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The North East
Firewood Strategy Implementation
Community Reference Group
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The Secretary
House of Representatives
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Submission to the House of Representatives Standing Committee on Agriculture, Resources, Fisheries and Forestry
Inquiry into the Australian Forestry Industry

The North East Firewood Strategy Implementation Committee, submit the following comments to the inquiry regarding the Australian forestry industry. We will focus on the issues regarding the firewood industry.

Summary

The use of firewood for domestic heating is the beginning of the future expansion of woody biomass for renewable energy production in Australia. There are still significant opportunities for expanded firewood production and use, but many of the current impediments will need to be overcome in order to take on the future of converting this sustainable resource into other energy forms such as heat, electricity and biofuel.

We must be able to demonstrate that the industry resource is harvested sustainably, and is clean. We have come a long way in this but there are still many challenges which must be addressed.

Background on the Firewood Industry

With 4-5 million tonnes of firewood used in Australia every year, the industry needs to be taken seriously by governments as it has the potential to play a major role in affecting environmental outcomes. Currently it is a widely dispersed and disconnected industry consisting of many small players and without a national certification scheme to oversee sustainable production and legal collection.

Firewood needs to be:

1. Grown in a sustainable manner from plantations or by managing native forests.
2. Harvested in an efficient way.
3. Marketed as a certified product with common standards of heat output and moisture content.
4. Stored and transported efficiently to keep it dry and meet consumer demands.
5. Burnt in modern heaters or energy production systems which ensure all gasses are burnt at high temperatures to minimise particulate matter.

The formation of the Box Ironbark National Parks in 2004 in Victoria was the first step toward realisation that much of the regional community in North East Victoria relied on unsustainably

harvested firewood for home heating and cooking. The parks resulted in reducing firewood availability for the regional community.

In an effort to address this major shortfall of firewood resource, the NE Victorian Firewood Strategy was produced in 2004 as a community based document which covered areas of supply, collection, environmentally sustainable production, affordability, efficiency of use and the permit and access process (NECMA 2004).

The North East Firewood Strategy Implementation Committee was formed following the release of the North East Victorian Firewood Strategy in August 2004. The committee includes a wide range of organisation members including the North East Catchment Management Authority, the Rural City of Wangaratta, the Indigo Shire, the Firewood Association of Victoria, the Department of Sustainability and Environment, the Department of Primary Industries, the Victorian Farmers Federation, Parks Victoria and the Bush Users Group.

The committee was heavily involved in the implementation of the Box Ironbark Project in North East Victoria, (DSE 2006) and some of the learning's from this project were;–

- There was a major under estimation of firewood usage and community expectations of firewood access.
- The enormous benefits of having a range of organisations involved in the implementation committee in achieving actions on the ground.

The North East Victorian Firewood Strategy aims to "*identify sustainable sources of firewood to supply communities in the north east for the next twenty years and beyond."*

Future Firewood Resources

The committee regards woody biomass being one of the really sustainable ways of harvesting solar energy, and predicts demand for firewood (and woody biomass) will increase as more home, institutional and industrial heating is converted to wood to reduce electricity usage and the carbon footprint, particularly in regional areas.

The dispersed nature of firewood production provides an opportunity for development of the industry through farm forestry, where integration into farms can give biodiversity and other environmental and farm benefits without major affects on water availability for agriculture.

A future firewood industry should include firewood production from farms in areas with 400-800mm rainfall with at least 10% biomass plantations integrated into their farming system, leaving the most productive areas of the farm for food production. Some areas not suitable for other types of farming may be completely converted to fuelwood production. These plantations could be mix of locally indigenous species and some non local species, all of which coppice readily, as well as a mix of understorey plants throughout the plantations.

Firewood plantations are selectively or partially harvested in a sustainable manner- leaving leaves and bark on site to ensure nutrient depletion in minimised and roots intact to act as a permanent carbon store.

Constraints on Development of the Firewood Industry

Development of the firewood industry in Australia is currently impeded by a number of issues.

1. Valuing firewood

Firewood is still one of the few resources thought to be "free" by Australian society. In the past 10 years, increased pressure on water and fish resources has lead to a value being placed on these resources and increased regulation has been necessary. Firewood and air are the two remaining resources that society now has to get their head around as to how they value them as the resource is depleted or abused. (DSE 2010).

