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**CSIR/TIA/DSI**

**Call for Expressions of Interest**

**ACCELERATED IMPLEMENTATION OF BIOREFINERY TECHNOLOGIES: OPEN CALL**

The Department of Science and Innovation (DSI), the Technology Innovation Agency (TIA) and their implementing partner, the Council for Scientific and Industrial Research (CSIR), invite expressions of interest (EoIs) from small, medium and micro enterprises (SMMEs), black industrialists, municipalities and research institutes focusing on technologies/solutions that will lead to the accelerated implementation of biorefinery technologies, as part of efforts to expand biomanufacturing capacity in South Africa.

EoIs will be accepted from SMMEs, black industrialists, municipalities and research institutes with demonstrated expertise in biorefinery (e.g., publications, graduated postgraduate students, etc.). This initiative is aligned with the National Bio-economy Strategy of the DSI, which aims to drive economic growth and socioeconomic development in South Africa.

**Background to the Call**

The TIA and the DSI, in collaboration with the CSIR, have established the Forest Bio-economy Innovation Cluster (programme) at the Biorefinery Industry Development Facility (BIDF) to demonstrate Forest waste beneficiation biorefinery technologies to bridge the gap between pre-commercialisation instruments for technology development and full entry into commercial scale. The intention is to provide technical advice from an independent source (i.e., the CSIR) on available alternative waste biomass technologies. Through the specialised CSIR expertise and infrastructure available at the BIDF, the project aims to reduce the barriers to developing, testing and adapting biorefinery technologies applied to biomass sources in South Africa. This eliminates the need for new and existing players to individually invest in specialised research and development (R&D) infrastructure and staff to demonstrate new technologies for implementation in South Africa.

The objectives of the project are to:

• Implement technologies to maximise the use of valuable natural resources by minimising the generation of waste;

• Implement technologies for the beneficiation of Forest waste biomass to avoid landfilling the waste via the production of high-value materials and products from the waste;

• Demonstrate the validity of technologies and their potential to increase revenues in the sector;

• Enable demonstrable technology transfer to SMMEs/municipalities/large industry to build sustainable businesses; and

• Increase industry competitiveness through local technology development and localisation of technology.

**The call seeks to identify high-impact technologies and practices in the following categories:**

**A. Beneficiation of Forest waste organic biomass to avoid landfilling of the waste;**

**B. Beneficiation of Forest waste organic biomass to enable maximum utilisation of biomass resources;**

**C. Implementation of technologies for the development of new value chains from Forest biomass resources; and**

**D. Development of new value chains from the clearing of alien invasive species.**

**Examples of Forest waste organic biomass include lignocellulosic biomass (woody and non-woody materials, including alien invasive wood species).**

Submissions should provide sustainable biorefinery and organic waste beneficiation solutions to urban, peri-urban and/or rural areas, and consider operational effectiveness, social preferences, biomass resource availability, affordability, economies of scale and cost reductions. Projects that require localisation of technologies that are developed or used outside of South Africa are also eligible for consideration.

The BIDF offers:

* Technology support in:
	+ Chemical fractionation of biomass
	+ Beneficiation of waste organic biomass
	+ Development of new value chains from biomass
	+ Bio fractionation and bioprocessing of biomass
* Advisory support on:
	+ Biorefinery technologies
		- Beneficiation of waste biomass
		- Development of new value chains from biomass
		- Analysis and characterisation of biomass and products

The expertise at the BIDF excludes the processing of sewage sludge.

**REQUIREMENTS**

Respondents should provide the following:

1. The application document – completed electronically and returned in PDF format.
2. A clear definition of the goal of the project, together with the scope of the project and timeframe.
3. A clear understanding of the market of the intended technology (e.g., how big the market segment that can feasibly be accessed is) – provide proof of ability to access said market in the form of off-take agreements or letters of interest from clients.
4. A description of the technology accompanied by a photo or evidence of a product prototype (e.g., key features, impact, competitive advantage, etc.) – technologies considered under this programme must already be at prototype stage, evidence of which must be provided.
5. For in-licensed technology, proof of the granted licence.
6. The type of biomass/feedstock that will be used and proof of access to the biomass.
7. A clear indication of the (intended) socioeconomic impact resulting from implementation of the solution.

