

**Submission
No 134**

SUSTAINABILITY OF ENERGY SUPPLY AND RESOURCES IN NSW

Organisation: National Parks Association of NSW

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Legislative Assembly Committee on Environment and Planning
Parliament House
6 Macquarie Street
Sydney NSW 2000
By email to:

13 September 2019

Dear Committee Members,

Submission to the Inquiry into the sustainability of energy supply and resources in NSW

The National Parks Association of NSW (NSW) is pleased to make a submission to the Inquiry into the sustainability of energy supply and resources in NSW.

About us

The National Parks Association of NSW (NPA) was formed in 1957 and six decades later has 15 branches and over 20,000 members and supporters. Our shared goal is to protect nature through community action. NPA believes that caring springs from personal connections with nature, and we deliver more than a thousand bushwalks, community events, bio-blitz surveys and bush regeneration projects each year. We are vigorous advocates for nature, contributing to park management planning, the assessment of development proposals and conducting conservation campaigns across NSW. NPA's strengths include our regional reach, deep local knowledge, evidence-based approach and relentless pursuit of a world-class reserve system for NSW.

Overview

Our submission focuses on the use of forest biomass (biomass) in the production of electricity. It is particularly relevant to Term of Reference 4 "effects on regional communities, water security, the environment and public health".

NPA supports a rapid transition to a low-carbon economy. However, we are concerned about erroneous claims that the burning of biomass for electricity generation represents a sustainable, carbon neutral source of energy. International experience strongly contradicts such claims. Harvesting for the production of biomass drives deforestation, reduces the capacity of natural systems to sequester carbon, produces greater net emissions than coal and jeopardises human health.

NPA recommends that the NSW government prohibit the use of biomass sourced from native forests for the production of electricity.

The case against native forest biomass

In Europe, North America and Russia, the production of biomass has become a driver for deforestation², including in conservation reserves³. The stated rationale is that the use of biomass in energy production reduces carbon emissions. This assumption is demonstrably incorrect, with the carbon emissions from burning biomass greater than those from coal⁴⁻⁷. In 2018 a group of 800 eminent scientists, including a former Chief Scientific Advisor to the UK government⁹, wrote to the European Union expressing concern about the climatic and biological impacts of biomass⁸. Australia must avoid making the same policy errors.

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Accounting loopholes

Claims that biomass is a 'renewable' energy source rely entirely upon an accounting loophole¹⁰ that began when the Intergovernmental Panel on Climate Change decided that biomass emissions would be counted in the land sector, and that emissions from the point of combustion would be zero¹¹. Although intended to avoid double counting, this practice has resulted in a significant underestimate of total emissions. Emissions in the land sector are lost from the accounting when logging occurs in one jurisdiction and combustion in another, such as when North American biomass is exported to the European Union¹². A current lawsuit against the European Union is contesting the legality of biomass as a renewable energy¹³.

Older forests are bigger and better carbon stores

Trees absorb carbon at increasing rates¹⁴ as they age, which means that allowing native forests to age is the best way to maximise carbon uptake¹⁵⁻¹⁷. Old-growth Australian temperate eucalypt forests are particularly carbon-dense¹⁸. It is therefore not surprising that the carbon sequestration potential of Australian temperate eucalypt forests is huge¹⁹, the equivalent of capturing 136 million tonnes of carbon annually over 100 years²⁰. Logging for biomass increases carbon emissions from forests rather than facilitating maximum sequestration.

Two fatal flaws with biomass

Two key problems with biomass are the definition of biomass and the time lag between logging events and the regrowth of trees to their pre-logging age and volume⁷.

The terms 'wood waste' and 'forest residues' are commonly used in NSW to describe biomass. The use does not always accord with intuitive definitions of the terms. For example, the NSW Department of Industry 2017 report *North Coast Residues*²¹ estimates that almost one million tonnes of forest residues will be produced on the North Coast of NSW. This covers all organic material remaining after logging operations, including the branches, stumps and leaves from saw logs as well as any remaining small trees that 'met the specifications for pulpwood'.

