CONSULTANTS
EXPRESSION OF INTEREST

Spatial modelling of financially suitable afforestation under different investment scenarios for timber production and carbon storage with key prospective wood species

Our focus is to grow the forestry sector to deliver strong financial outcomes and design and test new models of investment for plantation forest.

EXPRESSION OF INTEREST

Determine and describe the amount of land that is available, accessible and financially / technically suitable for forestry plantation development in South and Central Queensland, taking into account relevant biophysical and economic factors using a relevant spatial bioeconomic modelling approach; apply the model at a regional level for a number of afforestation scenarios for timber production and carbon sequestration; summarise and aggregate the findings at a regional level to help inform future scope for investments; and determine support systems for landowners to invest or enter in new plantation partnerships.

Key EOI Information

The South & Central Queensland Regional Forestry Hub is seeking Expressions of Interest (EOI) from individuals and organisations with the necessary expertise to assist Hub members in the following:

a) Review academic (peer reviewed) and relevant published literature/studies as well as any other (grey) literature and data covering relevant spatial and remote-sensing imagery for South & Central Queensland forestry regions and integrate it in the North Queensland Hub Foundational GIS platform (to be provided to the successful applicant/services provider)

b) Describe main biophysical factors and characteristics affecting land suitability and investment for tree plantation; provide insights describing the identified available land for plantations at point a.

c) Model and describe financially optimal afforestation option (macro level) for the 3-4 most likely wood species under three different scenarios - for timber, for carbon storage and for multiple-use

d) Determine policy factors slowing and/or supporting tree plantations; Establish a methodology to support successful relationships among industry and farmers, farmers groups, indigenous communities and other landowners for investing and/or enter in partnerships to establish forestry plantings.

The project is expected to be completed using a combination of desk research and in-person/remote and may be delivered as a single project or separate projects conducted by multiple consultants.

If you believe that your expertise satisfies the requirements outlined in this document, please complete and submit an Expression of Interest (EOI).

Closing date for the EOI submission: 13 February 2023 at 5.00pm

Email your EOI to: k.fullarton@seqfh.com.au

Contact persons:

Kerry Fullarton, Hub Manager, South & Central Queensland Regional Forestry Hub, phone 0498 018 144 or

Mihai Daian, Hub Technical Advisor, Qld Forestry Hubs, m.daian@qldforestryhubs.com.au phone 0431 660887

Once submitted, your EOI will be considered by the Hub Committee. If the proposal is deemed acceptable for consideration, a Hub representative will contact you to discuss your proposal.

1. Introduction

South & Central Queensland Regional Forestry Hub

In September 2018, the Australian Government launched the National Forest Industries Plan: Growing a Better Australia – A Billion Trees for Jobs and Growth. The Plan outlines the Commonwealth Government's strategy to drive growth in the renewable timber and wood fibre industry. It provides the vision and certainty needed for Australia's forestry industry and supports the sustainable forest industries as long-term growth engines for regional Australia.

The plan ambitiously aims to deliver a billion new trees over the next decade (including 400,000 new hectares of plantations nationally) to meet a projected fourfold increase in global demand for timber and wood fibre products by 2050. This translates to planting the right trees, at the right scale, in the right places.

The Commonwealth Government supported the Plan in the 2018-2019 Federal Budget with a $20 million commitment over four years to help implement actions identified in the Plan. The Hub was setup as part of the Commonwealth's commitment which, pursuant to the Plan, includes nine forestry hubs across Australia.

The South & Central Queensland regional forestry hub will determine the opportunities and barriers for the forestry and wood products sector and detail the finding of its assessment and growth pathways in reports to the Commonwealth Government and stakeholders.

The steering committee is representative of industry and includes key stakeholders in the region. In order to drive the Commonwealth's key objective of planting one billion trees in the next decade under the plan, the Hub has identified a number of key priorities in consultation with both industry, community, and government stakeholders.

The Hub's five priorities include:

Skills & Training

We will support forestry training and education and promote further uptake of forestry-related courses. In addition, we will support sustainability and contribute to growing a skilled and safe workforce to meet industry's future needs.

Manufacturing Competitiveness

Our goal is to maximise manufacturing processes and products through innovation, science, and technology, and add value through improved supply chain logistics.

