

**The following 12 Recycling Development Center grant requests will be fully funded.**

<b>Organization</b>	<b>Proposal</b>	<b>Amount</b>
Washington State University Dr. Karl Englund englund@wsu.edu	Analysis of technology to assess viability and apply supply chain models to determine economic feasibility to determine where WA's opportunities and gaps are within the plastics recycling supply chain.	\$49,629
Chelan Co Public Works Brenda Blanchfield Brenda.Blanchfield@co.chelan.wa.us	Purchase of the Andela glass crusher/pulverizer machine	\$50,000
Kittitas County Solid Waste Patti Stacey patti.johnson@co.kittitas.wa.us	Work with a consultant to conduct a feasibility study and preliminary action plan, focused on recycling market development. (glass focus)	\$40,000
Jefferson County Department of Public Works Al Cairns Acairns@co.jefferson.wa.us	Market development study of clean wood waste in Jefferson County.	\$4,444
City of Seattle's Office of Economic Development Stephanie Gowing Stephanie.Gowing@seattle.gov	Co-create a Circular Innovation Challenge that will call on applicants to propose product ideas & business plans for using regional recycled materials within a circular economy framework.	\$35,000
King County - database Andy Smith andysmith@kingcounty.gov	Infrastructure analysis for recycling in WA and the NW region. Will also build a database and map of current facilities in WA, detailing the materials each facility processes and the facility's current capacity.	\$50,000
King County – marketplace Andy Smith	WA Material Concierge: Secondary Material Market Business Assistance and Manufacturing Support	\$50,000
City of Tacoma Beth Jarot bjarot@cityoftacoma.org	Create circular economy materials marketplace for W. Washington	\$25,000
King County Solid Waste Katie Kennedy Katie.kennedy@seattle.gov	Wood recycling/reuse, deconstruction, and salvage: developing the circular clean wood supply chain with outreach, engagement, and training.	\$50,000
Lopez Solid Waste Disposal District Nikyta Palmisani nikytap@lopezsolidwaste.org	Begin the "ReMakery", a Maker Space on Lopez Island to turn recyclable and reusable materials diverted from the recycling plaza and free store into usable and sellable goods.	\$50,000
City of Leavenworth Carl Florea cflorea@cityofleavenworth.com	Research, design and begin implementation for the operations of pickup and transport of organic waste for commercial composting.	\$50,000
Port of Port Townsend Eron Berg eron@portoft.com	Use plastics for energy, thereby creating a market for plastics in the communities where they are collected and/or sorted out of a commingled waste or recycling stream.	\$50,000
<b>TOTAL</b>	<b>12 proposals</b>	<b>\$504,073</b>

## 2021 one-time Center grants



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Two proposals were determined to not fall under the scope of the Recycling Development Center and were not funded. Those two are:

- King County Solid Waste, Andy Smith, Emily Coleman: MRF Certification: Research a framework for developing a MRF Certification. Requested \$50,000
- Benton County Public Works, Blanca Parham: Create an interactive web map for recycling centers. Requested \$25,000.

One proposal rescinded their request for funding:

- Central Washington University, Warren Plugge: Provide support for a glass pulverizing operation that will recycle glass instead of sending glass to the landfill. Requested \$50,000

For more information about each grant request, review the information provided below.

**Applying Organization: Washington State University**

**Proposal Submission: Plastics Recycling Market Development**

**Contact: Dr. Karl Englund (englund@wsu.edu)**

**Project Overview:**

To promote a sustainable plastics recycling sector within Washington State, understanding the supply chain components is paramount. The State has put much effort into identifying plastic inventories and understanding the role of material recycling facilities in the recent Plastics Study. However much of the recovered plastics in WA are not recycled in WA. Bales of compressed plastics are often sent out of the state for further processing. Also, once a recycled plastic has found a buyer, the material is no longer subject to State requirements to report, making accounting for these recycled streams more difficult.

Instead of evaluating the plastics recycling value chain from the supply side, our approach is to look at the demand side. What methods, technologies, and/or processes are most logical to locate in the State? Project objectives will focus on the following:

1. Current and Innovative Recycling Strategies
  - a. Provide detailed evaluation of recycling methods for plastics
  - b. Identify potential “best case scenarios” for further evaluation
2. Supply Chain Metrics
  - a. With identified recycling strategies, determine input/output metrics and ideal location
3. State Assets and Demands
  - a. Identify local assets which can be implemented in supply chain
  - b. Determine gaps in supply chain
  - c. Detailed report and recommendations

We will provide in-depth analysis of technology to assess viability and apply supply chain models to determine economic feasibility. From this analysis we can determine where the State’s opportunities and gaps are within the plastics recycling supply chain. Project can be completed by June 30, 2021 for a \$49,629 budget.

