

REQUEST FOR EXPRESSIONS OF INTEREST

OPPORTUNITY ASSESSMENT AND
INVESTIGATION OF BIOFUEL PRODUCTION
AND ASSOCIATED MARKET OPPORTUNITIES

Closing date: 5:00pm 12 of May 2021

Contents

Contents	2
1. BACKGROUND	3
1.1 Sugar Research Australia Limited overview	3
2. TERMS OF REFERENCE	3
2.1 Activity landscape	4
2.2 EOI outputs	4
2.3 Timeframes for EOI Submission	5
3. SUBMISSION REQUIREMENTS AND INFORMATION	6
3.1 Proposal requirements	6
3.2 Conflict of interest	6
3.3 Professional indemnity and public liability insurance	7
3.4 SRA consultancy agreement	7
3.5 Criteria for selection	7
3.6 SRA rights	7
3.7 Conditions of lodgement	8
3.8 SRA contact	8
3.9 Attachment 1	8

1. BACKGROUND

1.1 SUGAR RESEARCH AUSTRALIA LIMITED OVERVIEW

Sugar Research Australia Limited (SRA) is an industry-owned company that was established in 2013 by Australia's sugarcane growers and millers to deliver Research, Development and Extension (RD&E) activities and services that drive productivity, profitability, and sustainability for the Australian sugarcane industry.

The Australian sugar industry leads the world in terms of productivity per hectare, but despite this advantage, it continues to struggle with profitability. Margins are under constant pressure, and it appears that continuing to direct most future efforts to on-farm, logistics and milling productivity improvements will deliver only incremental gains to what is an already efficient production system.

Fortunately, the industry also finds itself now approaching a period of opportunity emerging through the increasing global momentum of the bio-based economy. The global shift towards renewable bio-based and locally produced fuels, has been highlighted by the recent dramatic disruptions that the coronavirus pandemic has had on global supply chains. Australia's supply chain vulnerability through reliance on imported fuels, feedstocks, materials, and finished products could be partially addressed through a repurposed sugar industry.

In the current context, the sugarcane industry is extraordinarily well-placed to become a significant contributor in this emerging bio-based economy. New opportunities for diversification and value-adding exist throughout the supply chain, including new options for feedstock production, biomass processing, and both intermediate and end-product manufacture.

In recent years, new opportunities for development of high-value biomass crops have emerged as the result of some ground-breaking research to engineer plants to produce and accumulate valuable oils (triglycerides) in vegetative tissues, e.g., CSIRO's Biomass Oil Technology. SRA is interested in investigating the potential of these technologies to develop diversification opportunities for the Australian sugarcane industry.

2. TERMS OF REFERENCE

To support SRA in a potential future collaboration with the provider of the best technology in this space, SRA is seeking EOIs from a suitably qualified organisation or individual to collaborate with SRA in assessment of the **biofuels technologies and associated market opportunities**. The study is aimed at quantifying the **micro and macro-economic value** that might arise from an oil-canes industry, assessing the opportunity for SRA to develop a pathway to market for the technology, assessing the ability of the Australian sugarcane industry to respond to the market opportunity taking account of the strengths and constraints of the entire sugar industry supply chain, and providing advice to SRA on the intellectual property ownership, technical feasibility/readiness of the technologies available.

2.1 ACTIVITY LANDSCAPE

- a) In 2020, to support the development of a new strategic direction, SRA undertook megatrends analysis to identify potential diversification opportunities for the industry.
- b) As an outcome of the megatrends analysis, SRA became aware of a potential new opportunity for the development of high-value biomass crops as the result of ground-breaking CSIRO research to engineer plants to produce and accumulate valuable oils (triglycerides) in vegetative tissues.
- c) These oils have much greater energy density than other plant structural components and storage compounds such as sugars, starch, protein, or fibre, and accordingly have a significantly higher unit value. For example, plant oils for food and cooking are currently estimated to achieve prices around USD \$850/t (AUD \$1200/t), while the recent indicative value of sugar equated to USD \$250/t (AUD \$360/t).
- d) The CSIRO research has seen the emergence of a completely novel technology for producing and accumulating triglyceride oils in plant leaves and stems. Using tobacco as a model plant, initial CSIRO research achieved oil levels of around 8-10% of biomass dry weight, and these levels were subsequently raised to 33% by further technology customisation. Subsequent work has focused on demonstrating the transferability of the technology to other plant species, with early attention directed to front-running candidate high biomass species, such as sugarcane and sorghum.
- e) The work undertaken as part of this study would be partly completed in collaboration with technology providers but is expected to give an independent assessment of the opportunity to take the best technology through to successful market uptake.
- f) The value-add proposition for biofuel production is based on several assumptions; including but not limited to:
 - o the existence of an attractive and sizeable market for oil produced through sugarcane
 - o the Australian industry's ability to produce and process oil from sugarcane with sufficient competitive advantage to secure a portion of that market
 - o access to capital to support the potential opportunity
 - o the significantly higher market price for bio-oil compared to sugar and the sustainability of these prices over time
 - o intellectual property ownership, freedom to operate and availability of related arrangements for the technology
 - o the technical feasibility/readiness of the technology.

