

Planned obsolescence: Exploring the issue

SUMMARY

Although no overarching definition of planned obsolescence exists, the term 'planned obsolescence' (of products or technology) is described as the intentional production of goods and services with short economic lives, stimulating consumers to repeat purchases too frequently. The incandescent light bulb with an engineered shorter lifespan (the Phoebus cartel case) is one example from the past of proven planned obsolescence.

Data suggest that the median lifespans of certain categories of product have been shortening, and consumer organisations have drawn attention to more recent suspected cases of planned obsolescence in connection with washing machines, inkjet cartridges, electronic devices, etc. One Member State – France – recently introduced a definition of planned obsolescence into its legislation, making it a punishable offence.

No specific EU rules mention planned obsolescence, but the subject ties in with EU legislation on ecodesign, waste, use of natural resources, consumer information and the new package from the European Commission on the circular economy. The main consumer concerns and problematic strategies associated with the issue are: design features that do not allow repair, upgradability or interoperability with other devices; the unavailability of spare parts and high repair costs; and marketing strategies pushing consumers to buy new, fashionable products and replace existing ones very quickly. Various ways to curb the practice of planned obsolescence have been proposed, not least a shift towards a culture that values product durability and sustainability.



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In search of a definition

No overarching definition of the term planned obsolescence exists. According to the European Consumer Organisation, BEUC, the concept of planned obsolescence is associated with 'a wide range of techniques that certain manufacturers might use to shorten the functional lifespan of products and force consumers to make premature replacements in order to continue selling in saturated markets'.¹ The term itself, which can be used interchangeably with programmed obsolescence and may refer to either product or technology obsolescence, is described as the intentional production of goods and services with short economic lives, stimulating consumers to repeat purchases within a shorter period of time² or simply too frequently.³ The durability of products, meanwhile, seems to be close to the hearts of European consumers, as 92% of respondents to a 2013 [Eurobarometer study](#) agreed that the **lifespan of products available on the market should be indicated**.

The subject is extremely complex, but what is of particular interest here is the planned obsolescence of consumer products. The term planned obsolescence implies intent, which is why some consumer organisations speak rather of [negligent obsolescence](#). Others prefer the term [avoidable obsolescence](#).

The French [Act on the energy transition for green growth](#) adopted in 2015 mentions the fight against planned obsolescence in the context of environmental legislation, while also introducing a definition of planned obsolescence in its [consumer legislation](#). In France, planned obsolescence is now an offence punishable by two years' imprisonment with a fine of up to €300 000 (or up to 5% of the company's average yearly turnover on French territory). It is defined as a range of techniques through which a product has its life intentionally reduced by a producer in order to increase its replacement rate.⁴

Types of obsolescence

A distinction can be drawn between various different [types of obsolescence](#): **planned obsolescence** in the strictest sense (designing a product to have a shorter life or designing it in such a way that it functions for only a limited number of operations⁵); **indirect obsolescence** (occurring because the component required for repair is unobtainable or because it is simply not practical or worthwhile repairing the product, i.e. it costs the same to repair as to replace⁶); **incompatibility obsolescence** (e.g. the case of tablets and personal computers that cannot run efficiently after successive software updates of the operating system, encouraging consumers to replace the product rather than try the potentially more costly repair option); and **style obsolescence** (related to marketing campaigns that can for instance lead to the replacement of perfectly functional mobile phones, gadgets or clothes, etc.). Other classifications of obsolescence also exist.⁷

Product obsolescence, in general, can be driven by fashion and new design as well as technological developments. It permits the replacement of technologically less capable products with others offering consumers better performance, whilst increasing the availability of lesser products for those who cannot afford the best. It can also be [argued](#) that by stimulating demand for and the production of new products – through the process of [creative destruction](#) – product obsolescence also encourages economic growth, generates long-term sales by shortening the replacement cycle, boosts competition and allows for [technological advances](#) and investment in research and development.

However, the rapid obsolescence of consumer products can pose problems. It is [claimed](#) that, from the social perspective, it may not only encourage consumption but also contribute to an increase in credit purchases and consumer indebtedness, especially among the most vulnerable disadvantaged groups. In the long term, consumers' trust in the market may also erode as a result of dissatisfaction with the quality and the short lifespans of products. Planned product obsolescence may exacerbate other negative effects of a culture of consumption⁸ such as the excessive use of natural resources (including additional [rare earth mineral extraction](#)⁹), environmental damage, pollution and damage to health related to additional waste disposal.¹⁰

First references to planned obsolescence

References to planned obsolescence started emerging after the 1929 great depression in the USA. Take, for instance, Bernard London in [Ending the depression through planned obsolescence](#) (1932) or [Brook Stevens](#), who defined planned obsolescence as 'instilling in the buyer the desire to own something a little newer, a little better, a little sooner than is necessary'.

