

REPORT TO THE LEGISLATURE



Recycling Development Center

Introduction

The Department of Ecology (Ecology) prepared this report to the Legislature on the progress and activities of the Recycling Development Center (Center) as required by RCW 70A.240.030(3)(k), which states:

Report to the legislature and the governor each even-numbered year on the progress of achieving the center's purpose and performing the center's activities, including any effects on state recycling rates or rates of utilization of postconsumer materials in manufactured products that can reasonably be attributed, at least in part, to the activities of the center.

Center Directives

The Center was created within Ecology in partnership with the Department of Commerce (Commerce) in a 2019 law: [Chapter 70A.240 Revised Code of Washington](#) (RCW).

The purpose of the center is to “provide or facilitate basic and applied research and development, marketing, and policy analysis in furthering the development of markets and processing for recycled commodities and products.” The center must “direct its services to businesses that transform or remanufacture waste materials into usable or marketable materials or products for use rather than disposal.” (RCW 70A.240.030 (2))

Center work includes partnerships with “material recovery facility operators; public and private sector recycling and solid waste industries; packaging manufacturers and retailers; local governments; environmental organizations; interested colleges and universities; and state agencies, including the department of commerce and the utilities and transportation commission” (RCW 70A.240.030(3)(j)).

RCW 70A.240.030(3)(k) states that the center should report on “*any effects on state recycling rates... that can reasonably be attributed, at least in part, to the activities of the center.*” The Center advisory board has proposed a set of metrics relevant to utilization rates and a committee has been working to identify which ones are feasible and optimal. The Center will be reaching out to gather more information from businesses using recyclable materials, including material brokers, specific end users, out-of-state and out-of-country users of recyclable materials. Once optimal metrics are identified, the Center will move forward with collecting data for future legislative reports.

[Appendix A](#) lists the duties of the Center and Commerce outlined in RCW 70A.240.030 and lists the advisory board membership required in RCW 70A.240.040.

Center Accomplishments

Center Work

Center work kicked off in the fall of 2019 with invitations to 14 representatives to join the advisory board from the Directors of Ecology and Commerce. This action met the requirements for board membership specified in RCW 70A.240.040. All 14 representatives agreed to serve on the advisory board and are identified in the next section.

In November 2019, Ecology entered into an interagency agreement with Commerce to implement Center activities. This interagency agreement is effective until June of 2021 and will be renewed every biennium.

Ecology hired three staff for Center work between September 2019 and April of 2020. One Center staff member left Ecology in July 2020 for another opportunity. There are currently two Center staff positions on hold until the state agency hiring freeze¹ is lifted. State agencies are currently not allowed to enter into personal service contracts. Due to this, Center market development research and recycling grants are on hold.

Since November 2019, online access to Center-related information can be found at an [Ecology webpage](#) and a [board meeting website](#). Interested parties can keep up-to-date on Center work and advisory board meetings through an [email list](#). Center staff facilitated advisory board meetings through 2020, more information is provided in the next section.

In consultation with the advisory board, the first [Center work plan](#) was developed, shared with interested parties, and posted on the advisory board website. [Appendix B](#) provides a summary of the Center work plan.

Center staff researched market development efforts by other state agencies, including work in [California](#), [South Carolina](#), [Michigan](#), and [Minnesota](#). Several non-profit market development efforts provide resources and information useful to the Center, primarily from the [Northeast Recycling Council](#), [South East Recycling Development Council](#), and [Pennsylvania Recycling Markets Center Corporation](#). Market development related webinars provided useful information to staff during this first year of the Center. Additionally, market development research efforts in other jurisdictions provide insight into data analysis, research studies, policy options, and market platform options for Washington.

Center staff participate in Market Development Task Force quarterly meetings hosted by the trade association AMERIPEN. Center staff presented at EPA's 2020 America Recycles Summit as a panelist on Bolstering Markets for Recyclables via Recycling Market Development Centers or Programs held in November 2020.

