



## **Submission**

to

**The Department of Climate Change**

on the

***Expanded National Renewable Energy Target Scheme - Exposure Draft Legislation***

**February 2009**

### **Recommendations**

1. That the existing provisions of the *Renewable Energy (Electricity) Regulations 2001* be repealed and/or amended under the *Expanded National Renewable Energy Target Scheme* to accord with the provisions as provided in 'Attachment A' of this submission.
2. That the Department recognize the rationale underpinning Recommendation 1 as outlined in the body of this submission.

### **Introduction**

The National Association of Forest Industries (NAFI) appreciates the opportunity to make a submission in response to the exposure draft legislation for the *Expanded National Renewable Energy Target Scheme*.

NAFI is the peak representative body for Australia's forest industry. NAFI represents the industry's interests to the public, governments and authorities on matters relating to the national development and use of Australia's forests and wood products.

Australia's forest industry is well positioned to make a significant contribution to Australia's efforts to address climate change, through the carbon storing benefits of its forests and wood products. The forest industry also has significant potential to provide renewable energy through the use of wood waste from industry activities.

Realising this potential will ultimately depend on the treatment of wood waste under the Expanded National Renewable Energy Target Scheme. To date there have been a number of jurisdictional variations in the treatment and eligibility of various forms of

wood waste (particular from native forests), creating unnecessary barriers to the use of this material for renewable energy. These barriers must be overcome to facilitate the delivery of renewable energy, investment and job creation as the forest industry has the potential to provide.

Restricting the use of wood waste as a sustainable renewable energy source is a regulatory barrier which NAFI and Australia's forest industry has long been advocating to overcome.

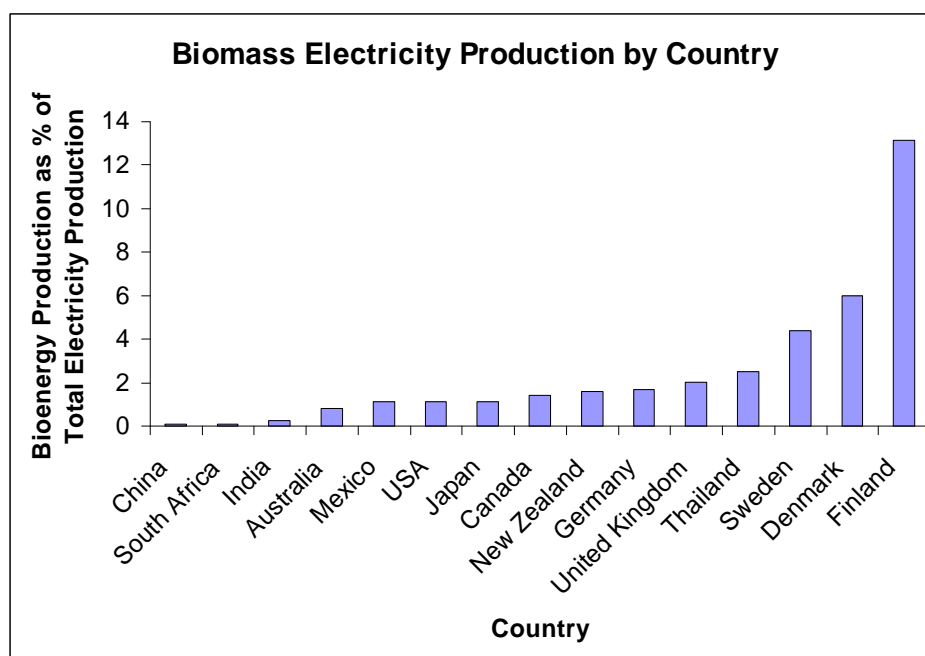
This submission deals primarily with ensuring that the Expanded National Renewable Energy Target Scheme provides adequate recognition of all forms of wood waste. The removal of existing regulatory barriers is a key priority if Australia is to derive maximum benefit from the renewable energy opportunities which exist within Australia's sustainable forest industry.

In that context NAFI has provided recommendations that will assist in overcoming regulation that unnecessarily restrict the use of wood waste as a renewable energy source. These recommendations are contained in the final section of this submission.

### **Renewable Energy Opportunities from Australia's Forest Industry**

The use of wood waste for renewable energy purposes in Australia has not been widely used to date, however it has significant potential to substitute Australia's fossil fuel based energy production. Experience from overseas indicates that wood waste is an efficient, low emission and sustainable feedstock which could make a valuable contribution to Australia's efforts to address climate change.

