GOVERNMENT OF INDIA
MINISTRY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF SCIENCE AND TECHNOLOGY
(Technology Mission Division)

Call for Applied Research and Technology Development Proposals on"*Materials for Energy Storage (MES) - 2016*"

The Department of Science and Technology, as part of its Clean Energy Research Initiative, invites proposals on hybrid materials for energy storage and devices on competitive basis to meet the objectives of the activities specified in this call for proposal. The collaborative research and/or technology endeavour is primarilybetween scientists and engineers in India. **Interface with select foreign University / Institutions could be considered on a very selective basis under the overall umbrella of Science & Technology agreement with concerned country provided it does not envisage any funding to foreign partners. Only mobility support to Indian Scientists, especially young researchers could be considered, where absolutely essential.**The call is invited from Scientist, in public as well as private sector, preferably in consortiums of industrial partner and academic/ research institutions as elaborated below.All the proposals will be reviewed on competitive basis.

Theobjective of this call is to support R&D activities aimed at innovative materials for energy storage, and to build energy storage device with enhanced output for multifunctional applications. Aiming the efficient use and further increase of renewable energy, and demonstrating its value in terms of flexibility in the energy systems. The proposals could address both electrical and thermal applications.

- electricity applications, where the technologies covered may include all kind of batteries, flywheels and capacitors suitable for applications in the power range of several tens of KW to 1 MW as well as other technologies related to storage of small, medium, large-scale power.

- thermal applications, where proposed solutions aim to develop the high efficiency conversion and storage of extra renewable electricity into heating, cooling, desalination etc. The hybrid system should take into account the optimal integration of various potential heat storage media.

The proposal should also dwell upon the likelihood that energy systems may be connected, and integrated merging energy from different sources.Proposals are anticipated to cover the different aspects of the overall system, such as design, storage materials, interfaces with various components. Proposals must preferably include pilots for targeted applications and should be able to demonstrate value of storage integration for entire energy system.

The projects are expected to lead to the outputs which would substantially enhance technology readiness of the applied research for targeted application / use.

Who can apply:

a) The collaborative research and/or technology endeavour is primarily between scientists and engineers in India. Interface with select foreign University / Institutions could be considered on a very selective basis under the overall umbrella of Science & Technology agreement with concerned country provided it does not envisage any funding to foreign partners. Only mobility support to Indian Scientists, especially young researchers could be considered, where absolutely essential. The call is invited from

Scientist, in public as well as private sector, preferably in consortiums of industrial partner and academic/ research institution.

b) Companies registered under The Indian Company's Act, 1956 / MSMEs having DSIR recognized R&D Centres may also apply jointly with universities / academic institutions / National Laboratories / Public Funded Research Institutions / R&D institutions.

Project Cost: **Rs. 3 crore(maximum)**
Duration: **3 years (maximum)**

CALL OPENING DATE: **23rdMay 2016**
CALL CLOSING DATE: **31st July, 2016**

Industrial involvement:Genuine and meaningful collaboration with industry organization having domain expertise and potential to support commercialization of the outcome is desirable. Inter-disciplinary proposals in consortium mode would be given priority. Proposals supported by industry organization or any other organization with quantifiable 'in-kind' or 'in-cash' contribution would be encouraged. Proposals having contribution from industry must clearly articulate nature of contribution with justification benefiting the R&D proposal.

Assessment norms: The relevance of proposal to call objectives need to be conclusively established. The proposal relevant to call objectives will be evaluated based on following criteria:

a. Novelty of the proposed work,
b. Need assessment and demand for proposed work,
c. Scientific appropriateness of deliverable of proposed approaches and technical merit
d. Expertise, facilities and track record of team. Appropriateness of industrial partner competence of each member facilities available to conduct research
e. Proposal formulation. Literature/patent review, qualified objectives, methodology and work plan, clear and well defined deliverable.

Project Implementation: The grantee organization/ PI must provide progress report of the work carried out under the project, that will be assess with quarterly milestones. DST approved committeemay visit the organization periodically to review the progress of the work being carried out and suggest suitable measures to ensure realization of the objectives of the project.

Proposal Submission:Please submit following documents in an Envelope marked "***Call for Applied Research and Technology Development Proposals on "Materials for Energy Storage (MES) / Call 2016 / PI Name***)".

A. 3 hard copies of complete project proposal in prescribed format with all enclosures (1 marked original + 2 hard copies)
B. Soft copy of complete proposal (MS word and PDF) in Pen Drive.

The complete set of documents are to be addresses to: **Dr.Ranjith Krishna Pai**, Scientist 'D' / Principal Scientific Officer, Room no: 13-C, Block - 1, Technology Mission Division, Department of Science and Technology (DST), Ministry of Science and Technology, Government of India, Technology Bhavan, New Mehrauli Road, New Delhi -110016 before the closing date of the call.

Soft copy of Project Proposal is to be e-mailed (Subject Captioned: Call for Applied Research and Technology Development Proposals on "Materials for Energy Storage (MES) / Call 2016 / PI Name) to ranjith.krishnapai@gov.in by **31st July, 2016**.