



Submission No: 146

SUBMISSION

Inquiry into the development of the non-fossil fuel energy industry in Australia

July 2007

Introduction

The National Association of Forest Industries (NAFI) welcomes the opportunity to make a submission to the House of Representatives Standing Committee on Industry and Resources *Inquiry into the development of the non-fossil fuel energy industry in Australia*.

Australia's forest industry acknowledges the vital role of non-fossil fuel, renewable energy in Australia's efforts to reduce its greenhouse emissions and combat climate change. The use of bioenergy in the international energy market has proven extensive and highly successful with some 14% of the world's total energy supplies relying upon it.¹ This energy production is renewable, greenhouse neutral and economically desirable as it facilitates the profit maximisation of multiple primary and secondary industry by-products and wastes.

By-products from forest industry activities are widely recognised as a viable source of feedstock for the production of bioenergy. Wood wastes are widely used throughout the world as an efficient, renewable, greenhouse neutral source of energy. They also account for significant levels of renewable energy production in many countries such as the United States, United Kingdom, Canada, France, Denmark, Sweden, Finland and Switzerland.²

Unfortunately, the utilisation of wood wastes for bioenergy production in Australia has been severely constrained, largely due to preventative regulation applied across different levels of government. These regulations have resulted in the apparent inability of the energy sector to source appropriate wood waste feedstock for bioenergy production. This has led to a failure to maximise efficiency in reaching the National Greenhouse Strategy's 2010 Mandatory Renewable Energy Target (MRET) as well as an inability for the forest industry to maximise use of its by-products and minimise net wastes.

¹ www.nafi.com.au/bioenergy

² Report 1 – Global and Australian initiatives and impediments to the production of renewable energy from wood waste in Australia (www.nafi.com.au/bioenergy)

NAFI encourages the Standing Committee to support the ongoing development of the Australian bioenergy sector including greater recognition of wood waste as a viable energy source. As part of this support, NAFI is willing to assist the Standing Committee in working with governments to review the current policy restrictions associated with wood waste bioenergy regulations, with a view to enhancing Australia's renewable energy industry (and subsequently meeting the 2010 MRET) as well as further reducing Australia's carbon emissions.

Forest industry residues as bioenergy feedstock

Australia's A\$18 billion per annum forest industry includes the production of:

- High grade sawn timber;
- Low grade timber, pulpwood and woodchips;
- Pulp and paper products;
- Engineered wood products;
- Furniture and other secondary products; and
- Essential oils and other forest products.

The production techniques used in the forest industry aim to optimise the use of harvested forest biomass with a view to maximising sustainability and end-use wood product value. However, these activities often result in considerable by-product residuals in the form of wood wastes. These wood wastes include logs, branches, bark, sawdust and other wood materials which are unsuitable for any other commercial purposes.

Currently, some of this wood waste is left on the forest floor, some is burnt for disposal reasons, some ends up in landfill, meaning very little is used productively. This wood waste could be used to produce renewable energy and make a significant contribution to reducing Australia's greenhouse emissions.

Currently Australia utilises only 2% of existing forest industry residues for renewable energy production.³ Sustainable maximisation of use of wood waste for renewable bioenergy production could:

- Result in A\$800 million invested directly in renewable energy facilities and technology⁴;
- Supply 400,000 homes with sustainably produced, renewable electricity⁴;
- Create 2300 new regional jobs⁴;
- Reduce greenhouse gas contributing CO₂ emissions by at least 2.2 million tonnes each year – equivalent to that produced by 440,000 cars⁴; and
- Significantly reduce the risk of serious bushfires and the resulting carbon emissions due to the reduction of fuel left on the forest floor.

Calculations have shown that without harvesting another single tree, about 3.4 million megawatt hours of electricity could be sustainably generated per year by utilising

³ www.nafi.com.au/bioenergy

⁴ Report 2 – The potential for wood in a sustainable and competitive Australian renewable energy industry (www.nafi.com.au/bioenergy)

Australia's available wood wastes. This would account for a massive 36% of Australia's 2010 MRET.

This renewable energy is also produced with much lower carbon costs, as electricity production from wood waste reduces CO₂ emissions by 95% - 99.5% compared with electricity produced using fossil fuels. There are also significant emission reductions of sulphur and nitrogen oxides.⁵⁶⁷ The net benefit for the environment from using this wood waste would be a permanent reduction in Australia's greenhouse gas emissions of 3 million tonnes of CO₂.

“Wood derived from sustainably managed forests provides an important source of renewable energy ... If woody biomass is harvested and combusted under controlled conditions, the released energy can be captured and used for heating or for the production of steam, electricity or liquid fuels such as ethanol and methanol. Where this occurs as part of a sustainable forestry system, the cycle of carbon, oxygen and hydrogen is closed, and the carbon content of the atmosphere remains stable; the energy derived can therefore be considered renewable. Controlled combustion of wood at high temperature can effectively minimise the quantity of other greenhouse gases that are released to the atmosphere. A secondary environmental benefit also arises with reduced smoke haze from burning in situ – an important health issue; controlled combustion within an energy generation plant creates only low levels of particulates. The wood laid down by trees is a particularly useful form of energy as it may be stored ‘in situ’ until required.”⁸

Current impediments to the use of forest industry wood residues in the production of renewable energy in Australia

Unfortunately, utilisation of wood waste for this purpose is currently not widespread in Australia, largely due to preventions through regulations which occur at different levels of government. Perhaps the most prominent restrictions are those imposed through state government regulations (e.g. in New South Wales and Victoria) which prevent the use of native forest harvesting wood residues for bioenergy purposes.