Plantation Investment Models

Our focus is to grow the forestry sector to deliver strong financial outcomes and design and test new models of investment for plantation forest.

Native Forest Management

We want to ensure ecological and sustainable forest management of native vegetation on private and state property for increasing timber supply.

Bioenergy & Carbon

We aim to promote the benefits of forestry in reducing climate change, by delivering bioenergy, carbon storage, and biomass for future sustainable growth.

2. Project Justification

Queensland's forest and timber industry makes a significant economic to the State, supporting more than 25,000 direct and indirect jobs, as well as contributing more than $3.2 billion to the state economy. Many of these jobs are in rural and regional areas across the State.

The South & Central Queensland Regional Forestry Hub will assess priority issues to determine the technical issues, needs and opportunities to progress growth.

Funded by the Australian Government through the Department of Agriculture and Water Resources, the hub is seeking to fund projects that will help grow our forest industry though improved investor returns, smarter management and utilisation forest resources smarter, traditional owner engagement and a renewed community understanding of forestry.

3. Project Scope

The Hub is now seeking to source consulting services to conduct and deliver the following three activities, noting that proponents can elect to provide an EOI for all activities, or selected activities, depending upon their skill sets and expertise:

Activity 1: Literature review, data analysis and consolidation into a Foundational GIS platform

a) Review academic (peer reviewed) and relevant published literature/studies as well as any other (grey) literature and data covering relevant spatial and remote-sensing imagery for South & Central Queensland forestry regions and integrate it in the North Queensland Hub Foundational GIS platform (to be provided to the successful applicant/services provider)

b) Describe main biophysical factors and characteristics affecting land suitability and investment for tree plantation; provide insights describing the identified available land for plantations at point a.

Activity 2: Spatial modelling of the amount of land that is available and financially suitable for afforestation (macro level) for the 3-4 most prospective wood species across the region under different scenarios;

a) for timber production;

b) for timber production and carbon storage; and

c) for integrated timber production, carbon storage and agricultural productivity (i.e. agroforestry system).

Summarising and aggregating this spatial information and desired outputs at a regional scale to better inform landowners, industry and policy makers on the scope for new plantation investment in the region.

Activity 3: Determine policy factors slowing and/or supporting tree plantations; Establish a methodology to support successful relationships among industry and farmers, farmers groups, indigenous communities and other landowners for investing and/or enter in partnerships to establish forestry plantings

4. Methodology

The study results will be presented in a concise report addressing the scope of works, be fully referenced and include an executive summary of key conclusions. (It will also include summary tables, maps, graphics and a summary infographic). It should identify and discuss the following key components/activities:

Activity 1

a) Relevant results of the literature review will be analysed and consolidated into a Foundational GIS platform / interface for visualisation and interaction with spatial layers to improve regional Hub's stakeholders ability to spatially identify and analyse land available / suitable for forestry operations development. The web-based GIS platform should provide insights and immediate answers to questions such as:

– which are current and potential forestry plantation areas in South and Central Queensland – "how much available/suitable land is out there"?

– land condition, current use (if any), tenure, ownership and with clearing permit in place or not, and its appropriateness for forest plantation development

- Identified land suitability – "Is it capable of growing plantations from an existing vegetation, environmental, climatic and land use viewpoints?"

- "Are there any legal impediments such as planning schemes controls and environment protection legislation?"

To achieve project's scope, the assessment and compilation of currently available, forestry-related spatial datasets (ABARES, CSIRO, QSpatial, CLUM, QLUM, BOM, local and regional datasets – and other relevant datasets to be identified), will include, as applicable, (but will be not limited to):

- *Existing commercial plantations, farm forestry and carbon projects, silvopastoralism*

- *Existing native commercial forestry (including private native forests and Indigenous owned and managed forests)*

- *Plantation suitability (softwood/hardwood species, short/long rotations)*

- *Land parcel boundary, land value, use and tenure (i.e., state forest, crown land, private freehold), and land value – data consolidation to provide ability to filter by location, size and other available land and forest attributes*

- *Traditional Owner groups with associated land-use agreements (ILUA), native title determination status, Corporation details*

- *Soil type (including any available attributes)*

- *Vegetation type and Crown cover percentage (under relevant state vegetation mapping laws)*

- *Climate: average rainfall/Temperatures, Projected average rainfall /Temperatures; flood data*

