



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Site Remediation and Waste Management Program
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Recycling Enhancement Act N.J.S.A. 13:1E-96b.(5) Grant Proposal Cover Sheet

A. General Information

1. Name of Applying Institution:
(University, College or Community College)
2. Federal Employee Identification Number (FEID):
3. Applicant's Address:

Telephone Number:

Email Address:
4. Title of Grant being applied for:
5. Contact Person (person directly responsible for project activities)

Name: Title:

Address:

Telephone Number:

Email Address:

B. Project Information

1. Briefly identify the proposed research project (1 grant per application):

Recycling Enhancement Act (REA) – Institutions of Higher Education 2019 Research Grant Application

N.J.S.A. 13:1E-96.b. (5) Recycling Enhancement Act (REA) - grants to institutions of higher education for recycling demonstration, research or education, including professional training.

2019 Recycling Enhancement Act Grant Application

Application Checklist:

Cover Page

Proposal Narrative

Budget

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Overview

The State Recycling Fund (hereinafter referred to as the "fund" or "REA") is established as a nonlapsing, revolving fund. The fund shall be administered by the Department of Environmental Protection's Division of Solid and Hazardous Waste and shall be credited with all recycling tax revenue collected pursuant to section 4 of P.L. 2007, c.311 (C.13:1E-96), and all interest received on moneys in the fund.

Source of Funding

Pursuant to N.J.S.A. 13:1E-96.b.(5) Not more than 5% of the estimated annual balance of the fund shall be used by the Department to provide grants to institutions of higher education for recycling demonstration, research or education, including professional training.

General Information

Not all grant proposals or topics are guaranteed to be funded/awarded at the Department's sole discretion.

There is no maximum grant award. Awards will vary based on project need as demonstrated in the proposal.

Institutions of higher education are encouraged to partner with third-party entities, where appropriate, to accomplish the requested goals. If an institution has previous experience in the research topic to which it submits an application, the Department will not expect the institution to work with a partner.

The Department will show preference in award for proposals that will yield practical information that will drive practical application, and regulatory decisions, programs, and processes.

Grantees shall, in submitting proposals, identify and reference studies utilized in preparing proposals.

The Department reserves the right to modify, in consultation with the applicant, details, scope, timeframes, grant parameters of any application.

Project Timeframes

The Department expects applicants to propose the soonest start date and most compressed, efficient timeframe for completing all grant work and deliverables as possible. The Department expects for instance that all projects will begin as early in Fiscal Year (FY) 2020 as possible and several should be completed in FY 2020. All projects must be completed within 2 years of the proposal date, but most will be completed prior. Some projects by nature will start/end sooner than others.

Each proposal shall identify a start and completion date. A timeline shall accompany all proposals and shall include but not be limited to: appropriate phases of the proposed project, and the following within each phase: goals, timeline, steps, outcomes, milestones, contingencies, deliverables.

The Department expects that complete grant projects and final reports/deliverables will be accomplished within the contracted timeframes. Extensions are only granted for circumstances beyond the control of the awardee in three month increments and only upon written request prior to the deadline.

The Department reserves the right to comment on proposed timelines during the application review process and to negotiate changes to applications.

All proposals must be proposed in 12-month increments. Multi-year projects may be proposed, and in some cases preferred, but must include a negotiated deliverable and report in 12-month increments. Multiple-year funding is not guaranteed.

What Types of Projects are Eligible?

This funding opportunity seeks to fund projects that support the objectives of the Recycling Enhancement Act. Eligible projects cover one or more of recycling demonstration, research or education, including professional training areas. Proposals may be designed to enhance existing resources, tools, or methodologies or create new resources pursuant to the Recycling Enhancement Act.

Grants shall only be awarded to New Jersey institutions of higher education but may be implemented in conjunction with or subcontracted or partnered to/with other entities identified in the application, pursuant to applicable law. Preference in award is given to proposed projects in which applicant will benefit from partnering with qualified engineering/marketing type firms that possess specific expertise related to the grant project. See selection criteria and scoring section herein.

