Smart Prosperity Institute

uOttawa
Institut de l'environnement
Institute of the Environment

Economics and Environmental Policy Research Network

Research Symposium

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Session Notes for Panel V: Policy Drivers for Greater Resource and Material Efficiency

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1. Context of Discussion

This session sought to explore what policy changes are needed to achieve greater resource and material efficiency in support of a more circular economy.

Key themes discussed in the session include:

- The goal of efficiency comes down for a large part to making our waste management system work like a market. Currently, there are issues throughout the life cycle of products where incentives aren't quite right and are pushing us away from the economically efficient outcome. E.g. household waste: residents aren't involved in the waste management system, and businesses often pay little or low disposal fees; extraction of virgin materials is often cheaper than recyclables; and fees paid are seldom pegged to environmental externalities, usually just reflecting administrative costs.
- However, markets alone will not achieve the desired high rates of resource efficiency. Public policy and political will are also crucial, as is the removal of barriers that stand in the way of businesses. This will require policy makers and business community to be talking to each other in their pursuit of a circular economy. Furthermore, ideally such conversations about resource efficiency and circular economy should be framed within the wider context of a transition to a green economy and green growth.
- It is important for all involved not to lose sight of the ultimate objective of these changes, which is to better human welfare by reducing environmental impacts. However, making the economy circular might not in fact reduce environmental impact.
- The role of incentives will also be central in achieving a circular economy. It will be crucial to not just identify where perverse incentives currently exist that undermine resource efficiency efforts, but also how to use policy to create new, more effective incentives.
- The confrontation of trade-offs will be crucial in this discussion. E.g. trade-offs between energy and materials; trade-offs between product durability and environmental impacts; trade-offs between impacts in one place vs another, as driven by international trade (i.e. the pollution of waste haven hypothesis).
- Furthermore, given the vast and interconnected nature of global resource use today, the question of boundaries and scale will be important to consider. The question of where to begin is a very real one, as well as the need for a coherent policy and economic package that integrates multiple stakeholders and diverse agendas.

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- Given the complexities of interconnected global resource use, it was suggested that proof-of-concept type work focused on one clearly outlined sector would be useful in terms of thinking through the issues at play and subsequently scaling these up to larger and more complex sectors. Obviously, it is important to remember that many sectors are inter-connected and that such isolation would be an over-simplification. An obvious place to start in Canada today would be to focus on plastics as a case study.
- Progress on this issue is severely hampered by data shortcomings. For instance, looking at single use plastics, we've determined this is an issue and they are taking up too much space in our landfills. However, because we don't have a good price on the space of landfills, we aren't able to determine how much of an issue this really is and what an economically efficient solution might be. Among many other things, data on material flows, inter-provincial trade, landfill mining and technology switches will be critical to advancing rigorous research in this area.

2. Research Questions Identified

- **How do we define waste? How should we define it?**

- One of the key barriers to resource efficiency is the relative price of resources versus labour, resulting in the resource efficient option often not being the economically efficient option. **How do we rectify this issue?**

- **How do we create and formalize mechanisms or frameworks that help us directly confront the multitude of trade-offs that may underlie resource efficiency decisions?**

- Given the vast and interconnected nature of global resource use today (e.g. raw materials may be extracted in one place, processed in another, used by consumers in another and disposed of in yet another location), **how should we determine the appropriate boundaries within which to analyze a particular resource efficiency question? Where should we begin with tackling this challenge? What would a coherent policy and economic package look like that adequately straddles all these different life cycle steps?**

- **If Canada was to move toward a more circular economy how can each level of government work with one another?** Each needs a role in a wider coherent policy package. **How would we assess if a national policy approach to circular economy is in fact 'comprehensive'?**

- **What could be learned from a detailed proof-of-concept type case study focusing on the achievement of greater resource efficiency in one sector or looking at one issue?** E.g. looking at plastics. Could this provide valuable insights to inform subsequent, broader efforts?

- **What would incentives that drive us towards a more circular economy look like? Where do perverse incentives currently exist and how could these be changed through public policy? What incentives have been used in other countries and to what effect?** E.g. Sweden has price incentives for repairing small appliances.

- **Does transitioning to a circular economy require measuring wealth and asset value vs. GDP and income flows? As long as our primary focus remains on GDP as headline indicator for economic**

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progress, will this hamper and be inconsistent with the transition needed? In a circular economy most goods become intermediate goods, so how should they enter GDP?

- **What will the role of innovation in finance be in achieving resource efficiency and circular economy objectives?** We need to determine how to finance getting through the complete product cycle. This may include roles for both the public and private sector, depending on if there is a public goods component in the product cycle.

- Acknowledging that there are large data gaps that must be filled to be able to answer many of the interesting research questions in this field, **are there existing data that could be used as proxies or estimates of missing data? Is there an easy way to take stock of data that are known? Given that the required data are likely spread between businesses, private groups and governments, how could the necessary collaboration be enabled?**

- **To what extent is our current system of infrastructure going to be compatible with a more resource efficient, circular economy?** E.g. landfills and incinerators**. Knowing that Canada invests in landfills as public infrastructure, can investments in different types of infrastructure shift incentives to produce a more 'purified' waste stream?** Examples could include public sorting facilities. **How can we approach innovative ways to fund this investment?** This in turn has links to questions of public procurement: who is responsible for infrastructure maintenance and over what period? Who is responsible for end of life decisions? How do novel concepts like system modularity fit within procurement systems?

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