

Briefing Note: Do we need to burn forests to save the environment

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Background

The Renewable Energy Target (RET) requires electricity retailers to purchase a specified amount of renewable energy (the target) from certified generators of renewable energy. Certified renewable energy generators, such as wind and solar farms, are issued with Renewable Energy Certificates (RECs) for every unit of renewable energy they supply (measured in megawatt hours - MWh). These RECs are then sold to electricity retailers who in turn hand them to the renewable energy regulator as proof that they are meeting their obligations under the RET.

The problem

At present burning woodchips or other native forest biomass, is not a certified form of renewable energy under the RET. Electricity generated from burning native forest biomass is not eligible for RECs.

The Australian Forest Products Association (AFPA) is seeking to have the regulation amended to add biomass from native forests as a certified form of renewable energy.

Including native biomass burning in the RET will cause a number of direct and indirect problems including:

- 1) Every gigawatt hour (GWh) of electricity generated from biomass would displace a GWh of solar or wind energy. The Government already hopes to reduce the RET from 41,000 GWh to 33,000 GWh. Redefining the definition of renewable energy to include biomass would effectively reduce the amount of solar and wind required under the RET to between 28,000 and 30,000 GWh (see below for discussion of the scale of biomass generation)
- 2) Native forest logging and wood chipping in Australia is heavily subsidised by state and federal governments. As world prices for woodchips have fallen, the viability of native forest logging and wood chipping has declined even further. It is likely that including native forest biomass in the RET would provide an additional source of revenue to further prop up the environmentally harmful activities of native forest loggers and wood chippers.

What is the potential scale of biomass burning?

According to AFPA:

"It has been estimated that between 3000 (2020) to 5000 Gwh (2050) of renewable electricity (i.e. up to 7% of the RET) could be utilised from available wood-related wastes in Australia"

However, if the RET is reduced to 33,000 GWh according to AFPA biomass might account for around 15 per cent of the target.

The declining world price of wood chips and customer preferences that have shifted away from native forest products has had a significant impact on the level of forestry activity in

Australia. As a result, if a new market for forest products is created as part of the RET there is significant capacity for the forestry industry to expand to meet the new demand from biomass burners.

To put the degree of potential native biomass supply into perspective consider the following:

- a) Every 1000 m³ of wood produces roughly 0.8 GWh (or every 1,000,000 m³ produces roughly 800 GWh).
- b) In NSW, the Forestry Corporation of NSW could supply up to 700,000 m³ a year for bioenergy from across the state's three main native forest regions (Southern, Central and North East). This volume of biomass would provide around 560 GWh of electricity.
- c) Production in Victoria is divided between two regions: Central Highlands and East Gippsland. Combined these regions could provide approximately 350,000-400,000 m³, enough to generate around 300 GWh of electricity per year. In the long-term, Victorian production could be significantly higher. In the early 2000s, pulp log production in Victoria was around 1.3 million m³; it is now about 750,000 m³. If production was raised back to pre-GFC levels, it is conceivable that bioenergy generation in Victoria from native forests alone could exceed 500 GWh (and much higher if the Maryvale Mill stopped taking native logs and supply was diverted to bioenergy).
- d) In Tasmania in the early 2000s, pulp log production averaged around 2.4 million m³ per year. It is now around 300,000 m³. Putting aside the questions of demand and the export of electricity from Tasmania, the potential for logs to be diverted to bioenergy from Tasmanian native forests is large. At the extreme, if we assumed pulp log production returned to 2000 levels electricity from biomass could be as high as 2,000 GWh.
- e) In Western Australia between 100,000 to 200,000 m³ could be put into bioenergy, enough to produce around 120 GWh per year. The very high electricity prices in WA make the economics of biomass even more attractive in the west.
- f) It is difficult to estimate potential native biomass capacity in Queensland. Historically it has been a small producer of native logs but with the SE Forest Agreement now defunct it is unclear what direction the industry might take in the future.
- g) Adding (a)-(e) above suggest that around 3,000 GWh of biomass is possible, a figure which is entirely consistent with the industry estimate.

The cost of biomass

A 5 MW bioenergy generator costs between \$12 million and about \$25 million (capital costs only). A 5 MW plant generates about 30,000 to 40,000 MWh a year (30-40 GWh). On this basis, you would need in the order of 75 to 100 generators (each of 5 MW) to reach the 3,000 GWh. That is, the capital costs alone would exceed \$1 billion.

Is it economic?

Some have argued that biomass is not likely to be economic and, in turn, not likely to be either a threat to the current technologies that dominate the RET or a new source of subsidy to prop up the native forest logging industry. Such an argument ignores:

- a) The evidence presented by AFPA.

- b) That the reference for the AFPA claim is the Clean Energy Council (see p.6 of this [link](#)).
- c) The Government's willingness to jeopardise its entire RET deal with the ALP to ensure that the definition of renewable energy is changed to include burning biomass from native forests.
- d) The willingness of state and federal governments to provide large and ongoing subsidies to forestry industries. In particular it is important to note that the Tasmanian Government-owned electricity company, TasNetworks, recently provided \$30 million to the Tasmanian Government-owned Forestry Tasmania. Such a willingness to spend taxpayers money to support the forestry industry could easily transform into a willingness to fund the construction of biomass burners.

The solution

A simple solution to this problem is available. In negotiating a new RET the government and Opposition should simply agree to enshrine the definition of renewable energy in the legislation, rather than just in regulation. In doing so, continue the existing definition which excludes electricity from native forest biomass.

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