



International Sugarcane Biomass Utilisation Consortium

CALL FOR EXPRESSION OF INTEREST

Proposal to develop gasification for high efficiency power and biofuel production in the sugarcane industry; Stage I – development of enabling technologies and feasibility

One of the functions of the International Sugarcane Biomass Utilisation Consortium (ISBUC) is to coordinate the development and funding of technologies which will provide a step change in the efficiency and future profitability of the international sugarcane industry. This communication is an invitation for your institution/company to participate in the first of these groundbreaking projects.

A detailed project proposal has been developed by ISBUC which directly addresses major barriers to the commercialisation of high efficiency gasification-based technologies for power and biofuel production in the sugarcane industry. The project has been conceived as a pre-commercial demonstration feasibility study aimed at accelerating the implementation of gasification technology while minimising cost and technical and commercial risk. The ultimate aim of this project is to prepare the ground for the subsequent commercial demonstration of gasification technology. This proposal was presented on 10 March 2010 at the XXVII ISSCT Congress in Mexico. A non-confidential summary of this project proposal is included in Attachment A.

Partial funding for this proposed project is currently being sought from an international consortium of sugar manufacturers with the greater part of the funding being sourced from external grants.

By completing, signing and returning this sheet your company will be submitting an Expression of Interest (EOI) in joining a syndicate to fund and ultimately gain exclusive access to the outputs of this proposed project. On submission of this EOI you will be provided with a copy of the full project proposal. For reasons of commercial confidentiality you will also be required to sign a Non Disclosure Agreement (NDA) in relation to the proposal. Submitting an EOI does not at this stage commit your company in any way to supporting this proposed project.

If you wish to submit an EOI on behalf of your company, please complete the section below and return signed and scanned copies of 1) this page and 2) the NDA (Attachment B) to Dr Jean Claude Autrey, ISBUC convenor, at issct@intnet.mu or FAX +230 465 2961 by Friday 30 April 2010.

In order to submit an EOI, your institution/company must be a member of ISBUC. If you have not already joined, an ISBUC membership form is included with this email.

Please send me a copy of the document **Proposal to develop gasification for high efficiency power and biofuel production in the sugarcane industry; Stage I – development of enabling technologies and feasibility study**. Attached is a signed copy of the associated NDA. I am a member of ISBUC/ attach a completed ISBUC membership application form and membership fee (delete as appropriate).



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Signed _____ Name and position in institution/company

Date __April 2010 Institution/Company

Name_____

Address_____



ATTACHMENT A: NON-CONFIDENTIAL SUMMARY

Proposal to develop gasification for high efficiency power and biofuel production in the sugarcane industry; Stage I – development of enabling technologies and feasibility

Gasification is the process of converting solid feedstocks such as bagasse into a fuel gas or syngas. Syngas can be used for the production of electrical power or reformed over catalysts to produce a wide range of alcohols, hydrocarbon fuels and other chemical feedstocks with conversion efficiencies significantly higher than most competing biomass technologies.

There are currently no insurmountable technical barriers to the commercialisation of gasification based power and biofuel production. Despite this the rate of commercialisation of biomass gasification based technologies lags significantly behind coal fired gasification technologies which have operated for many years on a fully commercial basis. The primary reasons for this disparity in the development of coal and biomass gasification plants are the cost of biomass feedstocks and the lack of economies of scale achievable due to the dispersed nature of biomass.

The project being proposed by the International Sugarcane Biomass Utilisation Consortium (ISBUC) directly addresses the feedstock issues which represent the greatest barriers to the commercialisation of high efficiency gasification based technologies in the sugarcane industry. The project was conceived as a pre-commercial demonstration feasibility study aimed at accelerating the implementation of gasification technology while minimising cost and technical and commercial risk. Key strategic features of this project that makes it unique in its approach to achieving these outcomes are:

- An innovative and optimised supply chain that includes harvest residue recovery and thermal pre-processing to maximise the cane derived biomass that can be economically delivered for gasification based technologies.
- The whole of supply chain demonstration of key enabling technologies.
- Reduced commercial risk and benefit to project members through near term commercial deployment of enabling technologies to boost current conventional power export.
- Capitalising on already commercial technology by pre-processing to deliver a feedstock that is compatible with existing commercial coal gasification technologies.
- Utilisation of significant existing coal gasification evaluation facilities to shorten the technology selection process.
- Trials on a selected gasification technology using existing demonstration facilities.

A financial analysis indicates that the introduction of gasification based power generation technology combined with thermal pre-processing makes the economic utilisation of trash



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recovery and long distance biomass transport viable in a way that is not achievable using conventional steam technology.