**Applying Organization: Chelan County Public Works**

**Proposal Submission: Purchase of glass crusher/pulverizer machine**

**Contact: Brenda Blanchfield (Brenda.Blanchfield@co.chelan.wa.us)**

**Project Overview:**

Chelan County Public Works is asking for the maximum allowed amount of \$50,000. for the market development of glass crushing in the Lake Chelan Valley.

The project is in coordination with the City of Chelan, which has committed \$50,000 toward the purchase of the Andela glass crusher/pulverizer machine. The operation and maintenance is managed by the Lake Chelan Rotary Club, RCLC.

As this is Washington “wine country,” with approximately 40 wineries located just around Lake Chelan, the desire to have a way to recycle/repurpose post-consumer glass has a great urgency. As well, this project may aid with the learned applicability for glass recycling in the Leavenworth and Wenatchee areas for a later time.

A commercial glass pulverizing system manufactured by Andela Products of Richfield Springs, NY, is identified as the desirable machine to launch the glass repurposing program. The system produces two products: sand and aggregate. Both are completely safe to handle owing to a proprietary technology that pulverizes glass to a material without any sharp or harmful edges. There are several potential end markets for the products in the local area, which are addressed at length in our written business plan, and include landscaping applications, water filtration, septic drainfields, road traction, construction fill, and many more. Local use of the glass product will be imperative, and will avoid a larger environmental footprint that could include fossil fuel consumption and green house gasses released from long hauling.

The Rotary Club of lake Chelan, RCLC will operate the glass repurposing project as a community service project at the City of Chelan Center. The facility is secured with fencing and has a paved area with bunkers for stockpiling glass prior to pulverizing. Utilities will be supplied at the city facility, as well as a City provided forklift. Revenues for operations and maintenance will be off set with fees collected for the crushed material as well as from participating winery's.

The Business Plan is available upon request. A grant of an additional \$50,000 would make this program a reality in 2021.

**Applying Organization: Jefferson County Department of Public Works**

**Proposal Submission: Clean Wood Waste Market Development**

**Contact: Al Cairns (ACairns@co.jefferson.wa.us)**

**Project Overview:**

Jefferson County Clean Wood Waste Market Development Proposal

Clean wood waste appears to be the material type likely to have the best cost/benefit ratio to divert from the waste stream in order to increase Jefferson County’s recycling rate above 50%. A market development study is the critical next step but staff time for this project is not budgeted. The requested grant amount is \$4,444.00.

The project lead would be Al Cairns, Solid Waste Manager. The clean wood waste market development study would be completed no later than June 30, 2021 and would include:

1. identifying both the potential and likely volume of material and investigate where local or regional markets may be found for both clean wood waste and for an upcycled biochar product.
2. identifying the permitting and regulatory framework for both commodities, startup capital costs, and operations and maintenance costs.
3. measuring the potential greenhouse gas reductions using the Environmental Protection Agency’s Waste Reduction Model.
4. surveying local building trades customers to identify the tipping fee level that would incentivize source separation of clean wood waste from other construction debris and delivery to a site separate from the transfer station tipping floor.

Scope, schedule and budget are seen in the below table:

Clean Wood Waste Market Development Study							
Task	Hrs.	Cost	February	March	April	May	June
Identify likely annual tonnage	3	\$ 169	■				
Identify local and regional markets for clean wood and biochar	16	\$ 900.00		■			
Identify permit/regulatory conditions for biochar production	8	\$ 450.00		■			
Identify capital and operational costs	16	\$ 900.00			■		
Identify potential GHG reductions using EPA WARM calculator	4	\$ 225.00				■	
Identify incentivized fee structure	16	\$ 900.00				■	
Compose study	16	\$ 900.00					■
Total Hrs.	79						
Total Cost	\$ 4,444						

**Applying Organization: Kittitas County Solid Waste**

**Proposal Submission: Feasibility study into secondary recycling markets**

**Contact: Patti Johnson (patti.johnson@co.kittitas.wa.us)**

**Project Overview:**

Kittitas County Solid Waste in partnership with Central Washington University, Yakima County and in concert with Ellensburg's Business Development Authority, seeks funding to support a forward focused feasibility study into secondary recycling markets with an eye toward a regional, comprehensive action plan. The feasibility study will consider our unique position geographically at the crossroads of two interstate freeways, a strong community desire to protect natural capital, and our demonstrated ability to build and sustain effective public/private partnerships.