At the Commonwealth level there are also some aspects of the *Renewable Energy (Electricity) Act 2000* which are restrictive in terms of permitting the practical utilisation of both native forest and plantation wood waste for renewable energy purposes (Attachment 1 contains a letter from NAFI to the Federal Environment Minister outlining the industry's concerns in more detail).

This again highlights the unnecessary complication of regulations across various levels of government. Restricting the use of wood waste as a sustainable renewable

⁵ Mann and Spath (2000), A comparison of the environmental consequences of power from biomass, coal and natural gas (1st World Conference on Biomass for Energy and Industry)

⁶ New and renewable energy: Prospects in the UK for the 21st century, Department of Trade and Industry, March, 1999

⁷ Cowie (2005), Greenhouse gas balance of bioenergy systems based on integrated plantation forestry in northeast NSW, Australia, Bioenergy Australia 2005 Conference (Melbourne)

⁸ Report 1 – Global and Australian initiatives and impediments to the production of renewable energy from wood in Australia, Renewable Energy Industry Development – Round 7, A report prepared by MBAC Consulting for the National Association of Forest Industries (NAFI)

energy source represents a contradiction of the national policy objective of lowering Australia's greenhouse emissions.

This has occurred despite the existing legal and regulatory frameworks in place to ensure the environmental sustainability of the wood waste produced. Australia's forest industry has a rigorous legal and regulatory framework underpinning the management of its forest resources as developed through extensive processes such as the Regional Forest Agreements.

Forest certification has also been widely adopted with most of Australia's production forests now internationally recognised through certification to the Australian Forestry Standard. Comprehensive codes of practice are also in place to ensure that all activities are legitimate, for example in this case, ensuring that wood products produced are utilised to their highest possible end-use value.

Public perception of bioenergy generated from native forest wood waste

There is often an unwarranted negative perception that the use of wood residues from forest harvesting operations for bioenergy production is in some way environmentally destructive. This is often based on the false perception that bioenergy production from wood is the primary purpose of these operations, a view that is often reinforced by environmental NGOs (ENGOs) and other detractors of the forest industry.

NAFI has serious concerns that many of the unintended and perverse policy outcomes in relation to bioenergy production from wood waste, across all levels of government, strengthen and support these flawed arguments. There are clear market indicators that this is the case. In the electricity market, RECs that are generated with the exclusion of native forest wood wastes are referred to as "pure RECs" as opposed to those generated with the inclusion of native forest wood wastes, which are referred to as "mixed RECs". Many electricity retailers openly denounce mixed RECs and express their refusal to purchase them, despite the environmental benefits available.

There is no adverse environmental effect from the generation of RECs from forestry activities, be it in plantations or native forests. There is no requirement for an increase in forest harvesting in order to both produce large amounts of renewable energy, and maximise efficiency in Australia's renewable energy industry. Not a single additional tree needs to be harvested to recognise the numerous benefits of producing sustainable bioenergy from forestry residues in the form of wood wastes and ultimately reducing Australia's greenhouse gas emissions.

Further more, managed native forests have significant ecological and biodiversity values.⁹ This means that Australia's sustainably managed native forests are not only good for industry and the economy, they have high conservational value in their current form as fast regenerating production forests. Using the wood residues from existing native forest harvesting activities offers significant benefits to Australia's environment, society and the economy.

Conclusion and Recommendations

⁹ David B. Lindenmayer, Chris R. Margules, Daniel B. Botkin (2000), Indicators of Biodiversity for Ecologically Sustainable Forest Management, Conservation Biology, Volume 14, Issue 4, pp. 941-950

NAFI recognises the role that bioenergy has to play in Australia's move towards more sustainable energy production. Using forest industry residues is an environmentally sustainable and economically viable option in which to contribute to meeting the 2010 MRET and ultimately reducing Australia's greenhouse gas emissions. Much of the technology and framework is in place to facilitate the production of renewable energy from forestry residues. However, perverse policy and regulatory restrictions continue to stunt the growth of this facet of renewable energy production. NAFI recommends that:

- Changes should be made in regard to the way that wood waste from production forestry, particularly in native forests, is dealt with under the *Renewable Energy (Electricity) Act 2000*. The Act needs to recognise the extensive environmental benefits of utilising this resource in a holistic and sustainable manner.
- Regulatory restrictions, across all levels of government, in relation to the use of wood waste for bioenergy production should be addressed to ensure they do not result in perverse policy outcomes in relation to reducing Australia's greenhouse gas emissions.
- Greater effort should be made by all parties to better inform and educate the general public about the benefits and realities of using wood waste residues from forest industry activities in order to produce environmentally friendly, sustainable and renewable energy.

NAFI and the broader forest industry intend to be actively involved in any strategies to develop and support renewable energy production from forestry residues in the form of wood wastes. NAFI believes that this approach is sustainable, environmentally friendly and maximises benefits to society, the environment and the economy.

NAFI is willing to answer any queries from the Standing Committee in relation to this submission. We look forward to further consultation with the Committee over its considerations on the use of bioenergy production in Australia. This is a critical step towards achieving significant carbon emission reduction outcomes for Australia thus mitigating our impacts on climate change.