2.2 EOI OUTPUTS

The activities and outputs for this work will include a stage-gate process and **therefore each stage should be priced independently**. A report should be delivered after each stage and following delivery of the report SRA will review its commitment to proceeding to the next stage.

STAGE ONE: Technical Readiness

Conduct:

- a global scan of biofuel technologies under development, near-to-market or commercially available
- an investigation of CSIRO and similar technologies, that are already on the market, near market or in development, assessment of each using TRL approach and recommendation of technology/ies showing greatest promise from an Australian sugarcane perspective.

Go/No-go decision by SRA

STAGE TWO: Market assessment

Conduct a market assessment for biofuel production covering:

- a broad overview of the market and market structures which exist for plant-based oils, including current trends, and driving and limiting factors which are likely to impact the market over the coming decade
- a market estimate including forecasts of market demand domestically and globally, forecast export potential, and forecast prices for biofuel over the 5 to 15 years
- a detailed analysis of the potential benefit and opportunity to the Queensland Government, quantifying the opportunity in terms of Gross Regional Product/job creation (or other agreed metrics)
- an assessment of the regulatory environment relating to genetically modified plants including requirements under the Commonwealth Gene Technology Act 2000 (should the recommended technology/ies involve genetic modification).

Go/No-go decision by SRA

STAGE 3: Supply Chain and Economic Assessment for the Australian sugarcane industry

Assess through:

- a high-level stakeholder map identifying active stakeholders, potential customers, potential investors, and potential project beneficiaries of the opportunity; including an analysis of stakeholder needs in terms of funding and policy incentives that may be required to stimulate interest and participation in the opportunity
- economic analysis of any deregulation costs (for GM)
- economic analysis of the infrastructure/indicative capital needed across the industry's supply chain activities encompassing breeding related infrastructure, and infrastructure to support farming, processing, transportation, and export to support an oil-canes industry.

2.3 TIMEFRAMES FOR EOI SUBMISSION

DATE	ACTION
19 April 2021	Expressions of Interest sought by SRA.
12 May 2021	Closing date for submission of Expressions of Interest.
21 May 2021	SRA consultancy agreement finalised and signed.
28 May 2021	Inception meeting – project planning, confirming input requirements (including access to documentation, personnel, and potential stakeholders), confirming output requirements and timeframes.
2 June 2021	Project Plan agreed and signed by the Executive Manager, Research Missions and Strategy.

3. SUBMISSION REQUIREMENTS AND INFORMATION

3.1 PROPOSAL REQUIREMENTS

Expressions of Interest must address the following:

1. Methodology	Provide a detailed description of the proposed approach and methodology to be undertaken in addressing each of the requirements in the Terms of Reference.
2. Experience and qualifications	<p>Provide details of the core multi-disciplinary team (names, roles, qualifications, relevant experience, and knowledge) to be allocated to the project. Along with strong core credentials and capabilities in undertaking market opportunities assessments it is vitally important that consultants in this project have (and deliver with) relevant credentials and experience in the following areas:</p> <ul style="list-style-type: none"> • ability to work at the nexus of economics, strategy and finance and perform complex modelling to support micro and macro-economic analysis • through delivery of projects with a similar scope, significant recently acquired knowledge of bio-opportunities and markets, coupled with expertise in regional economic development • understanding of the diversification challenges of the Australian sugarcane industry • understanding of agriculture value chains, including plant breeding activities • ability to access scientific expertise to provide an independent assessment of CSIRO's or other's biofuel technology/readiness • demonstrated understanding of intellectual property.
3. Capacity and resources	Provide project management details to demonstrate capacity to commence and manage the project within the required timeframe.
4. Pricing	<p>Provide a costing and payment schedule.</p> <p>A detailed description of the basis for pricing must be included and justified. It must contain a schedule of rates and times for all team members and any external parties engaged.</p> <p>The SRA consultancy agreement will be a fixed price contract, with payments made on achievement of agreed milestones as per an agreed plan.</p>