- *Land Access – based on contour topography, watercourses, land tenure, road type and distance along supply chain.*

- *Existing supply chain infrastructure: roads/bridges, ports, wood processing centres (primary and secondary processing / value adding)*

- *Historical land/vegetation clearing*

- *Mining and / or other land rehabilitation works*

b) Describe main factors affecting land suitability and investment for tree plantation including species suitability for the Hub regions and the identified available land at point 1a, silviculture practices, slope classes, roading requitements – analyse the constraints and potential mitigation options. Describe biophysical factors and characteristics:

- Vegetation type including crown cover
- Cleared and uncleared lands
- Complementary land uses (e.g., pastoralism, mining)
- Soil types and characteristics
- Climate (e.g., rainfall, floods, evaporation, humidity, erosion)
- Extreme climate (rainfall, heat, cyclones, fires, floods) and other biological threats (wildlife, insects, etc)
- Terrain (slope, elevation, depositional soils)

Activity 2

Spatial modelling of the amount of land that is available and financially suitable for afforestation (macro level) for the 3-4 most prospective wood species across the region under different scenarios: for timber production; for timber production and carbon storage; and for integrated timber production, carbon storage and agricultural productivity (**i.e.,** agroforestry system).

The literature review and consultation with industry will determine the 3-4 most prospective wood species, and should include at the least, consideration of: exotic softwood pine; *Araucaria* **(hoop pine) and spotted gum.**

The spatial financial analysis will incorporate biophysical information and all relevant costs and prices in the supply chain to final market for each product to determine financial suitability using conventional forestry investment criteria and approaches: including discounted cash flow analyses (net present values), land expectation values and internal rates of return, where required.

The bioeconomic modelling will need to include relevant variables (not an exhaustive list) such as:

- site growth and yields for selected wood species;
- establishment and management costs;
- harvest and haulage costs;
- carbon prices and management costs;
- wood product prices (taking into account local processing and/or export markets); and
- farm productivity yields and prices (e.g., improved calving).

Sensitivity analyses of key parameters should be undertaken where they have a significant outcome on the results, or where there is considerable variation or uncertainty in their value.

Proponents should also note the Green Triangle regional forestry hub analysis: *Unlocking opportunities for plantation forestry expansion in the Green Triangle. The role of the Emissions Reduction Fund,* as a potential guide to the scope and methods to be applied including the reporting of final results.

From the spatial analyses, aggregation of the results of financially viable areas into total hectares as well a summary of the key regional metrics (e.g., volumes and value) for each scenario in terms of wood production, carbon sequestration and agricultural productivity.

a) Consider whether there is sufficient data for the Australian Farm Forestry Financial Model (AFFM)[1] (that provides estimates of key financial criteria including net present value, land expectation value and internal rate of return from establishing forestry plantations on farmland) or the Decision Tree tool to be applied in the region as a farm-level financial decision support tool.

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[1] https://www.researchgate.net/publication/43523461_The_Australian_Farm_Forestry_Financial_Model

Activity 3

a) Determine policy factors slowing and/or supporting tree plantations

- Conduct literature review / desktop analysis and describe Federal, State and Local governments' policies and involvement in relation to tree plantations activity, investments and markets for carbon and sustainable timber products. Describe barriers to plantation expansion and the relevant policy settings.

b) Provide an assessment of lessons and/or approaches that may support successful relationships among industry and farmers, farmers groups, indigenous communities and other landowners for investing and/or enter in partnerships to establish forestry plantations. Considerations should be given to systems, tools and/or methods for:

- Building relationships with trusted advisors, such as agricultural and forestry consultants

- Using communication tools and means / messages that focusses on landholders' needs

- Being physically present and available at rural events to answer questions and build rapport

- Being ready for questions about potential partnership models that indicate "how much and when I might get paid", as the answers will determine potential land availability

The project is expected to be completed using a combination of desk research and in-person/remote stakeholder consultation.

