

EU CONSUMER LAW AND PLANNED OBSOLESCENCE: A BULGARIAN PERSPECTIVE ON SUSTAINABILITY AND RIGHT OF REPAIR

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ABSTRACT

Planned obsolescence is a practice used by companies to make a product intentionally unusable after a certain period of time or otherwise make it obsolete, in order to increase sales by requiring premature product replacement. This phenomenon has a negative impact on sustainability, as it leads to waste of resources, pollutes the environment and increases the consumption of raw materials for new production processes. This article aims to analyze the legal problem of planned obsolescence in the context of consumer sales, in light of the current European regulatory framework, including its implementation in Bulgaria. With a particular focus on sustainability, the article aims to illustrate the problems and proposed solutions.

Keywords: planned obsolescence, consumer protection, legislation, circular economy, sustainable development.

INTRODUCTION

The concept of *planned obsolescence* most commonly relates to a well-known court case in the USA, which ended with a conviction for violation of antitrust law for planned (or programmed) obsolescence. In 1924, the main European and American manufacturers of light bulbs met in Geneva to sign the so-called “Phoebus” cartel, in which the reasonable and optimal life of incandescent bulbs was set, among other things, at only 1000 h [1]. By contrast, for example, a single light bulb in a Livermore, California fire station has been switched on continuously for more than 120 years [2]. A New York real estate broker by the name of Bernard London is credited for coining the term “planned obsolescence”, in his pamphlet titled “Ending the Depression by Planned Obsolescence”. In it, he proposed that all consumer products be legally recognized as having a mandatory expiration date, so as to potentially lift the United States out of the Great Depression and revive the world economy. Through utilizing specific product “use-by dates” or “time limits” - the consumer would be given a choice between discarding the item,

receiving a public subsidy for replacing the original, or using the product for a specified period of time after the expiration date in exchange for paying a certain tax, after which the product would be considered legally obsolete [3].

In a European context, the topic of planned obsolescence has long been neglected in the context of economic and sociological research, except for sporadic mentions by German academics. That was due in large part to the German translation in the 1970s of Vance Packard’s book “The Hidden Persuaders” condemning certain novel advertising techniques used to promote planned obsolescence [4, 5]. With the advent of the ‘Third Industrial Revolution’ and the consolidation of the models of mass production and consumption, planned obsolescence has gradually morphed into a deliberate business strategy [4]. This encourages consumers to purchase new replacement products, or new components or spare parts necessary for the continued use of goods already purchased.

Although far from new, the phenomenon has evolved and become increasingly complex with the development of technology, particularly information

technology [5, 6]. It is only recently, following the impetus of studies, proposals and initiatives promoted by the European institutions, that planned obsolescence has been studied and assessed in relation to its negative impact on sustainability through increased consumption of raw materials used in new production processes, waste of energy resources, and increased environmental pollution. This article examines whether European Union regulation is appropriate to achieve effective resource management, to meet environmental sustainability objectives, and to provide the needed tools, mechanisms and forms of protection against planned obsolescence practices [7].

EXPERIMENTAL

The methodology used in this study represents three stages of research: (i) analysis of planned obsolescence legislation before the entry into force of Directive (EU) No. 2019/771; (ii) analysis of the innovation introduced by Directive (EU) No. 2019/771 on the sustainability of the consumer market; and (iii) a comparative analysis of Directive No. 2019/771 and its successor Directive on the Right to Repair: R2R - Directive 2024/1799/ EU. The Bulgarian model of adapting these policies in practice is analyzed as a case study.

RESULTS AND DISCUSSION

Analysis of planned obsolescence legislation before the entry into force of Directive (EU) No. 2019/771

Before enactment of Directive (EU) No. 2019/771, relating to certain aspects of sales contracts, the phenomenon of planned obsolescence was rarely the subject of legal research and reflection [6]. In some countries (e.g., Cyprus, Spain, Estonia, Finland, Romania, the Czech Republic, Slovakia, Norway) national legislators have modified the rules governing the time period of a seller's guarantee or liability, establishing longer periods than those provided for in Directive No. 1999/44 [8, 9]. In the legal systems of other Member States (Hungary, Romania) a ground for suspension of the limitation period is explicitly provided in the event of an impossibility of asserting the latent defect.

In this context, the French legal system represents a notable exception. Immediately after the issue of

planned obsolescence of consumer products was raised to the attention of The Member States by the European institutions, France strictly prohibited this practice by criminalizing it. According to the revised French Consumer Code, planned obsolescence was specifically defined as “the use of techniques by which the person in charge of placing a product on the market aims to deliberately reduce its lifespan in order to increase its replacement rate” [1].

Given the rapidly increasing production and replacement of goods and associated spare parts, and the continuous and periodic model updates, the French legislator started requiring manufacturers and importers to inform sellers, and the latter to inform consumers, of the period of availability of spare parts necessary for the use of the movable good (Art. L111-4 of the Consumer Protection Code). It has also introduced a new provision (Art. 44103 of the Consumer Protection Code), prohibiting any technique, including computer-based, which limits the reparability or restorability of the full functionality of consumer devices. This provision also defines reparability as an essential characteristic of the product.