These organic materials are not 'waste' from an ecological or carbon sequestration perspective. Dead wood has high ecological value for many forest species and plays a vital role in a functioning forest ecosystem. Burning this material releases carbon that would otherwise be captured in the soil profile by biotic processes (ie. natural decomposition and nutrient recycling). Finally, the collection, transportation and processing of these 'wastes' all emit carbon dioxide⁷.

The claims that biomass is a renewable resource assumes that a new tree will replace any burnt biomass, sequestering a similar amount of carbon to that emitted when the tree was logged, transported and burnt. This assumption is seriously flawed. Firstly, the time lag for a new tree to grow is beyond the time window for national decarbonisation. We simply cannot afford to burn trees and wait decades for that carbon debt to be repaid^{8,11}. This is exacerbated by the fact that, as trees mature, their rate of carbon accumulation increases¹⁴, and large, old trees store disproportionate amounts of carbon²². Regrowth trees are much less desirable from sequestration and ecological perspectives than are mature, senescing or even fallen trees.

There is no guarantee that a new tree will survive over the period required to sequester an equivalent amount of carbon. The Environment Protection Authority's 10- and 15-year reviews of the implementation of the Regional Forest Agreements concluded that just over 20% of logged native forests fail to regenerate²³. The long-term impacts of global heating will only increase challenges for the regenerative capacity of forests.

Market forces

Pulplog extraction now accounts for 75% of all native forest logging in southeast NSW. In the Eden region that figure rises to 86%²⁴. These logs are currently converted into woodchips but NSW regulations already permit pulplogs to be burned as biomass²⁵. Analysis by the Environmental Paper Network suggests that Asia is poised to replicate the mistakes of the European Union and increase its reliance on biomass (see Figures 1 & 2). Australian politicians and industry representatives are actively encouraging the export of biomass to Asia. In reference to a trade delegation to Japan in December 2018, the CEO of the Australian Forests Products Alliance stated that *“the sustainability and innovation of Australia’s forest industries will be forefront in the delegation’s meetings, with extra focus on hardwood exports to Japan’s mature pulp and paper and emerging biomass markets”*.

Human health

Biomass burning produces more nitrous oxide and fine particulates than coal²⁶. A European analysis estimates that 1,000 people are dying prematurely as a result of exposure to pollution from biomass burning facilities. Besides this acute affect, morbidity is also increased via 18,000 cases of bronchitis and 1.3 million restricted activity days. An estimated cost to the public of these health impacts runs in billions, or approximately €138,000 per megawatt hour of electricity capacity²⁷.

Thank you for the opportunity to provide a submission. I can be contacted at [REDACTED] or on 9299 0000.

