

BENEFITS OF CIRCULAR ECONOMY: FROM THEORY TO IMPLEMENTATION IN THE WORLD AND THE PROBLEMS TO VIETNAM

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Abstract

Various studies have shown the theoretical benefits of circular economy. The circular economic development has shown that such benefits have been realized in many different countries. Vietnam advocates a circular economic development in order to gain many benefits from different aspects of socio-economic life and to have certain advantages and disadvantages. The article studies how different circular economy models in the world and in Vietnam have been implemented and what benefits have been obtained.

Key words: *Circular economy, the benefits of circular economy, linear economy*

1. Introduction

Since the 1990s, the concept of circular economy in the context of modern societies, enhanced standards create many factors that have a negative impact on the health and ecosystems as well as pose many dangers. harmful to the environment and development. Until now, there are many different expressions of menstrual cough.

The World Economic Forum (EEA, 2017) said that: The weekly economy is purely an industrial system that is restored or recreated according to ideas and designs. It replaces the final concept with recovery, conversion to use. quantitative regeneration, eliminating the use of toxic chemicals, loss of usability and return to organisms, and cross-target design waste removal of material, products, systems and business models.

Ellen McArthur's hand defines a circular economy (Ellen MacArthur Foundation, 2013): "Looking beyond the current model of artisanal mining, a circular economy fulfills the goal of redefining growth, focusing on activities that bring about It extends the economic activity of gradually leaving the work of enjoying resources and designing waste out of the system. , Model week to complete construction of economic, automatic and social capital. ”.

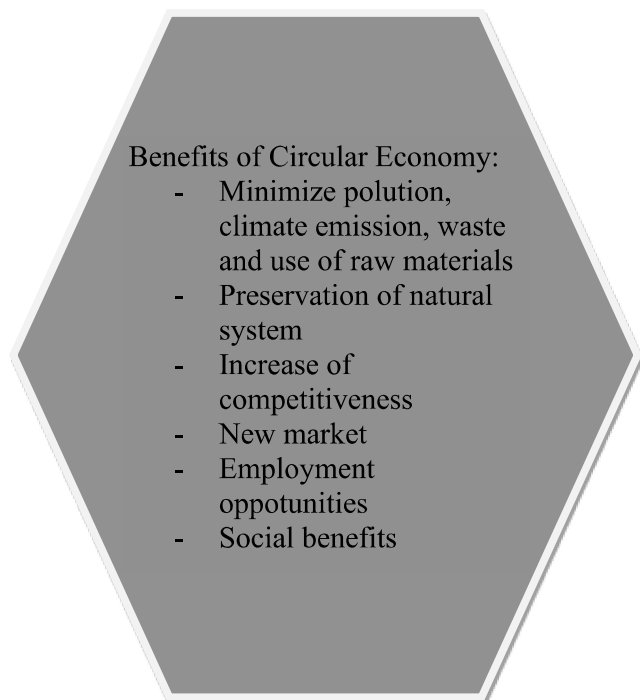
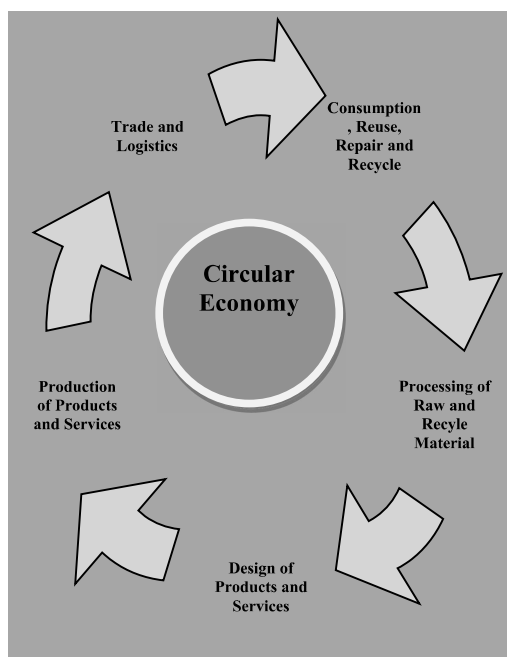
Thus, circular economy (CE) is the design, production and service activity that sets the goal of prolonging the life of matter and eliminating negative impacts on the

environment, thereby minimizing the harming the quality of life through recycling solutions, using recycled input materials to save on natural resources. It is also about managing and rationally using renewable resources, managing waste by recycling to optimize value on the principle that the longer materials and resources are used, the more value we can get from us.

In comparison with circular economy, a linear economy that computes as a flow, transforms natural resources into basic materials and products and then sells information through a series of value-added steps, tends to sell as much as possible, leading to a waste of using the resources of other sources of finance even on three sources.