Ellensburg is a top ten micro-region for population growth and the hub for progressive economic development. Recently Kittitas County joined our neighboring county and banned the acceptance of glass materials from its recycling stream. This ban was brought about by the cost of the long haul to recycling facilities in the state. And while this has been a challenge for our citizens, we recognize this situation to also present an opportunity for looking at glass and all recycling materials with an innovative eye to a sustainable, market driven secondary market. We, due to our geographic position, can become known as the secondary recycling marketplace in central Washington.

If awarded the Recycling Development Center Grant we will work with a consultant to conduct a feasibility study and preliminary action plan, focused on recycling market development that facilitates a healthy economy in Washington State.

At this time, we would like to request \$40,000 to conduct our study and to develop our preliminary action plan. Contact for this grant application is Patti Johnson, Solid Waste Director.

**Applying Organization: King County**

**Proposal Submission: Infrastructure analysis for recycling in WA with mapping and database build**

**Contact: Andy Smith (andysmith@kingcounty.gov),  
Emily Coleman (ecoleman@kingcounty.gov)**

**Project Overview:**

King County staff is supported for work on the circular economy and zero waste of resources by a consultant team led by Cascadia Consulting and supported by C+C, Eunomia Research & Consulting, Full Circle Environmental, Herrera, Inclusive Solutions, Kamal Patel, Kyana Wheeler Consulting and Resource Recycling Systems.

**WA Infrastructure Map Book: material processing**

Funding Request: \$50,000

Project Contact: Andy Smith & Emily Coleman

As King County pursues its Zero Waste of Resources goal, the lack of a comprehensive infrastructure analysis has poised a challenge for making informed planning decisions. This research would resolve this barrier by developing an infrastructure analysis for recycling in Washington and the northwest region. This proposal closely aligns with category B.3 Infrastructure analysis of the Center work plan. The analysis will follow the work plan's recommendations to identify:

- Needs for material recovery facilities,
- How to improve collection and sortation,
- Which materials are most difficult to recover,
- Where are end markets lacking, and
- Barriers and opportunities to maximize the collection and processing of materials in the current system, based on strategic goals and research results

It will also build a database and map of current facilities in Washington State, detailing the materials each facility processes and the facility's current capacity, if information is available from the facility. This research will enable better policy decisions for and resource allocation to the infrastructure system.

**Applying Organization: King County**

**Proposal Submission: Secondary Material Market Business Assistance and Manufacturing Support**

**Contact: Andy Smith (andysmith@kingcounty.gov)**

**Emily Coleman (ecoleman@kingcounty.gov)**

**Project Overview:**

WA Material Concierge: Secondary Material Market Business Assistance and Manufacturing Support

Funding Request: \$50,000

Project Contact: Andy Smith & Emily Coleman

Both King County Solid Waste Division's and the Recycling Development Center have objectives to develop regional manufacturing capacity for utilizing the recycled material collected through the waste stream. A set of recommendations from the 2020 Puget Sound's Paper Trail - Seattle and King County Paper Market Assessment proposed researching strategies to attract manufacturing facilities using recycled paper feedstocks and on infrastructure needs across the value chain of secondary markets. King County would like to pursue research that expands this research to include investigating both the paper and plastic secondary markets.

This research would build the foundation for bringing in new recycled material manufacturing capacity. The report would lead to a set of recommendations, which would include: policy opportunities at both the state and local level for facilitating market adaptation and growth; financial tools available to Washington State and King County to attract manufacturing businesses, such as recycling and grants; and a framework for and implementation steps required to develop a business assistance program for processing and manufacturing companies interested in using recycled feedstocks within Washington State. This proposal would build the foundation to pursue the action items in category C Advance Technology of the Center work plan.



