much appreciate the opportunity to appear before the committee

Mark Willcocks
Executive Chairman
Active Tree Services p/l