Bioenergy generation from wood related wastes and residues in Australia is in stark contrast to other OECD countries. There are very few plants in Australia, generating an insignificant amount of energy from resources such as timber harvesting residues and sawmill wastes. The total contribution of bioenergy generation from this sector is 2.7% of the total RECs created under MRET in 2005 (REC registry). That is far below the average electricity generation of other OECD countries with similar resources. Australia ranks among third-world countries in relation to renewable energy production from wood waste due to policy barriers preventing the development of this technology and subsequent industry (see Figure 1).



**Figure 1:** 'Biomass Electricity Production by Country' showing Australia's poor utilisation of available wood waste to produce renewable energy.<sup>1</sup>

Small-scale power plant technology exists based on 100% wood feedstock in some European countries. Finland is a significant exporter of wood products and produces 22% of its energy requirements through the combustion of forest industries wood residue for energy generation.

For Australia, based on present harvesting rates (without harvesting a single extra tree), there is enough wood waste available from existing forest industry activities to produce around 3,000 gigawatt hours (GWh) of electricity per annum (see Table 1).<sup>2</sup>

		Potential resource dry wood equivalent (Mt)	Available (green wood equivalent) (Mt)	Available (as supplied) (Mt)	Available (dry wood equivalent) (Mt)
<b>Harvest residues</b>	<b>Native forest</b>	2.2	0.3	-	0.15
	<b>Plantation</b>	2.0	2.0	-	1.00
<b>Wood processing residues</b>		2.8	0.8	-	0.42
<b>Salvaged wood residues</b>		5.3	-	1.0	1.00
<b>TOTAL</b>		<b>12.3</b>	<b>3.1</b>	<b>1.0</b>	<b>2.6</b>

**Table 1:** Estimated available wood waste from Australia's forest industry activities.<sup>3</sup>

<sup>1</sup> International Energy Agency, 2008, [www.iea.org](http://www.iea.org)

<sup>2</sup> MBAC Consulting, 2006, *Wood Waste for Renewable Energy* Project funded by FWPRDC and Australian Government

<sup>3</sup> MBAC Consulting, 2006, *Wood Waste for Renewable Energy* Project funded by FWPRDC and Australian Government

The net benefit of using this wood waste would be a permanent reduction in Australia's greenhouse gas emissions of 3 million tonnes of CO<sub>2</sub><sup>e</sup> per year. Renewable energy from wood waste reduces CO<sub>2</sub> emissions by 95-99% for each MWh of electricity generated when compared to coal-fired electricity generation.<sup>4</sup>

The use of wood waste for renewable energy has significant potential to assist the Australian Government in achieving its goal of a 20 percent share for renewable energy in Australia's electricity supply by 2020.

With the ENRET for 2020 to be set at 45,000 GWh, there is the potential from already existing wood waste to provide around 7 percent (3,000 GWh pa) of the renewable energy required to meet this target. It should be noted that this is a conservative estimate as by 2020 Australia will have expanded its commercial forest resources (through plantation expansion), meaning the ENRET contribution could be as high as 10%.

Maximising the use of wood waste resources that are currently available in Australia has the potential to:<sup>5</sup>

- reduce greenhouse gas emissions by around 3 million tonnes of CO<sub>2</sub>e each year;
- create over 2300 new direct jobs;
- deliver over \$800 million of direct investment in renewable energy facilities; and
- supply renewable electricity to at least 400,000 houses.

It will be impossible to realise these potential benefits, however, if the *Expanded National Renewable Energy Target Scheme* regulations are not amended.

It is important to note that wood waste may be used as the primary source of energy in new power generation plants, or it may be co-fired with coal in existing power generation plants. The latter utilises the infrastructure already developed for generating electricity from coal and can be undertaken at a relatively low cost.