Later, the style of the product as opposed to its reliability and performance became the tool for much planned obsolescence.¹¹ With mass production rapidly expanding together with the growing prosperity of the 1950s, the modern consumer society appeared, encouraging the 'consume and throw away' culture. With the advent in the 1960s of critics of this throw-away culture the issue of planned obsolescence began to be analysed in more detail (V. Packard, and later J. Bulow and G. Slade).¹² One high-profile case of proven planned obsolescence related to electric light bulbs (the Phoebus cartel case).

A classic example of planned obsolescence

In 1924 top representatives from all the major light-bulb manufacturers of the time met in Geneva to found the [Phoebus cartel](#), which created a supervisory body that would divide the worldwide incandescent light bulb market. The cartel's hold on the light bulb market lasted only into the 1930s, but its legacy was an engineered shorter lifespan for the incandescent light bulb. By early 1925, its lifespan became codified at 1 000 hours for a pear-shaped household bulb, which was a notable reduction from the 1 500 to 2 000 hours that had previously been common. This enabled companies to sell more bulbs and artificially inflate revenues. Details of the cartel's activities emerged very slowly and only partially in the 1940s, when the [US government investigated](#) General Electric and some of its business partners for anticompetitive practices. One of the last remaining examples of the old bulb, [the Centennial Light](#) Bulb, manufactured by the Shelby Electric Company and installed in 1901, still continues to function 24 hours a day in 2016.

Other more recent possible cases of planned obsolescence have been mentioned in consumer organisation [studies](#). For instance, [washing machines](#) (especially their sealed drums that make drum repair and replacement economically unviable), [textbooks](#) (with editions revised more often than necessary), [inkjet cartridges](#), electronic devices such as smart phones (problems with non-removable batteries, operating system updates gradually making older models obsolete), etc. However, it remains extremely hard to prove that the obsolescence is planned.

Consumer protection-related concerns

A Delft University of Technology project found that, according to Dutch data, median lifespans of certain categories of product shortened between 2000 and 2005, and by up

to [20%](#) for small consumer electronics and accessories. A 2015 [German study](#) also revealed that the percentage of white goods (large pieces of household equipment such as refrigerators and washing machines) being replaced by consumers within just five years owing to technical defects increased noticeably between 2004 and 2012 - from 3.5% to 8.3%. Economic costs for failing products are difficult to assess, but according to some [estimates](#) calculated for Germany they could amount to €110 per month per consumer.

The main concerns and problematic strategies associated with planned obsolescence have been identified by some [consumer organisations](#) and include:

- design features that do not allow repair, upgradability or interoperability with other devices (e.g. sealed washing machine drums);¹³
- programmed failure of a device after limited usage (e.g. smart chips in printers);
- unavailability of spare parts and high repair costs;
- marketing strategies pushing consumers to buy new products and replace existing (even still fully functional) ones very quickly to stay fashionable.

Towards product durability and sustainability

In addition to the shift towards a culture that values product durability and sustainability, several other ways to curb the practice of planned obsolescence have also been proposed. These include ensuring better, durable product design, providing useful consumer information (potentially including expected or minimum product lifetime, [usage price](#) – expected cost per usage unit, or a [product passport](#)¹⁴), technical standardisation to the benefit of the consumer (as in the case of the [common mobile phone charger](#)¹⁵) and better, cost-efficient, reparability of products.

The European Economic and Social Committee for instance [calls](#) for a **total ban on products with built-in defects** designed to end the product's life, encourages voluntary certification measures (including indicating prices in terms of estimated cost per year) and proposes a system guaranteeing a minimum lifetime for purchased products. It also recommends measures to encourage responsible consumption in Member States, consumer information on repair possibilities when purchasing a product, and more research and development to curb planned obsolescence. It believes research and development should focus on product ecodesign, the [circular or closed-loop economy](#), and the idea of an economy centred on **product use** (i.e. the [rental, leasing, or subscription model](#)) rather than on ownership. Indeed, by way of illustration, product service utility business models, shifting responsibility for a product from the consumer to the producer, are emerging (i.e. electric car sharing, and the 'pay per lux' lighting scheme).

