

How the Circular Economy Differs From Both the Traditional

Linear Economy and the Recycling Industry

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Exclusive Summary

According to the Government of Canada, the circular economy is a “different way of doing business,” aimed at retaining and recovering as much value as possible from resources used. Circular economy practices include reusing, repairing, remanufacturing, repurposing, or recycling existing products and materials. In this way, the life cycle of products is extended.

The increase in the consumption of natural resources necessarily leads to an inevitable result - the depletion of the natural resources of the planet, which leads to climate change, environmental pollution and other environmental problems.

The concept of circular economy appeared for the first time in the 1960's when it was proposed by economist Kenneth Ewart Boulding from the United States of America. He further discussed it in Europe in the 1970's, when he presented a circular economy model, in contrast to industrial dependence on raw materials. In his presentation, Boulding highlighted the circular (cyclical) economy - a phenomenon in which consumption and production occur in a closed cycle with three specific conditions: to use resources as much as possible, to recycle so as not to accumulate waste, and to ensure that there is no negative impact on nature.

The circular economy aims to improve business entities, find rational ways to use resources, while ensuring a sustainable production cycle. This directly results in benefiting from existing capabilities, which maintains the pace of economic growth, and develops other branches of the economy (for example, renewal of natural resources, gross domestic product, filling the labor market). In addition, other results include overcoming poverty and hunger, providing high-quality health and education care, improving the energy sector to provide resources and generate energy in an environmentally friendly manner. This will ensure the safety of ecosystems, resist climate change, slow the deterioration of seas, soils and forests, and reduce the volume of household waste. The circular economy would strive to have countries interacting together for the benefit of the planet and global economic development.

The economy is key to fighting climate change. That's why we must continue the shift from a linear to a circular economy, to make sure society progresses in a way that is environmentally-friendly.

For business, working together on creating the framework for sustainable products will provide new opportunities in the European Union (EU) and beyond. This progressive,

yet irreversible transition to a sustainable economic system is an indispensable part of the new EU industrial strategy. A recent study estimates that applying circular economy principles across the EU economy has the potential to increase EU Gross Domestic Product (GDP) by an additional 0.5% by 2030, creating around 700,000 new jobs. There is a clear business case for individual companies too. For example, since manufacturing firms in the EU spend on average about 40% on materials, closed loop models can increase their profitability, while sheltering them from resource price fluctuations, as the closed loop plays a big role in an economic model in which no waste is generated; everything is shared, repaired, reused, or recycled.

This Circular Economy Action Plan provides a future-oriented agenda for achieving a cleaner and more competitive Europe in co-creation with economic actors, consumers, citizens and civil society organizations. It aims at accelerating the transformational change required by the European Green Deal, while building on circular economy actions implemented since 2015. This plan will ensure that the regulatory framework is streamlined and made fit for a sustainable future, that the new opportunities from the transition are maximized, while minimizing burdens on people and businesses.

The circular economy can significantly reduce the negative impacts of resource extraction and use on the environment and contribute to restoring biodiversity and natural capital in Europe. Biological resources are a key input to the economy of the EU and will play an even more important role in the future. The Commission will aim at ensuring the sustainability of renewable bio-based materials, including through actions following the Bioeconomy Strategy and Action Plan.

Regarding waste and resource management, Nova Scotia has been recognized on an international basis for its leadership in the management of solid waste. These efforts have helped to pass Bill No. 136, the Green Economy Act. The Act states the following: "The Province develops a strategy by 2014 to advance the growth of the green economy, and implements the strategy accordingly." Page 11 of 42 brand the province in this area, and have created the potential for increased economic development through the exportation of local knowledge and expertise in this field. An economic impact analysis, commissioned by the Resource Recovery Fund Board (RRFB) of Nova Scotia, shows Nova Scotia's Beverage Container Deposit-Refund System generates approximately 600 jobs, \$20.1 million in salaries and wages, and plays a significant role in the fundraising efforts of charitable groups and organizations across the province.

Nova Scotia has taken early action on many fronts to advance greening while balancing economic activity. The opportunity moving forward is to continue to strategically develop

strong businesses and sectors that are well poised to take advantage of the transition to a greener economy.

Nova Scotia continues to demonstrate regulatory leadership that links economic and environmental priorities. Nova Scotia has become known as a leader and taken early action on certain environmental, resource, and climate goals (e.g. solid waste diversion, greenhouse gas reduction, renewable energy). These actions have brought economic benefits, including greater stability in costs, predictability for investors, economic development, job creation, climate and environment benefits. The Province can choose to build upon its success when moving forward, and can consider educating regulated sectors to capitalize on the benefits of early adoption and compliance. Early adoption of better standards and technology accelerates the cycle of innovation, and can bring short-term advantages along with longer-term savings and cost stabilizers.