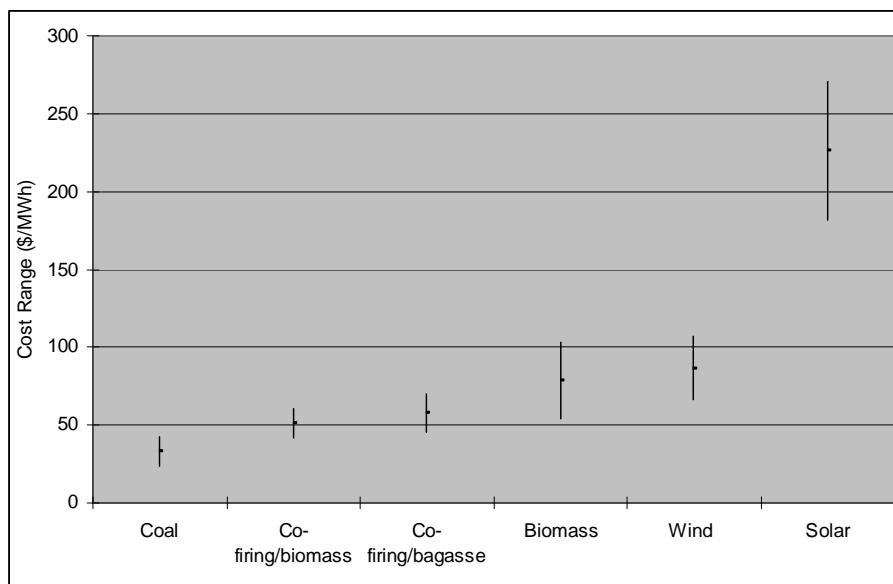
The relative cost of wood based bioenergy plants compared to coal fired plants has been a major limitation on investment to date. Measures such as mandatory renewable energy targets and emissions trading will be critical in improving the attractiveness and subsequent investment in bioenergy facilities based on wood waste.

Figure 2 below provides a summary of the estimated costs of electricity generation from coal and renewable energy sources. Dedicated biomass facilities could generate renewable energy at a lower cost than either solar or wind facilities, however the most cost-effective renewable energy option is the co-firing of coal with biomass.

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<sup>4</sup> MBAC Consulting, 2006, *Wood Waste for Renewable Energy* Project funded by FWPRDC and Australian Government

<sup>5</sup> MBAC Consulting, 2006, *Wood Waste for Renewable Energy* Project funded by FWPRDC and Australian Government



**Figure 2:** Costs of electricity generation from coal and renewable energy sources.<sup>6</sup>

### **Existing Regulatory Barriers**

There are a number of regulatory barriers to greater use of wood waste for renewable energy in Australia. These barriers occur at both the Commonwealth and State level, and are dually focussed on:

- The use of wood residues from native forest harvesting activities; and
- The use of wood residues from certain plantations depending on the time of establishment.

Unfortunately, the development of these regulations has not always been consistent with Australia's broader policy objective to encourage the substitution of fossil fuel based energy production with renewable energy.

Restricting the use of wood waste for bioenergy production has also created policy inconsistencies amongst and between jurisdictions in Australia. The development of an *Expanded National Renewable Energy Target Scheme* represents a valuable opportunity to address these policy inconsistencies and maximise the opportunities for renewable energy production from Australia's sustainable forest industry activities.

### ***State based Regulations***

At the state level there are restrictive regulations, most notably in both New South Wales and Victoria, which do not recognise the use of native forest harvest residues as an eligible source for renewable energy production. These restrictions have been imposed despite the existing legal and regulatory frameworks in place to ensure the environmental sustainability of forestry and wood production activities.

<sup>6</sup> MBAC Consulting, 2006, *Wood Waste for Renewable Energy* Project funded by FWPRDC and Australian Government

By ensuring that these perverse policy outcomes are not carried through into the *Expanded National Renewable Energy Target Scheme*, the potential triple-bottom line benefits of renewable energy produced from wood waste can be realised. The *Expanded National Renewable Energy Target Scheme* should adopt new and better regulations governing the use of wood waste in order to meet broader national policy objectives, thus setting a precedent for the states to follow.

### ***Commonwealth Regulations***

At the Commonwealth level, there are aspects of the *Renewable Energy (Electricity) Regulations 2001* which are restrictive in terms of permitting the practical use of both native forest and plantation wood waste for renewable energy purposes. These regulations must be amended under the *Expanded National Renewable Energy Target Scheme* in order to meet broader national policy objectives.

Specifically, there are two requirements of the Regulations which represent significant restrictions in terms of facilitating the practical use of wood waste for renewable energy from sustainable forestry activities. They are as follows:

***High-value process - Regulation 8 (2) (b) (i) and 8 (3)*** - This clause states that ‘the primary purpose of a harvesting operation is taken to be a high-value process only if the total financial value of the products of the high-value process is higher than the financial value of other products of the harvesting operation.’