**Applying Organization: City of Tacoma**

**Proposal Submission: Create Materials Marketplace for Western Washington**

**Contact: Beth Jarot (BJarot@cityoftacoma.org)**

**Project Overview:**

The City of Tacoma recognizes the need to provide local reuse and recycling markets for its industrial and commercial businesses in response to limited international and national markets. As part of a comprehensive green economy strategy, Tacoma proposes to partner with Seattle Good Business Network, a nonprofit already focused on circular economy, to establish a regional materials marketplace platform. Both entities separately considered establishing a platform in 2020, but put efforts on hold due to COVID and budget restraints. By collaborating and establishing one regional platform, we can better leverage resources and partnerships (including the Ports of Tacoma and Seattle and Pierce County) and expand the geographic impact for both producers and recyclers/processors. The platform will serve as a sustainable, practical online tool where users can source post-consumer and post-industrial materials, recycling companies can identify new customers and end-markets, and entrepreneurs can build new businesses. This project could then serve as a model for the state with the possibility of expansion statewide. The U.S. Business Council for Sustainable Development has provided this type of platform for other regions/states and will be considered as a vendor for this project. Grant funding of \$25,000 would cover the costs of platform development and launch, staff training, initial customer recruitment and onboarding, and program promotion. These tasks would be accomplished by June 30, 2021. Additional funding through local private and public partners, including in-kind staff support, will be identified by all agencies to help supplement this work and support the program's longevity and expansion.

**Applying Organization: King County Solid Waste**

**Proposal Submission: Wood recycling/reuse, deconstruction, and salvage Support**

**Contact: Kinley Deller (kinley.deller@kingcounty.gov)**

**Project Overview:**

**Wood recycling/reuse, deconstruction, and salvage: developing the circular clean wood supply chain with outreach, engagement, and training.**

This project would fund outreach and engagement with the construction and demolition industry to expand the knowledge, opportunity, and deconstruction resources to develop the supply of reusable wood. Puget Sound has a strong deconstruction ecosystem foundation and this grant would catalyze its growth. Funds would build on established market development work by King County SWD, Seattle Public Utilities, and EPA, along with local deconstruction and salvage contractors leveraging our Deconstruction Advisory Group.

KCSWD and SPU propose funding \$50,000 for strengthening the wood reuse supply chain on projects to be completed by June 30, 2021. Funding would be spent to train local contractors, focusing on businesses owned by people of color and women, expand the number of deconstruction companies, and pilot a wood reuse collection site.

Deconstruction has positive benefits for job creation, public health, and the environment. About 300,000 tons of clean wood (unpainted/untreated) per year is disposed or burned (hog fuel) in the King County/Seattle area. The deconstruction of a typical 2,000 square-foot wood frame home can yield [6,000 board feet of reusable lumber](#); the same home if demolished would produce about 127 tons of debris. On average, deconstructing a house results in a net benefit of almost 8 metric tons of CO<sub>2</sub>Eq compared to demolition (mostly due to the reuse of wood, according to [Oregon DEQ's analysis](#)). There were 489 residential home demolitions in Seattle in 2019.

#### Contacts

Kinley Deller, King County Solid Waste Division

Alex Erzen, King County Solid Waste Division

Katie Kennedy, Seattle Public Utilities

Stephanie Gowing, Seattle Office of Economic Development

**Applying Organization: City of Seattle’s Office of Economic Development**

**Proposal Submission: Co-creation of Circular Innovation Challenge with Seattle Good Business Network**

**Contact: Stephanie Gowing (Stephanie.Gowing@seattle.gov)**

**Project Overview:**

The City of Seattle Office of Economic Development (OED) seeks to advance the transition to a more circular and just economy by co-creating a **Circular Innovation Challenge** that will jumpstart market development ideas for entrepreneurs reusing and recycling materials. The challenge, developed in partnership with Seattle Good Business Network (SGBN), a local nonprofit with a mission to advance an inclusive and sustainable local economy, will call on applicants to propose product ideas and business plans for using regional recycled materials within a circular economy framework. (See examples in NYC's, [Curb to Market Challenge](#), or [Austin’s \(RE\)verse Pitch](#)). The winning business plan will clearly demonstrate a viable product proposal and highlight an efficient and effective circular approach for a sizable regional market. The winning idea will be awarded a cash prize, mentorship from industry advisors, and introductions to investors. Grant funding in the amount **of \$35,000** would cover the costs to administer the challenge, including prize money(ies) and set the stage for an **annual event each June**. The challenge will be open to any individual, team, or business. SGBN, with a network of over 1,000 regional local manufacturers, producers, artists and entrepreneurs, is in a unique position to engage a diverse pool of business participants. The Circular Innovation Challenge marks a significant opportunity to promote local, circular economic development, finding new, productive end-markets for materials that might otherwise be landfilled, while leveraging our region’s innovative entrepreneur talents.

