

Product Stewardship for Photovoltaic Modules

Section 12 of ESSB 5939

2017 Washington State Solar Summit
October 13, 2017



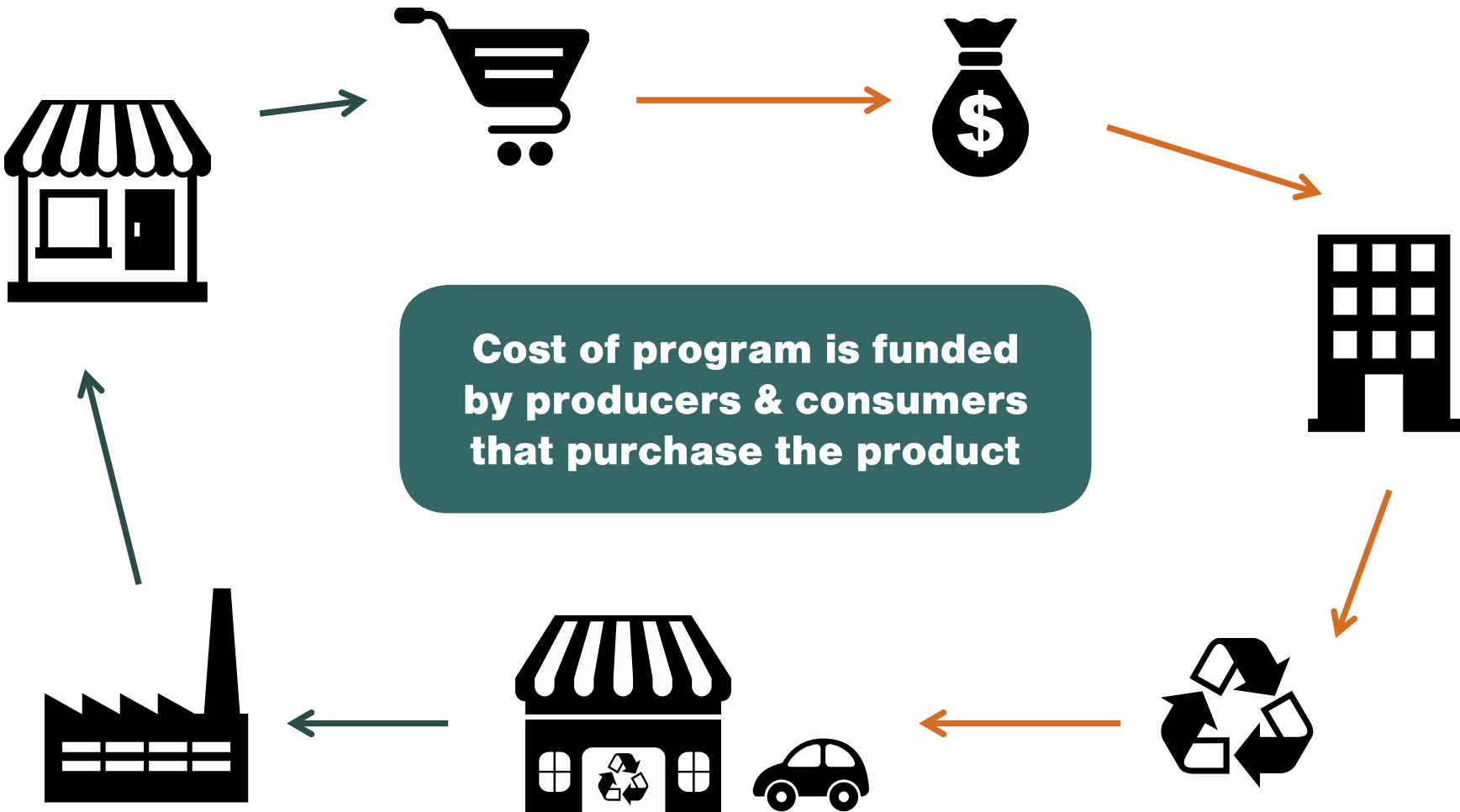
What is product stewardship?

Product stewardship is an environmental and economic management strategy

- Manufacturers take responsibility for their products at the end-of-life
- Programs involve recycling and/or safe disposal of unwanted products
- Costs are shifted from local governments to the users and producers of the product
- Efficient and cohesive private sector systems are created that are effective in providing and promoting accessible end-of-life management systems for their products



How does product stewardship work?