While the Center was not able to directly contract for research, other research efforts completed in 2020 provide data and market information. Those efforts include:

- Ecology contracted for a [study](#) of the impacts of plastic packaging and recommendations for managing plastic packaging in Washington. That study provided ten recommendations to meet the goals set in the [plastic packaging law](#).

¹ <https://www.governor.wa.gov/sites/default/files/20-05%20-%20Hiring-PS%20Contracts-Purchasing%20%28tmp%29.pdf>

- King County contracted for analysis of regional paper processing, paper end market research, and paper market capacity. That report will be available by the end of October 2020.
- Ecology developed a [statewide contamination reduction and outreach plan](#) for use by local jurisdictions. In addition to the plan, there is a [library of resources](#) available to help reduce contamination in the recycling system. Ecology offers grants to local jurisdictions to develop and implement contamination reduction and outreach plans.
- Under the interagency agreement supporting the Center, Commerce’s research services examined the current state of the glass recycling system in Washington and other states and countries. Commerce conducted surveys, interviews with subject matter experts, reviewed legislation and policy, and analyzed glass recycling trends over time. There were several key findings and recommendations to address the challenges the state faces in regards to glass recycling.

Advisory Board

The Center advisory board was established in the fall of 2019. Table 1 lists board membership. Center staff facilitated seven board meetings in 2020 in January, April, June, July, September, October, and December. Notes and materials from each of those meetings are posted on the [advisory board website](#). After the January in-person meeting all board meetings in 2020 were held remotely. All board meetings are open to interested parties and include an opportunity for public comment. Board members selected a chair and co-chair, approved the board [charter](#), developed and approved [goals and metrics](#) for Center work, and advised Center staff on the work plan and outreach strategy.

Table 1 - Recycling Development Center Advisory Board

Board Member	Organization	Representing
Sego Jackson	Seattle Public Utilities	City
Deb Geiger	Spokane County Solid Waste	County
Margo Gillaspay	Skagit County Solid Waste	County
Heather Trim	Zero Waste Washington	Public interest group
Scott Morgan, Board Chair	The Evergreen State College	University
Karl Englund, Board Co-Chair	Washington State University	University
Corinne Drennan	Pacific Northwest National Laboratory	Research institution
Kyla Fisher	AMERIPEN	Packaging
Nina Goodrich	Sustainable Packaging Coalition	Packaging
Allen Langdon	Return-It	Not for profit
Mike Range	Waste Management	Solid waste management

Board Member	Organization	Representing
Derek Ruckman	Recology	Solid waste management
Tim Shestek	American Chemistry Council	Manufacturing
Jay Simmons	North Pacific Paper Company	Manufacturing

Center Focus for 2021

Due to the freeze on hiring and contracting for state agencies both Ecology and Commerce support was limited to existing resources. Due to these impacts, Center staff will focus on work plan activities that can be accomplished with existing resources, specifically outreach, analysis, and business assistance. More detail on these activities is provided in Table 2.

In 2021, Center staff will be looking for opportunities to work on other work plan activities like contracting for policy analysis, actively promoting recycling business expansion, and advocating for investment in recycling infrastructure. Center-related research projects will be drafted and ready for when the contracting freeze is lifted or when there are other funding opportunities. [Appendix B](#) provides a summary of all activities in the Center work plan.

Table 2 - Center Focus for 2021

Work Plan Activities	Activity description	Anticipated outcome
Conduct Outreach	Reach out to recycling and market development community, to share the work of the Center and connect with parties involved in recycling, including manufacturers, collectors, processors, and end users.	Develop relationships with recycling industry in Washington and the northwest through phone calls, conference calls, or other personal connections to gather recycling and market development information.
Market analysis	Commerce initiated a study of glass recycling in Washington State, surveying experts in the market and supply chain and analyzing current trends.	A report will be prepared in the fall of 2020 summarizing unmet capital and other needs of reprocessing and manufacturing firms using recycled glass.
Data analysis	Evaluate existing solid waste data to identify the movement of recyclable materials to processing operations and domestic or international end markets.	Summaries of the existing solid waste system will be prepared.
Business assistance	Commerce's economic development staff routinely provides business assistance to existing, new, and expanding businesses involved in recycling and the use of recovered materials.	Improve recycling infrastructure in the state through business assistance.