The project will be executed over a three year period and has a budget is US\$9.8 m. An international syndicate of sugar industry partners is being sought to partially fund the project. The majority balance of funds will be sought from international government based grant funding bodies.

The project will be undertaken by a team selected from three organisations with well established international track records in the development and commercialisation of sugar cane harvesting, transport, factory separation, sugar processing and gasification technologies.

For further technical information on this project please contact Dr Phil Hobson at p.hobson@qut.edu.au.



ATTACHMENT B: NON-DISCLOSURE AGREEMENT

This Nondisclosure Agreement (hereinafter referred to as AGREEMENT), related to a PROJECT PROPOSAL OF GASIFICATION FOR HIGH EFFICIENCY POWER AND BIOFUEL PRODUCTION IN THE SUGARCANE INDUSTRY (hereinafter referred to as PROPOSAL), is to be carried on by and between **Institution/Company name**, a corporation organized under the laws of **Country name**, having its main place of business at **Institution/Company address**, (hereinafter referred to as "RECIPIENT"), and the INTERNATIONAL SUGARCANE BIOMASS UTILIZATION CONSORTIUM – ISBUC (hereinafter referred to as DISCLOSER), an International Consortium set up by the International Society of Sugar Cane Technologists – ISSCT, to promote the development of technology which can be used to extract additional value by making better use of the whole sugar cane crop, especially sugarcane biomass.

WHEREAS, the PROPOSAL is a document containing information which can have business, commercial, technical and/or other value and which is considered to be confidential or proprietary in nature. Proprietary Information in the PROPOSAL includes, know-how, ideas, formulations, processes, designs, formulas, developmental and experimental work, test data, results, compilations of data, and/or information regarding: research, development, new products, business plans, licenses, prices, costs, customers, and/or the existence and terms of any research and/or business discussions. Proprietary Information related to the PROPOSAL may also be provided in any form, tangible or intangible, including oral, visual, written or otherwise fixed in a tangible medium.

WHEREAS, the DISCLOSER as the author and only owner of the information related to the PROPOSAL, the DISCLOSER desires to disclose to the RECIPIENT this information, in the interest of establishing partnerships with organizations, companies and entities, proposing a joint effort to provide technical and financial support to make possible the execution of the project PROPOSAL, hereinafter such proposed enterprise referred to as PROPOSED PARTNERSHIP.

WHEREAS, in order to better understand the PROPOSED PARTNERSHIP, project purpose, objectives, technical content, proposed solutions, envisaged technologies, research involved, budget and other information, and make possible to take decision on participating in a possible partnership to carry out the project PROPOSAL, the RECIPIENT needs to access the PROPOSAL information content.

In consideration of the access the RECIPIENT will need to have to the PROPOSAL information provided by the DISCLOSER, the DISCLOSER and the RECIPIENT hereinafter referred to as PARTIES, agree on:

1. The DISCLOSER agrees: to provide project PROPOSAL information and necessary information and answers available for the better understanding of project content and PROPOSED PARTNERSHIP to be carried out.
2. The RECIPIENT agrees: (a) to hold the Proprietary Information of the PROPOSAL in strict confidence and to take all precautions to protect such Proprietary Information, but in any event to employ such measures as the RECIPIENT employs with respect to its most confidential materials, and in no case shall the RECIPIENT employ less than reasonable precautions, (b) not to disclose any such Proprietary Information or any information derived



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therefrom to any third party, (c) not to make any use whatsoever at any time of such Proprietary Information except for the sole limited authorized business purposes of evaluating the Proprietary Information internally to determine whether to participate in the PROPOSED PARTNERSHIP. Any RECIPIENT's employee given access to any such Proprietary Information must have a legitimate "need to know" such information in relation to the analysis of the PROPOSED PARTNERSHIP. The RECIPIENT will cause all of its personnel, agents, advisors and independent contractors who are granted access to the Proprietary Information of the DISCLOSER to be bound by the obligations provided herein.

3. The RECIPIENT acknowledges and agrees that, as between the PARTIES, the Proprietary Information is and shall remain the sole and exclusive property of the DISCLOSER. Proprietary Information excludes all matters known to third parties otherwise than through breach of this agreement. No rights or licenses to trademarks, inventions, know how, copyrights, patents, or any other intellectual property rights are implied or granted under this AGREEMENT. Nothing in this AGREEMENT grants the RECIPIENT the right to retain, distribute, or commercialize any of the Proprietary Information or to use it in any manner other than the limited manner set forth above that is to analyze the possible participation in the PROPOSED PARTNERSHIP. Immediately upon (a) a request by the DISCLOSER at any time, or (b) the termination or expiration of this Agreement, the RECIPIENT will immediately cease all use of and return to the DISCLOSER all Proprietary Information and all documents or media containing any such Proprietary Information.