The application document must be completed in its entirety and reference cannot just be made to attached business plans without providing complete information in the application document itself. Business plans may be attached as supporting information only.

If co-funding for the project is being requested, that needs to be captured under section 11, clearly highlighting the amount requested and the intended purpose thereof.

*Selection of projects will be based on criteria that include high impact in terms of improved competitiveness, SMME development and socioeconomic impact. Additionally, projects that include women and young people as beneficiaries will be prioritised.*

**FUNDING**

Funds will **NOT** be available for:

* Enterprise start-up costs;
* Enterprise operational costs; and/or
* Equipment without a component of product and process development to be done by the BIDF.

The equipment and expertise available at the BIDF and other CSIR facilities will be used to develop, validate or evaluate proposed technologies. **Where applicable, the CSIR will purchase equipment for evaluation either at the BIDF or at the intended location of the proposed technology.**

The thresholds or limits, in rand value, for what may be supported/covered will depend on the need of the project and the funds available in the programme.

**Submission requirements**

To apply for support through the EoI process, please complete the attached EoI form and email the PDF versions of completed forms, CVs, a Broad-based Black Economic Empowerment (B-BBEE) certificate/affidavit and proof of registration with the Companies and Intellectual Property Commission (CIPC) to vchunilall@csir.co.za

Please use the following naming convention for attached documents:

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| --- | --- |
| **Application:** | **CVs, Certificates etc**: |
| Name of Enterprise\_EoI- May 2021 | Name of Enterprise\_CV Jane Smith\_May\_2022, Name of Enterprise\_CIPC proof of registration\_ May\_2022 |

The ability to co-fund this application and commitment to transformation will be an advantage.

**For more information, please contact**:

Dr Viren Chunilall

**Email**: vchunilall@csir.co.za

**Phone**: 031 242 2315

**Exclusionary criteria:**

* EoIs will only be accepted if feedstocks are of the following types:
	+ Alien invasive species;
	+ Forestry/paper mill waste;
	+ Diversion of organic wastes from landfills, excluding abattoir waste;
	+ Organic waste, excluding abattoir waste
* EoIs will **NOT** be considered if they relate to new medicines, treatments or cures for diseases, or do not involve manufacturing, or do not improve competitiveness and revenue within the short term (within 6 to 24 months of acceptance of the proposal by the CSIR-BIDF).
* Applicants’ enterprises must be registered with the CIPC, and proof of registration and tax clearance certificates must be provided with the application, or they will be excluded from the process.
* Applications that are not accompanied by a B-BBEE certificate or affidavit will be excluded.
* Applications that are not accompanied by CVs will be excluded.
* Applications that are not accompanied by the completed document checklist will be excluded.
* Applications sent to any email address other than vchunilall@csir.co.za will be excluded.

This is an open call with no closing date for applications.

**REPORTING REQUIREMENTS**

Successful applicants will be expected to report on technologies implemented at the end of the project. Other reporting requirements will be established during contracting.

**Terms and conditions apply.**

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**CSIR/TIA/DSI**

**Expression of Interest**

***Successful bidders may be invited for a more detailed interview***

**Please email PDF versions of completed submission forms to** vchunilall@csir.co.za

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| **Enterprise name** |  |
| **CIPC registration number** |  |
| **Contact person(s)** | **Name and surname:****Position in enterprise:** |
| **Contact details** | **Email:****Landline:****Cell number:****Physical address of enterprise:****Postal address of enterprise:** |
| **Ownership arrangement** |  | Disability | Demographic | Gender |
| Y | N | Black | White | M | F |
| **Directors/members** |  | Attach CIPC registration certificate |
| **Years in business** |  |
| **Annual Revenue**  |  |
| **Number of current employees** | Permanent:  |  | Temporary: |  |
| **Applicable industry sector**(E.g., nutraceuticals (food, beverages, etc.), industrial (e.g., speciality chemicals), cosmetics, flavours and fragrances, biopharmaceuticals, veterinary products/technologies, etc.) |  |
| **BEE status level** |  | Attach B-BBEE certificate/or affidavit |
| **Date of application** |  |

