

ARENA

# BIOENERGY ROADMAP CALL FOR SUBMISSIONS

APRIL 2020



Australian Government  
Australian Renewable  
Energy Agency

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# BIOENERGY ROADMAP - CALL FOR SUBMISSIONS

This call for submissions outlines the type of responses requested by ARENA for consideration in the development of the Bioenergy Roadmap. This document should be read in conjunction with the information provided on our website at [arena.gov.au/bioenergy-roadmap](https://arena.gov.au/bioenergy-roadmap).

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## 1.0 CONTEXT

Bioenergy is energy generated from solid, liquid and gaseous products that have been predominantly derived from biomass. Biomass is any organic matter (biological material) that is available on a renewable basis, including material derived from animals or plants, municipal or industrial waste. End-uses include heat, electricity and transport fuel.

Given the availability of cost effective and environmentally beneficial feedstock sources, the bioenergy sector has significant potential to assist with Australia's energy transition and to help Australia further reduce our emissions. However, it is generally viewed by industry that the development of Australia's bioenergy sector has not matched global development (as measured by contribution to energy consumption compared to other OECD countries).

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*“Successful bioenergy deployment necessitates a cross-sectoral, integrated approach where the efforts of all stakeholders –ranging from energy, agriculture and forestry, infrastructure, environment, technology and innovation, to economic and social affairs –are coordinated into concerted, sustainable action”*

*International Energy Agency (IEA) and Food and Agriculture Organisation (FAO), (2017)*

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## 2.0 BIOENERGY ROADMAP

ARENA is investing in the development of a roadmap to identify the role that the bioenergy sector can play in accelerating Australia's energy transition, stimulating regional development, enhancing energy security and helping Australia further reduce our emissions.

The Bioenergy Roadmap will help to inform the next series of investment and policy decisions in the bioenergy sector in Australia. It will be an important input into the Australian Government's Technology Investment Roadmap and will potentially help us capitalise on opportunities to enhance Australia's energy security and further reduce our emissions.

An effective Bioenergy Roadmap requires a broad stakeholder consultation process where the views of businesses, research groups, industry associations, community groups and individuals are considered. The Bioenergy Roadmap will consider the range of feedstock, the technology opportunities that are available and all forms of energy including electricity, heat and liquid fuels.

Section 3 provides details on the key topics that ARENA is seeking views on and provides some further prompting questions for consideration of respondents.

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## 3.0 KEY AREAS OF INVESTIGATION

In this call for submissions, views are sought regarding:

- > opportunities where the bioenergy sector in Australia may have a competitive advantage, which may include:
  - the role of biofuels to help decarbonise the industrial and transport sectors and contribute to Australia's liquid fuel security

- opportunities to decarbonise the gas network
- bioenergy opportunities for heat, steam and power
- > current economic and regulatory impediments to the development of the bioenergy sector in Australia
- > understanding of the markets, technologies, resources, social and environmental factors underpinning the current and potential bioenergy sector
- > insights into the economic opportunities for Australia, including a focus on regional Australia
- > any other relevant factors that should be considered in the development of the roadmap.

In order to support respondents in their submissions, ARENA has compiled the following list of prompting questions relevant to the bioenergy sector in Australia.

The list of prompting questions is not intended to be exhaustive, and there is not an expectation that respondents to this call for submissions answer these questions. Respondents are encouraged to consider these questions as well as complementing submissions with any additional matters that may be relevant to the Bioenergy Roadmap.

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### 3.1 MARKETS AND TECHNOLOGY

Bioenergy has the potential to serve many end-use sectors through renewable electricity, heat generation and clean transport fuels. However, bioenergy will compete with other sources of conventional and renewable energy. Impediments to its development may limit opportunities for deeper decarbonisation across the economy.

- > What are the key drivers and impediments to bioenergy development in Australia?
- > What supply chain gaps act as impediments to bioenergy development in Australia?
- > What are the competitive advantages of bioenergy in specific end-use sectors (such as biogas to displace natural gas and liquid fuels to decarbonise transport)?
- > What trends in the electricity, heat and transport markets will impact bioenergy development to 2030 and to 2050?
- > What markets should Australia's bioenergy industry focus on? Domestic market, import replacement and/or export opportunities? What are the opportunities for regional economic development, employment and energy requirements?
- > How is bioenergy development in Australia impacted by international and national factors?

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### 3.2 RESOURCES

Australia has many sources of feedstocks through its agricultural, forestry and waste sectors. Understanding the feedstock potential can indicate the size of a possible bioenergy industry in Australia, which may be limited by conflicting uses and environmental considerations.

