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

2024 Recycling Enhancement Act Grant Application

Application Checklist:

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Section A - General Overview and Information

1. Overview

The State Recycling Fund (hereinafter referred to as the "fund" is established as a non-lapsing, revolving fund which shall be administered by the Department of Environmental Protection’s Division of Sustainable Waste Management (Department or NJDEP) and which shall be credited with all recycling tax revenue collected pursuant to section 4 of P.L.2007, c.311 (N.J.S.A. 13:1E-96) (Law), and all interest received on moneys in the fund.

For questions regarding this program, please contact Riley Kirejevas at the Department’s Division of Sustainable Waste Management at [Riley.Kirejevas@dep.nj.gov](mailto:Riley.Kirejevas@dep.nj.gov).

2. Source of Funding

Pursuant to N.J.S.A. 13:1E-96(b)(5), no 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.

Approximately $1M of grant funding has 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.

3. Who is Eligible to Apply?

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 as permitted by law. Preference in award is given to proposed projects in which an applicant will partner with a qualified entity that possesses specific expertise and enhances the proposed project.

4. General Information

Research proposals that are submitted pursuant to this notice are not guaranteed to be funded/awarded. Decisions for which proposals will be funded are at the sole discretion of the Department.

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

There is no page limit, but applicants must ensure that the submitted proposal clearly and concisely describes the proposed research project.

The Department will show preference in award for proposals that will yield information that will drive practical application, regulatory decisions, programs, and processes, while considering the cost of the proposed project.

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

Grantees shall, in submitting proposals, identify and consider any permits or approvals required to complete such proposals, including but not limited to; amendments to district solid waste management plans, research, development and demonstration (RD&D) approvals and permits.

Grantees shall, in submitting proposals identify any potential impacts to Overburdened Communities as defined in the Environmental Justice Law, [N.J.S.A. 13:1D-157].

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

5. Project Timeframes

Each proposal shall identify a start and completion date. The Department expects applicants to propose the earliest possible 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 after the grant has been awarded as possible. All projects must be completed within 2 years of the project start date (unless a multi-year proposal is submitted).

A complete project timeline shall accompany all proposals and shall include, where applicable, individualized timelines for each phase of the proposed project.

The Department expects that complete grant projects and final reports/deliverables will be accomplished within the contracted timeframes. Extensions are granted for circumstances beyond the control of the applicant in up to six-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 but must include a negotiated deliverable and report in quarterly increments. Funding will be awarded based on actual expenditures submitted on a quarterly basis by the awardee’s financial officer, accompanied by receipts or computer printouts; additional funding will not be awarded.

Project timelines should account for the time it takes a fully executed grant agreement between the Department and awarded institution to be finalized (approximately 6 months from notification of award).

6. Requirement for Reporting and Submission of Deliverables

The Principal Investigator responsible for the project shall provide a progress report via email not less than every three months from the project start date and thereafter until completion. The report shall include updates on project status, progression, summary of expenditures and budgetary updates, and provide reasons for any setbacks. The report shall also include any preliminary data summaries or conclusions, if available, and Awardee shall not unduly deny Department requests for any additional information that is reasonable and relevant.

7. What Types of Projects are Eligible?

This funding opportunity is available for projects that support the objectives of the REA. Pursuant to N.J.S.A. 13:1E-96(b)(5), grants may be awarded under the following criteria: Recycling demonstration, research, or education, including professional training areas.

8. What Types of Expenses Qualify for Funding?

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.

9. Where Will the Work Take Place?

This grant opportunity does not require applicants to implement the research on campus (unless otherwise noted in the description of proposal topics below). 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 diversion project at a K-12 school or correctional facility.

10. Grant Program Timeline

All grant applications must be received no later than January 31, 2025, by 3:00 P.M. Projects are expected to be selected by April 30, 2025, and successful applicants will be notified via email.