In practice the high-value process will drastically reduce, and in many cases completely prevent, the potential for wood waste from harvesting operations to be used as a source of renewable energy. The actual effect of this clause is to exclude as eligible, those wood wastes derived from harvesting poorer quality native forests where the proportion of high quality logs to low quality material, may be relatively low.

It is not uncommon for native forest harvesting operations to yield a high proportion of residues or waste products and the utilisation of these products is fundamental to the commercial viability of such operations. The silvicultural practices employed in such situations result in an improved quality of forest for future rotations.

Furthermore, the requirement under the Regulations for the high-value process is an unnecessary contradiction of existing forest policy which stipulates the utilisation of forest products for their highest value end use rather than an aggregated financial value. Such policy exists in RFA areas and in non-RFA areas, given that operations are carried out in accordance with relevant Commonwealth, State or Territory planning and approval requirements.

Renewable energy policy should not attempt to dictate national forest policy as this can create inconsistent and perverse policy outcomes. Strict regulations control the sustainable management (including harvesting) of Australia’s native forests. The inclusion of the high-value process in the *Expanded National Renewable Energy Target Scheme* will undermine national forest policy objectives and result in the unnecessary failure to take advantage of the significant opportunities offered by the wood waste renewable energy industry.

Specific criteria for eligibility should be based on the sustainability of forest management as determined through existing processes and frameworks (such as RFAs). That is; wherever forests are managed under Commonwealth and/or state forest management regulations, the products of any harvesting operation should be eligible to produce renewable energy under the *Expanded National Renewable Energy Target Scheme* (in accordance with the harvesting rules imposed by the forest management regulations). The objective of preventing harvesting operations from focusing on renewable energy feedstock production would be better served by empowering sustainable forest management policies (through demanding eligibility requirements) rather than undermining them as is the case with the high-value process regulation.

The application of independent third-party forest certification - such as through the Australian Forestry Standard (AFS), PEFC, or Forest Stewardship Council (FSC) - could also be used as an eligibility requirement.

***Native vegetation clearing - Regulation 9 (1) (c)*** - This clause states that wood biomass from a plantation is ineligible if it is 'taken from land that was not cleared of native vegetation after 31 December 1989 to establish the plantation.'

The policy intent of this regulation is not clear. If the intent of the regulation is to maintain the 'Kyoto' base line at 1989 levels, then it should only recognise wood waste from plantations where there is no intent of changing land use. The current regulation penalises the continued use of the land for forestry purposes and hence the continued maintenance of the carbon base line.

If the purpose of this clause is to ensure activities are legal and sustainable, then it is unnecessary, as *Regulation 9 (1) (a)* already states that biomass from a plantation 'must be a product of a harvesting operation approved under relevant Commonwealth, State or Territory planning and approval processes.' Clearing of any native vegetation is subject to government approval processes, and Ecologically Sustainable Development (ESD) principles incorporated into the Act cover the clearing of vegetation, including remnant vegetation.

This clause creates an unwarranted restriction on growers who have established plantations on land where some form of native vegetation clearing was permitted. For example, since 1990 in Tasmania a large proportion of plantations have been legally established on areas that were converted from native forests (in accordance with the relevant RFA).

In other states, partial clearing involving removal of some native vegetation has been an accepted legal practice. Denying eligibility for a sub-set of a plantation estate will only lead to unnecessary waste of resource from that land in perpetuity as the vegetation clearing that has occurred cannot be reversed in any way.

This clause specifically places a condition on plantations that is not applicable to other energy crops or crop wastes. For example, bagasse from sugarcane crops planted on land cleared after 31 December 1989 are eligible sources under the Regulations.



This regulation undermines sustainable forest management policy at Commonwealth and state government levels. Where a harvesting operation is carried out in accordance with forest management regulations, and there is no land-use change incurred as a result of the harvesting operation, the available wood waste should be eligible for use as feedstock in renewable energy production.

### **Sustainable Forest Management in Australia**

In dealing with regulations under an *Expanded Renewable Energy Target Scheme*, there must be appropriate recognition given to Australia's framework for sustainable forest management. It is unfortunate that the development of restrictive regulations regarding the use of wood waste for bioenergy in Australia has occurred in the absence of due recognition of the existing legal and regulatory framework for forest management.