The supply of free or undervalued firewood from public land has meant that those who wanted to make a profit out of the industry had huge problems to deal with, How could any investor want to take on board the development of a company which has possibly a 10 – 15 year start-up period, and would probably provide an inferior product to the dense 100 year old wood that is currently "freely " available from government (and some private) forests?

The lack of value placed on firewood also makes it susceptible to collection displacement- as restrictions occur in collection from one area, collection moves to other, and often more vulnerable, areas such as roadsides.

A comprehensive approach to regulating and valuing firewood in Australia is needed in order to transition the industry to private enterprise.

2. Certifying firewood

In 2001 the peak national environmental body, the (ANZECC) produced a report "A National Approach to Firewood Collection and Use in Australia" As a result a Firewood Industry taskforce was set up and a certification scheme developed. This certification scheme is based on the Code of Practice for commercial firewood suppliers, and includes requirements for firewood to be sourced preferably from plantations or sustainably managed native forests, and marketed with accurate information on species, moisture content, free of chemical treatments and to an accurate measure. The traditional use of trailers for retail sales measurement of firewood volumes has many problems. (Sonogan 2008)The formation of the Firewood Association of Australia in 2005 gave the certification scheme legs for a few years but this has now ceased as the FAA does not have sufficient funds to continue to audit firewood retailers and wholesalers. (www.firewood.asn.au).

A national firewood certification scheme and education program needs to be supported

3. Pollution

Smoke pollution from burning firewood has been an important issue in the firewood industry. The continued need for consumer education and promotion of the use of modern efficient heaters are needed to ensure air particulates are kept to a minimum.

4. Wildlife habitat destruction

In the past, un-regulated firewood collection has lead to habitat destruction in a number of our forest types with large dead trees being felled and log habitat removed. The importance of hollows and logs for many of our Australian fauna is well known, and the common practice of consumers directly harvesting such timber from roadsides and in unsustainable ways from private and public land has given the firewood industry a bad image.(Hussey 2005)

Sustainable private and public native forest firewood collection must be regulated, initially with enforcement support.

5. Harvest equipment

Another challenge for the industry has been the handling of the smaller piece sizes used for firewood. The equipment currently available to harvest timber in Australia is more geared towards larger logs, and this is highly inefficient when dealing with small diameter logs. The cost of using such equipment has, up to now, been uneconomic for the prices received for the product, so most harvest and collection is done with varying amounts of manual labour.

Once a competitive, market based industry is able to be developed, improved technologies will be developed and adopted.

Opportunities for the Development of a Firewood Industry

1. Greenhouse benefits

Firewood burning is often perceived by the community to be contributing to greenhouse gas production and climate change, as the smoke is highly visible, even though this actual particulate matter is not the greenhouse gas. The fact that what is released is only what was taken up by the plant leading to a greenhouse neutral product when compared with fossil fuels, if often overlooked.

The greenhouse benefits of various types of firewood production systems were the subject of a major study undertaken by the CSIRO in 2003.(Paul et al. 2003) This study calculated the CO2 emissions from woodland, sustainably managed native forest and plantation firewood resources in the medium rainfall zone, using the Full Cam model developed by the Australian Greenhouse Office. They found that in terms of limiting net greenhouse gas emissions, firewood is generally more favourable for domestic heating than other non-renewable sources of energy. There is a direct substitution of fossil fuels emissions, with little additional emissions associated with the production and collection of firewood. They took into account all energy aspects, including harvest and transport as well as forest and individual tree growth characteristics. The CSIRO report reported that collecting firewood from the thinnings, harvest residues and other material from beneath a plantation grown for sawlogs production on cleared farmland, provided the greatest benefits in terms of carbon sequestered per unit of energy produced. Harvesting 728 t DM /ha of firewood resulted in an average sequestration of carbon of 402 t CO_2. Firewood from purpose grown coppiced firewood plantations also sequestered carbon, and burning firewood from harvest residues and other material from beneath a sustainably managed native forest produced very little carbon dioxide. Firewood collection from woodlands was deemed as unsustainable, even though their carbon emissions were well below those for even natural gas.

