

BIOENERGY MYTHS AND FACTS



1

MYTH: Bioenergy is not a renewable energy

FACT: Bioenergy is a renewable energy

Bioenergy involves the conversion of biomass into useful forms of energy such as heat, electricity and liquid fuels. Biomass is the term used for all organic material originating from plants or animals and is essentially the collection and storage of the sun's energy through photosynthesis.

Bioenergy is considered a type of renewable energy because its source - biomass - is a replenishable resource.



2

MYTH: Bioenergy threatens native forests

FACT: Bioenergy is not a driver of clearing native forests

Using mill and pulp plant leftovers – such as bark, saw dust, wood chips, pulp black liquor, etc to generate bioenergy is the most efficient use of woody biomass. In some cases these residues, if not used for bioenergy, would simply be burnt as waste for disposal.

The majority of Australian states legislate against native forest trees from being logged for the purpose of bioenergy production. However residues from saw mills may be used and in some states, logging residues may also be used.

It's estimated that there is enough woody biomass from forest industry activities in Australia to supply 3000 gigawatt hours of renewable energy per year from existing waste streams without harvesting a single extra tree¹.

This equates to about 3 million tonnes of residual wood available for bioenergy production across Australia – wood that would otherwise result in the production of greenhouse gas emissions through the decomposition process².

Rather than a blanket exclusion of biomass from native forests, exclusion should only extend to native forest biomass that cannot be verified as sourced from sustainably managed forests.

Native forest biomass should be considered a legitimate renewable energy source where it complies with Regional Forest Agreements and internationally recognised forest management standards and certification schemes, and minimises potential conflict with other government objectives, such as water quality, biodiversity and agricultural production.



Clean Energy Council



bioenergy

The Clean Energy Council (CEC) is the peak body representing Australia's clean energy sector. It is an industry association made up of more than 550 member companies operating in the fields of renewable energy and energy efficiency.

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MYTH: Bioenergy creates carbon pollution

FACT: Bioenergy is a clean energy

While burning biomass does release CO₂ emissions, it operates in a closed carbon cycle and therefore creates little or no net greenhouse gas emissions.

This depends however on the type of the biomass used and the activities involved. For example, in the case of crops planted for bioenergy (known as energy crops), the cycle of growing, harvesting and energy production does not produce or absorb any additional carbon. Carbon stored in the crop is released at harvest, and then reabsorbed by the next crop, similar to the natural carbon cycle.



4

MYTH: Energy crops are responsible for the increasing cost of food in Australia

FACT: The rising cost of food in Australia is caused by a whole range of issues

Poor harvests, the high cost of activities like processing, packaging and transporting, a lack of investment in global agriculture, the growing demand for biofuels and an increasing population size demanding more food - have all - among other factors - converged to drive up the price of food. It would be overly simplistic to attribute a rise in food prices directly to energy crops alone.

To avoid competition with land for food production, energy crops can be produced on marginal, degraded or surplus agricultural lands. In these cases, energy crops can help revegetate barren land, reclaim water logged or salinated soils, and stabilize erosion-prone land. When properly managed, energy crops can both provide habitat and improve biodiversity on previously degraded land.

Alternatively, energy crops can be grown alongside non-energy crops, either on the same piece of land or on adjacent pieces of land. This has the benefit of providing the energy-crop farmer with revenue from the land between harvests of food crops and energy crops.



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MYTH: Energy crops are damaging agricultural land

FACT: Energy crops can help stabilise soils, improve soil fertility and reduce erosion

Most energy crops are perennial - that is, they only require harvesting every two years or more. This can eliminate problems like erosion and removal of soil nutrients typically associated with food crops that typically require harvesting every year.

As a result, energy crops - particularly on degraded or erosion-prone lands - can help stabilize soils, improve soil fertility, and reduce erosion.



6

MYTH: Energy crops leach chemicals such as fertilizers and pesticides into the environment

FACT: Perennial energy crops require less fertilizer and pesticides than conventional crops

With perennials, better recycling of soil nutrients is obtained, reducing the need for fertilizer. This helps avoid the environmental problems caused by the abundant use of fertilizers and manure in agriculture such as nitrification of groundwater, saturation of soils with phosphate, leading to problems in meeting drinking water standards.



7

MYTH: Bioenergy reduces biodiversity

FACT: When energy crops are established on degraded lands or on excess agricultural lands, the restored lands are very likely to support a more diverse ecology compared to the original situation

The restoration of such land is generally desirable for purposes of water retention, erosion prevention and soil nutrients. Furthermore, a good plantation design, including areas set aside for native flora and fauna, fitting into the landscape in a natural way can avoid the problems normally associated with monocultures.



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MYTH: Bioenergy is bad for conservation

FACT: Bioenergy projects actually support broader environmental conservation objectives

For example, trees planted for bioenergy can provide environmental benefits of salinity, erosion control and enhanced biodiversity.

For example, native trees (oil mallees) that have been grown in alleys to mitigate dry-land salinity in Western Australia, also act as shelter for sheep and can provide an animal habitat.

The use of woody weeds as a bioenergy source can control this difficult weed, rehabilitate land and reduce the risk of bushfires and biodiversity.

There is approximately ~ 100M hectare of woody weeds in the Australian inland plains and cropping the weeds for bioenergy provides an environmentally sound alternative to typical methods of removal such as herbicide and fire treatments.



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MYTH: Energy crops increase the demand on available water supplies, particularly in (semi-) arid regions

FACT: The right choice of energy crops can have a positive effect on water retention

The choice of a certain energy crop is an important consideration when considering available water supplies. Certain Eucalyptus species for example have very good water-use efficiency when the amount of water needed per ton of biomass produced is considered.

Furthermore, energy crops on previously degraded land will improve land cover, which generally has positive effects on water retention and micro-climate conditions. Impacts on the hydrological situation should always be evaluated at a local level.

¹ Australian Forest Products Association, Common sense needed for green energy from native forest biomass, Wednesday, 12 October 2011, found at <http://ausfpa.com.au/site/news.php?task=detail&id=0032>

² ABARE, Australia's State of the Forests Report 2008, found at <http://adl.brs.gov.au/forestsaustralia/publications/sofr2008.html>



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