Grant proposals shall fit into one or more of the following topics (not listed in preferential order):

1. Recycling Market Research and Development; Role of government; Impediments

Research, identify, analyze, report and make recommendations:

- Identify business and/or governmental hurdles or opportunities to recycling end markets or manufacturing occurring in New Jersey using recyclable materials or recycling market development in New Jersey.
- Review the impact of Recycling Enhancement Act grant programs for counties and municipalities
- How can New Jersey State government:
 - Encourage the creation or expansion of recycling markets and/or increased manufacturing in New Jersey?
 - Stimulate markets for recyclable material in New Jersey?
 - Encourage and leverage public/private partnerships in recycling market development in New Jersey
 - Affect recycling through procurement practices for State agencies
 - Encourage the use of products made from recycled materials in New Jersey
 - Encourage/incentivize private investment and/or innovation in recycling through tax/financial/regulatory incentives in New Jersey
- What have other States/local governments at any level done to increase recycling
- What has New Jersey done historically that has (and has not) been effective in driving recycling or bringing markets/manufacturing to the State

- Research and identify current or future market opportunities and recycling strategies for specific types of recyclable materials generated or potentially generated in New Jersey to:
 - Increase recycling/reuse of glass, asphalt, tires
 - Identify and propose recycling/reuse strategies for other materials
 - Determine if certain strategies can link the recycling of and manufacturing of certain commodities
- Identify State resources and Agencies/instrumentalities and how they can be used to encourage markets/recycling/reuse in New Jersey
- Review existing case studies (New Jersey, national and/or international studies) and/or present new case studies in the field of recycling market research and development.
- Identify strategies and specific action steps to accomplish the above goals as appropriate.

2. Perform ID # 10 (per N.J.A.C. 2.13(g) Municipal Solid Waste (MSW) Composition Study

Determine via physical inspection and observation the individual constituents by weight and as percentage of the whole, of municipal solid waste as more specifically identified below over a representative sample at one solid waste facility located in one of (or servicing) a region in New Jersey identified as rural (pop. density <500 person/sq. mile), suburban (500 to <2,000 persons/sq. mile), or urban (2,000 or more persons/sq. mile). Population density is based on the 2010 US Census¹. Preference given for study of an urban region and/or Mercer County (as data exists from a 2014 Mercer County Audit that would be valuable to compare). The applicant is not expected to carry out a study of all three regions but may do so if desired. Applicants shall identify in the application which region(s) and how many regions are being proposed to be studied. An application that fails to identify which region(s) will be studied will be denied. NJDEP will assist in securing approval of selected facilities to inspect waste to perform the study.

Following ASTM D5231 – 92 (2016) standards), as a percentage of the total waste stream, identify and quantify the type of material, by region type, amount (in weight), of each below category/material in the New Jersey solid waste ID type 10 waste stream bound for disposal.

- What is the composition of the waste stream by generator type (residential, institutional, commercial) of each below category and material as a percentage of the whole?
- Perform audits in each of the four seasons
- Propose at least one year of studies and may propose multiple years and frequency (but multi-year funding is not guaranteed).
 1. Deliverable will answer all questions above and discuss and analyze results extrapolated to regional and statewide levels, , by type of generator, and by seasonal variations
- Applicant shall propose strategy and sampling protocol
- Study shall identify the above for at least (but not limited to), the following specific materials within the below categories. Applicants may propose additional materials to study:
 - Category/materials