In linear economy, goods are produced from natural resources, sold to the market, consumed and then on-site eliminated. A linear economic model that leverages resource exhaustion and produces a relentless page quality. The economic model completely replaces the online economy with the aim of minimizing waste and protecting the environment. In the completed economic model, the enterprise applies a closed and production cycle, the alternative contaminants because they are discarded, wasted and polluted the environment, will become raw materials for new products to emerge.

Report of finish Environment Institute (Annukka Berg and others, 2018) showed the key components of circular economy and its benefits as following:



The article researches on the benefits of the circular economy that are manifested in many different areas of productive life such as in the agricultural sector, in the protection of

the environment, and on the corporate and the whole national economy. From there, the research team also presented the advantages and disadvantages of implementing circular economy in Vietnam.

2. Method

Circular economy is a relatively new field in terms of theory and practice. Countries do not have adequate regulations on the implementation of circular economy. Therefore, the article is mainly based on qualitative method, review and description of documents.

The author from the National Academy of Politics used a qualitative method, a descriptive review of the literature to search for theories about the benefits of the circular economy that have been mentioned many times in the studies of other countries in the world.

The author from the Ministry of Natural Resources and Environment use empirical research methods to compare and search in the implementation of circular economy models in the world. At the same time, this method also raises problems for the development of circular economy in Vietnam in the coming time.

3. Results

Practice circular economy in the world

Around the world, the circular economy has a huge impact on economic development. The 2016 report by the Ellen MacArthur Foundation and the United Nations Conference on Trade and Development (UNCTAD) shows that India will generate \$ 218 billion in economic value added by 2030 and nearly triple the figure by 2050 when applying the principles of circulation in three areas: city and construction, food and agriculture, vehicle manufacturing and mobility. Likewise, in China, the circular economy makes goods and services cheaper, reducing fine dust emissions by 50%, greenhouse gas emissions by 23% and traffic congestion by 47% by 2040.

Circular economy helps the world save 4,500 billion USD by 2030, Europe alone can save 600 billion EUR (about 660 billion USD) per year. (European Commission, 2018a).

The European Union moves towards the circular economic model as one of the pillars of the EU 2020 strategy and applies the principles of cyclic economics as part of the sustainable development strategy, which defines the take various actions in the European Union's Action Plan for the Circulatory Economy, aiming to make all waste a resource. As a result, new industries focus on recalling, cleaning, and reusing old products to produce new ones.

The EU proposes to define a primary material yield goal to measure the amount of value created per unit of raw material or product. Based on GDP related to raw material consumption, this figure will be set at 30% by 2030. This package also includes a legislative

proposal to review waste targets including recycle targets. Recycling 70% of municipal waste, 80% recycling of packaging waste and bans any recyclable goods landfill. (European Commission, 2018a).

By the end of 2018, there were 34 countries in the world taking the first step in laws and policies to promote a circular economy. In cities around the world, city governments are becoming an incubator of ideas that can deliver broader policies and can inspire action in both the public and private sectors. Sweden is one of the leading countries in the world for waste management and recycling. The waste is recycled and used for purposes such as biogas and energy. Sweden has now become a waste importer with more than 2.3 million tons of waste being imported each year. Thanks to people's awareness of environmental protection, government encouragement as well as an efficient garbage collection system, the proportion of recyclable waste of households has increased from 38% in 1975 to 99% today. Only 1% of the waste goes to landfills. (European Commission, 2014.)

Toronto collects organic waste from households in the city and turns it into biogas that can fuel trucks or be used for heating. In New York, city governments promote capital recycling initiatives by extending the life of products by recycling, reusing, and adopting a sharing economy.

Reality of the circular economy in Vietnam

In Vietnam, circular economy is concerned to some concepts, such as: Sustainable production and consumption; green supply chain; green consumption... Reality shows that the circular economy is the best way to break the long-standing relationship between economic growth and negative environmental effects.

In the agricultural sector: Currently, the country has nearly 200 farmers and dozens of cooperatives are also benefiting from this link between farmers and businesses. This number will increase when the 4F Farm - Food - Feed - Fertilizer (4F) Complex Project includes: Raising organic pigs, producing bio-products, producing organic feed. and organic fertilizer production is gradually being formed on an area of 15 ha in Phong Dien district, Thua Thien Hue province. The four plants in this complex will form a closed cycle from livestock to farming, from crop to soil. In which, the bio-safe and organic pig farm with an area of 2ha is the first completed item of the 4F biosafety livestock complex project.

Circular economy with products produced through the farm form is considered an inevitable development trend to promote the efficient and sustainable development of rural agriculture. The Garden-Pond-Stable (VAC) model and the Garden-Pond-Booth-Biogas (VACB), Garden-Pond-Stables-Forest (VACR) model have been applied by many localities across the country. VACB is a solution to help overcome irrationality in waste management, rational use of agricultural residues, to return soil fertility. Safe handling of animal wastes, renewable energy creating fuel sources for living against environmental pollution and

contributing to reducing emissions, reducing greenhouse effects causing climate change.