4. The RECIPIENT acknowledges and agrees that due to the unique nature of the DISCLOSER's Proprietary Information, there may be no adequate remedy at law for any breach of the RECIPIENT 's obligations hereunder, that any such breach or any unauthorized use or release of any Proprietary Information may allow the RECIPIENT or third parties to unfairly compete with the DISCLOSER, resulting in irreparable harm to the DISCLOSER, and therefore, that upon any such breach or any threat thereof, the DISCLOSER may be entitled to appropriate equitable relief, in addition to whatever remedies it might have at law, without bond, without the necessity of proving actual damages, and without prejudice to any other rights and remedies that the DISCLOSER may have for breach of this AGREEMENT. The RECIPIENT will notify the DISCLOSER in writing immediately upon the occurrence of any unauthorized release of DISCLOSER's Proprietary Information or other breach of which it is aware.

This Agreement shall be governed by the laws of Mauritius

Any dispute arising out of these presence shall be determined by arbitration in accordance with the rules and regulations of the Mauritius Chamber of Commerce and Industry by one or more arbitrators appointed under such rules.

This Agreement shall remain in force for two (2) years. The obligations provided herein regarding non-disclosure and non-use of Proprietary Information by RECIPIENT shall remain in force for five (5) years after disclosure thereof to RECIPIENT.

IN WITNESS WHEREOF, the parties have caused this AGREEMENT to be executed by their duly authorized representatives, effective in two originals as of the Date signed below.

Date: **XX** April 2010



International Sugarcane Biomass Utilisation Consortium

INTERNATIONAL SUGARCANE BIOMASS UTILIZATION CONSORTIUM – ISBUC

Institution/Company name



INTERNATIONAL SOCIETY OF SUGAR CANE TECHNOLOGISTS

International Sugarcane Biomass Utilisation Consortium

ISBUC Membership Application Form

Please type or print and tick (✓) or fill boxes where necessary, then send this form together with your Contribution to ISSCT Secretariat by e-mail: issct@intnet.mu and a copy to the ISBUC Facilitator: Dr. Philip Hobson - p.hobson@qut.edu.au.

NAME OF ORGANIZATION: _____

ADDRESS: _____

_____ **Country:** _____

Phone: _____ **Fax:** _____ **E-mail:** _____

Website: _____

TYPE OF ORGANIZATION:

<u>Producer Company</u> <input type="checkbox"/>	<u>Research Centre</u> <input type="checkbox"/>	<u>Technical/Advisory Service</u> <input type="checkbox"/>
<u>or Owner/Investor</u> <input type="checkbox"/>	Field <input type="checkbox"/>	Field <input type="checkbox"/>
Plantation <input type="checkbox"/>	Factory <input type="checkbox"/>	Factory <input type="checkbox"/>
Milling <input type="checkbox"/>	Co-Products <input type="checkbox"/>	Co-Products <input type="checkbox"/>
Both <input type="checkbox"/>		
Co-Products <input type="checkbox"/>		

Association of Producers Technologist Association Sugar Industry Supplier

Educational/University Other: State _____ Government or
Institution _____ Private

CONTACT PERSON: _____

(Give co-ordinates if different from above)



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TECHNICAL REPRESENTATIVE:

(Give co-ordinates if different from above)

MEMBERSHIP OF ISSCT:

AFFILIATED **ASSOCIATE** **INSTITUTIONAL** **CORPORATE**

GIVE A BRIEF ACCOUNT OF ORGANIZATION'S INVOLVEMENT IN:

1. Sugar Cane/ Sugar Research in general:

2. Research in Biomass Utilization:

3. Participation in Joint Research or Consortia:

4. Existence of any Restrictive Agreements in relation to (3):



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AMOUNT OF CONTRIBUTION IN USD

MINIMAL DUES USD 1000

USD: _____
(_____)

Date submitted: _____

Signatures: _____
Contact person: _____

Technical Representative: _____

PAYMENT OF CONTRIBUTION

Payment must be made in *US Dollars* through our online payment system or by Credit Card.

The link to online payment system is : http://issct.org.dedj75.eservices-host.com/issct_isbuc.aspx

CREDIT CARD PAYMENT

In case of payment by Credit Card, the following information must be submitted:

Name of Card Holder (as it appears on the card): _____

Credit Card type (Visa, Master, AMEX, etc...) _____

Card No. _____ **Date of Expiry:** _____

Signature of Card Holder: _____