The European Consumer Organisation, BEUC, [suggests](#) various measures to improve the durability of products for consumers. First, reforming key EU product legislation (the [Ecodesign Directive](#) and the [Directive on Waste Electrical and Electronic Equipment](#)) or developing a horizontal approach under the Ecodesign Directive to address product durability systematically in all product groups, also specifying that rechargeable batteries in devices need to be easily replaceable without the need for costly repair. Second, it proposes providing consumers with information about the expected lifetime and reparability of products to help them make informed choices. Third, it recommends improving guarantee rights, prolonging the duration of legal guarantees, extending the [reversal of the burden of proof](#) in favour of the buyer to two years and adding the

criterion of durability to the definition of conformity as set out in the [Consumer Sales Directive](#).¹⁶ It also proposes adopting rules on consumer information about the availability of spare parts to encourage the culture of repair, systematically considering durability criteria in technical standardisation and examining some environmental [tax measures](#) to discourage the placing on the market of short-lived goods that cannot be mended.

In addition to existing product return legislation,¹⁷ options to consider include **consumer education**, full life costs labelling based on anticipated lifespan and operational costs, a pay-as-you-throw waste tax, a tax on disposable products, differentiated levels of VAT reflecting the length of guarantee and [nudging](#) consumers in general to make a [sustainable choice](#) the default option.¹⁸

European Parliament

Although there are no specific EU rules mentioning planned obsolescence, it ties in with EU legislation on ecodesign, waste, use of natural resources and consumer information as well as the new [package](#) from the European Commission on the [circular economy](#), published in December 2015.¹⁹ In recent years Members of the European Parliament have raised the issue of planned obsolescence in a number of questions to the European Commission.²⁰ Furthermore, planned obsolescence is mentioned specifically in the following EP resolutions.

The 2014 [resolution](#) on a European strategy on plastic waste in the environment encouraged European municipalities and local authorities, the plastics industry and the recycling and waste management sector to make every possible effort to motivate and incentivise citizens and businesses to adopt a circular economy concept with regard to plastic waste, beginning with a wide debate on planned obsolescence.

The 2015 [resolution](#) on resource efficiency: moving towards a circular economy, meanwhile, urged the Commission to propose a **review of ecodesign legislation** and other relevant product policy legislation by the end of 2016, namely by:

- broadening the scope of ecodesign requirements to cover all main product groups, not only energy-related products;
- gradually including all relevant resource-efficiency features among the mandatory requirements for product design;
- introducing a mandatory product passport based on these requirements; and
- defining horizontal requirements for **durability, reparability, reusability and recyclability**.

The Parliament called on the Commission to promote a lifecycle-oriented approach in product policies, by establishing harmonised methods for evaluating products' environmental footprints. It urged the Commission to develop **measures against planned obsolescence** and to further develop product standards for the circular economy, which include refurbishment and repair, easier dismantling, and the efficient use of raw materials, renewable resources and recycled materials in products. It also noted that it was crucial to **raise consumers' awareness**.

The resolution encouraged the Commission to propose **the extension of minimum guarantees for consumer durable goods** in order to extend products' expected lifetimes, and to clarify that, in accordance with [Directive 1999/44/EC](#), sellers of consumer goods should examine defects occurring during the first two years of the legal

guarantee, charging the consumer only if the defect had been caused by improper use.²¹

It urged the Commission to incentivise and facilitate the development of markets for high-quality secondary raw materials and of businesses based on their re-use, emphasising that addressing resource scarcity required a systemic change - reducing the extraction and use of resources. The Parliament also urged the Commission to study and propose measures in relation to taxation, such as reduced VAT on recycled, reused and resource-efficient products.

Further reading

J. Guiltinan: '[Creative Destruction and Destructive Creations: Environmental Ethics and Planned Obsolescence](#)', 2008.

Longer Lasting Products, edited by T. Cooper, GOWER, 2010.

[Étude sur la durée de vie des équipements électriques et électroniques](#), ADEME, 2012.

[Scoping study to identify potential circular economy actions, priority sectors, material flows and value chains](#), European Commission, 2014.

[The Durability of Products](#), European Commission, 2015

S. Prakash, G. Dehoust, M. Gsell, T. Schleicher, Prof. Dr. R. Stamminger: [Einfluss der Nutzungsdauer von Produkten auf ihre Umweltwirkung: Schaffung einer Informationsgrundlage und Entwicklung von Strategien gegen 'Obsoleszenz'](#), 2015.

[The Influence of Lifespan Labelling on Consumers](#), Study commissioned by the European Economic and Social Committee, 2016.

Endnotes

¹ See Durable goods: [More sustainable products, better consumer rights](#), BEUC, 2015, p. 4.

² See T. K. Aladeojebi: [Planned Obsolescence](#), 2013, p. 1504.

³ See A. Fishman, N. Gandal, O. Shy: '[Planned obsolescence as an engine of technological progress](#)', 1993.

