



End-use Application Development for Recovered Mattress Components

Request for Proposals



Issue Date:

July 11, 2019

Pre-Application Submission Deadline:

December 31, 2019

Mattress Recycling Council

Attn: Michael Gallagher

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www.mattressrecyclingcouncil.org

BACKGROUND

The Mattress Recycling Council (MRC) is a 501(c)(3) formed by the mattress industry to operate recycling programs (known as Bye Bye Mattress) in states which have enacted mattress recycling laws: California, Connecticut and Rhode Island. MRC educates the mattress industry and consumers about these mattress recycling laws and works closely with local governments, waste management professionals, recyclers and others to create an accessible and efficient mattress collection and recycling network.

As part of its mission, the [Mattress Recycling Council](#) (MRC) has established a Research program to increase the productivity and throughput of its contracted mattress recycling contractors to develop new end uses for materials extracted from the mattress deconstruction processes. Through both process efficiencies and expansion of the mattress recycling industry, the number of mattresses recycled per year is steadily growing. To sustain future growth, it is vital that new economically viable applications and products for recovered materials be developed.

MRC is seeking creative proposals which demonstrate the potential to use hard-to-recycle mattress components in new applications and products as well as in reformulated products. In this solicitation, MRC is seeking to fund development of innovative ideas to kickstart new markets for the following materials:

- Topic Area 1 – Polyurethane Foam
- Topic Area 2 – Memory Foam Latex (Visco Elastic foam)
- Topic Area 3 – Quilt Panels (the top layer of a mattress)
- Topic Area 4 – Shoddy Pads (mixed fiber insulating felt layer)
- Topic Area 5 – Cotton (mote cotton)
- Topic Area 6 – Coconut Fiber
- Topic Area 7 – Metal Springs

Information on existing applications for each of these components is provided in MRC's [2018 California annual report](#). Proposals which explore further development of existing applications or end uses that already include mattress components will not be considered. Waste-to-energy or incineration solutions are also not eligible.

ELIGIBLE APPLICANTS

- Public and private businesses. Both U.S. based and international businesses are eligible to apply. However, they must be in good standing with all applicable U.S. federal, state and local agencies.
- Universities and research institutions.
- Nonprofit entities in good standing with all federal, state and local agencies.

PROJECT REQUIREMENTS

- Proposals must identify at least one target mattress component and at least one specific industrial/commercial scale application.
- Performance requirements for the targeted industrial/commercial application should be clearly stated.
- The proposal should detail the steps necessary to develop a proof-of-principle solution.
- The final report must contain an economic analysis and a preliminary business case to justify further development and/or a potential field study with selected component(s).
- Technologies that employ mechanical, chemical and/or thermal reprocessing of recovered materials are in scope.

- Waste-to-energy or incineration concepts will not be considered.
- Only one proposal per eligible applicant per topic area will be accepted.
- Applicants are encouraged, but not required, to provide matching funds to the project.
- The research project must be completed within one year of the funding award.

AWARDS

MRC anticipates making multiple awards from this RFP with maximum award sizes of \$100,000 per applicant. The objective is to evaluate the technical merit and feasibility of ideas that appear to have commercial scale application potential to support MRC’s objectives. Proposals should concentrate on research that will contribute to proving the technical feasibility of the approach or concept in the target end-use application.

MAXIMUM FUNDING

- FY 2019: \$600,000
- FY 2020: TBD
- Maximum individual award: \$100,000
- Cost share is encouraged but not required. It will be considered in final funding decisions.

PRE-APPLICATION SUBMISSION

MRC will use a two-stage process to identify projects for award. First, interested parties will submit a non-confidential concept paper for internal review by MRC. The pre-application template is attached to this document. It can also be found on the [MRC Research Program](#) website.

Based on merit and alignment to our research strategy, the proposers of selected concept papers will be contacted for further discussion. Based on the outcome of these discussions, the applicant may be invited to submit a full proposal for review by MRC.

TIMELINE

This is an open-ended request for proposals. Therefore, prospective researchers are free to submit pre-proposal applications any time during the 2019 calendar year. If the project is selected to move beyond the pre-proposal phase, research teams will be asked to submit a full proposal within 6 weeks after notification. All projects must be completed within one year of research contract execution.

FULL PROPOSAL GUIDELINES AND FEEDBACK

Proposers that are invited to submit a full proposal will provide:

1. Applicant name
2. Applicant contact information — at least 2 contacts
3. A description of the applicant’s industry history and experience with similar projects
4. A project description that clearly outlines the impact on program research objective and what steps the applicant will undertake to prove a technical and business case for the new application/product
5. A project work plan and milestone plan

6. A project budget, which includes any matching funds from the applicant, and a clear request for a specific amount of MRC funding
7. Acknowledgement of any potential conflicts of interest with MRC leadership or former employment in the mattress industry
8. Notification of any pending or outstanding judgments or enforcement actions against applicant, the applicant's organization or its products and services

Pre-proposals must be submitted by email to Mike Gallagher mgallagher@mattressrecyclingcouncil.org. If selected to submit a full proposals, they must be sent in PDF format and will not exceed 10 pages in length, including any attachments or letters of support. Proposals that do not follow application instructions may be considered non-responsive.

Award recipients will be required to agree to MRC's Project Terms as well as complete regular reporting requirements. MRC may also use research project documentation for California state annual reporting requirements and communication purposes. Confidential information must be clearly marked as such and may be subject to regulatory disclosure requirements of CalRecycle or other state entities.

Questions and comments regarding this RFP may be emailed to Mike Gallagher, mgallagher@mattressrecyclingcouncil.org. Additional information is posted on the [MRC Research Program](#) website.

Pre-Application Concept Paper Submission Form

(Please submit Non-confidential Information only)

Proposer name and title	
Institution, street address	
Phone	
Email	
Technical challenge being addressed	
Proposed project title:	
Background/State of the art:	
Graphical abstract <i>(A figure or diagram illustrating the concept)</i>	
Project description <i>(Brief description of the concept and objectives of the proposal, including technical requirements, hypothesis, and novelty with respect to the state of the art in the field. ~500 words or less)</i>	
Proposer team, capabilities, and resources <i>(personnel, equipment, and demonstrated experience in the field including publications and intellectual property)</i>	
Technology Readiness Level (TRL) <i>(1-9, using TRL definition by DOE, http://en.wikipedia.org/wiki/Technology_readiness_level#Other_definitions_and_uses)</i>	
References cited:	