



सत्यमेव जयते

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**MEMORANDUM OF UNDERSTANDING**

Effective Date: 31<sup>st</sup> March 2020

**PARTIES**

**Tezpur University (hereafter "TU")**

based in Tezpur, Assam India

AND

**BIOCITY: Fuel, Fertilizer and Food, (hereafter "BC")**

based in Panchkula, Haryana-134117

AND

(Continued)

**RS 0001302155**

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**Source Facility (hereafter "SF")**  
based in Panchkula, Haryana-134117  
AND

**Vivekananda Kendra Natural Resources Development Project (hereafter "VK")**  
based in Kanyakumari, Tamilnadu - 629702  
AND

**Cleanopolis Energy Systems India Private Limited (hereafter "CP")**  
based in Sonitpur, Assam -784150.

## PURPOSE

- A. The Agreement is made among the Parties who has agreed to be Investigator and Industrial Partners for the DST sponsored IMPRINT Project titled 'Multi-Crop Residue Processing Technology Package for Production of Fuel and Fertilizer' through endorsement and certificate of support and commitment.
- B. The purpose of this Agreement is to make provisions to share responsibilities among the Parties.
- C. The purpose of this Agreement is also to make provisions for sharing IPR among the Parties including all other contributing collaborators who has agreed to collaborate through letter of supports.

## BACKGROUND

A project proposal was submitted by Tezpur University (PI: Prof Debendra Chandra Baruah) along with four industrial partners viz., (i) BC, (ii) SF, (iii) VK and (iv) CP with a total budget of Rs. 21648592.00 (Rupees Two Crore Sixteen Lakh Forty Eight Thousand Five Hundred and Ninety Two) only against the call for "Impacting Research Innovation and Technology (IMPRINT-2) by Science and Engineering Research Board, Government of India, hereafter "SERB" in collaboration with four academic institutes (Indian Institute of Technology, Delhi hereafter "IITD", Indian Institute of Technology, hereafter "IITKGP", Indian Council of Agricultural Research -North-east Hill Region hereafter "ICAR" and University of Nottingham, UK hereafter "UNU").

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*VNSH*

The overall objective of the project is to develop a cost effective and scalable technology package for promotion of commercial scale, multi-crop residue fed bio-CNG production system with provisions for co-productions of dry carbon dioxide and organic fertilizers. The specific objectives are (i) to develop process based technology for pre-treatment of multi crop residues of varying characteristics into standard feedstock for anaerobic digestion (hereafter "AD"); (ii) to develop AD reactor for online monitoring and controlling of reaction parameters during digestion of pretreated crop residues using some selected microbial consortium aiming maximum methane generation under varying climatic conditions; (iii) to develop cost effective and scalable technology for biogas up-gradation into bio-CNG (~95% CH<sub>4</sub>) with provision of CO<sub>2</sub> recovery; (iv) to develop process for bottling, storage and handling of bio-CNG, specially for remote and inaccessible hilly locations; (v) to develop technology for production and marketing of a range of organic crop-nutrient materials from AD digestate primarily for plantation crops including tea and (vi) to demonstrate the operation of commercial scale AD plants integrated with technology packages comprising of pretreatment, gas upgradation, bottling and production of value added organic products through joint participation of farmers and industries. The work packages and tasks have been defined and different R&D components have been identified accordingly.

Tezpur University (TU) is a Central University established by an Act of Parliament of India in 1994. The objects of this Central University are to offer employment oriented and interdisciplinary courses to meet the local and regional aspirations and the development needs of the state of Assam and also offer courses and promote research in areas which are of special and direct relevance to the region and in emerging areas in Science and Technology.

BC is a start-up based out of the Chandigarh, started in 2016 with the concept of handling marketing and logistic & customer service of the compressed biogas, biogas slurry as fertilizer. The company has two offices in north India and has a turnover of approximately INR 3 crore/annum as one of the top traders of biogas and biogas slurry. The company has tied-up with 4 Biogas plants for the exclusive rights of products in the north India region and they have a good experience in the major challenges generally faced in the process.

*Dr. Anil*

*Abhishek*

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*nasir*

**SF** has its specialization in Biogas sector of renewable energy. The company works on scientific pre-treatment of agricultural waste (for biogas) and its implementation in smart digestion for maximum biogas generation efficiency. Having its base office in Panchkula- Haryana, Source Facility has 19 employees and carries a turnover over of 70 lakhs per year involved in the various activities of engineering, procurement, construction, and operation & maintenance, commissioning and research in the field of biogas. Source Facility has commissioned various projects such as High-Rate Biomethanation Plant at Ludhiana, Operation & Maintenance of 10000 cubic meter capacity Biogas plant with 1 MW power generation capacity in Punjab. Commissioning, Operation & Maintenance and Up-Keeping of 6000 cubic meter capacity Biogas plant with 635 kW power generation capacity Sarovar BioGas Plant at Ambala to name a few of the total installations.

**CP** is a bioenergy industrial venture located in Sonitpur district, Assam with a vision to explore the synergy between waste to energy and empowerment. The main objective of the company is to develop, harness, generate, & supply electricity and bio-fertilizer to end users through waste to energy conversion route.