Existing Programs in Washington State



COMPUTERS & TVs

- Launch: January 1, 2009
- More than 350 collection sites
- Over 337 million lbs. recycled
- More than 125 private-sector jobs created



MERCURY-CONTAINING LIGHTS

- Launch: January 1, 2015
- More than 220 collection sites
- Over 2 million lights recycled



Local Programs in Washington State



Pharmaceuticals



Established:

- King County
- Snohomish County

Passed and Coming:

- Pierce County
- Kitsap County



Programs Across Canada – Over 200

Stewardship Programs in Canada

- ★ In-Place (Regulated)
- ★ In-Place (Voluntary)
- Pending (Regulated)

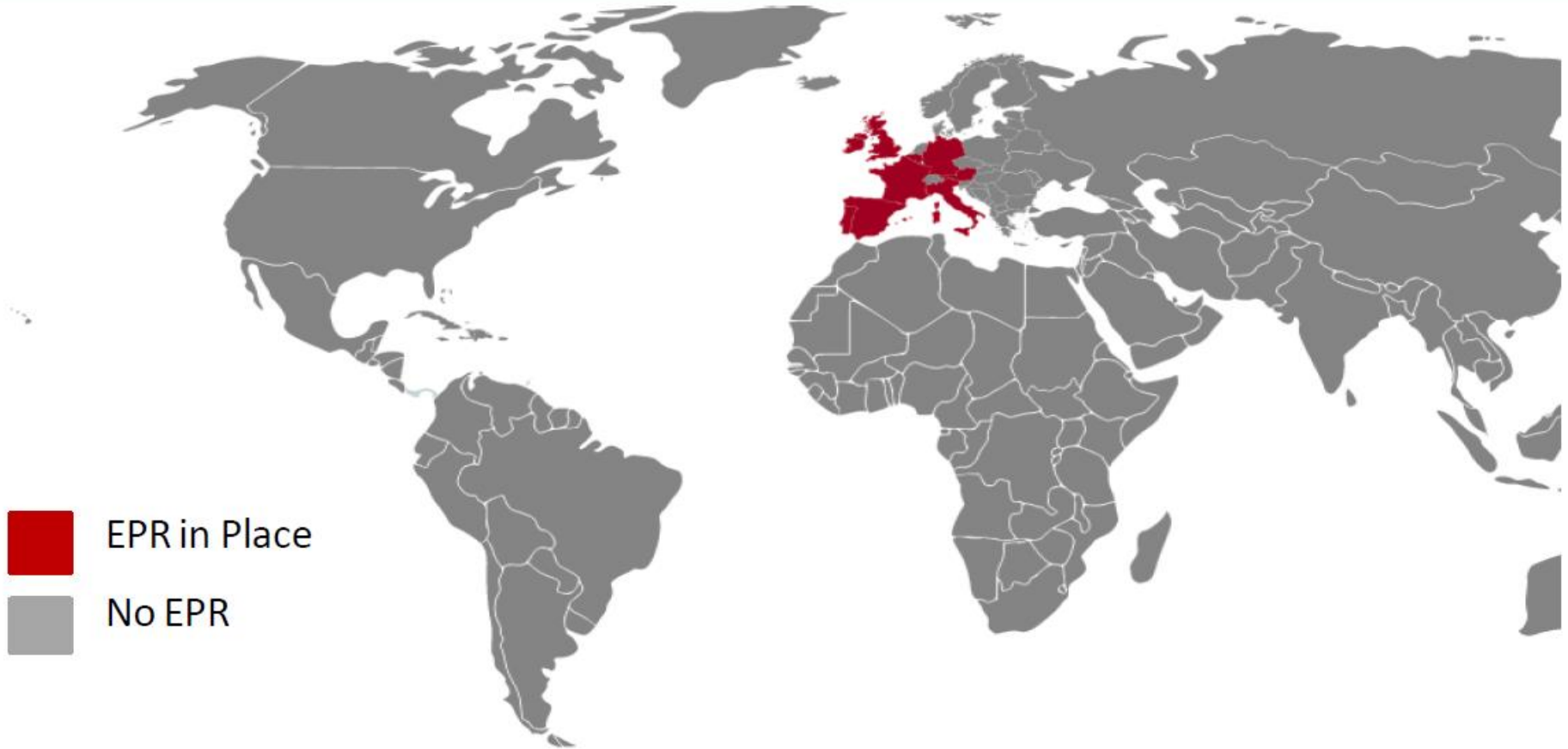
	Small Appliances	Oil	Tires	Organics	Beverage Container Deposits	Packaging & Printed Paper	Used Paint	Printed Materials	Electronics	Fluorents	Batteries	Household Special	Pharmaceuticals	Needles / Sharps	Autos	Milk Containers	Commercial Pesticide Cntrs	Agricultural bags & twine	Mercury Containing Equip	Cell Phones	Anti-freeze	Single-use retail bags
Newfoundland		★	★		★	●	★		★		★				★	●	●	★	★	★	★	
Nova Scotia		★	★	★	★	●	★	★	★		★		★	★	★	★	★	★		★	★	
New Brunswick		★	★		★	●	★		★		★		★		★	★	★	★	★	●	★	
P.E.I		★	★	★	★	★	★	★	★	★	★		★	★	★	★	★	★	★	★	★	
Quebec		★	★	●	★	★	★	★	★	★	★	●	★		★	★	★	●	★	★	★	
Ontario		★	★		★	★	★	★	★		★	★	★	★	★		★		★	★	★	
Manitoba	★	★	★			★	★	★	★	★	★	★	★	★	★	★	★		★	★	★	
Saskatchewan		★	★		★	★	★	★	★		★		★		★	★	★		★	★	★	
Alberta		★	★		★		★		★		★		★		★	★	★	★	★	★	★	
British Columbia	★	★	★		★	★	★	★	★	★	★	★	★		★	●	★		★	★	★	●
Northwest Territories					★				★							★				★		★
Yukon	●		★	★	★	★			●											●		