LGAs covered by the Hub include:

- Banana Shire Council
- Bundaberg Regional Council
- Central Highlands Regional Council
- Cherbourg Aboriginal Shire Council
- Fraser Coast Regional Council
- Gladstone Regional Council
- Goondiwindi Regional Council
- Gympie Regional Council
- Livingstone Shire Council
- Lockyer Valley Regional Council
- Maranoa Regional Council
- Moreton Bay Regional Council
- Noosa Shire Council
- North Burnett Regional Council
- Rockhampton Regional Council
- Scenic Rim Regional Council

- Somerset Regional Council
- South Burnett Regional Council
- Southern Downs Regional Council
- Sunshine Coast Regional Council
- Toowoomba Regional Council
- Western Downs Regional Council
- Woorabinda Aboriginal Shire Council

The project must also contain consultation with businesses market leaders, research and development organisations and other relevant stakeholders.

Key stakeholders that may be required to be consulted during the project include, but are not limited to:

- Commercial forestry operators / plantation managers
- Domestic timber processors
- Investment funds
- Farmers associations – including farm forestry
- Local / regional councils and associations
- Industry / sector associations
- Harvest and haulage contractors and associations
- Forest industry associations and bodies
- Carbon markets operators and funding agencies
- Timber traders and exporters

5. Project Deliverables

Key deliverables include the completion of the following at the satisfaction of the Hub Committee:

- Detailed project plan, including stakeholder identification and consultation methodology, is completed by applicant;
- Draft reports are completed and presented to the Hub Committee at different stages of the project life (as agreed);
- A final report is completed and presented to the Hub Committee before the project completion.

6. Project Timeline

The project is scheduled to begin on 6 March 2023 and conclude on 4 September 2023.

7. Selection Criteria

The Hub will select the successful applicant for the report based on evaluation of all submitted proposals against the following criteria.

CRITERIA 1: Capabilities and expertise in producing technical reports related to the project scope

To address this selection criterion, the expression of interest should describe the following:

- An overview of the applicant's organisation and business operations;

- Applicant's experience, skills and capabilities relating to the project's scoping requirements as outlined in Section 3 above;

- Examples (list) of any publicly available reports that the applicant has produced related to the project scope;

- An overview of the proposed project team;

- A brief description of professional experience for each project team member, highlighting their experience and capabilities in relation to the project requirements;

- A key point of contact for the Hub who will act as the Project Manager for the project.

CRITERIA 2: Key point of contact and project team

To address this selection criterion, the expression of interest should provide the following:

- An overview of the applicant's organisation and business operations

- An overview of the proposed project team

- A brief description of each project team member's professional experience; highlighting their relevant experience and capabilities in relation to the project requirements

- A key point of contact for the Hub who will act as the project manager for the project

CRITERIA 3: Total cost and cost structure (against the identified deliverables)

To address this selection criterion, the expression of interest should provide the following:

- Total cost that will be charged, inclusive and exclusive of GST, for completing the project;

- Breakdown of cost structure against key project deliverables.

CRITERIA 4: Proposed methodology to achieve the scope of works

To address this selection criterion, the expression of interest should provide the following:

- An outline of the proposed methodology and/or approaches to be adopted to achieve the scope of works and deliverables, including an outline of a project plan

- Breakdown of cost structure against key project deliverables.

Attachment 1: EXPRESSION OF INTEREST FORM

Spatial modelling of financially suitable afforestation under different investment scenarios for timber production and carbon storage with key prospective wood species

PART A: Applicant Details

Lead Organisation Name	
Address	
Primary Contact Name	
Position Title	
Telephone	
Email	

Part B: Selection Criteria

CRITERIA 1: Capabilities and expertise in producing technical reports related to the project scope

To address this selection criterion, the expression of interest should describe the following:

- An overview of the applicant's organisation and business operations;

- Applicant's experience, skills and capabilities relating to the project's scoping requirements as outlined in Section 3 above;

- Examples (list) of any publicly available reports that the applicant has produced related to the project scope;

- An overview of the proposed project team;

- A brief description of professional experience for each project team member, highlighting their experience and capabilities in relation to the project requirements;

- A key point of contact for the Hub who will act as the Project Manager for the project.

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To address this selection criterion, the expression of interest should provide the following:

- An overview of the applicant's organisation and business operations

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- A brief description of each project team member's professional experience; highlighting their relevant experience and capabilities in relation to the project requirements

- A key point of contact for the Hub who will act as the project manager for the project

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- An outline of the proposed methodology and/or approaches to be adopted to achieve the scope of works and deliverables, including an outline of a project plan

- Breakdown of cost structure against key project deliverables.