11. Application Requirements

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

* **Cover Page**

Each application must include a 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 organization(s) (if applicable)
* **Proposal Narrative**

Each application must include a narrative that contains:

* Description of the proposed project
* Problem, issue(s), or opportunity to be addressed
* Environmental justice matters including, but not limited, project’s relation to N.J.S.A. 13:1D-157-161, et seq.
  + Will the project affect or occur in an Overburdened Community as defined in the Environmental Justice Law?
* Identification of any applicable permits that may be required to execute project
* Identification of any impacts on district solid waste management plans as applicable
* Objective(s) of project
* A clear description how the applicant will research, plan, implement, review, analyze, and report the topic
* Identification of any challenges, barriers, or obstacles and how these will be addressed
* Specifically, how the proposed project will accomplish the objective(s) of the topics identified in one of the # grant proposals listed below
* Specific and/or tangible benefit(s) of project
* Start and end date for all deliverables
  + Phases, steps, and timeline for proposed project
* Cost of the proposed project
* Qualifications of Applicant/partners personnel
* If working with a third-party entity, documentation showing the type and scope of the partnership must be included
* Demonstration of experience/capacity
* Resumés of identified team members
* **Project budget**

Each application must submit an itemized budget that includes the following:

* + Personnel costs
  + Fringe benefits
  + Consultants and subcontractors, if applicable
  + All other costs

The Department reserves the right to request clarification on any application during its review process. 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).

Section B - Project Topics

Applicants may apply for more than one project topic, but each proposal must be submitted individually for a particular topic and no more than one proposal per applicant may be submitted per topic. Please note that an applicant may be awarded more than one grant if submitting proposals for multiple projects.

Grant proposals shall be applied under and fit into one of the following topics (not listed in preferential order):

**#1. Develop a needs assessment pursuant to the Hybrid and Electric Vehicle Battery Management Act (N.J.S.A. 13:1E-99.81 et seq.)**

* Development and performance of the needs assessment may be sub-contracted to a third-party vendor. Project should at minimum perform the following:
  + Identify existing locations in and out of New Jersey used by propulsion battery “producers,” as defined in the Act, to manage used propulsion batteries
  + Identify recyclers that have been authorized by other states to accept and recycle used propulsion batteries
  + Identify propulsion battery recycling infrastructure both in and out of New Jersey and identify capacity limitations for storage of used propulsion batteries or vehicles with embedded population batteries at existing landfills.
* Project should also include the following tasks
  + Identify all known producers of propulsion batteries pursuant to Section 6(b) in the Law, including, but not limited to, vehicle manufacturers that sell vehicles in which a propulsion battery is embedded into the state.
  + Identify existing Producer Responsibility Organizations that could potentially collaborate with and represent producers.
  + Identify any existing end-of-life battery management plans that are in practice by producers.
  + Identify existing strategies for informing electric vehicle owners, vehicle repair facilities and vehicle dismantlers in the state about the proper procedures for managing used propulsion batteries.
  + Identify the methods used to remove embedded batteries from electric vehicles.
  + Identify collection/storage methods used for electric vehicles with embedded batteries or propulsion batteries that are not embedded in vehicles.
  + Identify certification needs to accept electric vehicles with embedded batteries or used propulsion batteries.
  + Identify the methods used to transport electric vehicles with embedded batteries or propulsion batteries that are not embedded in vehicles.
  + Identify the collection and storage methods used for damaged or defective vehicles with embedded batteries and for damaged and defective batteries.
  + Identify the process and methods used to dispose of electric vehicles with embedded damaged, defective, or recalled batteries or propulsion batteries.
  + Identify current and future ways to remanufacture, recycle, repurpose and dispose of damaged or defective propulsion batteries.
  + Identify safety requirements including applicable universal and hazardous waste regulations that are established or needed for the proper maintenance of used or defective propulsion batteries.
  + Identify any existing safety training programs that are used to instruct the safe handling of materials.
  + Identify any regulatory requirements for disposal site and waste material.
  + Identify environmentally-sound methods for disposal of electric vehicles with embedded batteries and used propulsion batteries, including any third party or governmental certification in existence for such methods.
  + Identify barriers to repurpose electric vehicle batteries.
  + Identify repurpose opportunities both in and out of New Jersey.
  + Identify entities currently engaged in repurposing propulsion batteries.
  + Identify the processes and methods that will be utilized to repurpose electric vehicles with embedded batteries or propulsion batteries that are not embedded in vehicles.
  + Identify any regulatory action needed to oversee downstream uses or products of repurposed propulsion batteries.
  + Identify the processes and methods that will be utilized to remanufacture electric vehicles with embedded batteries or propulsion batteries that are not embedded in vehicles.
  + Identify the processes and methods that will be utilized to reuse electric vehicles with embedded batteries or propulsion batteries that are not embedded in vehicles.
  + Identify entities currently engaged in the reuse of used propulsion batteries both in and out of NJ.
  + Identify future reuse applications (e.g. battery energy storage systems).
  + Identify the processes and methods that will be utilized to recycle electric vehicles with embedded batteries or propulsion batteries that are not embedded in vehicles.
  + Identify the entities involved in disposal and disposal site management of used propulsion batteries and electric vehicles with embedded batteries, including size and location of each facility.
  + Identify the process and methods used to dispose of electric vehicles with embedded batteries or propulsion batteries.
  + Estimate the volume of nonreusable electric vehicle battery materials discarded annually.
  + Identify any national or international standards for environmentally-sound management of used electric vehicles with embedded propulsion batteries and used propulsion batteries.
  + Identify cost to implement and finance a battery management plan.
  + Identify cost for collection, storage, transportation, remanufacturing, reuse, recycling, or disposal of used battery.
  + Based on existing infrastructure, identify the size and cost of adding new collection and storage sites to the state.
  + Identify cost to properly outfit infrastructure to handle fire suppression capacity and other necessary safety measures.
  + Identify all vehicle dismantlers, junkyards and scrap yards that store dismantled vehicles, and metal recyclers in NJ including their location and proximity to overburdened communities as defined in N.J.S.A. 13:1D-157-161 et seq and N.J.A.C. 7:1C et seq.
  + Identify feasible goals for collection rates based on current EV sales/registration data in NJ.
  + Identify infrastructure gaps for collection, storage, remanufacturing, repurpose, reuse, recycling, and disposal.
  + Identify feasible goals for collection rates based on current electric vehicle sales/registration data in New Jersey.
  + Identify feasible goals for remanufacturing, recycling rates.
  + Identify capacity limitations for collection, storage, recycling, and disposal.
  + Additional components as determined necessary by project leads.

