



DEPARTMENT OF
ECOLOGY
State of Washington

Work Plan for the Washington State Recycling Development Center

Inaugural annual work plan: July 2020



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Note about this work plan:

Preparation of the Recycling Development Center’s (Center) first work plan occurred in 2020. The first draft received advisory board review and comment in April 2020, additional board input was incorporated into the work plan in July 2020.

The Center

The Washington State Recycling Development Center (Center) was created within the Department of Ecology (Ecology) in partnership with the Department of Commerce (Commerce) ([Chapter 70.370](#) Revised Code of Washington (RCW)). State law requires the Center to develop a work plan identifying **“actions and recommendations for developing markets for commodities comprising a significant percentage of the waste stream and having potential for use as an industrial or commercial feedstock, with initial focus on mixed waste paper and plastics”** (RCW 70.370.030 (3)(a)). The following summarizes the statute direction for the Center.

The scope of potential Center tasks include:

- Evaluate, analyze, and make recommendations regarding state policies that may affect markets for recyclable materials.
- Work with manufacturers and producers of packaging and other difficult to recycle materials to increase recyclability of their products in Washington, including other prevalent and difficult to recycle materials.
- Initiate, conduct, and/or contract studies relating to market development for recyclable materials/products, including but not limited to applied research, processing/recycling, technology, life-cycle analysis, and pilot demonstration projects.
- Obtain and disseminate information relating to market development for recyclable materials from other state and local agencies and other sources.
- 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.
- Provide business and marketing assistance to public and private sector entities within the state.
- Work to create a regional recycling development council that will work across either state or provincial borders, or both.
- Advocate for policies that create a circular economy and deter from abundant linear supply chains.

Work of the Center supported by Commerce includes:

- Provide assistance to recycling businesses that may include:
 - Development of business plans;
 - Market research and planning information;
 - Referral and information on market conditions; and
 - Information on new technology and product development.
- Conduct outreach and surveys to manufacturers to establish barriers and solutions to the increased use of recycled materials in products and product development;
- Inventory, support, promote, and identify research and development to stimulate new recycling technologies and products using recycled materials;
- 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;
- Undertake studies on the unmet capital and other needs of reprocessing and manufacturing firms using recycled materials, such as financing and incentive programs; and
- Conduct research to understand the waste stream supply chain and incentive strategies for retention, expansion, and attraction of innovative recycling technology businesses.

Center Organization

The Center works in consultation with a fourteen-member Advisory Board; membership is outlined in the law ([Chapter 70.370 RCW](#)). Additionally, the Center will work with material recovery facility operators; public and private sector reuse, 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.

Every other year, the Center will submit a report to the legislature on the progress of achieving the center's purpose and performing the center's activities. The first report to the legislature is due in December of 2020. That report will summarize 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 Agency Team

Ecology and Commerce partner in the work of the Recycling Development Center:

Ecology
<ul style="list-style-type: none"> • Kara Steward, Solid Waste Management Program • 360-407-7643 work / 564-999-0555 cell • kara.steward@ecy.wa.gov

Commerce
<ul style="list-style-type: none"> • Brian Young, Office of Economic Development and Competition • 206-256-6139 work / 206-291-3275 cell • brian.young@commerce.wa.gov

Advisory Board

The law details the representation of the board and directs the board to meet at least quarterly ([RCW 70.370.040](#)). The advisory board provides advice and support to Ecology and Commerce as they implement the work of the Center. In October 2019, the Directors of Ecology and Commerce invited the representatives listed in Table 1 to participate as advisory board members. The advisory board includes a non-voting representative from the Utilities and Transportation Commission.

Table 1 - Recycling Development Center Advisory Board

Board Member	Organization	Phone	Email
Scott Morgan, Board Chair	The Evergreen State College	360-867-6913	morgans@evergreen.edu
Karl Englund, Board CoChair	Washington State University	509-335-5077	englund@wsu.edu
Corinne Drennan	Pacific Northwest National Laboratory	509-372-6330	Corinne.Drennan@pnl.gov
Kyla Fisher	AMERIPEN	602-540-7544	kyla@threepeaksustainability.com
Deb Geiger	Spokane County Solid Waste	509-238-6607	dgeiger@spokanecounty.org
Margo Gillaspay	Skagit County Public Works Department	360-416-1400	margog@co.skagit.wa.us

Board Member	Organization	Phone	Email
Nina Goodrich	Sustainable Packaging Coalition	866-904-9666	nina.goodrich@greenblue.org
Sego Jackson	Seattle Public Utilities	206-615-0706	sego.jackson@seattle.gov
Allen Langdon	Encorp Pacific – Returnit	604-473-2416	alangdon@returnit.ca
Mike Range	Waste Management	253-344-8594	mrangle@wm.com
Derek Ruckman	Recology	206-619-0892	DRuckman@recology.com
Tim Shestek	American Chemistry Council	916-448-2581	Tim_Shestek@americanchemistry.com
Jay Simmons	North Pacific Paper Company (NORPAC)	360-636-6485	Jay.simmons@norpacpaper.com
Heather Trim	Zero Waste Washington	206-441-1790	heather@zerowastewashington.org
Jason Lewis*	Utilities and Transportation Commission	360-338-8837	Jason.lewis@utc.wa.gov

* non-voting board member

Advisory board meetings are offered quarterly or more frequently with conference call or webinar options to allow for public participation. Following the initial advisory board meeting, January 2020, board meetings transitioned to remote attendance only. Public attendance and comment opportunities are offered at all board meetings.

- Ecology facilitates board meetings in consultation with the advisory board Chair and Cochair.
- Information about advisory board meetings is available online¹.
- An email list offers updates regarding advisory board and Center activities².

Center Work Plan

This is the first annual work plan for the Center and will be updated annually, incorporating advisory board input on priority work for the coming year and identifying accomplishments. This work will be guided by the goals and metrics established by the advisory board (Appendix A).

The Center’s work plan is outlined in three categories, listed in Table 2, and described below. The primary activity focus for the Center in 2020-21 is noted in Table 2 (with an *) and discussed in the following subsection.

Table 2 - Center work plan categories

A - Develop effective partnerships	B - Research solutions	C - Advance technology
A.1 Conduct outreach*	B.1 Data analysis*	C.1 Provide business assistance*
A.2 Engage with other recycling councils	B.2 Market analysis*	C.2 Identify funding opportunities*
A.3 Communicate with other jurisdictions	B.3 Infrastructure analysis	C.3 Actively promote manufacturing
A.4 Reach out to national entities	B.4 Policy analysis	C.4 Advocate for infrastructure investment
A.5 Establish a technology partnership	B.5 Other analyses	C.5 Partner on pilot projects

¹ https://www.ezview.wa.gov/site/alias_1962/37596/recycling_development_center_advisory_board.aspx

² <http://listserv.ecology.wa.gov/scripts/wa-ECOLOGY.exe?SUBED1=RECYCLING-CENTER&A=1>

Center Work and Activities

The Center's work and activities are described in more detail in the following summary. As additional resources are available, partnerships are developed, activities completed, or opportunities arise, Center staff may invest in the following work.

A - Develop effective partnerships: Center staff will reach out to potential partners to develop relationships and partnerships:

1. **Conduct outreach** to the recycling and market development community, including: material recovery facility operators; public and private sector recycling and solid waste industries; packaging and product manufacturers and retailers and their associations; local and tribal governments; local economic development agencies; environmental organizations and associations; colleges and universities; and state agencies. Conduct outreach through phone calls, conference calls, or other personal connections to share recycling and market development information.
2. **Engage with other recycling councils³ and coalitions** to identify work that the Center could conduct to assist and improve collection, processing and market development in Washington or the Pacific Northwest.
3. **Communicate with other jurisdictions** - Oregon Department of Environmental Quality, CalRecycle and British Columbia Ministry of Environment staff to identify and potentially act on opportunities for regional collaboration on recycling market work, economic development, and green jobs.
4. **Reach out to national entities** involved in recycling (for example, the Ocean Conservancy, The Recycling Partnership, Ellen MacArthur Foundation, and industry organizations) as well as regional universities, laboratories, manufacturers and their associations, advocacy organizations, and other governments to collaborate on research and development of recycling related activities. This outreach will look into public and private funding opportunities.
5. **Establish a technology partnership** in Washington and across the west coast within academia, research institutions, government, and industry. This partnership will provide a platform for technology discussions to improve or create new recycling feedstocks and end-markets, based on strategic goals and research results. Use this partnership to review, evaluate and understand technological changes in the recycling industry. Use this partnership to collect information and provide insight about current technology and innovative businesses and proposals for improvements to product or packaging redesign, collection, sortation, reprocessing, and end-use markets. The Center will directly engage technology companies processing recyclable material into new feedstocks and products.

B - Research Solutions: Center staff will work to analyze data and conduct research into infrastructure, policy and economic solutions. These activities could be conducted by agency staff, under contract, or in collaboration with partners:

1. **Market analysis** of waste stream supply chain and incentives, including policy changes to facilitate the retention, expansion, and attraction of recycling businesses, innovative technology businesses, in addition to assistance for waste reduction innovations for businesses. Undertake studies on the unmet capital and other needs of reprocessing and manufacturing firms using recycled materials, such as financing and incentive programs.
2. **Data analysis** will evaluate existing solid waste data and research supply chain data to identify the volume or weight and movement of recyclable materials (curbside, industrial, commercial, institutional) to processing operations and domestic or international end markets.

³ <https://nerc.org/projects/completed-projects/>

3. Infrastructure analysis for recycling in Washington and the northwest region. The analysis (strengths, weaknesses, opportunities, and threats (SWOT) or gap analysis) will identify needs for material recovery facilities, how to improve collection and sortation, which materials are most difficult to recover, and where are end markets lacking. Identify barriers and opportunities to maximize the collection and processing of materials in the current system, based on strategic goals and research results
4. Policy analysis of existing and innovative regulatory options that 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. The analysis would include evaluation of social and economic drivers and the resulting impacts. Include research on policies used in other jurisdictions (for example, the Netherlands, Wales, Germany, and Canada) and an evaluation of their impact on our current system, including cost/benefits, to identify impacts on local and regional recycling markets. Analysis should include potential cost/benefits to consumers.
5. Other analysis to understand trends and demographics that impact recycling, for example immigration impacts, housing statistics, equity and social justice issues.

C – Advance technology – Center staff will support business development and expansion in the state and region. In partnership with industry and others, analyze data and conduct research into infrastructure, policy and economic solutions. These activities could be conducted by agency staff, under contract, or in collaboration with partners.

1. **Provide business assistance** – Upon request, provide business assistance to existing, new, and expanding businesses involved in recycling and use of recovered materials. Share recycling data and assist with regulatory compliance to interested businesses looking to expand into Washington State.
2. **Identify funding opportunities** that could support recycling, financing technology or pilot projects, and business incentive options. This work will look for public and private funding opportunities to support recycling improvements in Washington and the region.
3. **Actively promote manufacturing** with recyclable materials to existing, new, and expanding businesses, based on strategic goals and research results. Share recycling data and assist with regulatory compliance to interested businesses looking to expand into Washington State. Examples of promotional activities include: recycled content (partner with the Association of Plastic Recyclers Demand Champions effort), reusables, buy recycled, material marketplaces (partner with the Sustainable Business Council).
4. **Advocate for infrastructure investment**. Identify and evaluate funding opportunities available for recycling infrastructure changes. Advocate for investment in recycling (collection, material sorting, processing, and end use) in existing programs that support infrastructure⁴. This work will assist with improving and expanding collection and processing infrastructure and establishing sustainable markets for recovered materials. The Center will coordinate with the Washington Economic Development Association and economic development boards in Washington.
5. **Partner on pilot projects** - In partnership with industry, product and packaging producers, and other regional partners, like material recovery facilities or research institutions, establish and support pilot projects. For example, test packaging design changes for improved recyclability, test improved sortation technology, or develop a circular economy model for specific material, showing all stages of the supply chain.

⁴ <https://www.commerce.wa.gov/building-infrastructure/>

Center 2020-21 Focus

Since the January 2020 Advisory Board meeting, resources available to Ecology and Commerce to support Center activities have been reduced. In May 2020 Governor Inslee’s directive⁵ established a statewide freeze on hiring and contracting that affect both Ecology and Commerce. In light of the Center’s reduced resources, activities in the first year are more narrowly focused on the activities in Table 3. As additional resources become available, partnerships are developed, activities completed, or opportunities arise, Center staff will work on activities detailed in the prior section.

Table 3 - Center Focus for 2020-2021

Focus Area	Task	Outcome
A - Develop effective partnerships		
A.1 - 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.
B – Research solutions		
B.1 - 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.
B.2 - 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.
C – Advance Technology		
C.1 - Business assistance	Commerce’s economic development staff routinely provides business assistance to existing, new, and expanding businesses involved in recycling and use of recovered materials.	Improve recycling infrastructure in the state through technical assistance.
C2 – 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.

⁵ <https://www.governor.wa.gov/sites/default/files/20-05%20-%20Hiring-PS%20Contracts-Purchasing%20%28tmp%29.pdf>

Footnotes

- Recycling Development Center Advisory Board EZview website:
https://www.ezview.wa.gov/site/alias_1962/37596/recycling_development_center_advisory_board.aspx
- Recycling Development Center email list: <http://listserv.ecology.wa.gov/scripts/wa-ECOLOGY.exe?SUBED1=RECYCLING-CENTER&A=1>
- Northeast Recycling Council. Webpage listing completed projects. Site accessed in April 2020: <https://nerc.org/projects/completed-projects/>
- Washington State Department of Commerce. Building infrastructure website. Site accessed in July 2020: <https://www.commerce.wa.gov/building-infrastructure/>
- Governor Jay Inslee’s May 2020 directive freezing hiring, contracting and purchases: <https://www.governor.wa.gov/sites/default/files/20-05%20-%20Hiring-PS%20Contracts-Purchasing%20%28tmp%29.pdf>

Appendix A - Recycling Development Center Goals and Metrics

Goals for the Recycling Development Center

1. **Develop local and regional markets and processing** for Washington's recyclable products and materials⁶ to be transformed or remanufactured into usable or marketable products for use other than landfill disposal or incineration. This work will:
 - a. Encourage waste prevention and emphasize reuse before materials enter the waste stream; and
 - b. Initially focus on traditional recyclables, like mixed waste paper and plastics, with potential for use as industrial or commercial feedstocks; and phase into other materials that comprise a significant percentage of the waste stream; and
 - c. Ensure materials are marketable by looking upstream (product design for recyclability and reduced toxic content), midstream (reduced contamination of recyclable materials⁷), and downstream (processing that enables responsible recycling); and
 - d. Ensure/Encourage that products marketed in Washington incorporate post-consumer recycled content; and
 - e. Facilitate connections and exchange of information across all sectors of the circular economy - including research, innovation, and policy; and
 - f. Increase awareness of recycling's impact and a resulting thriving circular economy.
2. **Support equitable economic growth** by attracting outside funding and analyzing, attracting, and supporting existing and new Washington-based businesses that enable reuse of products, packaging and other materials before they enter the waste stream, process recyclable waste materials into valuable commodities and products, use recycled content, and create local jobs, while ensuring that a social justice lens and a triple bottom line approach is applied throughout.
3. **Assess and adapt innovative technologies**, such as new Material Recovery Facility (MRF) technologies, sorting processes, or new ways of addressing mixed plastics, and **promote** those that meet criteria acceptable to the board, including pilot-scale efforts.
4. **Collaborate** with manufacturers and producers of packaging and other potentially reusable or recyclable materials to **increase the ability of their packaging and products to be reduced, reused or recyclable**.
5. **Evaluate, analyze and recommend state policies** that positively affect markets for recyclable materials.
6. **Collect recycled materials end use data** from material recovery facility (MRF) operators; public and private sector recycling and solid waste industries; manufacturers and retailers.
7. **Work in partnership** with product and packaging producers and other regional partners on a **pilot project** that demonstrates a pathway for a specific material, showing all stages of the supply chain using a circular economy model.

⁶ "Recyclable materials" means those solid wastes that are separated for recycling or reuse, such as papers, metals, and glass, that are identified as recyclable material pursuant to a local comprehensive solid waste plan. "Solid waste" or "wastes" means all putrescible and nonputrescible solid and semisolid wastes including, but not limited to, garbage, rubbish, ashes, industrial wastes, swill, sewage sludge, demolition and construction wastes, abandoned vehicles or parts thereof, and recyclable materials.

⁷ Supporting the efforts of the Recycling Steering Committee, Solid Waste Advisory Committee, Contamination Reduction and Outreach Plan (CROP), and Recycle Right initiative efforts.

Metrics of Success for the Recycling Development Center

We will know we made a difference if we have:

1. **Increased business use of recycled plastic or paper material** – Worked with 10 new or existing businesses in WA to manufacture products using plastic or paper recyclable materials, in five years.
2. **Increased business use of other recycled material and reusable products** – Worked with 10 new or existing businesses in WA to increase use of reusable or recyclable materials, in five years.
3. **Increased reusability/recyclability of manufactured products** – Worked with 15 manufacturers (or their associations) to make their products reusable or recyclable (design changes), in five years.
4. **Increased purchasing of products with recycled content** – Worked with 10 manufacturers, government agencies, or institutions to implement purchasing preferences for products with recycled content, in five years.
5. **Recommended policy changes** – Supported policies to improve recycling – examples: product stewardship for specific products, bottle deposit program, improved labeling for recyclability – in five years.
6. **Completed a pilot project or initiative** with packaging or other product producers, within five years, that demonstrates that creating sustainable markets is possible or has fostered/enhanced/built markets for mixed waste papers or plastics or has created a template for how to create more sustainable markets for this material.
7. **Collaborated** with other recycling development centers, regional partners and other stakeholders so that our successes are amplified rather than duplicative or competitive.
8. **Increased total amount of material recycled locally/regionally (relative to the percentage exported)** – Percentage of recyclable materials that are primary/secondary processed and responsibly recycled into new transformed or remanufactured into usable or marketable products within the state or region increased by 50%, in five years.
9. **Injected economic growth and innovative technologies** into Washington and the region's recycling and processing capacity by increasing capital investment (by 50%) and job creation rate (by 50%), in five years.
10. **Reduced the amount of recyclable material** going to the landfill by at least 50% in five years, relative to 2015, as measured by the *State Waste Characterization* reports, including reductions created both by increased recycling and decreased waste generation (e.g., reusable packaging) strategies.
11. **Reduced pulp and paper mill contaminants** from using recycled products as raw material by 50% in five years.

The following table compares Work Plan activities to the statutory directives in [RCW 70.370.030](#) and the Center goals and metrics.

Table A - Crosswalk of Work Plan Activities with Statute, Goals and Metrics

WORK PLAN	STATUTE	GOALS	METRICS
A - Develop effective partnerships:	RCW 70.370.030		
1. Conduct outreach*	3c,3e,3i,3j, 4b	G1,G4	M7
2. Engage with other recycling councils	3e,3i	G1	M7
3. Communicate with other jurisdictions	3e,3i,3j	G1,G7	M7
4. Reach out to national entities	3e,3i	G1	M7
5. Establish a technology partnership	3c,3d,3e,3i,3j, 4a,4c	G3	M9
B - Research Solutions			
1. Market analysis*	3d,3e,3f, 4e,4f	G2,G5,G6	M5
2. Data analysis*	3d,3e,3f,3j	G6	M8,M10
3. Infrastructure analysis	3e,3f,3j, 4c	G2,G3	M9
4. Policy analysis	3b,3e,3f	G2,G5	M5
5. Other analysis	3e,3f	G1,G2	M9
C – Advance technology			
1. Provide business assistance*	3e,3h, 4a	G2	M1,2,3,4
2. Identify funding opportunities*	3e,3g,3h, 4e	G2	M9
3. Actively promote manufacturing	3c,3e,3h,3j, 4a,4b,4c,4d	G4	M1,2,3,4
4. Advocate for infrastructure investment.	3d,3e,3g,3j	G3	M9
5. Partner on pilot projects	3c,3d,3e,3g,3h,3j, 4c	G7	M6,M11

* Center priority activities for 2020-2021