**Applying Organization: Lopez Solid Waste Disposal District**

**Proposal Submission: Maker's Space on Lopez Island to turn recyclable and reusable materials diverted from the recycling plaza and free store into usable and sellable goods**

**Contact: Nikyta Palmisani (nikyap@lopezsolidwaste.org)**

**Project Overview:**

Lopez Solid Waste Disposal District (LSWDD) is applying for \$50, 000 to begin the "ReMakery", a Maker Space on Lopez Island to turn recyclable and reusable materials diverted from the recycling plaza and free store into usable and sellable goods. The space would also host repair cafes, possible tool lending libraries, and offer bilingual Spanish accessibility and classes.

This grant would fund:

- rental of commercial space to establish the ReMakery, house equipment, tools, storage, space to offer classes, instruction, and community sharing of skills
- staffing hours for oversight and coordination of volunteers, community participants, Lopez School students
- funding for special machines, supplies, storage container not able to be repurposed from donations to the free store
- transportation of free materials offered from LSWDD's recycle plaza and community free store and include by are not limited to: textiles, clothes, electronics, metals of all varieties, paper and books, glass, cardboard, plastics, furniture and household items, games, toys, etc.

Lopez Island's History of successful marketed goods made from recyclable and repurposed materials:

- Skirts made from T-Shirts & reusable bags from feed/pet food bags, see

<https://www.lopezsolidwaste.org/swap>

- Candles made from recycled glass bottles: <https://www.lopezsolidwaste.org/post/local-candles-made-from-recyclable-bottles-from-lswdd>

- Recycled plastic made into 3D printer filament still in R & D:

<https://www.lopezsolidwaste.org/news-info/categories/remake-lab>

**Applying Organization: City of Leavenworth**

**Proposal Submission: Research and development of the food waste market in the City of Leavenworth**

**Contact: Carl Florea (cflorea@cityofleavenworth.com),  
Ariahna Jones (ariahna@wasteloop.org)**

**Project Overview:**

A preliminary waste audit conducted in 2020 revealed food waste made up 37% of the total waste weight collected by the City of Leavenworth. The City primarily services the downtown which includes 30+ restaurants and 20+ lodging accommodations. There is currently no outlet for commercial food waste in the Wenatchee Valley. However, a new commercial composting facility located 15 miles from Leavenworth is in the works for accepting food waste by 2022. The challenge for the City lies within the operations and market development for food waste pickup & transport from the downtown area.

Waste Loop, a local nonprofit organization conducted an initial survey for downtown businesses and found that over 70% of businesses were interested in a solution to divert food waste from the landfill. Composting paired with our thriving local agriculture and economy would showcase the advantages of a closed loop resource to market cycle.

Funding provided by the Recycling Development Center would support the research and development of the food waste market in the City of Leavenworth. The maximum allotment of \$50,000 from the grant would provide the funding needed to research, design and begin implementation for the operations of pickup and transport of organic waste for commercial composting by 6/30/21. This project would divert ~37% of 'waste' from the landfill and in turn convert it into organic compost, a valuable product for the local community.

**Applying Organization: Port of Port Townsend**

**Proposal Submission: Investigation of a local pyrolysis system as an alternative to trucking recyclable plastics out of Jefferson County**

**Contact: Eron Berg (Eron@portofpt.com)**

**Project Overview:**

PROJECT: Investigation of a local pyrolysis system as an alternative to trucking recyclable plastics out of Jefferson County

CONTACT: Eron Berg, Port of Port Townsend

CONCEPT: This project seeks to beneficially use plastics for energy, thereby creating a market for plastics in the communities where they are collected and/or sorted out of a commingled waste or recycling stream.

BACKGROUND: Pyrolysis of waste plastics, whereby the material is heated in a retort without oxygen, to liberate gases that condense to a useful hydrocarbon (oil), is a known process and has been used for many years. Pyrolysis equipment intended for plastic waste streams is available from international manufacturers.