**#2. Research food waste reduction programs for county plans**

* Conduct research on successful food waste reduction programs in counties or local governments. Project should use research to develop guidance for New Jersey counties to include in their District Solid Waste Management Plans (County Plan).
* Project outcomes:
  + Conduct research on successful food waste reduction programs that can be implemented on a county level.
  + Develop guidance on how a county can incorporate food waste reduction into their County Plan. Guidance should include plans for implementation and management of programs.
  + Additional components as determined necessary by project leads.

**#3. Research Lifecycle and Infrastructure for Recycling Various Forms of Packaging**

* Investigate, via literature review, the lifecycle and infrastructure for various forms of packaging, including multi-material packaging. Project would investigate any potential environmental concerns in the lifecycle of packaging. In investigating the infrastructure for different packaging needs, project would determine the infrastructure needed for reuse and refill to be successful in the state.
* Project Outcomes:
  + Develop a report detailing the current infrastructure for recycling different forms of packaging.
  + Determine any potential environmental concerns for the lifecycle of packaging.
  + Determine the infrastructure needs for a successful reuse and refill program in the state.
  + Develop a report identifying any potential environmental impacts of reuse/refill versus mechanical recycling versus chemical recycling.
  + Additional components as determined necessary by project leads.

**#4. Create a behavior change campaign with the aim of reducing food waste generated in K-12 schools**

* Project would develop and implement a behavior change campaign that will engage students to change a specific behavior with the goal of a reducing food waste generated.
  + Project Outcomes:
  + Research existing and successful food waste reduction campaigns in K-12 schools.
  + Develop a data recording plan to show the success of the campaign by establishing a baseline then calculating the amount of food waste that was reduced as a result of the behavior change campaign.
  + Additional components as determined necessary by project leads.