⁴ Free translation. The [definition in French](#) is the following: 'L'obsolescence programmée se définit par l'ensemble des techniques par lesquelles un metteur sur le marché vise à réduire délibérément la durée de vie d'un produit pour en augmenter le taux de remplacement.'

⁵ e.g. [inkjet printer cartridges](#) that were found to contain smart chips, preventing them from working after being refilled.

⁶ In certain cases electronic devices have glued, welded or soldered batteries making them difficult and costly [to repair](#).

⁷ Namely, obsolescence of function, quality and desirability (see V. Packard, *The Waste Makers*; in T. Cooper: 'The Significance of Product Longevity'; [Longer Lasting Products](#), 2010, p. 14). Another classification distinguishes between aesthetic, social, technological and economic obsolescence (see B. Burns: 'Re-evaluating Obsolescence and Planning for It'; [Longer Lasting Products](#), 2010, pp. 39-60). Here, aesthetic obsolescence refers to fashion and style, social obsolescence to trends that change in the society, technological obsolescence to products becoming obsolete because of technological change and the economic obsolescence to products such as old sofas that are too expensive to repair or re-cover and that are consequently abandoned.

⁸ [Consumption](#) can be described as a complex social phenomenon in which people consume goods or services for reasons beyond their basic use-value.

⁹ See also: [Rare earth elements and recycling possibilities](#), EPRS, 2013.

¹⁰ Electronic waste (or e-waste) – discarded electrical and electronic equipment – provides a case in point. According to a [United Nations University report](#), in 2014 global e-waste reached 41.8 million tonnes. However less than one sixth is thought to have been properly recycled or made available for reuse. Almost 60% of this e-waste constituted discarded kitchen, laundry and bathroom equipment. Personal information and communication technology devices (mobile phones, personal computers and printers) accounted for 7% of global e-waste. At EU level, e-waste represents one of the fastest growing waste streams ([3-5% per year](#)), with some 9 million tonnes generated in 2005, and is [expected to grow](#) to more than 12 million tonnes by 2020.

- ¹¹ See B. Burns: 'Re-evaluating Obsolescence and Planning for It'; [Longer lasting products](#), 2010, p. 42.
- ¹² V. Packard: *The Waste Makers*, 1960; J. Bulow: 'An Economic Theory of Planned Obsolescence', 1986; and G. Slade: *Made to Break*, 2007.
- ¹³ Another concern for the repair sector is the unavailability of product manuals. The European Consumer Organisation, BEUC, [proposes](#) that manufacturers should be obliged to make clear repair instructions publicly available to enable disassembly and repairs.
- ¹⁴ This [refers](#) to a set of information on the components and materials that a product contains and on how they can be disassembled and recycled at the end of the product's useful life.
- ¹⁵ Under [Directive 2014/53/EU](#), which should apply in national law by 13 June 2016, mobile phones made available on the market must be compatible with a common charger.
- ¹⁶ In line with the commitments set out in the [EU action plan for the circular economy](#), and in the [proposal for a directive](#) regarding contracts for online and other distance sales of goods from December 2015, the Commission proposed to extend the reversal of the burden of proof applicable in the context of defective products from six months to two years. In its [opinion](#) that could be an incentive to produce higher quality and more durable products.
- ¹⁷ A product return scheme for waste electrical and electronic equipment (WEEE) already exists in the EU. [Directive 2002/96/EC](#) set out the requirements for extended producer responsibility schemes whereby producers organise the collection of WEEE so that consumers can return it free of charge.
- ¹⁸ See J. Gultinan: '[Creative Destruction and Destructive Creations: Environmental Ethics and Planned Obsolescence](#)', 2008, p. 25 and T. Cooper: 'Policies for Longevity', [Longer Lasting Products](#), 2010, p. 227.
- ¹⁹ There the Commission [mentions](#) that an assessment of the possibility of an independent testing programme on planned obsolescence is planned for 2018. The European association representing the digital industry, DigitalEurope, has already [reacted](#) to the package. It stated, for instance, that the Commission has yet to show evidence of 'planned' obsolescence and that informing consumers about the average expected lifetime of appliances – as well as measuring it – would be impractical because usage periods typically vary under different conditions and scenarios. In also noted that the statistics would confuse and frustrate consumers should their products not last as long as the theoretical average product.
- ²⁰ Namely: [E-015113-15](#), [E-006067-15](#), [E-005304/2014](#), [P-5252/14](#), [E-3441/13](#), and [E-6339/13](#).
- ²¹ According to [Directive 1999/44/EC](#) consumer goods mean 'any tangible movable item, with the exception of goods sold by way of execution or otherwise by authority of law, water and gas where they are not put up for sale in a limited volume or set quantity, electricity'.

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