



information sheet

SUSTAINABLE LAND USES

7

Biofuels information sheet

Please note: While all care has been taken in the preparation of this information sheet, it is not a substitute for legal advice in individual cases. The content of this information sheet is current as of August 2015.

This information sheet is one of a series on sustainable land uses which have been developed for Local Aboriginal Land Councils (LALCs) by the NSW Aboriginal Land Council (NSWALC). Copies of the information sheet are available from www.alc.org.au or by calling the NSWALC Policy and Research Unit on (02) 9689 4444.

What are biofuels?

Biofuels are fuels which have come from non-fossil fuel materials, such as waste, plant and animal matter. They are used as replacements for gasoline and diesel. The three main types of biofuels are biogas, bioethanol and biodiesel.

Biogas refers to a gas created by the natural breakdown of organic matter in the absence of oxygen. The gases methane, hydrogen and carbon monoxide can be mixed with oxygen to create a gas mix which can be used as fuel.

Bioethanol is currently produced in Australia from sugars, starch or cellulose products such as sugar cane, wheat and wood.

Biodiesel is mainly produced from vegetable and waste cooking oils such as palm and soybean oils along with tallow.

Why biofuel?

Biofuel usage is steadily growing worldwide. The rising costs of oil and the move towards renewable fuels will continue to drive replacement of traditional fuels with biofuels.

Biofuels are arguably a more sustainable and renewable fuel source than limited fossil fuels (oil and petroleum). However, they are controversial as they have the potential to compete with food production as a land use, although this is not currently the case in Australia. Also, the agricultural practices which produce biofuels may have negative environmental impacts.

How does it work?

The term “feedstock” refers to the starting materials that are used to make biofuels. There are a wide range of potential feedstock crops as described in the ‘Biofuel Farming Options’ section of this information sheet. To participate in biofuel markets, LALCs can either grow biofuel feedstock on their landholdings or lease their landholdings for someone else to farm. The feedstock is harvested and can be turned into a biofuel product directly by the grower.

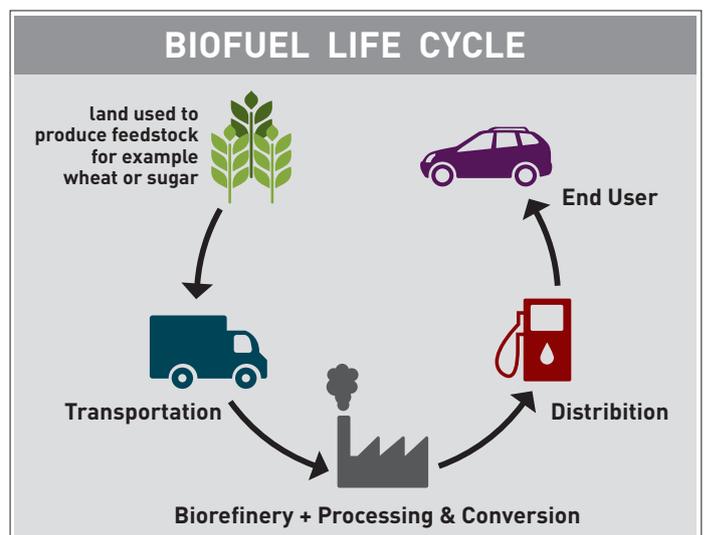
However, as the equipment used to turn feedstock into biofuel is expensive, growers usually sell the feedstock to a biofuel manufacturer who will turn it into a biofuel product. Alternatively, if a LALC has an existing farm enterprise which produces large quantities of suitable biofuel waste materials, it may be able to on-sell these for biofuel production.

Profits for selling feedstock can vary depending on the crop, current market prices and the transportation costs of delivering the stock to the manufacturer.

First steps

If a LALC is interested in engaging in the biofuel market the following points are indicators of some of the first steps to undertake:

- Investigate whether their land would make a good site for biofuel feedstock production. A crop scientist or



agricultural consultant will be able to assist with this.

- Contact NSWALC for information regarding land dealings policies and procedures.
- Contact the Office of Biofuels at the Land and Property Management Authority to discuss your feedstock options.