Strategic Priorities: Increase business competitiveness through efficiency. There is a growing base of data showing both the economic and environmental benefits of efficiency measures. When businesses implement energy efficiency projects, the cost savings go directly to the bottom line, and they achieve greater productivity and overall competitiveness. The Province can continue to collaborate with Efficiency Nova Scotia and other organizations to capitalize on these economic benefits. This may involve increased linkages to research and development, funding sources, training supports, and other workforce development efforts. The Productivity and Investment Program (PIP) is designed to help maximize opportunity for productivity and innovation. It recognizes this objective has two important aspects: capital (addressed through the Capital Investment Incentive), and workforce development (addressed through the Workplace Innovation and Productivity Skills Incentive).

Remanufacturing Apple phones can have a positive effect on the circular economy in several ways. First, it extends the lifespan of the phone by refurbishing it to like-new condition, which reduces the need for new phone production and reduces the amount of electronic waste going to landfills. By keeping the materials in use for longer, the remanufacturing process reduces resource consumption, energy use, and greenhouse gas emissions associated with manufacturing new phones.

Secondly, remanufacturing creates new job opportunities in the repair and refurbishment sector, which supports local economies and contributes to a more sustainable and resilient economy. This can also help to reduce the environmental impact of the electronics industry by reducing the need for new manufacturing.

Finally, the remanufacturing of Apple phones can encourage the adoption of circular economy principles more broadly. By demonstrating the potential of remanufacturing, Apple can inspire other companies to explore circular business models and design products that are more durable, repairable, and recyclable. This can contribute to a shift towards a more sustainable and circular economy, where materials are kept in use for as long as possible, waste is minimized, and value is maximized.

These are just a few examples of the circular economy in action. The principles of the circular economy can be applied in many ways, and there is enormous potential for innovation and progress as more businesses and industries adopt circular practices.

Circular economy is an economic model that aims to keep resources in use for as long as possible by minimizing waste and maximizing the value of materials, products, and services. Canada has been working towards implementing circular economy principles in its economy, and there are several initiatives and organizations dedicated to advancing this concept in the country.

One notable organization is the Circular Economy Leadership Coalition (CELC), which brings together leaders from businesses, governments, and non-profit organizations to advance the circular economy in Canada. The CELC focuses on identifying opportunities for circular solutions, sharing best practices, and advocating for policies that support a circular economy.

Additionally, several cities in Canada have implemented circular economy strategies, such as Vancouver's Zero Waste 2040 Plan, which aims to reduce the amount of waste sent to landfills and incinerators by 50% by 2040 through a range of measures, including increased recycling and composting.

There are also several companies in Canada that are incorporating circular economy principles into their operations, such as Loop, a company that provides reusable packaging and delivery services for consumer goods, and Terracycle, which specializes in recycling hard-to-recycle materials.

Overall, while Canada still has a long way to go in fully embracing a circular economy, there is a growing recognition of the need to transition to a more sustainable and resilient economic model, and many organizations and initiatives are working towards making this a reality.

Apple's trade-in program for its devices, including iPhones, iPads, and Macs, can have a positive environmental impact. When customers trade in their devices, Apple refurbishes them and resells them, extending the life of the devices and reducing the need for new manufacturing. This reduces the environmental impact associated with the extraction of raw materials, energy use, and greenhouse gas emissions associated with the production of new devices.

Regarding the use of precious metals in Apple devices, Apple has made efforts to reduce its environmental impact by sourcing these materials responsibly. The company has committed to using only recycled or responsibly sourced gold, tin, tungsten, and cobalt in its products, and has developed a closed-loop supply chain for some of these materials, which involves recovering and reusing them from old devices.

By sourcing precious metals responsibly and incorporating them into a closed-loop supply chain, Apple is reducing the environmental impact of its products and contributing to a more sustainable and circular economy. Additionally, by offering trade-in programs, Apple is encouraging customers to participate in the circular economy and reduce their environmental footprint.

Smartphone buyback and trade-in programs can have a positive environmental impact by extending the life of electronic devices and reducing the need for new production. When customers trade in their old smartphones, the devices are often refurbished and resold, or the components are recycled, which reduces the environmental impact associated with the extraction of raw materials, energy use, and greenhouse gas emissions associated with the production of new devices.

In addition, by participating in these programs, customers can contribute to a more sustainable and circular economy by keeping materials in use for as long as possible and reducing waste. This is important because electronic waste is a growing concern globally, with millions of tons of electronic devices being discarded every year.

However, it's important to note that the environmental impact of buyback and trade-in programs depends on how the devices are processed after they are collected. If the devices are not processed responsibly, they can still have a negative environmental impact, including the release of toxic chemicals and pollutants.

To ensure the environmental sustainability of these programs, it's important to choose a reputable vendor or service provider that has a clear and transparent process for refurbishing or recycling devices. Additionally, customers can make a more significant impact by extending the life of their devices through responsible use, regular maintenance, and repair.

The involvement of specialists, community members, researchers, policymakers, and government agencies will streamline the entire process and ensure that the circular economy becomes the most appropriate model for many companies in different parts of the world. This move will present superior approaches for conserving the natural environment and protecting lives.

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