



# As-A-Service & Circular Economy Planned Obsolescence

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**Reading Time: 8 Minutes**

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## Introduction

To understand the social and environmental impacts of the world's production of goods, let's have a look at the statistics of world energy consumption : This figure has increased twofold in 40 years since 1980! Global energy consumption is increasing exponentially, which means that global production of goods is increasing just as fast, creating huge amounts of waste, and not only related to energy consumption. Because of the linear economic system (production, use, waste) still in use in combination with the planned obsolescence, this economical model is at the core of the largest part of our daily waste of resources. This paper is written predominantly from the perspective of manufacturers and/or integrators.

This white paper has two objectives:

- Understand planned obsolescence, the criticisms and its limits.
- Understand how the combination of the circular economy and the **As-A-Service** business model is a way to reduce the social and environmental impacts of global goods production.

This white paper is the second one out of four papers. The first one gives insight about connecting the dots between the As-A-Service business model and the circular economy, the next one being about the common mistakes made when connecting As-A-Service and the circular economy, and the last one offers 5 ways to initiate the circular economy contributions with **As-A-Service** .

## 1. The Origins

The concept of planned obsolescence has been a solution to the economic crisis of the 1930s. The term was theorized and named by Bernard London, an American real estate broker, who sought to revive the economy. His principle was as straightforward as this : Planned obsolescence makes sure that the life cycle of the product is determined. It has been since then a **financial strategy** for manufacturers to encourage customers to buy more products more often.

According to Bernard London, it benefits consumers who have the latest technology, manufacturers who can produce more and hire more employees, and governments whose economies are growing and whose unemployment rates are reduced. After spreading this idea, Brooks Stevens has popularized the term and developed "psychological obsolescence" defined as follow:

*Instilling in the buyer the desire to own something a little newer, a little better, a little sooner than is necessary.*



There are six main types of obsolescence:

- **In-built technological obsolescence**, the most well-known type of obsolescence. It occurs when a product stops working properly after a certain time. This has been the first type of obsolescence to be put on the market. It can manifest itself in two ways: the fragility of the components and/or the impossibility to disassemble the product to repair a part of it.
- **Incompatibility obsolescence**, mostly used in the field of electronics and computers, aims to make a product unusable because it can not function properly with the latest software updates.
- **Indirect obsolescence**, happening when a product is still functional but the spare parts and accessories are no longer available. The Right to Repair movement has been tackling this type of obsolescence for a decade.
- **Obsolescence by notification**, receiving a notification that the product is broken and must be repaired or replaced.
- Obsolescence by expiration, mostly used for food and beauty by applying a date of use to their products with the aim to protect people's health.
- **Aesthetic obsolescence**: related to the psychology of the user, it is strongly connected to marketing and the assumption that users are attracted by what is new and prettier.

## 2. Critics

Initially, the purpose of planned obsolescence was to fight poverty by boosting the economy. Today, some economists argue that programmed obsolescence favors innovation to offer better performing products to users. Programmed obsolescence is also a tool for the manufacturer or the integrator who finds himself in a situation where scaling the production and distribution of existing products costs more than developing a new product.

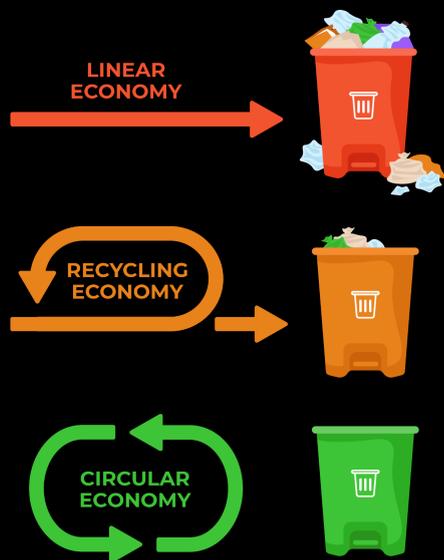
The main criticism of planned obsolescence is its impact on the planet. It encourages **overconsumption** and it has many negative effects on the environment.

Planned obsolescence is part of a linear economic model: extraction, production, use and waste. Consumer goods are manufactured with planned obsolescence in mind, partly because of the desire to produce more to boost the economy. However, producing more means extracting more raw materials. Smartphone consumption, for example, has increased fourfold between 2010 and 2020 to reach more than 4.14 million cell phones sold every single day! Electronics contribute to the production of 40 million tons of waste per year. In addition, the impact of smartphone production on the environment is increasing as the extraction of rare materials and heavy metals is related to it. This overconsumption of natural resources has many issues, taking today the planet a year and a half to regenerate the natural resources we consume.