¹ <https://www.census.gov/prod/cen2010/cph-2-32.pdf>

- Paper: newsprint; corrugated cardboard; white office paper; box board; magazines; other paper.
- Plastics: PET, HDPE, PVC, LDPE, Polypropylene, Polystyrene and Other plastic
- Food Waste²: all food waste including but not limited to: plate waste, food processing wastes, broken into edible food waste (i.e. strawberries, lettuce); inedible food waste (i.e. egg shells, orange peels)
- Textiles, Rubber, and Leather: cloth material such as cotton, linen, wool, nylon; rubber products; leather products
- Wood: oriented strand board/particle board; plywood; furniture; pallets; tree parts; other untreated wood; other treated wood.
- Yard Wastes: leaves, grass clippings, stumps, brush
- Other Organics identified during audit
- Metals: aluminum cans; tin plated steel cans; aerosol containers; other ferrous metals; other nonferrous metals
- Glass: all glass, by type (containers, plate, window, etc.)
- Inorganics: asphalt materials; masonry materials; wallboard; ceiling tiles; electronic waste; soil/ash; other inorganics; fines/sweepings
- Hazardous Materials: lead acid batteries; dry cell batteries; paints/solvents; other hazardous, corrosive, or flammable material

The project will only be awarded if access is granted to the facility(ies) necessary to complete the study. The Department will assist in securing access to facilities to the extent allowed by law. Applicants are encouraged to gain access and approval to necessary facilities and include in the application.

3. Research, design, implement, analyze, report on a solid waste and/or food waste recycling/exchange/reduction/reuse project or demonstration at an institution

- Acquire a composter/digester or other device or technology to reduce, reuse, or recycle food and/or other waste and analyze the results from a waste management, waste reduction, reuse, economic perspective. For example:
 - Compost tumblers and compost Tea Catchers
 - Small-scale pilot digesters
 - Other devices as proposed by institution
- Other demonstration or research project as proposed by an institution on or off their campus. For example, but not limited to:
 - Materials Reuse Center
 - Recycling bins for outdoor spaces
 - Institutional-wide educational campaign to promote school recycling or food waste reduction program

² This proposal must provide as a deliverable a quantification of food waste by percentage of the entire MSW waste stream in New Jersey in support of a baseline determination of total food waste generated in New Jersey as required by P.L. 2017, c. 136.

- Institutional-wide waste audits
- Food waste prevention/rescue demo project
- General deliverables for # 3 - Review, analyze, report, recommend blueprints or procedures for others to follow on the selected demonstration project to:
 - Identify the goals of the project
 - Describe the actions and outcomes of the project
 - Describe problems encountered and solutions attempted and results
 - Describe the implementation and execution processes
 - Analyze the benefit / outcome of the project in relation to the goal(s) and reasons for success/failure
 - Identify and describe:
 - Transferable concepts, principles, actions
 - Actual outcome and recommend changes for others wanting to perform similar projects
- In addition to the above general deliverables:
- Specifically, for the purchase of a composter/ digester - provide a one-year summary of the project and report of the progress/benefit of the grant, including the following:
 - Type and brand of equipment purchased with grant
 - Date the equipment became operational on campus
 - Total amount of tons of material recycled through the equipment to date
 - Describe use of the end product
 - Any other comments or information of note - Examples: number of students involved, if any, with the operation of the program; greenhouse gas emissions avoidance calculation.
- Materials Reuse Center – provide a one-year summary report of the project and progress/benefit as a result of the grant, including the following:
 - A list of the items accepted at the reuse center.
 - Number of students who work at the reuse center
 - Number of students participating in the program by either donating materials or taking materials.
 - The tonnage of material kept out of the disposal stream as a result of the reuse center.
- Recycling bins for outdoor spaces – provide a one-year summary of the project and report of the progress/benefit as a result of the grant, including the following:
 - Number of bins purchased, placement of bins around campus
 - Reduction in amount of solid waste in need of disposal at major tailgating events (football, concerts) as a result of having outdoor recycling bins
 - Tonnage of glass bottles, plastic bottles and aluminum cans recycled from outdoor bin program
 - Greenhouse gas emissions avoidance (calculation) resulting from this increased recycling activity
- Institutional-wide recycling education campaign - provide a one-year summary report of the project and progress/benefit of the grant, including the following:

- Specifics on the strategies used in the education campaign - printed materials, electronic messaging, special events (America Recycles Day, Earth Day, Campus Day, Homecoming)
 - Specifics on the number of times the different education strategies are used throughout the year
 - Number of students campaign is expected to reach
 - Do a “Test Your Recycling Knowledge” survey at the start of the semester and start of the campaign and then a follow-up survey at the end of the semester/campaign to see if students became more knowledgeable about recycling due to the campaign
- Institutional-wide waste audits -Provide a one-year summary report of the project and progress/benefit of the grant, including the following:
- Provide data on the current total tons of waste disposed and recycled annually
 - Calculate current recycling rate based on the above
 - Do waste audits in both semesters due to seasonal changes in waste generation
 - Provide breakdown of what materials were found in the solid waste that is headed for disposal and what materials of this mix could be targeted for recycling or improved recycling
 - Strategies resulting from the waste audit - Examples: work with warehouse to capture more cardboard and recycle wooden pallets, recommend food waste initiative for school to address food waste from kitchens, improve the office recycling program to capture more paper in administrative offices.
 - Follow-up waste audit after one year of implementation of enhanced strategies to see what progress has been made.

4. Create public outreach campaign to educate, inform, motivate New Jersey to reduce the amount of food wasted in New Jersey.

Discuss the issue of wasted food in New Jersey and design and present an outreach campaign to raise awareness, provide the public and various sectors of the food supply chain with information and strategies to reduce food waste.

- Design and present a comprehensive and strategic 5-year plan and actions, in 1-year increments, to educate residents of New Jersey about the issues of wasted food, which includes, but is not limited to:
- Specific and detailed step by step action plan to execute the actions
 - Review of wasted food informational campaigns in other States or Countries
 - Discussion and analysis of what aspects of other campaigns would be relevant and effective for New Jersey and why
 - Identify and recommend marketing strategies
 - Identify marketing channels
 - Identify how to reach different demographics
 - Identify those government units who could best act on action items

- Provide an implementation timeline
- Provide a break-down of expenses to implement said campaign, especially estimated cost to buy ad space in different channels (e.g. billboards, social media, tv/radio or other)

Amount of Money in the REA Research Grant Program

Approximately \$1M of REA recycling tax funds have been allocated to this opportunity. Awardees and grant amounts will be selected based on the proposal, selection criteria and funds available to the Department as identified herein. The Department reserves the right to only award a portion of allocated funds or apportion funds among the project areas at the Department's discretion.

Who is Eligible?

The REA fund limits research grants to Institutions of higher education. Entities may submit more than one proposal. Only New Jersey institutions will qualify for awards.

What Types of Expenses Qualify for Funding?

The grants awarded to successful applicants may cover personnel (salaries/fringe benefits), other direct costs (e.g. supplies, printing, mailings, mileage, contractual), and indirect costs. Indirect, fringe benefits, or administrative costs should be estimated using an approved negotiated cost agreement. Entities that do not have such an agreement can elect to charge a rate of 10% of modified total direct costs, if available. Please attach a copy of the negotiated cost agreement (if any) to the application submission.

Where Will the Work Take Place?

This grant opportunity does not require applicants to implement the research on campus. Applicants must submit proposals that will benefit REA goals in New Jersey and are encouraged to seek additional partners to accomplish the grant objectives. Example of an allowed collaboration is an institution of higher education conducting a food waste research diversion project at a K-12 school or prison.

For questions regarding this program, please contact Fredrik Khayati at the Department's Division of Solid and Hazardous Waste at Fredrik.Khayati@dep.nj.gov or (609) 984 4250.

REA Research Grant Program Timeline

Grant applications must be received **no later than December 13, 2019**. Applicants will be notified by January 24, 2020 via email.