Work Plan Activities	Activity description	Anticipated outcome
Identify funding opportunities	While conducting outreach efforts, look into public and private funding opportunities to support market development.	Connect funding resources with new or existing recycling businesses or pilot projects to support market development.

Business Inquiries

Over the initial year of operation, the Center received over thirty requests for information and proposals for new business, listed in Table 3. Some requests are preliminary inquiries and others come from existing facilities operating in Washington or another state. Some queries are focused on waste management, not recycling.

Table 3 – Center Business Contacts in 2019-2020

Business	Project, proposal, or data request
American Chemistry Council	Exploring pilot accelerator program for plastic film.
Carbon Black Global	Proposal for a waste-to-fuel operation.
Circular Matters	A consulting firm specializing in market development offered their services to the Center.
Conrad Industries	A facility in Chehalis proposed to convert from tire pyrolysis to plastics-to-fuel operation.
Corumat	Proposal for automatic sorting systems for organic and polymer recovery.
FMI EPS	Request for data, proposal to recycle expanded polystyrene into building materials.
Georgia Pacific	Project Juno pilot proposal to collect fibers from solid waste at Georgia-Pacific facility in Oregon.
Investigative Engineering	Proposal to recycle cartons into building materials.
Kwik Lok Corporation	Manufacturer in Yakima County offers sustainable packaging innovations for the produce and bakery industries.
MacRebur	Proposal for technology to repurpose waste plastics into an asphalt additive for parking lots, roads, and highways.
McConkey Company	Manufacturer in Pierce County looking for financing and a source of clean plastic to convert into agricultural plastic drip lines.
Mura	Proposal for a plastic recycling facility.
Paul Muller	Request for plastic utensil data for a drywall-like product.
Performance Infrastructure	Proposal for a waste-to-energy facility.
QCI LLC	Request for data, proposal for a waste-to-energy facility.
Rainier Plastics	Manufacturer in Yakima looking for alternatives to landfilling the clean cardboard cores generated at their facility.

Business	Project, proposal, or data request
Recycling Revolution, LLC	Request for data for sources of recyclable plastic.
Synergy ECOHUB Solutions	Proposal for a waste-to-energy facility.
Triumph Composite Systems	Manufacturer in Spokane, looking for partners to manufacture aerospace thermoplastic parts from recycled materials.
Urban Mining	Request for glass data for recycling glass into products.
Vesicus	Requesting financing for a proposal to make lightweight/insulating products from plastic to replace concrete.
Viking Pacific	Request for data, proposal to convert plastics-to-fuel.

Appendix A – Legislative Direction

Center work

The Center will (RCW 70A.240.030 (3)):

- (a) Develop an annual work plan.
- (b) Evaluate, analyze, and make recommendations on state policies that may affect markets for recyclable materials.
- (c) Work with manufacturers and producers of packaging and other potentially recyclable materials on their work to increase the ability of their products to be recycled or reduced in Washington.
- (d) Initiate, conduct, or contract for studies relating to market development for recyclable materials, including but not limited to applied research, technology transfer, life-cycle analysis, and pilot demonstration projects.
- (e) Obtain and disseminate information relating to market development for recyclable materials from other state and local agencies and other sources.
- (f) Contract with individuals, corporations, trade associations, and research institutions for the purposes of this chapter.
- (g) Provide grants or contracts to local governments, state agencies, or other public institutions to further the development or revitalization of recycling markets in accordance with applicable rules and regulations.
- (h) Provide business and marketing assistance to public and private sector entities within the state.
- (i) Represent the state in regional and national market development issues and work to create a regional recycling development council that will work across either state or provincial borders, or both.