Mountains of waste are growing, causing many social and environmental problems. Every year, an average European produces 5 tons of waste and more than 60% of household waste is landfilled in some EU countries. Landfills contribute to 20% of global anthropogenic emissions of methane, a potent greenhouse gas. In open landfills, toxic materials and oils leak into rivers and water sources when it rains. They damage ecosystems, are responsible for the loss of biodiversity, water poisoning and toxic emissions are responsible for health problems. In addition, some of the waste is sent as second-hand products to countries like Ghana and Malaysia, but since these products no longer work, they are sent to local landfills, which creates many political problems in addition to social and environmental issues. It is time to act, planned obsolescence is definitely not sustainable on a long run, and we all start to witness the limits of this economical model thanks to the programs showing the damages to the planet.

## 3. The circular economy, a solution to planned obsolescence

The circular economy is the opposite of planned obsolescence as it aims to keep products in use as long as possible. Products can be repaired, sold as second hand and finally refurbished or disassembled to produce something new, and so on! If products stay in use longer, there is obviously less waste in landfills, and therefore less pollution because the components are reused.



A growth in consumption also means a growth in energy consumption, non-renewable energy sources are still the main source of energy (coal, gas and oil). In a linear economic system, the manufacturer or integrator has to produce more products and therefore consume more energy and more raw materials. In a circular system, the materials come back to the manufacturer or integrator, meaning that they can save money and reduce their negative environmental impacts. For example, in a *Mobility-As-A-Service* model, the car manufacturer will retrieve all the valuable car parts and components at the end of the lifecycle of cars that have been shared by different users. In the circular economy, energy consumption is optimized so that there is no waste of energy nor raw materials for the manufacturer or integrator.

The circular economy addresses the interdependent effects that can occur when pursuing an activity, i.e. the pollution and waste generated by the linear economic model and thus by planned obsolescence. The circular economy also offers the opportunity to have a more **transparent supply chain** upstream and downstream. The manufacturer or integrator that decides to include the circular economy in its business model, combined with the *As-A-Service* model, retains control over its products and the resources associated with them.

It mitigates the negative consequences of the linear business model including: climate change, competition for scarce resources, etc. The **value creation** achieved through the circular economy goes beyond the financial and environmental aspect, it also includes knowledge. When the manufacturer or integrator gets their product back, they can get important data to develop new technologies and promote innovation.

## 4. The *As-A-Service* model, a solution to planned obsolescence

The *As-A-Service* business model has the benefit to keep the **ownership** of the products at the manufacturers or integrators. Therefore the ownership is centralised and not fragmented at the users. Since it requires rethinking several activities such as eco-design or customer service, some important aspects have to be taken in consideration when moving towards circular economy and *As-A-Service* combined.

- The choice for durable materials that will withstand intensive use.
- The engineering of the products where durability and resilience are key words.
- The repairing and replacement solutions where components are easy to replace and the product can be disassembled.
- The backward compatibility: the production, distribution and after-sale processes can adapt to new technologies.
- The solution once the product cannot be reused as-is: repairing, refurbish, recycle.

Planned obsolescence creates waste, but this "waste" has value. Components and parts of discarded products can be reused or recycled if the product can no longer be used. The "As-A-Service" business model offers the manufacturer or integrator the opportunity to retain this value, thus avoiding financial loss. A new concept is created with the **As-A-Service** model: **planned permanence**. Parts and components recovered with the **As-A-Service** model are kept in service and do not end up in a landfill, so this model helps reduce the environmental impacts of end-of-life.

Black Winch supports organisations in turning a product-based business into an in-house subscription model and moving from transferring ownership to providing usership. With a personalized framework, the experts of Black Winch help to build or adapt an As-A-Service offer, find financial partners, train teams, and provide the financial engineering required to ensure the success of the project. It opens the door towards the circular economy and sustainable development. Black Winch is proud to be part of the [Ellen MacArthur Foundation community](#).

Let's make planned obsolescence obsolete !

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## Bibliography

- Cotton, F. (2019, July 26). Planned Obsolescence and The Problem with Waste. Récupéré sur The First Mile: <https://thefirstmile.co.uk/the-big-picture/planned-obsolence-and-the-problem-with-waste>
- Dannoritzer, C. (Producer). (2010). *The Light Bulb Conspiracy* [Film].
- Danthurebandara, M., Van Passel, S., Nelen, D., Tielemans, Y., & Van Acker, K. (2012). Environmental and socio-economic impacts of landfills. Dans Linnaeus ECO-TECH (pp. 40-52). Kalmar, Sweden.
- Jackson, K. (2020, August 4). Planned Obsolescence Versus The Circular Economy. Récupéré sur Forbes: <https://www.forbes.com/sites/katejacksonk/2020/08/04/planned-obsolence-versus-the-circular-economy/>
- McManus, N. (2021, August 2). Circular economy about much more than reusable coffee cups. Récupéré sur The Irish Times: <https://www.irishtimes.com/opinion/circular-economy-about-much-more-than-reusable-coffee-cups-1.4636368>
- Weyler, R. (2019, July 20). It's a Waste World. Récupéré sur Greenpeace: <https://www.greenpeace.org/international/story/23747/its-a-waste-world/>