REQUEST: This request is for \$50,000 for the following scope of work:

- a) Determination of volume projection(s) for recyclable plastics arriving at Jefferson County transfer station(s).
- b) Screening of manufacturers of pyrolysis equipment for plastic waste, with consideration given to the extent of pre-treatment required prior to pyrolysis.
- c) Determination of required pyrolysis plant capacity for Jefferson County plastics waste stream and probable installed cost of plant.
- d) General concept for required pre-treatment systems and estimate of probable cost.
- e) Review of an option to use pyrolysis off-gas directly in a combustion engine-generator or other power generation process, to convert the waste to electrical energy.
- f) Interviews of operating and management staff of entities that currently use pyrolysis for plastic waste streams, with emphasis on determining O&M costs for successful sustained operation.
- g) Determination of the scope of regulatory issues for the pyrolysis concept and a list of the permits that likely would be required for construction and operation.
- h) Evaluation of the overall pyrolysis concept compared to current waste disposal practice, including both economic and environmental issues.

TIMING: This scope of work is able to be completed by June 30, 2021.

**Applying Organization: King County**

**Proposal Submission: Research a framework for developing a MRF Certification**

**Contact: Andy Smith (andysmith@kingcounty.gov)**

**Emily Coleman (ecoleman@kingcounty.gov)**

**Project Overview:**

**WA Material QA: Material Recovery Facility Certification**

Funding Request: \$50,000

Project Contact: Andy Smith & Emily Coleman

Contamination and a lack of secondary market data are large barriers to creating a more robust and sustainable Washington State recycling system. Based on Recommendation 9: Strengthen Data Collection on Final Destinations of Materials Sent for Reprocessing from the Recommendations for Managing Plastic Packaging Waste in Washington report, King County, in partnership with the Department of Ecology, would like to research a framework for developing a MRF Certification, based on a set of performance measures and reporting requirements.

With the intention to align with the standard that Oregon Metro is developing, this research would build the model system and implementation plan for a MRF Certification in Washington State, which would include quality standard for outgoing commodities, contamination rates, and residuals. It would also develop the tools and processes for verification, how MRFs can address contamination in inbound material, and recommendations for future phases of the MRF Certification. This proposal aligns with category B.4 Policy analysis of the Center work plan, specifically an analysis of innovative regulatory options to improve processing and remanufacture capabilities.

**Applying Organization: Benton County Public Works**

**Proposal Submission: Creating an interactive web map for recycling centers in Benton County**

**Contact: Blanca Parham (Blanca.Parham@co.benton.wa.us)**

**Project Overview:**

**Project:** Creating an interactive web map for recycling centers in Benton County

**Funds needed:** \$25,000

**Use of funds:** We would be able to use the funds towards developing a mapping software for recycling information. Right now our website isn't user friendly but we don't have it in our budget to update the page. We could involve our GIS department with this project to make sure the webpage includes the best mapping software for the public. They can make it interactive to where the public can communicate with us through it and even report illegal dumping of hazardous waste in the county. We could use it towards tablets that would have the software integrated for when we have recycling events. The tablets would allow us to collect important data related to what the customer is bringing in so we can give accurate information to the state. The tablets would also allow us to be more mobile when helping the public. Instead of them coming through our entire building to show them which places may take their recyclables, we could go to the lobby and show them on the tablet so they can know how to use the interactive map at home.



**Applying Organization: Central Washington University**

**Proposal Submission: Provide support for a glass pulverizing operation**

**Contact: Warren Plugge (wplugge@cwu.edu)**

**Project Overview:**

Ellensburg Glass Recycling Cooperative (EGRC) members are working with Central Washington University's (CWU) Construction Management program to find alternatives to wasting glass in the landfill. Our 2020 collaborative research on recycled glass in concrete examined varying percentages and particle size to create hard data verifying adequate compressive strength. Our "Re-Imaging Concrete – The Glass Factor" webinar had 35 real-time participants and will be posted on the EGRC website. This webinar exposed the exciting opportunity universities provide an environment that encourages research into real world problems like broken glass recycling systems. CWU supports a platform for an environmental, societal and economic benefit of intensifying and stratifying our partnership with the EGRC.

Several CWU programs would utilize this grant opportunity to research and promote a sustainable economy through resource recovery industries (RRI). The production of recycled glass provides an environmental economic benefit supporting a sustainable approach to the reuse of pulverized glass. A \$50,000 grant would provide assistance to perform minor repairs to an existing building for year-round operation, construction funds to add a concrete slab for a future industrial glass crusher, the purchase of a glass crusher, seed money for the overall business management applications, website design, and creation of a point of sale system to organize and categorize glass bottles for pulverization. A glass pulverization operation would also provide CWU students research opportunities in the areas of Construction Management, Sustainability, Engineering Technologies, and Business Management to be shared across many industries. This project is to be completed by June 30, 2021.