2. Firewood plantations

The establishment of firewood and bioenergy plantations on farms can provide a resource for local regional use which can be sustainable harvested while providing the many environmental and farm production benefits, (McNamara 2008)

Plantation grown firewood can provide

- a renewable form of heat energy
- a sustainable supply for households from continually coppiced plantations (around 2 hectares is needed per household)
- a potential economic return from larger plantations,
- shade and shelter for farm stock
- reduction of greenhouse gasses by providing a sustainable alternative to fossil fuels
- habitat for wildlife including shelter, food and nesting sites (inclusion of some shrubby understorey into the plantation can enhance these values even more)
- ongoing biodiversity benefits with selective harvest and regrowth from coppicing
- protection of remnant vegetation by reducing the risk of unmanaged removal of logs from native woodland
- soil rehabilitation by reducing erosion, increasing soil carbon and reducing the impacts of salinity
- improved water quality by slowing runoff
- improved farm aesthetics and associated land values,
- a low maintenance alternative farm enterprise
- a land use that can be grown on any scale,

3. Biodiversity benefits

The potential of firewood plantations to contribute to biodiversity conservation, particularly in the woodland areas, has been proved in many studies such as the RIRDC study by Richard Loyn and Associates in 2007.(Loyn 2007) They found that plantations of all sorts can provide habitat for native birds and mammal species associated with forests, woodlands and open country. Plantations can make a positive contribution to biodiversity conservation and hence sustainable landscapes. These contributions can be enhanced through measures such as planting blocks, planting close to remnants, retaining remnants within the plantation, harvesting in patches to retain connectivity and including some rough barked species and understorey. The fact that many of the species native to the medium to low rainfall zones have excellent firewood characteristics and coppice well, further increases the biodiversity value of plantations.

4. Firewood depots and contractors

The issue of short term firewood supplies has been approached by local governments in north east Victoria through the development of community firewood depots where waste wood is provided under permits to the community and at reduced rates to concession card holders. The storms and fires over the past few years have provided an enormous opportunistic resource for these depots in Victoria from the clearing of roads and access tracks.

The potential of firewood depots to be a method of regulating and distribution of government firewood needs to be supported. The use of accredited contractors for firewood collection in native forests, combined with depots, will enable a mechanism for the gradual introduction of higher values for firewood provided by government forests.

Investment Models for Longer Rotation Plantations and Farm Forestry

Individual farm benefits are not sufficient to enable landholders to establish plantations. The combination of competition from the low value government firewood, high up front cost and the long time frame from establishment to harvest, all act as a disincentive for firewood plantation expansion. To encourage investment into firewood plantation establishment, a number of incentives are needed, such as the provision of carbon credits (with ability to harvest included) and other environmental benefits or credits such as biodiversity and salinity credits.

A range of incentive mechanisms is needed to encourage investment into firewood plantations

On behalf of the committee members, I would like thank you for the opportunity to provide a submission and trust you will assist in the progress of the issues raised.

Yours sincerely
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References

Australia and New Zealand Environment and Conservation Commission 2001, A National Approach to Firewood Collection and Use in Australia, Environment Australia, Canberra.

Department of Sustainability and Environment, 2010. Victoria's Firewood Strategy for Public Land. Melbourne. http://www.dse.vic.gov.au/DSE/nrenfor.nsf/LinkView/7C69D472AFCC7559CA25754C007DE44F03152A09041FFDBECA25747B000C1C62

DSE, 2006. Program Evaluation, Box-Ironbark Implementation program project Partners Report. Victoria.

Firewood association of Australia. http://www.firewood.asn.au/

Hussey, P., 2005. Dead wood and wildlife. Wildlife notes, Department of Conservation and Land Management, Western Australia.

*Loyn R.H., McNabb, E.G., Mcacak, P. Noble, P., 2007. Eucalypt Plantation as habitat for Fauna in Rural Landscapes: developing appropriate designs for enhancing their values. RIRDC, Canberra. https://**rirdc**.infoservices.com.au/downloads/08-193*

McNamara, S., Chambers, J., 2008. Envirosystems. Presentation to Seminar series: The role of firewood and other woody biomass in reducing CO^2 emissions. Melbourne. http://www.enviro.com.au/facts.htm

NECMA, 2004. North East Firewood Strategy. Wodonga. http://www.necma.vic.gov.au/ResourceLibrary/StrategiesPlans/images/North_East_Victorian_Firewood_Strategy.pdf

Paul, K., Booth, T., Elliot, A., Jovonanovic,T., Polglase.P., Kirschbaum., 2003. Life cycle assessment of greenhouse gas emissions from domestic woodheating, Greenhouse gas emissions from firewood production systems. Australian Greenhouse Office, Department of Environment and Heritage.Canberra.

Sonogan, B., 2000. Some observations that may affect consumer preference for plantation grown firewood. National Firewood Conference, Canberra.