**#5. Compose a waste study of reusable plastics within landfills in New Jersey**

* Compose a waste study of reusable plastics and carryout bags within landfills in New Jersey to assist in determining the rate of disposal for such items in response to the Single-Use Reduction Law (N.J.S.A. 13:1E-99.126-N.J.S.A. 13:1E-217).
* Project Outcomes:
  + Determine whether an increase of disposal in these products has occurred since enactment of the Single-use Reduction Law.
  + Determine if an increase in the purchasing of these products has occurred since enactment of the law.
  + Develop a report detailing methods to divert reusable plastics and carryout bags going to landfills.
  + Recommend next steps for the management of reusable plastics and carryout bags in New Jersey
  + Additional components as determined necessary by project leads.

**#6. Compose a waste study of textiles, carpeting, and mattresses within landfills in New Jersey**

* Compose a waste study of textiles, carpeting, and mattresses within landfills in New Jersey and explore potential recycling markets for textiles, carpeting, and mattresses ending up in landfills.
* Project Outcomes:
  + Determine the quantity of these products that are ending up in landfills
  + Identify the recycling potential for textiles, carpeting, and mattresses ending up in landfills. Recycling potential can be measured by weight, environmental benefit, or other metric as determined appropriate by project leads.
    - Identify the potential for these products or parts of these products to be upcycled.
  + Provide information for potential recycling markets for textiles, carpeting, and mattresses ending up in landfills.
  + Additional components as determined necessary by project leads.

**#7. Investigate electronic cigarettes in the waste stream**

* Investigate how electronic cigarettes are being handled in the waste stream. Project should also investigate the impact of electronic cigarettes to fires within recycling centers and disposal facilities.
* Project Outcomes:
* Research how New Jersey and other states handle electronic cigarettes in the waste stream.
* Develop a report detailing the impact of electronic cigarettes to fires within recycling centers and disposal facilities.
  + Provide recommendations on how this can be reduced.
* Recommend guidance for the proper disposal of electronic cigarettes.
* Additional components as determined necessary by project leads.

**#8. Research compostable foodware and foodware made from bio-plastics and their benefits**

* Research compostable foodware and foodware made from bio-plastics and their benefits focusing on rate of breakdown and composting system requirements. Project should also include an analysis that compares the impact of compostable foodware to foodware made of bio-plastic and plastic foodware in waste streams.
* Projects Outcomes:
  + Compare and contrast the benefits of compostable foodware to foodware made of bio-plastic
  + Analyze the impact of compostable foodware, foodware made of bio-plastic, and plastic foodware in waste streams.
  + Determine, to the extent possible, the biodegradability of both compostable and bio-plastics in the natural environment and landfills.
  + Additional components as determined necessary by project leads.

**#9. Investigate the environmental impact of Electric Vehicle (EV) batteries from mining to end-of-life**

* Project should investigate the environmental impact from production to disposal of EV batteries. Project should also investigate the environmental and environmental justice impacts of mining for the parts to create EV batteries, manufacturing the batteries, and disposing the EV batteries.
* Project Outcomes:
  + Research and develop a report that includes the following:
    - Environmental impacts of EV batteries from mining through production and disposal
    - Details on the environmental impact of each recycling type for EV batteries (hydrometallurgical recycling, pyrometallurgical recycling, direct recycling, or a combination).
    - Details on the environmental and environmental justice impacts mining for the parts to create EV batteries, for manufacturing the batteries, and for disposing the EV batteries.
  + Additional components as determined necessary by project leads.

**#10. Research and develop a successful recycling campaign**

* Research successful recycling campaigns in other states and countries. Project should also develop a new recycling campaign for the state. Bilingual campaigns will receive high consideration for this award.
* Project outcomes:
  + Provide recommendations for state and county agencies to improve recycling guidance to residents and businesses.
  + Develop a new promotional campaign to improve recycling statewide.
  + Additional components as determined necessary by project leads.

**#11. Investigate ways to improve recycling in urban and high-density regions of New Jersey**

* Investigate ways to improve recycling in urban and high-density residential regions of the state with a particular focus on multi-person dwellings such as apartments, condominiums, etc.
* Project outcomes:
  + Identify obstacles to improved recycling in urban and high-density residential regions of the state.
  + Provide recommendations to improve recycling in the areas outlined above. Recommendations can be in the form of outreach programs, legislation, or other methods as determined appropriate by project leads.
  + Additional components as determined necessary by project leads.