3.2 CONFLICT OF INTEREST

Expressions of Interest are required to include details of any known or likely conflict of interest. Your approach to the management, assessment, and disclosure of any known or likely conflicts of interest, and any conflict of interest that may arise during the period of engagement should also be detailed in the EOI document.

3.3 PROFESSIONAL INDEMNITY AND PUBLIC LIABILITY INSURANCE

Details of professional indemnity and public liability insurance must be provided at commencement of services.

3.4 SRA CONSULTANCY AGREEMENT

The successful party will be required to enter into a formal consultancy agreement with SRA. A copy of the SRA consultancy agreement is provided in Attachment 1.

3.5 CRITERIA FOR SELECTION

SRA will use an evaluation panel to assess all submissions. All proposals will be reviewed for completeness and the extent to which they address the assessment criteria (below). Clarification of issues identified may or may not be undertaken. Non-conforming proposals or those containing insufficient information to properly assess their ability to satisfy the EOI will not be considered further.

The following assessment criteria will be used to evaluate submissions:

- organisation capability and resources of the applicant to deliver within the timeframe required
- qualifications and technical skills of the proposed project team
- degree of understanding of the project to be delivered within the proposal
- demonstrated experience in conducting similar projects including standard of outputs; completion on time including meeting milestones and deadlines; completion within agreed budget; achievement of quality aspects
- suitability of the proposed methodology to meet the requirements of the Terms of Reference
- cost-effectiveness and value for money including the total proposed fee, structure, and rates.

3.6 SRA RIGHTS

SRA reserves its rights at law or otherwise to:

- cease to proceed with or suspend the EOI process
- alter timing of the EOI process
- vary the EOI structure
- vary any time or date specified in the EOI
- require additional information or clarification from the applicant
- enter into negotiations or discussions with more than one applicant
- request a new EOI
- reject any EOI received after the closing date as described in this document
- reject any EOI that does not comply with the requirements as described in this document negotiate and enter into final contractual documentation with respect to the project with any counterparty without prior notice
- not attribute any reasons for actions or decisions taken, including on the exercise of any or all of the above-mentioned rights; and
- take such other action as they consider appropriate in relation to this Research Funding Panel process.

3.7 CONDITIONS OF LODGEMENT

The applicant agrees, by lodging an Expression of Interest, that it is bound by these conditions:

- all Expression of Interest documents become the property of SRA upon lodgement
- all information in the EOI is accurate and complete
- it has declared any actual or potential conflict of interest.
- it will bear all costs for preparing the EOI submission, including any meetings that may be required related to the submission prior to the contracting stage.
- it will keep confidential any confidential information provided by SRA in connection with the EOI.
- it will make any inquiries relating to the EOI process only through the contact details provided; and
- pursuant to the *Privacy Act 1988* (Cth) it will be bound by the Australian Privacy Principles in respect of any act done or practice engaged in by the respondent in connection with this EOI process.

Expressions of Interest are to be submitted to SRA **by 5.00pm, 12 May 2021** as follows:

Electronically by email to smudge@sugarresearch.com.au with the subject heading ***“EOI: Opportunity assessment and investigation of biofuel production and associated market opportunities”***

3.8 SRA CONTACT

Requests for further information or clarification in relation to this request for Expressions of Interest should be directed to:

Dr Stephen Mudge

Manager, Research Missions

Email: smudge@sugarresearch.com.au

3.9 ATTACHMENT 1

SRA consultancy agreement template



Consultancy%20Agreement%20-%20SRA%



Brisbane Office 50 Meiers Road Indooroopilly QLD 4068 Australia

Postal Address PO Box 86 Indooroopilly QLD 4068 Australia

sugarresearch.com.au