

Economics and Environmental Policy Research Network

Research Symposium

February 27th – 28th, 2020

Session Notes for Parallel Session #4: Driving a Circular Economic Transition - Policy and Innovation Approaches

1. State of Existing Research and Discussion Context

This session sought to explore the opportunities and challenges of transitioning to a circular economy.

Key themes discussed in the session include:

- **Circular Economy:** With support, we can transition to a resource efficient and closed-loop society (also called a circular economy). The term “circular economy” is not yet a publicly recognized one nor does it have one single definition.
 - **Context:** Although the move to a more circular and resource efficient economy is associated with improved recycling rates and reduced quantities of waste, it does not necessarily reduce waste overall. Regulation (e.g. towards a circular economy) is one solution to the waste problem, but producers have little or no incentive to implement changes to resource production supply chains.
 - The plastic shock – when China and other countries started refusing international plastic waste – disrupted the flow of plastic waste, but also increased recycling in Europe.
 - **Opportunities:**
 - There is interest in the subject of circular economy – the term has seen an increase in online searches.
 - A circular economy could unlock \$25 trillion in economic benefits by 2050.
 - The Government of Canada has started to consider circular economy more seriously.
 - A more circular economy could be realized by being efficient with resources, and by implementing extended producer responsibility and producer ownership.
 - A circular economy could achieve double decoupling: as economies grow, we would lessen environmental impacts while also moderating the level of resources we use.
 - A circular economy would reduce waste, by increasing the life cycle of products, reducing inputs to create the product, and finding new uses for the end stages of a product.
 - Municipalities can be at the forefront of new circular economy initiatives as they know their own problems best.
 - Examples of a circular economy within Canada could involve reducing mining waste, more sustainable use of water, and the managing of ecosystems around a mine.
 - Canadian industries most relevant to the circular economy include agri-food, automotive, construction, electronics, forestry, minerals and metals, plastics, and used oil. Based on GDP, the most promising industries for implementing a circular economy in Canada are construction and food manufacturing.
 - We *may* have carbon neutral cement in Canada by the 2030s and *will* have carbon neutral cement by the 2050s.

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- **Challenges:**
 - If the collection of recyclable waste does not improve (e.g. if plastics get thrown out instead of recycled), then it will continue to be challenging to implement a circular economy and there will be limited environmental benefits.
 - Canada has lost about 30 to 60 paper facilities, making it harder to maintain world leading recycled paper rates. Additionally, circular economy is about full value chain and current sector definitions need to be expanded by product lines and not by raw materials.

- **Extended Producer Responsibility:**
 - **Context:** Extended Producer Responsibility passes back some of the disposal responsibilities to the producer, instead of the responsibility falling to the average consumer. Under Producer Ownership producers would retain the actual ownership of the products, selling only their lifetime services.
 - **Opportunities:**
 - Policies could be designed so that the producers are rewarded for their work.
 - With Producer Ownership, producers would know they're getting the materials back, so innovation is encouraged to keep the products usable for longer periods.
 - Producer Ownership would create a legal framework and commercial incentive that rewards innovative solutions for resource efficiency.
 - Net consumer costs are likely to be negative because the incentive scheme would emphasize innovation.
 - The program could be operationalized through, for instance, a deposit-refund scheme, a service contract, and upgrading options.
 - Circular economy models include: Goods as Service, Chemicals as Service, Performance as Service, and Function Guarantees.
 - Looking at batteries as an example, better battery recycling will be required for a variety of factors: demand growth, the demand for lower costs, policies and regulations, and safety factors that discourage improper disposal.
 - **Challenges:**
 - Extended Producer Responsibility does not directly reduce waste or incentivize the creation and design of better products.
 - There will need to be incentives to get people to return the products to the producers.
 - Most Extended Producer Responsibility schemes currently do not cover the full cost of resource recovery.

- **Circular Procurement:** Key to the success of a circular economy is circular procurement, which is when organizations purchase goods only made by circular economy businesses. The closing of Asian recycling markets has led to the rethinking of domestic recycling arrangements.
 - **Context:** Circular business models include circular supplies (renewable inputs), resource recovery, product life extension, sharing platforms (e.g. ridesharing, multiple owners that share one product to maximize usage), and product as a service.
 - **Opportunities:**
 - A more advanced form of sustainable procurement will go beyond typical environmental gains.
 - Circular procurement happens at the buyer level, changing the supply chain and pulling more actors into the equation.

- It is easily scalable to location, level, and size; does not require regulatory influence; and is much faster than the alternatives.
- It has a positive impact on the bottom line by minimizing waste, reducing energy consumption, and reducing product costs.
- It creates rewards for businesses that can come up with ideas to procure in a more circular manner.
- The government can also play a large role by influencing businesses to focus on circular economy.
- Circular procurement can create jobs and encourage new business.

2. Research Questions Identified

- **How do we drive demand for recycled content and ensure there is a supply of these secondary materials and products with recycled content for the market?**
- **What are the public policy levers that will drive strategic investments in things like recycling infrastructure?**
- **Would consumers accept the idea of Extended Producer Responsibility and/or Producer Ownership? Would they still feel like the 'owner' of the product even though the material must be returned?**
- **How do resource producing countries view the concept of circular economy?**
- **What is the best way to implement a circular economy? What are the alternatives?**
- **What is the business case for Producer Ownership?**
- **What sectors are the best candidates for circular economy? What are the policy tools to drive these changes?**
- **How much would it cost if the government asked for zero-carbon cement within Canada?**
- **What could be new circular economy business models for mining and extractive companies?**
- **What would be the consequences of using more recycled polyethylene terephthalate in the USA's bottle production market?**
- **What value chain collaboration networks have worked to change from a linear economy to a circular economy?**
- **What incentives are needed to accelerate value chain circularity?**
- **What if some countries (exporters) don't do anything regarding a transition to a circular economy?**

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