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| **1. Choose the description that best defines your current need (mark with an x).** |
| 1. Running an existing sustainable/profitable biomass processing business with a requirement to localise technology, evaluate/confirm yields, verify/validate or troubleshoot the technology you are currently using (no additional equipment required)
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| 1. Need to scale up your existing operation (equipment required)
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| 1. Planning to start a new line of waste beneficiation business and require assistance to evaluate and possibly localise new technology and associated equipment (equipment required)
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| **2. What support do you require from the BIDF?** |  |
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| **3. Do you have:** | **Y/N** |
| * 1. **A secured source of waste or biomass?**
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| Please specify: Type: Source: Available amount of waste: Nature of agreements in place with supplier of waste or biomass (please attach):  |
| * 1. **An uptake agreement for your product with an existing client?**
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| Please describe the agreement that is in place and, if possible, attach proof of such to this application:  |
| * 1. **An approved Environmental Impact Assessment (EIA) for your site (where applicable)?**
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| If this is a requirement for the project, please advise whether an approved EIA is in place and provide proof thereof: |
| * 1. **A secured supply of water to efficiently process the required volume of waste?**
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| Please supply information on the source and what access you have to it:  |
| * 1. **A technology to be licensed in South Africa? Y/N**
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| 3.5.1 Is the technology foreign? |  |
| 3.5.2 What is the nature of your access to the technology or intellectual property (licence, ownership of the intellectual property, etc.) If in process, advise on status:  |
| * 1. **Awareness of the regulatory requirements for the processing of waste?**
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| What are these regulations and are you currently compliant with them? |
| **4. Description of your core business and whether you are currently manufacturing and/or selling products, as well as your current turnover.** |
| Core business: Status and scale of manufacture: Current annual turnover:  |
| **5. Description of the market need addressed by your product/processes and the potential market size (try to be as specific as possible).** |
| Market need:Market size:Route to market (identified or already in place?): |
| **6. Description of the product(s) you wish to manufacture and what differentiates them from competitor products.** |
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| **7. Description of the technology you plan to use to manufacture the product within the biorefinery context.** |
| Describe the technology and how the principle of the biorefinery concept will be upheld:  |
| **8. What is the expected development time to market (inclusive of this intervention)?** |
| What R&D has been done on the technology?What is the expected time to market?Do you own the technology or have you licensed it? If licenced, from whom? |
| **9. Please indicate the potential social and economic impact of the proposed technology/business and planned revenue over five years.** |
| Social impact: Economic impact: Planned revenue over five years:  |
| **10. Please list all sources and value of funding/support received to date in the table below.** (Take note that a government representative panel will be reviewing the table below. Please be as accurate as possible.) |
| **Source** (E.g., TIA, Industrial Development Corporation, government, venture capital, incubator support, etc.) | **Programme** | **Define the nature of the support received** (funding to do product development and/or commercialisation/training/mentorship, etc.) | **Value of support (R)** | **Period of support** |
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| **11. What is the company’s ability to co-fund the requested support?**  |
| Ability to co-fund:Source of funding (if at application stage, please describe status of application): How were/are the funds secured/being secured?  |
| **12. Has the company considered funding for commercialisation (i.e., taking the product or offering to market)? Yes/No** |
| If yes, what is the amount required for commercialisation? What are the sources of this funding?  |
| **13. Are you currently incubated/supported by any other incubator, enterprise supply chain development programme, etc.? Please specify the entity and the type of support being received.** |
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| **14. Team composition (both business/technical management, if not identified, proposed):***List your team: What is the team’s background, expertise and experience (business and technical)?* |
| **Name** | **Highest academic qualification** | **Position in proposed entity** | **Previous business management/technical positions/experience** | **Previous experience in proposed biomass or organic waste-processing business area** |
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| **15. Please attach short resumes/CVs (1/2 page each) of key personnel in your enterprise.** |
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| **16. MANDATORY DOCUMENT CHECKLIST** | **Mark with x** |
| CIPC registration document |  |
| B-BBEE certificate or affidavit |  |
| CVs of key team members |  |
| Proof of prototype |  |
| Proof of product offtake agreement |  |
| Proof of ownership of intellectual property/licence agreement |  |
| Proof of biomass availability/access to biomass |  |
| Approved EIA |  |