Waste Research Development and Innovation Roadmap

Research, development and innovation (RDI) to advance the South African waste sector

2019 CALL FOR PROPOSALS

The Department of Science and Technology (DST) is pleased to announce an **Open Call for Proposals** for (solid) waste research, development and innovation projects commencing in January 2020. Applicants are requested to familiarise themselves with the information provided in this Call as well as in the Waste Research, Development and Innovation (RDI) Roadmap for South Africa (2015-2025), before preparing an application.

- Strategic framework of the Waste RDI Roadmap (6 Clusters) – available online at:
  http://wasteroadmap.co.za/download/rdi_clusters.pdf
- Waste RDI Roadmap – available online at:
  http://wasteroadmap.co.za/download/waste_rdi_roadmap_summary.pdf

1   Background

The Waste RDI Roadmap is an initiative of the DST, managed by the CSIR, aimed at strengthening –

- human capital development (HCD)
- research and development (R&D), and
- innovation in the field of solid waste management

Through the strategic investment in science, engineering and technology, the Department aims to support the prevention of waste and the optimised extraction of value from waste reuse, recycling and recovery, in order to create significant social, economic, and environmental benefit for the country. The objective of the Waste RDI Roadmap Call for Proposals is to directly support –

- More effective decision-making
- Faster insertion of context-appropriate technology
- Export of know-how and technology
- Strengthened RDI capability and capacity

2   Research themes

Research proposals <u>must</u> be aligned with one of the following thematic areas and sub-themes of the Waste RDI Roadmap –

i. **Technology Solutions**
   Design, development, evaluation, demonstration, localisation and deployment of technologies (both local and inbound) for customer-driven performance improvement
   o Process Performance Optimisation
   o Technology Development
   o Technology Evaluation and Demonstration
   o Technology Localisation

ii. **Modelling and analytics**
   Develop and use methods, tools, techniques, platforms, systems and frameworks for the analysis, monitoring and evaluation of technical, economic, social and environmental opportunities and impacts associated with secondary resources
   o Systems Analysis and Modelling
   o Business Models
   o Socio-Economic and Environmental Modelling
   o Analytics
   o Impact Assessment

iii. **Waste logistics performance**
   Optimisation of strategic, tactical and operational decision-making in respect of logistics objectives, assets and resources
   o Strategic Network Design
   o Planning and Management Systems
   o Operational Logistics Processes

iv. **Strategic planning**
   Build and strengthen the basis and application of strategic analysis and advice for the purposes of evidence-based decision-making to inform strategy formulation, planning and its execution and management
   o Macro-Economics
   o Value Chain
   o Strategy
   o Policy and Legislation
   o Governance

v. **Waste and environment**
   Strengthen the ability to identify, monitor, evaluate and report on environmental impacts of waste and its management, in order to inform better targeted and more effective responses
   o Climate change
   o Marine plastic litter

vi. **Waste and society**
   Deepen understanding of waste-related opportunities and threats, to increase the success of influencing perception and practice positively
   o Jobs and Labour
   o Business Practices
   o Behaviour
   o Awareness and Communication

Proposals <u>must</u> also address one of the following priority waste streams –
- Organic waste
- Plastic waste
- Electronic waste (WEEE)
- Municipal waste
- Waste tyres

3   Typical award amount and project duration

Grant projects previously funded under the Waste RDI Roadmap can be viewed on the website (www.wasteroadmap.co.za). Previously awarded grants have ranged from R349,000 to R2,870,000. The average grant amount for projects with a duration of 2 years is R702,000 while 3-4 year projects average R1,615,000. Proposals in excess of R2,000,000 or longer than 3 years should contain sufficient details that justify the need for the higher than average amount requested and longer project duration. The total Grant funding available for 2019/20 is limited and since the call is open to all research topics, the process is expected to be highly competitive.

4   Eligibility criteria

Researchers from only South African Universities, Science Councils and other public research institutions, working in relevant disciplines, are invited to submit proposals for a Waste RDI Roadmap Research Grant. Principal investigators (PI) must be qualified to do the proposed research and should be experts in the subject matter referenced in the proposal. Typically this would include full-time faculty at academic and research institutions.

5   Evaluation criteria

All applications will undergo evaluation by an independent review panel, to assess the suitability of the proposal in terms of the Waste RDI Roadmap's objectives. All proposals will be evaluated against the following criteria:

i.   **Alignment:** the research proposal must address the priorities and research themes of the Waste RDI Roadmap (Section 3 above)
ii. **Relevance:** the research must have the potential to directly, and positively, influence the management of solid waste in South Africa, by moving waste up the hierarchy away from landfilling towards waste prevention, reuse, recycling or recovery, in a manner that will provide maximum environmental, social and economic benefit for the country. Preference will be given to proposals which are impact driven and solution orientated.
iii. **Scientific/technical soundness and credibility**: the research proposal has a sound scientific and/or technical base, reflects a sound grasp of the issues requiring investigation, the proposed methodologies are appropriate for achieving the objectives; and the deliverables and associated time frames for delivery are realistic.
iv. **Innovation:** the project is original and contributes to the body of knowledge or develops practical solutions to move waste away from landfilling towards waste prevention, reuse, recycling or recovery
v.   **Research Outputs/Deliverables:** the project must result in a significant research output, such as research reports, post-graduate dissertations, technologies, journal papers, etc.
vi. **Capacity development:** Preference will be given to proposals that include capacity development through the training of post-graduate students, interns or junior staff will be considered
vii. **Institutional capacity:** the applicant should demonstrate sufficient institutional capacity to implement the project
viii. **Value for money:** the benefits of the proposed research are measurable and the value of the benefits exceed the value of the investment

6   Equity and redress

In line with the national imperative of equity and redress, the research call prioritises support for designated groups viz. black, female and persons with disabilities.

7   Submission of proposals

To be eligible for consideration, proposals must be submitted on the research proposal template provided, and submitted in MSWord or PDF format. Research proposals (Part III: Detailed description of the project) **must not exceed 10 pages** (at font Arial 10, line spacing 1.15). **Proposals may be rejected prior to evaluation if they exceed the set length and if they do not make use of the template provided.**

Proposals should include the following:
- Title of project:
- Abstract (*max 250 words*)
- Keywords (*max 5 words*)
- Outline of the research project
    - Statement of Research Problem
    - Background and Rationale
    - Literature Review
    - Research Question/s
    - Aims and Objectives of the Research
    - Research Design and Methodology
- Significance of the Research
- Expected Outcomes, Results and Contributions of the Research
- Workplan
- References cited
- Brief CV of Lead Researcher and core team members with allocated contribution to project

8   Reservations

The DST expressly reserves the following rights:
- To reject all or any proposals
- To waive any or all irregularities in the proposals submitted
- To retain the right not to select any application/s even if meeting all the requirements

9   Contract negotiations

The successful applicant/s will be required to enter into a written Agreement with the CSIR, who manages the Roadmap on behalf of the DST.

10   Closing date

Applications must be submitted electronically via email to info@wasteroadmap.co.za in the prescribed format. The deadline for the submission of proposals is **Friday, 26 July 2019 at 17:00**.

All applicants will be notified about the outcome of their applications by early September 2019 (or sooner) to allow sufficient time for students to be recruited for the 2020 academic year.

11   Validity

All applications will be regarded as valid for 120 days from the 26 July 2019 whereafter the CSIR may request an updated application, should this become necessary.

For any queries relating to the call for proposals, contact:

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