The development of these regulatory restrictions is largely the result of concerns over the sustainability of forest operations arising from the utilisation of wood waste for electricity generation. There has been a general failure to acknowledge the existing framework for ensuring ongoing sustainability, and that the use of wood waste for bioenergy from native forests can only occur on the basis that this wood waste is a by-product or residual of the production of higher value timber products.

Australia's production forests (both native forests and plantations) are managed in accordance with a world class framework for sustainable forest management. This framework is underpinned by:

- National Forest Policy Statement (1992);
- Regional Forest Agreements (RFA);
- State based regulations and codes of practice, and
- Independent third-party forest certification (i.e. AFS, FSC)

Australia's RFAs provide long-term certainty and security for forest industries and regional communities reliant on the sustainable production of forest products. Underpinning the RFAs is a scientific, transparent and inclusive approach to decision-making on the use of forest resources aimed at balancing the interests of timber production and conservation.

Also, over recent years, Australia's production forest managers have undertaken extensive efforts to develop independent third party certification of their forests. This has occurred in response to growing market demand in Australia and internationally for wood products which have demonstrably been sourced from sustainably managed forests.

Therefore, consumers of bioenergy based on all forms of forest residues should have full confidence that wood feedstock is sourced from Australia's sustainably managed forests – underpinned by a rigorous and comprehensive regulatory framework and forest certification which provides a commitment to continuous improvement.



## **Managing Fire Risk**

The employment of native forest and plantation wood wastes in bioenergy production can also play a vital role in reducing the risks associated with forest wildfires. The collection of debris from the forest floor (to be used as bioenergy feedstock) results in lower available fuel loads. By reducing fuel loads the intensity and severity of a fire event can be minimised.

However the collection of wood wastes from forests is an expensive exercise. Without the availability of a market, the collection of wood waste from the forest floor is not financially viable. By ensuring that the regulations under the *Expanded National Renewable Energy Target Scheme* embrace the utilisation of wood waste to the maximum possible extent, the risks associated with wildfire events can be reduced.

## **Conclusion and Recommendations**

Achieving Australia's ENRET by 2020 represents a significant challenge. Therefore, it is essential that there are no unnecessary impediments to the uptake and use of all forms of renewable energy. From the forest industry's perspective, the sustainable use of all forms of wood waste represents a valuable source of renewable energy, which should not be unduly restricted.

Furthermore, it is imperative that renewable energy regulations are not 'hijacked' and used as a courier for the delivery of perverse forest policy – particularly where this perverse policy is in direct contradiction with other national policy objectives. The ENRET regulations must recognise the sovereignty of sustainable forest policy (such as the *National Forest Policy Statement (1992)*), as well as embrace the potential triple-bottom line benefits that can be realised through removal of outdated, inappropriate forest management commentary from the regulations themselves. AS noted in the main body of this submission, these potential triple-bottom line benefits include:

- reduce greenhouse gas emissions by around 3 million tonnes of CO<sub>2</sub>e each year;
- create over 2300 new direct jobs;
- deliver over \$800 million of direct investment in renewable energy facilities; and
- supply renewable electricity to at least 400,000 houses.<sup>7</sup>

The objectives of the regulations as discussed in this submission are either already being met through appropriate policy, or could be better met through the *Expanded National Renewable Energy Target Scheme* with amendments to the regulations. An example of this would be the removal of the high-value process and the inclusion of a clause that recognises specific criteria for eligibility such as only accepting wood waste from operations carried out under and RFA or state-based policy equivalent.

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<sup>7</sup> MBAC Consulting, 2006, *Wood Waste for Renewable Energy* Project funded by FWPRDC and Australian Government

Therefore, as part of this process to develop an *Expanded National Renewable Energy Target Scheme*, NAFI recommends:

3. That the existing provisions of the *Renewable Energy (Electricity) Regulations 2001* be repealed and/or amended under the *Expanded National Renewable Energy Target Scheme* to accord with the provisions as provided in 'Attachment A' of this submission.
4. That the Department recognize the rationale underpinning Recommendation 1 as outlined in the body of this submission.

NAFI appreciates the opportunity to comment on this draft legislation. If there are any queries in relation to NAFI's submission, or further clarification is sought, please do not hesitate to contact Sam Rae on (02) 6285 3833 or [sam.rae@nafi.com.au](mailto:sam.rae@nafi.com.au), or James Gray on (02) 6285 3833 or [james.gray@nafi.com.au](mailto:james.gray@nafi.com.au).