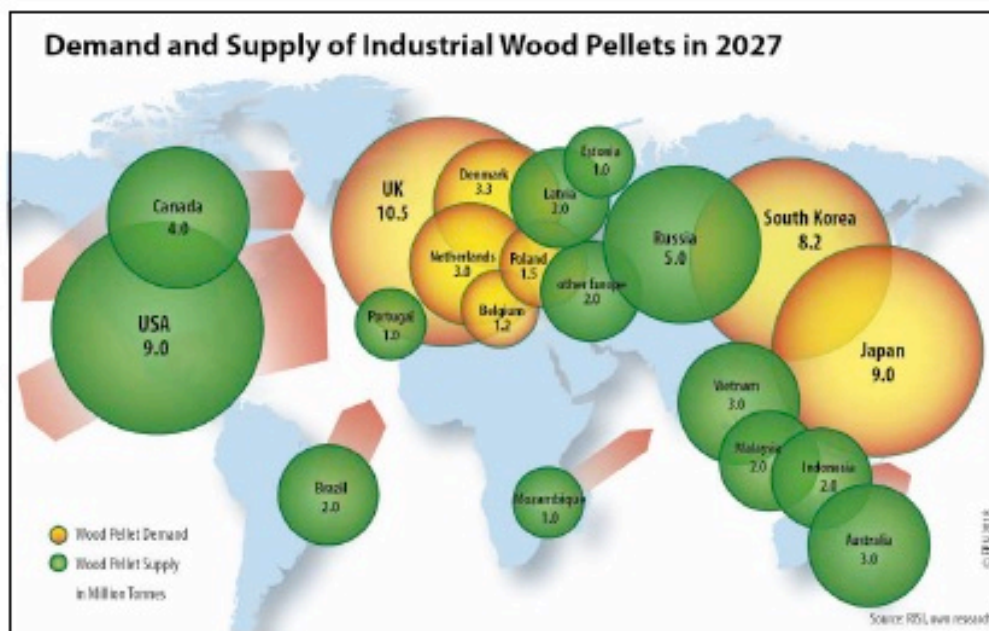
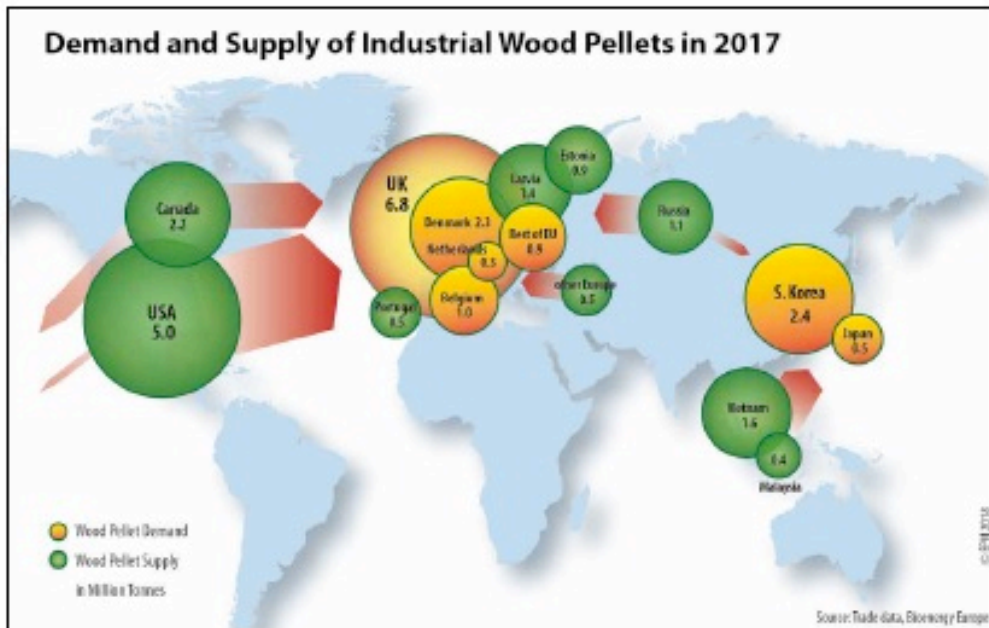
Yours sincerely,

[REDACTED]

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National Parks Association of NSW

protecting nature through community action



1 The maps show the major exports and imports of industrial wood pellets. This does not include pellets produced and consumed in the same country, nor for domestic heating. Pellets can be made from agricultural by-products like straw or palm kernel shells, but forest biomass dominates in both supply and demand.

2017 data are based on available trade statistics. Where 2016 data was used, figures were adapted according to changes in production and consumption facilities.

2027 projections are based on information about planned pellet mills and co-firing facilities and assumptions on the development of national policies regarding bioenergy. Figures were cross-checked against projections by RISI, FutureMetrics or IEA. Different datasets may use different approaches, but they all concur that the use of wood pellets for the production of energy and heat will more than double in the coming ten years.

Figure 1: Anticipated change in the global demand and supply of biomass between the present and 2027. Source: Environmental Paper Network 2018¹.

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