**#12. Investigate the infrastructure for consumer battery recycling within New Jersey**

* Investigate the infrastructure for consumer battery recycling within New Jersey. Project would compare battery recycling in New Jersey to battery recycling in other states by type. Project would also determine where there are regulatory gaps and recommend legislation.
* Project outcomes:
  + Develop a report on the current infrastructure for consumer battery recycling within New Jersey.
  + Compare and contrast consumer battery recycling in New Jersey to other states.
  + Analyze the current legislation for consumer battery recycling and highlight any regulatory gaps.
  + Recommend legislation to improve consumer battery recycling within New Jersey.
  + Additional components as determined necessary by project leads.

**#13. Research existing “bottle bills” to inform the discussion in New Jersey**

* Research existing bottle bills focusing on the fiscal implications, environmental and community impacts.
* Project outcomes:
  + Complete a literature review on existing bottle bills and determine each legislation’s level of success or failure.
  + Determine whether a dual system of bottle redemption and curbside recycling.
  + Complete a survey on the societal responses to and participation in a bottle redemption program.
  + Using lessons learned from other states and understanding the existing infrastructure of curbside recycling and other relevant data, provide recommendations for or against the enactment of a bottle bill in New Jersey.
  + Additional components as determined necessary by project leads.

**#14. Analyze economic incentives for solar panel recycling and reuse**

* Conduct research to analyze economic incentives for solar panel recycling and reuse.
* Project outcomes:
  + Develop a report detailing the economic incentives of solar panel recycling and reuse.
  + Provide recommendations for the implementation of recycling and reuse programs for solar panels.
  + Additional components as determined necessary by project leads.

**#15. Open ended project within the scope of the law**

* An institution may propose a recycling demonstration, research, or education project, including professional training not specifically identified in this application.
* Project proposal must describe how it fits into one of the recycling research, demonstration, education, and professional training areas, the problem or issue it aims to solve and what benefit or tangible result(s) it aims to achieve. The Department encourages proposals that are innovative and creative.
* The Department may award multiple projects within this topic.

If funded, the Department may require a final presentation from the grantee that details findings, outcomes and recommendations as applicable. Project results should also be submitted to the Department in a written report or by other appropriate means for conveying project findings.

Section C - Selection Criteria and Application Submittal

1. Selection Criteria and Scoring

Applications will be scored and ranked based on the criteria below. The maximum score is 100 points. 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 of project proposal** (**30 points**)

Describe the tangible benefits and knowledge gained which meet the objectives of the REA, to improve recycling, and can be applied to other institutions or generators, including but not limited to, ways that the project results can be applied by NJDEP.

**Feasibility of the project proposal (30 points)**

Describe how the project will be researched, planned, implemented, reviewed, analyzed, and reported, including, but not limited to, identifying challenges to project implementation, how challenges will be addressed, and any environmental justice or permitting/approval-related concerns.

**Relevance of project proposal (20 points)**

Describe how the proposed project meets the objectives of the research topic, is relevant to the current status of recycling in New Jersey and the REA.

**Creativity of project proposal (10 points)**

Describe any of the creative tools and/or methods that will be used to design and carry out the research and implementation of the project, including, but not limited to, imaginative methods for the compilation of the project team.

**Demonstration of capability/capacity (10 points)**

Describe any experience of the institution and its project team in completing projects of a similar size and scope to what is being proposed, including, but not limited to, any prior experience completing similar grants.

2. Application Submittal

An electronic copy of the application is required. **One electronic copy** of the application and all required documents must be submitted to Riley Kirejevas at [Riley.Kirejevas@dep.nj.gov](mailto:Riley.Kirejevas@dep.nj.gov) no later than **3:00 P.M. EST on January 31, 2025,** to be eligible for funding.

A notice of receipt for the 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 and any other inquiries regarding the application process should be directed to Riley Kirejevas at [Riley.Kirejevas@dep.nj.gov](mailto:Riley.Kirejevas@dep.nj.gov) who can be contacted Monday through Friday, 7:30 am to 3:00 pm.