



Washington State  
Department of  
**Commerce**

# Industrial Symbiosis

Economic growth and environmental gain

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Invest. Build. Serve.



# We foster resilient communities



HOUSING AND HOMELESSNESS



INFRASTRUCTURE AND BROADBAND



SMALL BUSINESS ASSISTANCE



ENERGY



PLANNING AND TECH ASSISTANCE



COMMUNITY SERVICES



CRIME VICTIMS AND PUBLIC SAFETY



ECONOMIC DEVELOPMENT

# Statewide Economic Development

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## Office of Economic Development and Competitiveness (OEDC)

Small Business  
Export  
Assistance

Global Business  
Development

Industry  
Sector  
Development

Small Business  
Finance &  
Community  
Support

# Industry sector development in WA

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Aerospace



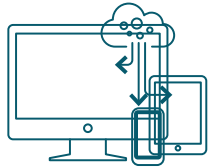
Ag Tech &  
Forest Products



Clean Technology



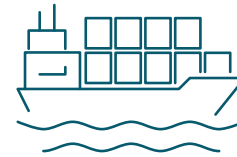
Creative Industries



Information &  
Communications  
Technologies



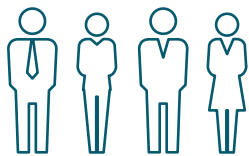
Life Sciences &  
Global Health



Maritime



Military/Defense



Workforce  
Innovation



Circular  
Bioeconomy



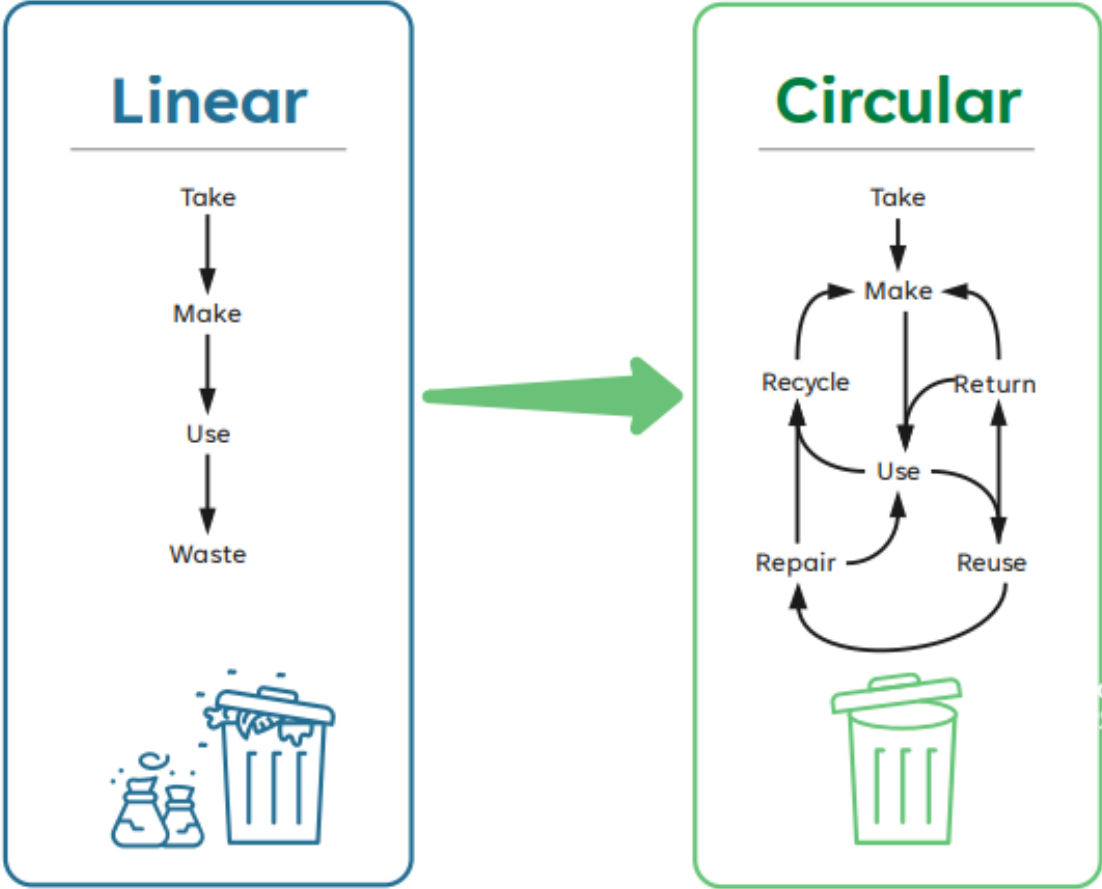
Keep WA  
Working



Tourism

# Circular Economy

- Reduces material use
- Redesigns materials to be less resource intensive
- Recaptures “waste” as a resource to manufacture new materials and products



# What is Industrial Symbiosis?

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# One company's waste is another's input

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Collaborative approach where separate organizations exchange materials, energy, water, or by-products.

- **Examples:**
  - Material exchange
  - Energy cascading
  - Water reuse
  - Shared infrastructure
- **Benefits:**
  - Savings from reduced disposal fees or material procurement costs
  - Reduced stress on local water supply and treatment systems
  - Reduced landfill waste, emissions, and raw material demand

# International Examples

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- **Kalundborg, Denmark**
  - Developed over 50 years
  - Collaboration between existing industry
  - \$25.5 million in annual savings
  - 635,000 tons of CO2 cut
- **GreenLab, Denmark**
  - Founded 2012, incorporated 2018
  - Built with symbiosis in mind
- **Kwinana, Australia**
  - 150+ exchanges
  - 2.3 billion gallons reduced annual water use in 10 years



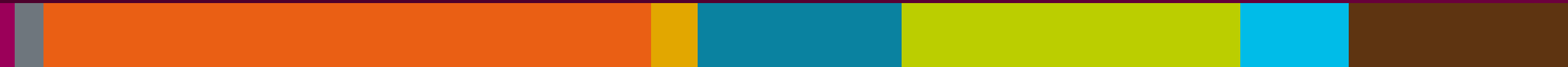


# Local Examples

- **Port of Pasco**
  - Pasco Agricultural Symbiosis Industrial Park
- **Cowlitz Economic Development Council**
  - Longview Industrial Symbiosis Park

# Industrial Symbiosis Program

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# Investment since 2021

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## **22 projects awarded funding**

- Small/Medium Businesses
- Non-Profit Organizations
- Research & Development Institutions
- Manufacturing Corporations
- Ports & Local Government

## **\$5.1 million in investments**

- 9 - Clean tech/energy sector related projects
- 9 - Agriculture/food manufacturing sector related projects
- 2 - Forest/timber sector related projects
- 2 - Construction sector related projects

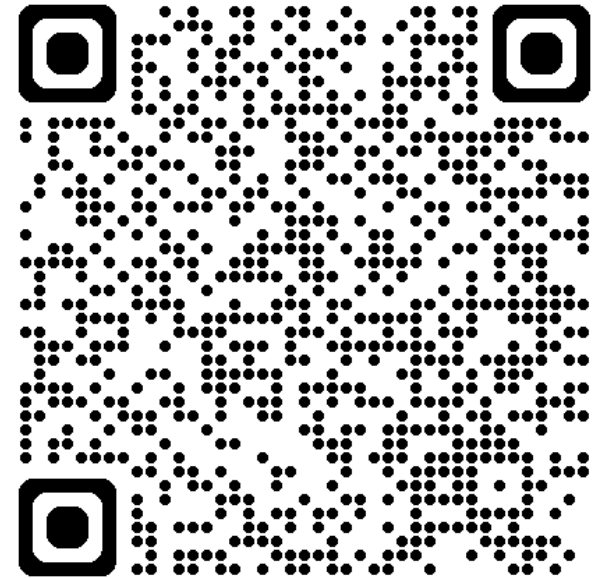


✓ indicates project locations supported by industrial symbiosis grant program funding through FY2025

# Example grant projects

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- **Refugee Artisan Initiative** (King County): award to recover and transform hard to recycle large scale advertising plastic waste into marketable circular products, including workforce skills training (\$322,252)
- **Tidal Vision Products** (Grays Harbor, Whatcom, and Pacific Counties): award to divert biomass waste from commercial seafood processing to be transformed into clean chemistry biopolymers used in various applications (\$475,700)
- **Waste Loop** (Chelan County): award to create the Wenatchee Valley Reuse Innovation Center as a public circular marketplace to facilitate the diversion and reuse and refurbishment of materials from construction and industrial waste (\$157,326)



How can ports engage?

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# How to engage

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- **Understand the waste streams of your local businesses**
  - Water and energy use
  - Wastewater processes
  - Residual materials
- **Get to know the costs of local waste management**
  - Hauling and handling fees
  - Emissions
  - Materials costs
- **Act as local facilitator of exchanges**
  - Can any existing businesses exchange resources?
  - Is there a common waste type that a new business could use?

# Thank you!

Kyle Gitchell

CIRCULAR ECONOMY DEVELOPMENT DIRECTOR

[kyle.gitchell@commerce.wa.gov](mailto:kyle.gitchell@commerce.wa.gov)



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