For more information go to:

http://www.fairtrading.nsw.gov.au/ftw/Businesses/Specific_industries_and_businesses/Biofuels_industry.page - Phone: 02 9236 7655

Biofuel farming options

There are numerous biofuel feedstock options for landowners. Some examples of feedstock are corn, sugarcane, molasses, sorghum, waste starch and agave for producing ethanol; soybeans and palm for biodiesel and manure and sewage for biogas

Future of biofuels

Bioethanol and biodiesel are referred to as “first generation” biofuels. In Australia they are produced from agricultural waste. First generation biofuels in some countries can threaten food security and increase food prices as food crops are used as the base for biofuel production. However, as it is the waste of food crops and animals that is used to produce biofuels in Australia, there is at present no threat to food security.

“Second generation” biofuels use biomass, meaning any plant-derived materials that do not compete with food production such as leaves, tree bark, straw or woodchips. Second generation crops use a wider range of feedstocks than first generation biofuel which significantly reduces the impact of biofuels on the environment, such as switchgrass, coppice poplar and willow.

Second generation biofuels are generally more energy efficient than first-generation biofuels as they release more energy per volume (meaning for example that a car will go further on less fuel). Additionally, fewer plants can be grown and cultivated on less land to produce the same amount of energy. However, the production costs of second generation biofuels are currently high which means they cannot yet be produced economically on a large scale.

Competition with food producers for crops is so far not a problem in Australia. However, as the use of biofuels increase, there will be a need for second generation biofuels in order to prevent the use of food crops to produce biofuels.

Benefits and risks

Biofuels are relatively more sustainable than fossil fuels, provide an income for those who farm them and reduce Australia’s reliance on foreign fuel. An advantage for those who farm feedstock for biofuels is that some plant

based fuel can be regrown without replanting, such as perennial grain crops. This saves money, time and waste.

Biofuel production in Australia is a growing industry and provides an income to landowners. The NSW Government is ensuring that ethanol-blended petrol is becoming widely available. From 1 July 2012, all regular grade petrol will be 10% ethanol (E10), meaning that there will be a larger demand for bioethanol.

Australia’s biofuel production is forecast to rise to 1.519 billion litres by 2015 from 636 million litres in 2011. Most Australian demand is for ethanol.

The key risk to biofuel landowners is uncertainty about demand. The Australian Government promotes alternative fuel use and has many measures in place to support alternative fuels and their use. At the time of writing, biofuels were subject to a lower rate of tax than other fossil fuels. However, the Australian Government plans to have a staged increase of the rate of fuel excise for biofuels. From July 2016, the rate of excise will increase incrementally for 5 years until it reaches 12.5 cents/L in 2021 (source: Parliament of Australia <http://www.aph.gov.au>).

It is also important to bear in mind that production of biofuels may also have negative environmental impacts, if biofuel crops are farmed using conventional large-scale agricultural practices. The production of monoculture crops and application of chemical fertilizers and pesticides may lead to issues with salinity, erosion, biodiversity loss, loss of topsoil and contamination of surrounding water courses.

A landowner considering farming feedstocks for biofuels should seek advice to determine how production of the feedstock will interact with the *Aboriginal Land Rights Act 1983* (NSW) (ALRA) and prevailing land rights. In particular, it is important to determine:

- Whether the production of biofuel feedstock constitutes a land dealing requiring NSWALC approval under Part 2 Division 4 of the ALRA
- Whether changing land use (i.e. to a commercial purpose) will result in a change in any rates, levies or charges payable in relation to the land as described in Part 2 Division 5 of the ALRA, and clause 7 of the *Aboriginal Land Rights Regulation 2002*

NSWALC can assist with answering these questions.

Grants Available

Grant	Purpose	Contacts and Information
Small Grants for Rural Communities Program	Open to not-for-profit organisations for projects that offer public benefit for small rural and remote locations in Australia, contributing to their development in social and community welfare and environment or cultural areas.	The program is administered by the Foundation for Rural & Regional Renewal (FRRR). For more information visit: www.frrr.org.au/cb_pages/small_grants_for_rural_communities.php Phone (free call) 1800 170 020 Email info@frrr.org.au
Various grants under the Environmental Trust	Environmental Trust is an independent statutory body that supports exceptional environmental projects that do not receive funds from the usual government sources	For information on available grants, go to: www.environment.nsw.gov.au/grants/envtrust.htm Phone: (02) 8837 6093 Email: info@environmentaltrust.nsw.gov.au
Australian Renewable Energy Agency (ARENA)	Provides funding assistance to a variety of renewable energy activities, including projects which increase the diffusion and use of renewable energy generation and which integrate renewable energy into communities in rural or off-grid areas.	For more information, see: www.arena.gov.au/funding Phone: 02 6243 7054 Email: proposals@arena.gov.au