## ATTACHMENT A

### Proposed Amendments to the Regulations Concerning the

### Expanded National Renewable Energy Target Scheme - Exposure Draft Legislation

#### 6 **Meaning of certain energy sources that are eligible renewable energy sources (Act s 17)**

For subsections 17 (3) and (4) of the Act:

*agricultural waste* means the putrescible biomass wastes produced during agricultural operations, including livestock husbandry.

*biomass-based components of municipal solid waste* means the biomass-based components of wastes that are directly sourced from, or eligible to be disposed of in, landfill or a waste transfer station that is licensed by a State or Territory government body or by a local government authority, but does not include biomass-based components of wastes originating from:

- (a) forestry or broadacre land clearing for agriculture, silviculture and horticulture operations; or
- (b) fossil fuels.

*black liquor* means the mixture arising from the chemical wood pulping process.

*hot dry rock* includes hot fractured rock.

*landfill gas* means the gas produced by the breaking down of the organic part of municipal landfills.

*sewage gas* means gas produced by the decomposition of domestic and commercial wastes that are collected from sewerage systems and treated by sewage treatment plants.

*waste from processing of agricultural products* means the biomass waste produced from processing agricultural products.

#### 7 **Meaning of certain energy sources that are not eligible renewable energy sources (Act s 17)**

For subsection 17 (3) of the Act:

*fossil fuels* means any of the following:

- (a) coal, oil, natural gas or other petroleum-based products;

- (b) products, by-products and wastes associated with, or produced from, extracting and processing coal, oil, natural gas or other petroleum-based products.

*Examples*

Condensate liquids, coal seam methane, coal mine methane.

**waste products derived from fossil fuels** means the components of waste streams that:

- (a) are made using, as raw materials, any material that is a fossil fuel for the Act; and
- (b) are products or by-products of manufacturing operations, including plastics, tyres, disposable nappies, synthetic carpets and synthetic textiles.

## **8 Meaning of wood waste**

- (1) For section 17 of the Act, **wood waste** means:

- (a) biomass:
  - (i) produced from non-native environmental weed species; and
  - (ii) harvested for the control or eradication of the species, from a harvesting operation that is approved under relevant Commonwealth, State or Territory planning and approval processes; and
- (b) a manufactured wood product or a by-product from a manufacturing process; and
- (c) waste products from the construction of buildings or furniture, including timber off-cuts and timber from demolished buildings; and
- (d) sawmill residue; and
- (e) biomass from a native forest that meets all of the requirements in subregulation (2).

*Examples for paragraph (b)*

Packing case, pallet, recycled timber, engineered wood product (including one manufactured by binding wood strands, wood particles, wood fibres or wood veneers with adhesives to form a composite).

- (2) Biomass from a native forest must be:

- (a) harvested primarily for a purpose other than biomass for energy production; and
- (b) a by-product (including thinnings and coppicing) of a harvesting operation that is carried out in accordance with ecologically sustainable forest management principles; and
- (c) either:
  - (i) if it is from an area where a regional forest agreement is in force — produced in accordance with any ecologically sustainable forest management principles required by the agreement; or
  - (ii) if it is from an area where no regional forest agreement is in force — produced from harvesting that is carried out in accordance with ecologically sustainable forest management principles that the Minister is satisfied are consistent with those required by a regional forest agreement.

- (4) In this regulation:
- ecologically sustainable forest management principles* means the following principles that meet the requirements of ecologically sustainable development for forests:
- (a) maintenance of the ecological processes within forests, including the formation of soil, energy flows, and the carbon, nutrient and water cycles;
  - (b) maintenance of the biological diversity of forests;
  - (c) optimisation of the benefits to the community from all uses of forests within ecological constraints.

## **9 Energy crops (Act s 17)**

- (1) For section 17 of the Act, biomass from a plantation is not an energy crop unless all of the following apply to it:
- (a) it must be a product of a harvesting operation (including thinnings and coppicing) approved under relevant Commonwealth, State or Territory planning and approval processes;
  - (b) it must be biomass from a plantation that is managed in accordance with:
    - (i) a code of practice approved for a State under regulation 4B of the Export Control (Unprocessed Wood) Regulations; or
    - (ii) if a code of practice has not been approved for a State as required under subparagraph (i), Australian Standard *AS 4708—2007 — The Australian Forestry Standard*.
- (2) For section 17 of the Act, biomass from a native forest is not an energy crop.