- > What are the current uses of feedstocks (especially wastes and residues) in Australia? How will these impact the net potential of that feedstock for bioenergy?
- > Which energy crops have the greatest potential in Australia?
- > What are the potential environmental impacts and/or benefits (such as soil nutrients) of using a feedstock for bioenergy?
- > Can these feedstocks be expanded sustainably, given land availability, water requirements and other environmental considerations?
- > How will climate change impact the future potential of a feedstock?

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### 3.3 PUBLIC POLICY

International experience demonstrates a broad range of policy mechanisms have been useful to support bioenergy development.

- > What are the impacts of Australia's current policy mix on the development of bioenergy in Australia?

- > Are there examples of successful State/Territory-level policy initiatives?
  - > What policy and regulatory instruments could further support the development of bioenergy in Australia?
  - > What lessons could be taken from overseas to inform Australia's bioenergy policies?
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### 3.4 SOCIAL LICENCE

Bioenergy can provide many social benefits such as job creation, regional economic development and diversification of biomass-related markets. To realise these benefits, ongoing acceptance from local communities is critical to any bioenergy project in Australia.

- > What factors (such as shared economic benefits, safety and environmental impacts) will drive social acceptance and broad public support of bioenergy in Australia?
  - > What are the conditions for maximising social licence for bioenergy development at national, regional and project levels?
  - > What are the forms of bioenergy that are most likely to be supported?
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### 3.5 KEY STAKEHOLDERS

Developing a bioenergy industry in Australia will involve many diverse stakeholders along the bioenergy value chain.

- > Who are the key bioenergy stakeholders and what is their role in the development of the bioenergy sector in Australia?
- > What special expertise and insights do various stakeholders bring?

## 4.0 INSTRUCTIONS FOR SUBMISSION

ITEM	NOTES
<b>Timeframe</b>	<p>The submission period commences on 28 April 2020 and closes on 29 May 2020 at 5:00 pm AEST (Submission Deadline).</p> <p>ARENA reserves the right to amend the Submission Deadline.</p> <p>Submissions are to be lodged electronically via the ARENA website at <a href="https://arena.gov.au/bioenergy-roadmap">arena.gov.au/bioenergy-roadmap</a></p> <p>To successfully lodge your submission, you must complete the following two steps by the Submission Deadline:</p>
<b>Submission process</b>	<ol style="list-style-type: none"><li>1. Complete the submission form via the link at <a href="https://arena.gov.au/bioenergy-roadmap">arena.gov.au/bioenergy-roadmap</a></li><li>2. Email your supporting document(s) to <a href="mailto:bioenergyroadmap@arena.gov.au">bioenergyroadmap@arena.gov.au</a></li></ol> <p>Please note that documents received by ARENA at the above email address without a corresponding submission form will not be considered.</p>
<b>File type</b>	<p>ARENA will accept submissions lodged in the following formats:</p> <ul style="list-style-type: none"><li>&gt; Word (.doc or .docx)</li><li>&gt; Excel (.xls, .xlsx or .csv)</li><li>&gt; PDF (.pdf)</li><li>&gt; Powerpoint (.ppt or .pptx)</li></ul> <p>There are no formal requirements regarding the form submissions may take.</p>
<b>Content</b>	<p>However, please note that high quality, concise, well-structured and well-evidenced submissions will assist us in understanding your view.</p> <p>While your submission will be considered, there is no guarantee that all views will be reflected in the Bioenergy Roadmap.</p>
<b>Privacy</b>	<p>Any submission involves the collection of your personal information for the purposes of enabling ARENA to consider your submission. This personal information may be disclosed to ARENA's employees, consultants and advisers to enable your submission to be considered.</p> <p>Your personal information will be dealt with in accordance with ARENA's privacy policy, which can be found at <a href="https://arena.gov.au/privacy">arena.gov.au/privacy</a></p> <p>Specifically, we will collect personal information (names, email addresses and phone numbers) for the purpose of contacting you to seek further information</p> <p>You have a right to correct the information provided and opt out of being contacted at any time</p> <p>If you elect to make your submission public, your name and a link to the submission provided may be included on the ARENA website</p> <p>If you elect to make your submission confidential, we will not publish either your identity or submission on the ARENA website. We will use the information for internal purposes and may include anonymised data in the development of the Bioenergy Roadmap</p> <p>If you require further assistance, please contact us at <a href="mailto:bioenergyroadmap@arena.gov.au">bioenergyroadmap@arena.gov.au</a></p>
<b>Questions</b>	<p>ARENA may, at its discretion, choose to address questions in the FAQ section of the website, where appropriate.</p>

Further information is available at  
arena.gov.au

Australian Renewable Energy Agency

*Postal Address*

GPO Box 643  
Canberra ACT 2601

*Location*

2 Phillip Law Street  
New Acton ACT 2601

*Engage with us*

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