In the operations of enterprises, many new production and business models that tend to get closer to the circular economy in the private sector have been implemented quite successfully like the model of eco-industrial parks in Ninh Binh, Can Tho. and Da Nang, saving 6.5 million USD / year; models of processing aquatic by-products; Vietnam Packaging Recycling Alliance (PRO).

The foreign-invested sector plays an active role in promoting the circular economy in Vietnam through recycling plans for waste and by-products with state-of-the-art and advanced waste treatment processes transparency control. Nestlé Company produces unburnt bricks from boiler waste, processes fertilizers from non-hazardous sludge and uses milk cartons for ecological roofing. Nestlé also plans to recycle and reuse 100% of its product packaging by 2025.

Heineken Vietnam has nearly 99% of waste or by-products reused or recycled, 4/6 breweries use heat energy from renewable energy and fuels, and do not emit carbon. Unilever Vietnam implements a program to collect and recycle plastic packaging and sort waste at source ...

In June 2019, 9 pioneering companies to found the Vietnam Packaging Recycling Alliance (PRO Vietnam) include: TH Group, Coca-Cola Vietnam, Friesland Campina Vietnam, La Vie, Nestlé, Nutifood, Suntory PepsiCo Vietnam Nam, Te tra Pak and Universal Robina Corporation.

In the textile and garment industry, parts of the rags are recycled by the enterprise into new fabrics and clothing and clothing products created using a portion of this recycled fabric are labeled circular economy products. Parts such as coffee bean grounds and pods are utilized and produced into standard coffee cups and are also labeled circular economy products.

4. Discussion and Conclusion

Numerous studies point to various benefits of the circular economy. Altogether, some of the following benefits can be found:

- Circular economy is about reducing greenhouse gas emissions, positively impacting ecosystems and combating overexploitation of natural resources, increasing the sustainability and efficiency of land use in agriculture. The circular economy reduces the use of raw materials, optimizes agricultural productivity and reduces negative externalities caused by the linear model, avoids greater pollution caused by the production of materials.

The transition to a circular economy is the process of responding to climate change adaptation requirements. This is an adjustment process aimed at minimizing negative effects of the linear economy, creating a long-term resilience, and is the pathway towards a low-

carbon economy, especially in heavy industries. Recirculating economic development could halve carbon dioxide emissions from industry by 2030, compared with 2018 levels.

- Benefit from protecting natural systems, especially in the agricultural sector.

The European model of the recirculating economy in agriculture has the potential to reduce the use of man-made fertilizers by 80% and thus contribute to the natural balance of the soil. Land degradation causes an estimated 40 billion US dollars in damage annually worldwide, and there are potential costs such as increases in addition to fertilizer use, loss of biodiversity and loss of unique landscapes. While the demand for raw materials will increase due to the increase in world population and consumer demand, activities in the recirculating economic model use less raw materials by focusing on extending the cycle of raw materials. A pathway towards a low carbon economy, especially in heavy industries. Recirculating economic development could halve carbon dioxide emissions from industry by 2030, compared with 2018 levels. Europe's agricultural cyclical model is likely to reduce usage by 80%. Fertilizers are artificial and thus contribute to the natural balance of the soil. Land degradation causes an estimated 40 billion US dollars in damage annually worldwide, and there are potential costs such as increases in addition to fertilizer use, loss of biodiversity and loss of unique landscapes.

- The circular economy creates high economic growth potential. Through resource-efficient use, businesses have the opportunity to produce cheaper by offering products and services with multiple use functions. When compared to the linear extraction of common raw materials, the circular economy model has the potential to lead to greater material savings. While the demand for raw materials will increase due to the increase in world population and consumer demand, activities in the recirculating economic model use less raw materials by focusing on extending the cycle of raw materials.

Employment benefits: The development of the cyclical economic model could bring more local jobs to primary and semi-skilled jobs. An August 2018 study on circular economy performance suggested that 50,000 new jobs could be created in the UK and 54,000 in the Netherlands. (European Commission, 2018a)

- The benefits of increasing competitiveness of businesses and the economy: For businesses, the circular economic model helps businesses become more flexible, increasing their ability to cope with changes from supply of raw materials, reducing the amount of raw materials, increasing recycled materials, thereby creating new profits. The circular economy also creates a demand for new services for businesses to seek business opportunities. New services that may arise are collection logistics and support of end-of-life products introduced into the system, product marketing services and sales platforms that facilitate the longevity of the product longer, reproducing parts and components and refurbishing products or services provide expertise.