No regulated programs in Nunavut; Ontario - deposits on wine, liquor and beer only; MB - microwave ovens; Ink cartridges not regulated; Milk containers in BC part of Packaging & Printed Paper

Compiled by : MGM Management; mckenny@vip.net

April 2017

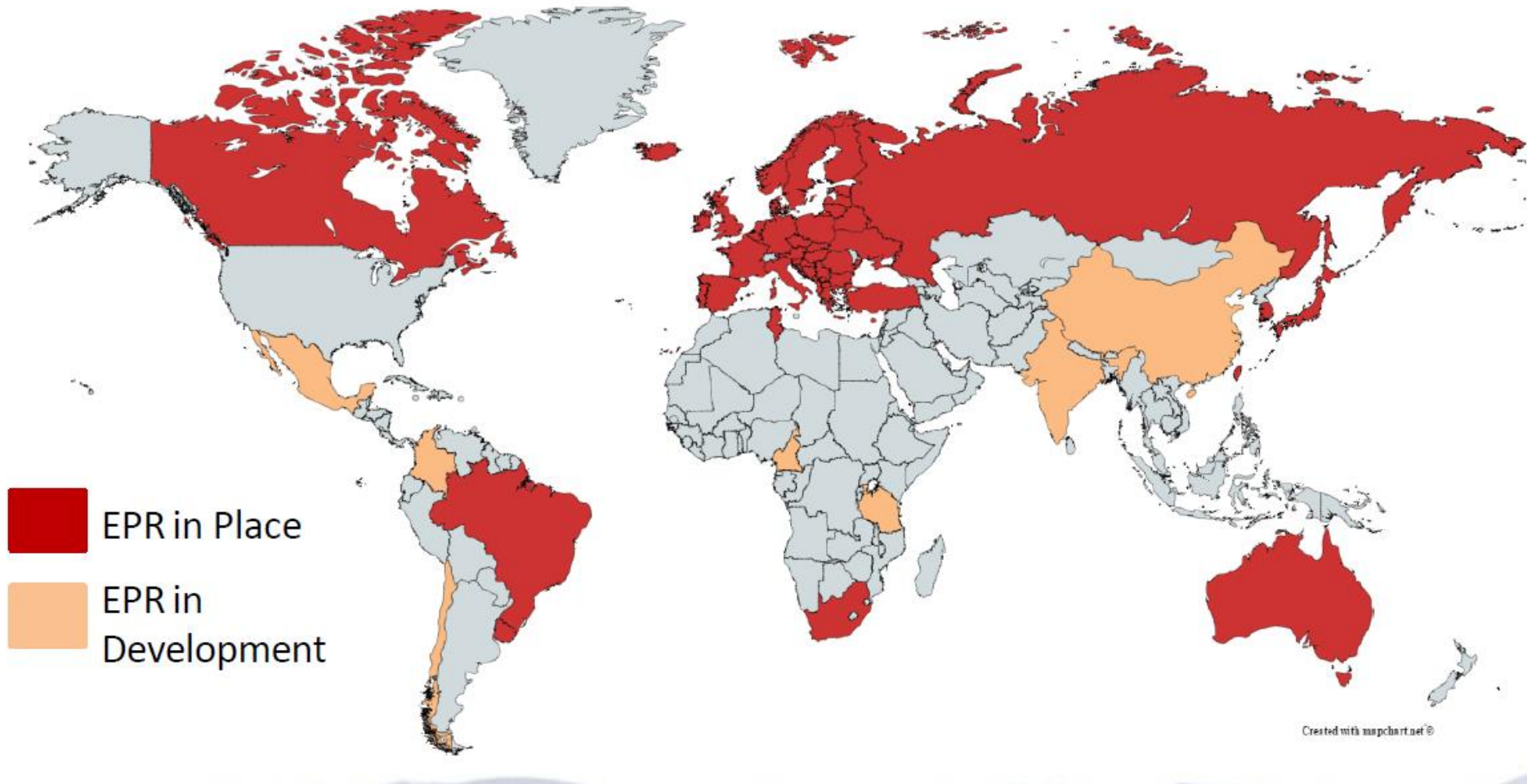
Packaging EPR in 2000



Note: First EPR Law was in Germany - 1992

Source: Victor Bell, EPI

Packaging EPR in 2015



Source: Victor Bell, EPI

ESSB 5939

Promoting a sustainable, local renewable energy industry through modifying renewable energy system tax incentives and providing guidance for renewable energy system component recycling.

Section 12 (1)

Findings. The legislature finds that a convenient, safe, and environmentally sound system for the recycling of photovoltaic modules, minimization of hazardous waste, and recovery of commercially valuable materials must be established. The legislature further finds that the responsibility for this system must be shared among all stakeholders, with manufacturers financing the takeback and recycling system.



Key Provisions

- Photovoltaic module (PV module) **does not include** cells that are part of consumer electronic device.
- **Does include** those related to buildings as well as free standing generation systems, such as for water pumping stations, electric vehicle charging stations, fencing, street lights, etc.
- Stewardship programs must take back PV modules sold after July 1, 2017.



Dates

Jan. 1, 2018 to July 1, 2019 - Ecology will implement stakeholder process to develop guidance.

Jan. 1, 2020 - Each manufacturer must submit or participate in a plan.

A stewardship organization may be designated to act as agent of a manufacturer or manufacturers to fulfill obligations.

Jan. 1, 2021 - Only manufacturers participating in a plan can sell their PV modules into Washington.