Commerce Partnership

Ecology works in partnership with Commerce to (RCW 70A.240.030 (4)):

- (a) Provide targeted business assistance to recycling businesses, including:
 - (i) Development of business plans;
 - (ii) Market research and planning information;
 - (iii) Referral and information on market conditions; and

- (iv) Information on new technology and product development;
- (b) Conduct outreach to negotiate voluntary agreements with manufacturers to increase the use of recycled materials in products and product development;
- (c) Support, promote, and identify research and development to stimulate new technologies and products using recycled materials;
- (d) Actively promote manufacturing with recycled commodities, as well as purchasing of recycled products by state agencies consistent with and in addition to the requirements of chapter [43.19A](#) RCW and RCW [39.26.255](#), local governments, and the private sector;
- (e) Undertake studies on the unmet capital and other needs of reprocessing and manufacturing firms using recycled materials, such as financing and incentive programs; and
- (f) Conduct research to understand the waste stream supply chain and incentive strategies for retention, expansion, and attraction of innovative recycling technology businesses.

Advisory Board

The Center works in consultation with a fourteen-member Advisory Board (RCW 70A.240.040). The statute requires board members include representatives from one city, one east-side county, one west-side county, one public interest group, three universities or research institutions, and up to seven recycling system members including manufacturing and packaging, solid waste management, and at least one not-for-profit organization familiar with innovative recycling solutions that are being used internationally in Scandinavia, China, and other countries. The advisory board includes a non-voting representative from the Utilities and Transportation Commission.

Appendix B – Center Work Plan Summary

A [Center work plan](#) was developed in consultation with the advisory board. The work plan will be updated annually and guided by the [goals and metrics](#) established by the advisory board. The Center's work plan is outlined in three categories: develop effective partnerships, research solutions, and advance technology. A summary of work plan activities in those categories is provided in this report, for more details go to the work plan document posted on the [advisory board website](#).

Develop effective partnerships that will support sustainable materials management and market development:

- Conduct outreach to the recycling and market development community to understand local and regional opportunities and challenges.
- Engage with other recycling coalitions to assist and improve collection, processing, and market development in Washington or the Pacific Northwest.
- Communicate with other jurisdictions along the west coast to identify and engage in opportunities for regional collaboration on recycling market work, economic development, and green jobs.
- Reach out to national entities involved in recycling to collaborate on research and development of recycling related activities as well as funding opportunities.

- Establish a technology partnership in Washington and across the west coast to provide a platform for technology discussions to improve or create new recycling feedstocks and end-markets.

Research solutions that advance market development for use of recyclable materials:

- Market analysis of waste stream supply chain and incentives, unmet capital, and other needs of reprocessing and manufacturing firms using recycled materials, such as financing and incentive programs.
- Data analysis to identify the movement of recyclable materials (curbside, industrial, commercial, institutional) to processing operations and domestic or international end markets.
- Infrastructure analysis to identify barriers and opportunities at collection, processing, and end market material use.
- Policy analysis to evaluate regulatory options to expand and sustain environmentally and socially just reuse and recycling markets, improve processing and remanufacture capabilities, encourage business development, and provide for local green jobs.
- Other analyses to understand trends and demographics that impact recycling, for example immigration impacts, housing statistics, equity and social justice issues.

Advance technology that improves remanufacturing recyclable materials in the state and region:

- Provide business assistance to existing, new, and expanding businesses involved in recycling and use of recovered materials.
- Identify funding opportunities to support business expansion, innovative technology, or pilot projects.
- Actively promote manufacturing with recyclable materials to existing, new, and expanding businesses, based on strategic goals and research results.
- Advocate for infrastructure investment in recycling (collection, material sorting, processing, and end use) in existing programs that support infrastructure.
- Partner on pilot projects with industry, product and packaging producers, and other regional partners, like material recovery facilities or research institutions, establish and support pilot projects.

Publication information

This report is available on the Department of Ecology's website at <https://fortress.wa.gov/ecy/publications/SummaryPages/20-07-022.html>

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