From the corporate perspective, the circular economy also brings a new perspective on the relationship between markets, customers and natural resources, thereby contributing to the promotion of new innovative business models, disruptive technology for higher business growth through cost cutting; reduced energy consumption and CO2 emissions; supply chain strengthening and resource conservation. The circular economy is a distinctly different business model, forcing companies to rethink everything from how products are designed and manufactured to their relationship with customers. The preeminence of the circular economy is to help businesses do business well, while moving towards a zero-emission economy and protecting the environment, thereby solving the long-standing relationship between economic growth and its negative effects to the environment.

There are some problems in the circular economic development in Vietnam:

First, the implementation of a circular economy in Vietnam has a number of basic advantages. Vietnam is continuing to perfect the socialist-oriented market economy institution, transforming from a linear economy to a circular economy with many new business models based on the innovation of public science. technology and policy reforms contribute to rapid and sustainable economic development. The circular economic development policy is mentioned in the Politburo's Resolution 55-NQ / TW of February 2020 on the orientation of Vietnam's National Energy Development Strategy to 2030, with a vision to 2045. In which, it is affirmed to give priority to developing renewable energy, develop power plants using waste and waste to protect the environment and develop a circular economy. The Resolution of the XIII Congress of the Party continues to affirm the policy of "building a green economy, a circular and environmentally friendly economy" and "building roadmaps, mechanisms, policies, law, to form and operate a cyclic economic model ", the revised Environment Law 2020 lawizes the regulation of the circular economy. With the development of science and technology and the fourth industrial revolution, the circular economy associated with high technology, along with the promotion of digital transformation will be a great opportunity to explore and discover many awards. methods to improve the efficiency of natural resource use. Circulating economy will also reduce the pressure of resource shortages, environmental pollution, large amounts of waste, especially plastic waste. This contributes to the implementation of the sustainable development goals (SDGs) and the response to climate change, the reduction of greenhouse gases, which are recovered almost completely and not emitted into the environment. Therefore, circular economic development will receive the consensus of the whole society.

In addition, from an enterprise perspective, the circular economy brings a new perspective on the relationship between markets, customers and natural resources, thereby contributing to promoting innovative business models. new, disruptive technologies for higher business growth through cost cutting; reduced energy consumption and CO2 emissions; supply chain strengthening and resource conservation. The circular economy is a

distinctly different business model, forcing companies to rethink everything from how products are designed and manufactured to their relationship with customers. The preeminence of the circular economy is to help businesses do business well, while moving towards a zero-emission economy and protecting the environment, thereby solving the long-standing relationship between economic growth and its effects. negative to the environment.

Second, the implementation of the circular economy in Vietnam has many difficulties and challenges. Vietnam's biggest challenge in adopting a recirculating economic model is the cost of recovering value from waste. The cyclic economy is a closed model when using this cycle's waste for the new cycle's input. In Vietnam, the amount of waste is forecast to double over the next 15 years. The rate of waste recycling in Vietnam is less than 10% of the total amount of waste. This is a small percentage compared to other countries that have been implementing cyclic economic models. The amount of plastic waste and plastic bags nationwide currently accounts for about 8-12% of domestic solid waste. If on average about 10% of plastic waste is not reused but completely disposed of, the amount of plastic waste and plastic bags discharged into the environment is approximately 2.5 million tons / year. The high rate of waste makes it difficult to manage, collect and recycle waste resources.

In addition, the current economic system in Vietnam is moving towards the demands of a linear economy. When making economic decisions, enterprises prioritize to consider market signals, not pay much attention to positive or negative externalities factors to society and the environment. Circulating economy business models are more difficult to develop, as most investors are still working on linear economic logic. Many companies still have goals that focus on short-term value creation, while the cyclical economic model is the one that creates long-term value.

The next difficulty comes from consumer perception about the use of products in the circular economy in Vietnam. In many countries, CE-labeled products are actively supported by consumers, while in Vietnam there are also many products made from by-products, scrap, and recycled materials ... but it has not been "certified" and the market's reception is still very limited.

Legal and infrastructure conditions for the circular economic development are lacking, making it difficult for the implementation of new business models. The circular economy requires a product creation strategy from the outset, designing items to last as long as possible, and planning to bring raw materials back into the economy later. Achieving this will require a large investment in collection, sorting and recycling infrastructure. Demand for recirculating and alternative products remains small. There is a lack of qualified specialists with technical or information technology and communication knowledge. The GDP index does not consider social and environmental factors, and does not encourage value

creation in both of these areas.

Therefore, to promote circular economic development for sustainable development of the country, in the coming time, it is necessary to perfect the legal system and policies to promote a circular economy, reduce dependence on natural resources. course for growth. It is necessary to build a database on the circular economy associated with the digital economic transformation and the fourth industrial revolution. Promote cooperation and linkages between economic sectors and social organizations in building a circular economy in Vietnam, in which the Government plays a leading and tectonic role. Propagating for all people to change their thinking about growth, improving the quality of life, production and business associated with environmental protection

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