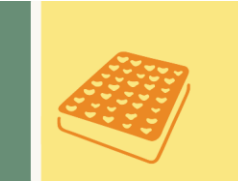


Stewardship Plans

Section 12 (5) (a)

Must at a minimum:

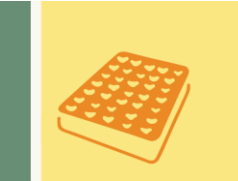
- Describe how manufacturers will finance cost of collection, management and recycling for modules delivered to take-back locations without cost to the last owner or holder.
- Address hazardous substances and maximizing recovery of components, including rare earth elements.
- Provide take back locations in region of state where modules were used.
- Identify how consumers, installers, building demolition firms, and recycling and treatment facilities will receive information required in order to properly dismantle and recycle modules.
- Establish performance goals.



National Program

Section 12 (12)

- A manufacturer may participate in a national program in lieu of preparing a plan if substantially equivalent to intent of state program.
- Ecology determines if national program fulfills each of elements outlined in Subsection (5) (a)
- Ecology can adopt rules.



Ecology Next Steps

- Creating a stakeholder list.
- Contact Christine Haun at clac461@ecy.wa.gov to be added to the list.
- By Jan. 1, 2018 Ecology will establish process to develop guidance.
- After Jan 1, 2018 will conduct a stakeholder process to develop guidance.



The Opportunity

- Provide a great take back system in Washington.
- Establish a circular economy for solar.
- Lead and help shape a national program.
- Learn from and engage with other stewardship programs in US, Canada and Europe.
- Additional jobs, services and businesses in Washington.
- New processing technology in Washington.



Thank you!

Sego Jackson

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and
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