**VK**, established in 1986, is an integral part of Vivekananda Kendra. VK has been providing services in cost-effective construction, health, Renewable energy, sustainable agriculture, and water management since its inception with annual turnover of about Rs 2 crore. VK also impart training in Green technologies for Sustainable Development. Shakti Surabhi biogas plant, a novel patented technology developed by VK has been very popular. Some of the notable accomplishments of VK are (i) installations of more than 3000 Biogas plants throughout India in the range of 0.25 cum to 100 cum; (ii) development of cost-effective model VINCAP - using bamboo instead of bricks; (iv) development of Ferro-cement technology in the field of Biomethanation and (v) Shakti Surabhi model Biogas plant is patented in India, South Africa, Sri Lanka, and China.

The project team of TU along with Industrial partners and collaborating partners has required expertise to perform R&D activities covering all the objectives for technology development.

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*Venka*

*Abhishek*

*Asiy Asif*

All the four industrial partners agreed to support the project activities through cash and kind contributions, as per the requirements of the project guidelines of the funding organization. BC agreed to support 16.68% of the total budget (5.54% in cash and 11.16 in kind); SF agreed to support 13.40% of the total budget (4.62% in cash and 8.78 in kind); VK agreed to support 0.23% of the total budget (in kind only) and CP agreed to support 4.66% of the total budget (in kind only) whereas SERB sanctioned an amount of Rs 14078592.00 (Rupees One Crore Forty Lakh Seventy Eight Thousand Five Hundred and Ninety Two) only (65.03% of total budget and 86.49% of the cash component of the budget). This MoU has been agreed by all the parties to fulfil the objectives of the project as per the methodologies mentioned in the approved project proposal.

## 1. PRINCIPLES GOVERNING THE PARTIES

The parties have agreed to move forward together based on the following guiding principles:

- (a) Development of innovative technologies for successful production of biofuel and fertilizer from crop residues.
- (b) Development of supply chain of bio resources from the field and biofuel to the customers through a business model.
- (c) Resolve technical and maintenance issues of biogas production system (AD system) through Research and Development.
- (d) Fulfil the commitments made in the project proposal (SERB File Number: IMP/2019/000247).

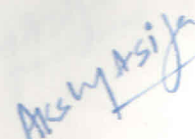
## 2. AGREEMENT on sharing IPR

All the parties in the MoU agrees to the following.

- (a) The benefits of each of the IPRs generated out of the project work shall be shared among the parties involved in the relevant works which lead to the said IPR based on the consensus.
- (b) The IPR share shall be decided based on the contributions of resources (money, time, facilities, intellectual inputs or similar inputs which are proved essential for IP output) by the parties and through mutually agreeable terms

  
Vasanth





and conditions, and in conformity with IPR policies of the individual party institutes of reference.

### 3. ROLES AND RESPONSIBILITIES

#### 3.1. ROLE OF TU

TU shall lead the overall management of the project including engagement of project staff and purchase of equipment as per SERB guidelines. Approved project activities will be carried out by the project investigators belonging to four Departments of TU (Departments of Energy, Molecular Biology and Biotechnology, Mechanical Engineering and Electronics and Communication Engineering). TU primarily shall have the following responsibilities:

- (a) Planning the activities and keeping record of involvement of the partners
- (b) Provide facilities for carrying out of project activities
- (c) Prepare modalities for sharing the benefits of IPR, case to case basis, in consultation with the industrial partners and collaborators
- (d) Prepare reports including financial report (Statement of Expenditure and Utilization Certificate) for submission to the SERB
- (e) Recruitment of the project staff and procurement of materials and equipment as per SERB guidelines
- (f) Acting as nodal body for continuous monitoring of the progress and communicate with the partners (Industrial partners and Collaborators) and SERB
- (g) Arrange monthly online meetings with industrial partners and collaborators to track progress of different work packages
- (h) Arrange regular meeting to review/assess the progress
- (i) Collect the relevant report from the Industrial Partners and Collaborators

#### 3.2. ROLE OF BC

BC shall provide facilities to carry out research and developmental activities of the project in the Biogas plants of their jurisdiction. BC has primarily the following role and responsibilities:

- (a) Provide fund to TU as per the commitments in project proposal.
- (b) Provide in-kind support equivalent to the fund mentioned in the project proposal.
- (c) Keep all the record of the project activities supported by BC and share with TU
- (d) Attend regular meetings for deliberation of the progress of the project

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Anshu Asija

- (e) Facilitate researchers and investigators to work in their plant as and when required during the project as per mutual convenience.
- (f) Share relevant data of their plants as and when required during the project
- (g) Facilitate transfer of technologies developed in the project

### 3.2. ROLE OF SF

SF shall provide facilities to carry out research and developmental activities of the project in the Biogas plants of their jurisdiction. SF has primarily the following role and responsibilities:

- (a) Provide fund to TU as per the commitments in project proposal.
- (b) Provide in-kind support equivalent to the fund mentioned in the project proposal.
- (c) Keep all the record of the project activities supported by SF and share with TU and share with TU.
- (d) Attend regular meetings for deliberation of the progress of the project.
- (e) Facilitate researchers and investigators to work in their plant as and when required during the project as per mutual convenience.
- (f) Share relevant data of their plants as and when required during the project.
- (g) Facilitate transfer of technologies developed in the project

### 3.3. ROLE OF VK


As an industrial partner VK has the following role and responsibilities in the project:

- (a) Provide in-kind support equivalent to the fund mentioned in the project proposal.
- (b) Keep all the record of the project activities supported by VK and share with TU.
- (c) Attend regular meetings for deliberation of the progress of the project.
- (d) Facilitate researchers and investigators to work in their plant as and when required during the project as per mutual convenience.
- (e) Share relevant data of their plants as and when required during the project.

### 3.4. ROLE OF CP

As an industrial partner CP has the following role and responsibilities in the project:

- (a) Provide in-kind support equivalent to the fund mentioned in the project proposal.
- (b) Keep all the record of the project activities supported by CP and share with TU.
- (c) Attend regular meetings for deliberation of the progress of the project.

  
Anil  
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Abhinav  
Meslyasika

- (d) Facilitate researchers and investigators to work in their plant as and when required during the project as per mutual convenience.
- (e) Share relevant data of their plants as and when required during the project.

## 6. DISPUTE RESOLUTION

- 6.1 This agreement shall be governed by and construed in accordance with Indian Law.
- 6.2 Disputes that arise out of or in relation to this Agreement shall be sought to resolve amicably between the disputing parties. If the parties being in dispute fail to resolve the dispute, the dispute shall be referred to arbitration at the Indian Chamber of Commerce, in New Delhi, India.

## 7. CONFIDENTIALITY

The Parties agree that they shall take reasonable measures to protect the confidentiality of each of the Parties and avoid disclosure or use of either party's confidential information in order to prevent it from falling into the public domain or the possession of persons other than those persons authorized under this MoU to have any such Confidential Information. Confidential Information should be clearly marked as Confidential. A non-disclosure agreement will be signed between all the parties (Industry and Academia) before sharing the relevant information and data.

## 8. DURATION OF AGREEMENT

- 8.1 This Agreement commences on the date of its ratification by signature by representatives of all the parties and shall remain in force for Three Years with provision for renewing further.
- 8.2 Any alteration of the Memorandum shall be agreed upon jointly by the parties and submitted in accordance with the same procedure as the original Agreement and shall be expressed in writing.
- 8.3 This agreement can be terminated by either Party with One month written notice and with agreement of rest of the parties involved in the MoU. In case of termination of this agreement, all Parties shall bear their own costs and expenses for preparation and/or implementation of this Agreement and no party shall have any liability whatsoever for the loss of business, for occurred cost or expenses in regard to this Agreement in any other capacity in relation to proposed collaboration.

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## 9. COMMUNICATION AND EXCHANGE OF INFORMATION

There will be regular communications between the Parties. The contact persons are, unless otherwise agreed:

**From Tezpur University:**  
Prof D C Baruah  
Phone: +91-3712-275307  
Email: baruahd@tezu.ernet.in

**From SOURCE FACILITY:**  
Mr Akshay Asija  
Phone: +91 9878552925  
Email: [reachbiocity@gmail.com](mailto:reachbiocity@gmail.com)

**From BIOCITY: Fuel, Fertilizer and Food:**  
Mr Abhishek Handa  
Phone: +91 9639663872  
Email: [sourcefacility@gmail.com](mailto:sourcefacility@gmail.com)

**From Cleanopolis Energy Systems India Private Limited:**  
Mr. Ikramul Majid  
Phone: +91 9401453768  
Email: [ikramul1965@gmail.com](mailto:ikramul1965@gmail.com)

**From VK NARDEP**  
Mr G Vasudeo  
Phone: +91 4652-246296  
Email: [vknardep@gmail.com](mailto:vknardep@gmail.com)

Any communication between the parties to this agreement shall be in the English language.


*Vasudeo*

*AK* *Asija*

*Abhishek*  
*AKSHAY ASIJA*

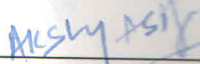
**SIGNED:** by the duly authorized representatives of the Four Parties

Signed for and on behalf of TU


  
Name: Dr. Biren Das  
Position: Registrar, Tezpur University  
Date:

Registrar  
Tezpur University  
Napaam, Tezpur

**BIOGITY SYNERGIES LLP**  
Signed for and on behalf of BC

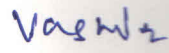
  
Name: MSLY ASIL  
Position: Partner  
Date:

Signed for and on behalf of SF


  
**SOURCE FACILITY**  
Partner

Name:  
Position:  
Date:

Signed for and on behalf of VK

  
Name: G. Vasudeo  
Position: Secretary  
Date: **VIVEKANANDA KENDRA - NARDEP  
VIVEKANANDAPURAM  
KANYAKUMARI - 629 702**

Signed for and on behalf of CP

  
Name: IKRAMUL MAJID  
Position: DIRECTOR  
Date: