

Economic Impacts of Stewardship

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This presentation represents
information and findings
as interpreted by
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Product Stewardship in BC

- Products
 - Tires
 - Beverage containers (plastic, glass and polycoat).
 - Beer containers (glass and aluminum).
 - Used lubrication oil, oil filters, oil containers.
 - Electronics (two stewardship programs).
 - Solvents and flammable liquids including gasoline, paint, pesticides.
 - Pharmaceutical products.
 - Tree paint.

Organizations

- Mandated by BC Ministry of Environment
 - Tire Stewardship BC.
 - Beverage Container Stewardship Program (Encorp Pacific; Brewers' Distributor Ltd.)
 - British Columbia Used Oil Management Association (BCUOMA).
 - Post-Consumer Pharmaceutical Stewardship Association.
 - The Product Care Association (flammables, paints, pesticides, gasoline).
 - Tree-Marking-Paint Stewardship Association.
 - Electronics Stewardship Association of BC (ESABC).
 - Western Canada Computer Industry Association (WCCIA).

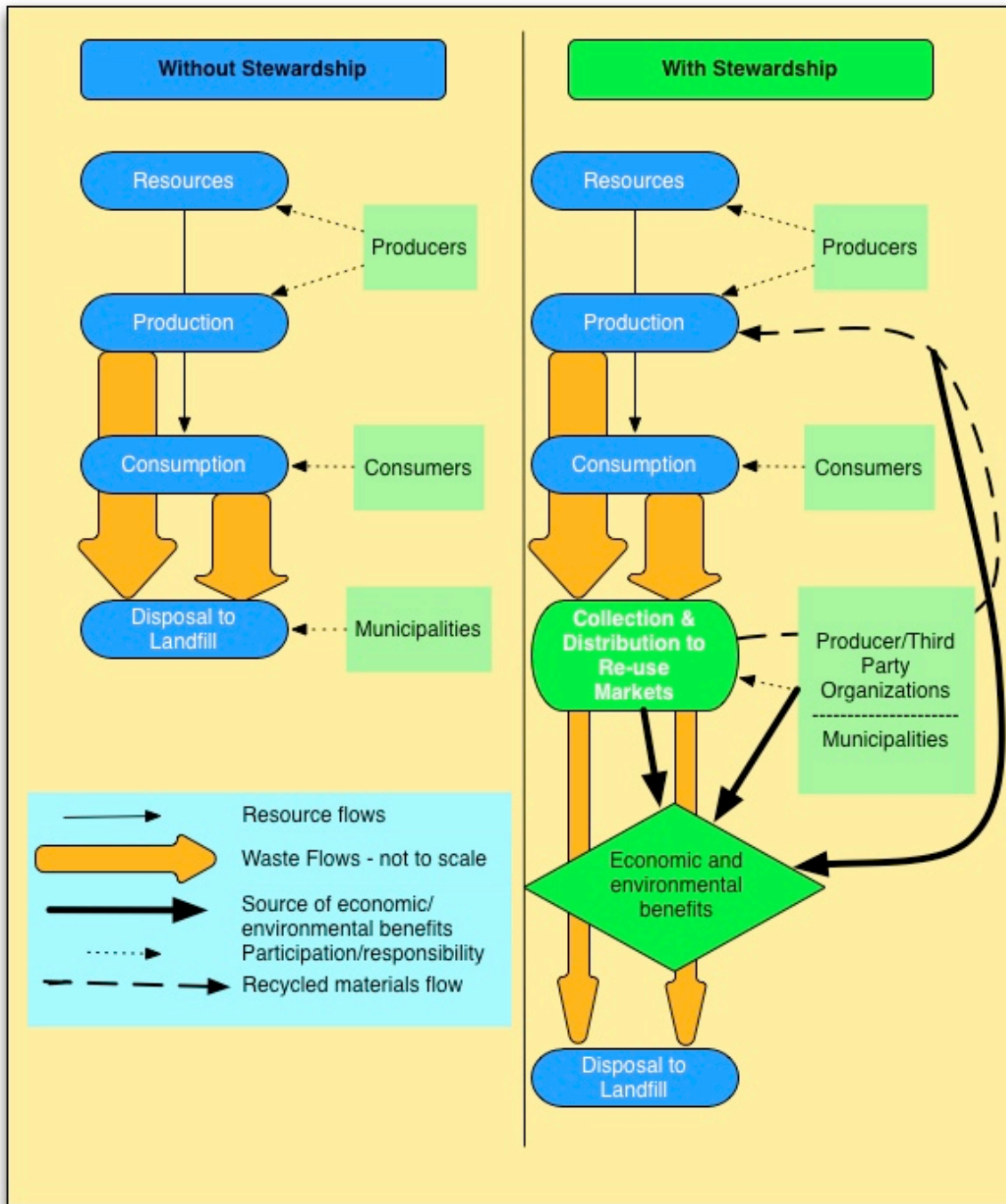
Economic Impacts of Stewardship

- Looking at recycling through stewardship
- Comparison
 - Recycling versus land filling

Indicators Examined

- Revenues, expenditures of the stewardship organizations.
- Number of jobs
- Value of recovered material
- Reduced landfill development and operation cost
- Reduced costs of extraction/processing of virgin materials for products
- Reduced or avoided greenhouse gas emissions.

Analytical Framework



Overview

- Stewardship organizations total revenues
 - \$109 million in 2007
 - 79% from fees and deposits
 - 21% from other sources such as selling recovered materials

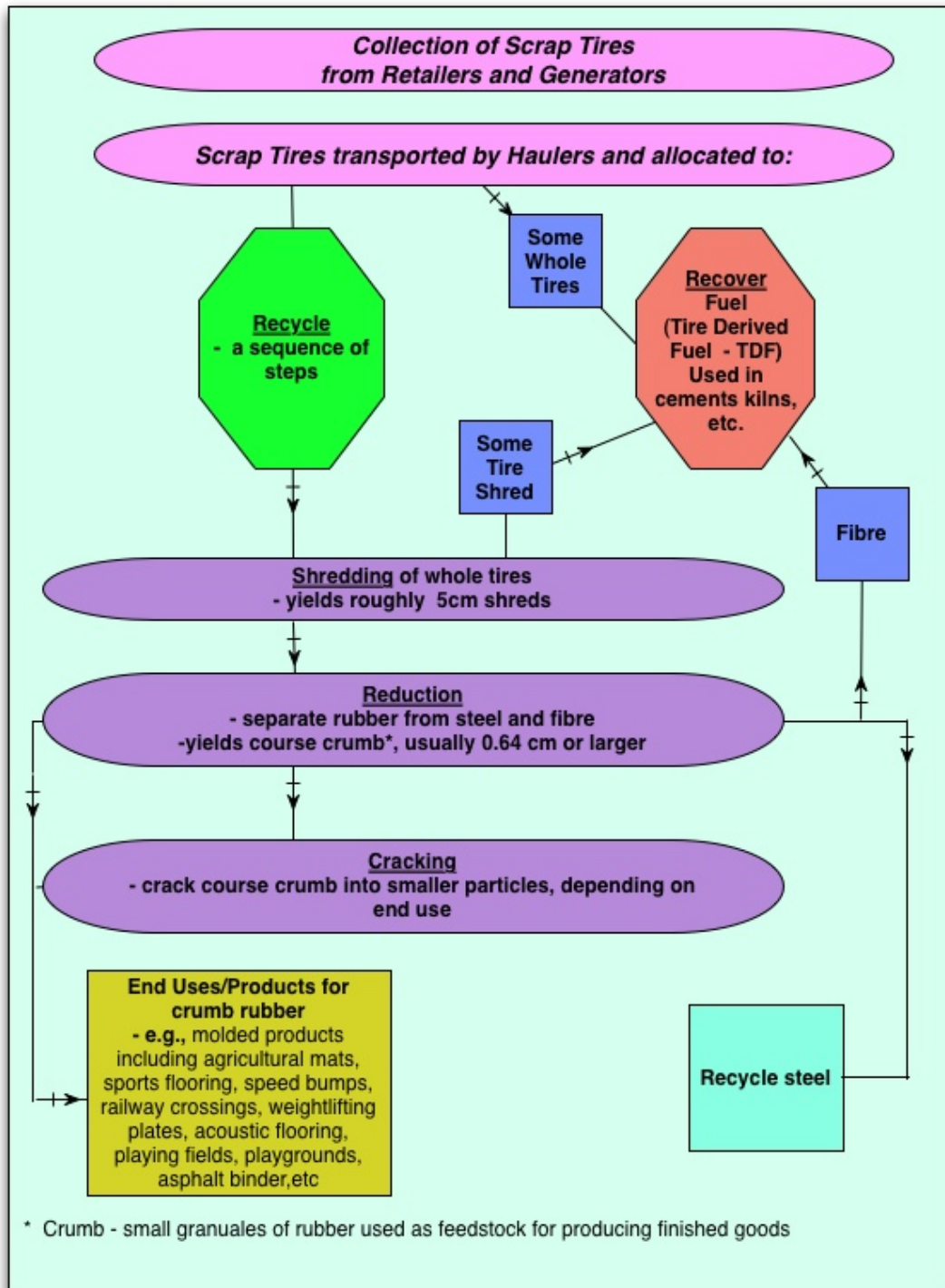
Overview

- Stewardship organizations managed
 - 121,000 tonnes of solid materials 2007
 - Glass, tires and plastic - 90%
 - Liquid wastes 51 million litres
 - used oil, solvents, flammables, pesticides and gasoline
 - Solid materials
 - 4% of the 2.9 million tonnes in BC landfills

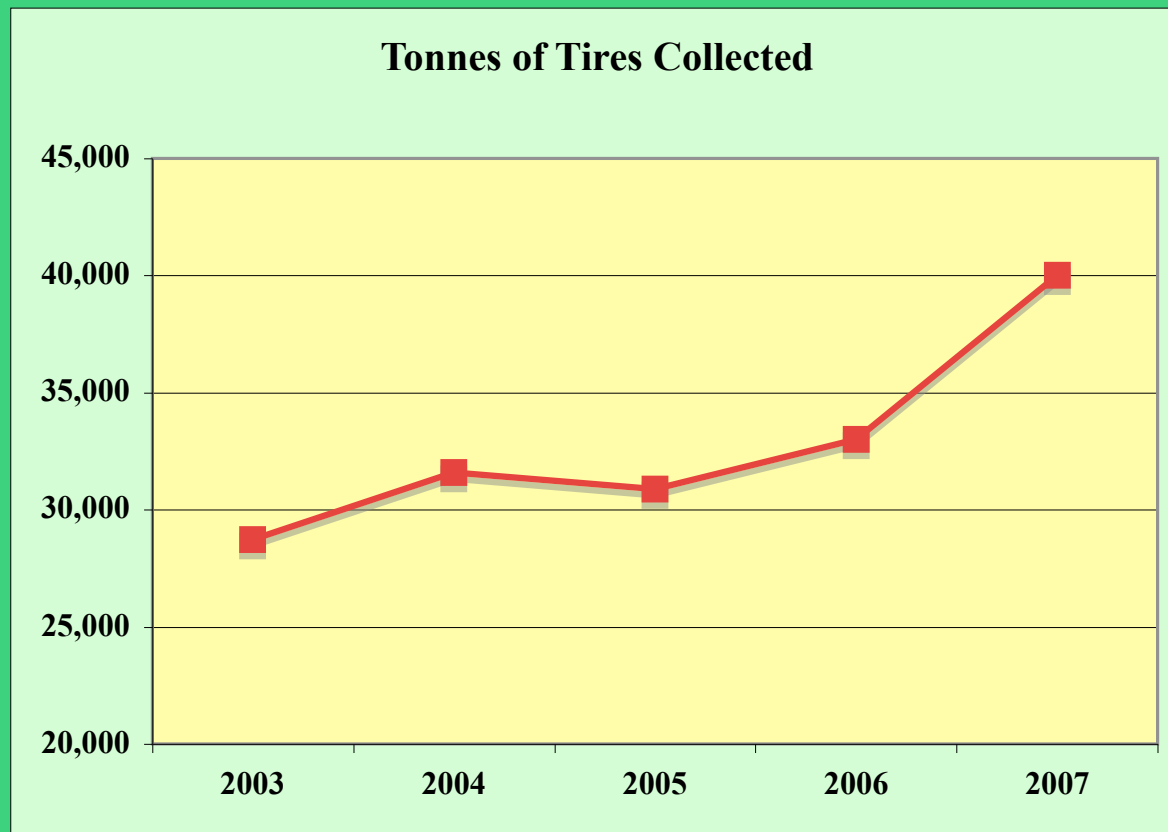
Overview

- Employment
 - About 2,100 Full Time Equivalents (FTEs)
 - 1,600 direct employment in recycling
 - Main Contributors
 - Beverage containers, tires, electronics, used oil



Tire Stewardship



Tire Stewardship



Tire Stewardship 2007

- 26,400 tonnes  product stream
- 6,600 tonnes  tire derived fuel
- 26,400 product stream
 - 1,200 tonnes for the production blasting mats
 - 16,000 to 18,000 tonnes ends up as fine crumb
 - Remainder- nylon fibre and steel

Tire Stewardship

- Products
 - Course crumb
 - 70% to fine crumb
 - 10% to Pasture Mats
 - 20% mix of other uses
 - Fine crumb
 - Most sold outside BC
 - Expect BC products will absorb 30% in future

Tire Stewardship

- More than 120 FTEs
 - collection, processing, products

Landfill Cost Savings

- Amount of materials handled by Stewardship
 - About 4% of total landfill materials
- Main benefit identified
 - Removes need to handle hazardous materials, which is very costly

Greenhouse Gas Emissions

- Stewardship activities led to:
 - Reduction of 73,000 MTCE
 - Reduction of about 267,000 MTCO₂E
 - Aluminium cans and tires account for about 82%
- equivalent to:
 - 72,950 Passenger cars removed from the roadway each year
 - 858,913 Barrels of oil
 - 39,830,817 Gallons of gasoline

Reductions estimated using US Environmental Protection Agency WASTE Reduction Model (WARM)

Summary

- Reduced waste stream to landfills by 121,000 tonnes, 4% of total - 2007
- Employment generation - 2,100 FTEs
- More efficient use of resources by recycling
- Significant environmental gains - reduced GHGs and energy use