Application Requirements

To be considered for funding, applicants must submit the following:

- **Cover Page**
Each application must include cover page that includes:

- Name of the project
 - Project category
 - Proposed total project budget
 - Applicant organization (Lead applicant if a partnership proposal) Lead applicant must quality for the grant under the REA.
 - Principal Investigator name and contact information (mailing address, email, phone)
 - Applicant’s partner organizations (if applicable)
- **Proposal Narrative**
Each application must include a narrative that includes:
- Description of the proposed project
 - Specifically, how the proposed project will accomplish the objectives of the project that is being applied for identified in one of the above topics
 - Only one project may be applied for in each application
 - To apply for multiple projects, submit an application for each project applied for
 - Start and end date for all deliverables
 - Phases, steps, and timeline for proposed project
 - Cost of the proposed project
 - Identification and qualification of Applicant/partners personnel
 - If working with a third-party entity, documentation showing partnership must be submitted
 - Demonstration of experience/capacity
- **Project budget**
Each application must submit an itemized budget that includes the following:
- Personnel costs
 - Fringe benefits
 - Consultants and subcontractors, if applicable
 - Other costs

Any additional information should be submitted as appendices. Appendices should be limited to material that directly support the main body of the proposal (e.g. detailed budget information, references, lists of relevant work products or reports, data sources, detailed budget information, letters of collaboration, facility access agreements (as appropriate), letters of support, lists of data sources, and maps).

Selection Criteria and Scoring

New Jersey Department of Environmental Protection’s Division of Solid and Hazardous Waste (DSHW) and Bureau of Energy and Sustainability (BES) are seeking applications that demonstrate a commitment to the identified and announced grant proposal topics and that advance recycling demonstration, research or education, including professional training knowledge as stated in N.J.S.A 13:1E-96.b.(5).

Applications will be scored and ranked based on the criteria below. Proposals will be evaluated and selected based on the likelihood and degree to which the project outcomes will achieve the goals for each topic as set forth herein.

Benefit and deliverables of project proposal (60 points)

- Describe how the project meets the objective(s) of the proposed research topic.
- How likely will proposal accomplish the goals of the topic.
- The project is using third-party entities, if applicable.
- Identify and describe the third-party entities' role in implementing the project, if applicable.
- Describe what practical results are expected upon project completion and how they can be used toward future actions.
- Describe what knowledge will be gained and used for future project proposals.
- Describe how deliverables will be accomplished and reported.

Feasibility of the project proposal (30 points)

- Is the project practical and achievable.
- Does timeline indicate data analyzing and reporting milestones.
- When is project expected to start/finish.
- Identify challenges that may hinder completion of the project and how the Institution will address those challenges.
- Provide a budget justification that shows how the project will be completed with the amount of funds requested.

Demonstration of capacity (10 points)

- Highlight any experience of the Institution in completing projects of a similar size and scope to what is being proposed.
- Describe the experience of identified team members and/or third-party entities.
- Highlight any experience completing grants with the State of New Jersey.

Application Submission

Both electronic and hard copies of the application are required. **One electronic copy** of the application and all required documents must be submitted to Fredrik Khayati at Fredrik.Khayati@dep.nj.gov by **3:30 P.M. EST, December 13, 2019**, to be eligible for funding. Additionally, three hard copies of the proposal narrative and budget proposal and one hard copy of all other required documentation **postmarked on or before December 13, 2019**, must be sent to:

New Jersey Department of Environmental Protection
Division of Solid and Hazardous Waste
Bureau of Planning and Licensing
Attn: Fredrik Khayati
P.O. Box 420 Mail Code 401-02C
Trenton, NJ 08625-0420
(609) 984-4250

Recycling Enhancement Act (REA) – Institutions of Higher Education 2019 Research Grant Application

A notice of receipt for the hard copies and electronic copies will be provided to the applicant by email. An applicant that submits an incomplete application shall be deemed ineligible.

Problems with the electronic submission of the application should be directed to Fredrik Khayati at fredrik.khayati@dep.nj.gov, who can also be contacted at (609) 984-4250 from Monday through Friday, 8:00 am to 4:30 pm. All other inquiries regarding the application process be submitted in writing to the email address above.