Planned obsolescence is achieved through a variety of methods and tactics, such as intentional obsolescence of materials or components within a certain time period, intentional shortage of spare parts, manuals or firmware, designed inability of functional upgrades to older models, complex product design implying difficult disassembly and repair, etc. In the period when Directive No 1999/44/EC was active in the EU, additional regulatory indicators had been identified, attributing legal significance to the sustainability of certain products in maintaining their functional characteristics over time, and thus countervailing programmed obsolescence practices. For example, Directive 2009/125/EC of 21 October 2009 established a framework for the setting of eco-design requirements for energy-related products. Annex I, 1.3 (i) to that directive establishes a series of eco-design parameters, including ‘extension of the life cycle, expressed in terms of minimum guaranteed life, minimum time for the availability of spare parts, modularity, upgradability, reparability’ [10 - 12]. Thus, for example, Regulation (EU) No. 666/2013 of 8 July 2013 implementing Directive 2009/125/EC with regard to eco-design requirements for vacuum cleaners provides (in Annex I, 1.b) that “the hose, if any, must be of good

durability so that it can be used after 40 000 vibrations under voltage” and that “the life of the motor must be equal to or greater than 500 h”. Regulation (EU) No 2017/ 745 of 5 April 2017 on medical devices requires the manufacturer of an implantable device to provide “information on the expected useful life of the device and on any necessary follow-up actions” (article 18 §1, letter c) [11, 12].

Similarly, Directive (EU) 2018/851 of 30 May 2018, amending Directive 2008/98/EC on waste, requires Member States to avoid the production of waste through a series of measures, including promoting “the design, production and use of products that are resource-efficient, durable, repairable, reusable and upgradable”. Additionally, Regulation (EU) No. 2021/341 of 23 February 2021 requires manufacturers, importers and authorized representatives of household washing machines to make available to professional repairers at least the following spare parts: internal power supply, connections for external devices (cable, antenna, USB, DVD and Blu-ray), capacitors with a capacity of more than 400 microfarads, batteries and accumulators, DVD/Blu-ray module, if applicable, and HD/SSD module, if applicable, for a minimum period of seven years after the last issue of the model has been placed on the market [7, 12, 13].

According to Italy’s Environmental Code, the phenomenon has so far been expressly addressed only *de iure condendo*, with a view to preventing the production of waste and the transition to a circular economy. Various draft laws starting from 2013 define planned obsolescence as “a set of techniques that the producer, as defined in article 103, paragraph 1, letter d) of the Consumer Protection Code, pursuant to Legislative Decree No. 206 of 6 September 2005, uses to reduce the shelf life or the potential use of a product placed on the market, so as to replace it in the short term [14].

Innovations introduced by Directive (EU) No. 2019/771 on consumer market sustainability.

Twenty years after the adoption of Directive No. 1999/44/EC, the European legislator has once again intervened in the field of contracts for the sale of movable goods conducted between professionals and consumers, issuing twin Directives No. 2019/771 and 2019/771 of 20 May 2019 No.770 and 771, complementing each other in regulating certain aspects of contracts for

the sale of tangible movable goods. Unlike Directive No. 1999/44/EC, which was a so-called minimum harmonization directive in the field of consumer guarantees and consumer rights, Directive No. 2019/771/ EU is inspired, at least tendentially, by the so-called model of maximum harmonization (see Article 4, as well as recitals 6, 10, 25, 47, 62 and 70), only to negate this level of harmonization with such a large number of derogations allowed or imposed on Member States that it amounts to a “selective” maximum harmonization, i.e. a “partial”, a “limited” or a “moderate” harmonization [8, 13, 14].

Many European lawyers opine that the approach to the issue of environmental sustainability and planned obsolescence seems very timid. While the objective is to achieve more sustainable consumption patterns and a circular economy, with introduction of a new durable element, as an objective requirement for assessing the goods’ contractual conformity, as well as a possible subject of commercial guarantees, the following conditions inhibit such objectives:

I) Member States are not required to ensure that the product producer is burdened with the obligation to provide specific information on the average lifespan of the products, which the consumer can reasonably expect or be guaranteed. This precludes consumers from holding manufacturers or sellers liable for under-delivering on product life expectancy, thus enabling the same programmed obsolescence practices the directive is supposed to prevent.

II) similarly to the approach of predecessor Directive 1999/44/EC, the duration of the seller’s liability is set as a statutory 2-year period from the time of establishing lack of conformity, however Member States are provided the possibility of derogating from it *in melius* (per Article 10); furthermore, it is also recognized that “in practice this period is considered by market operators to be a reasonable period of time” (per recital 41). Allowing individual members to derogate from a rule designed to obstruct programmed obsolescence significantly eviscerates the rule’s power. This is particularly problematic given the artificial economic growth the programmed obsolescence generates on paper.

III) Member States are required to presume the existence of a lack of conformity at time of delivery of the goods for defects which become apparent within a period limited to one year, Member States are given

the possibility of derogating from it, in any event providing for a maximum period of two years for such a presumption (see Article 11 and recital 45) [13, 14]. In either case, those periods are arguably way too short considering the longer life expectancy of a durable good. Planned obsolescence is designed to artificially curtail products' lives shortly after the expiration of their warranties, allowing manufacturers to maximize their profits. Considering the fact that durable consumer goods' warranty periods typically extend from two to five years, the 1-year or 2-year limitation in this rule's scope does not seem to provide consumers with any significant incremental leverage against manufacturers in confronting planned obsolescence practices.

(IV) Member States are not required to provide for penalties relating to the phenomenon of planned obsolescence. This is particularly problematic, as it eviscerates the very spirit of the directive. It allows potentially short-sighted Member States' governments to effectively allow programmed obsolescence practices go unpunished, while on paper benefiting from the artificial boost to GDP numbers - which fail to account for unnecessary resource and energy waste, as well as environmental and consumer welfare damages.

Regarding remedies for lack of conformity, Directive 2019/771 seems to confirm the tendency of the European legal system of not favoring repair over replacement of B2C goods. In fact, these two alternative remedies are placed on the same level, both being conceived as primary remedies, with the choice left to the consumer. Not favoring repair over replacement is a significant problem for this EU legislation, because even though a replacement product can be provided under this rule to the consumer free of charge, benefiting consumer finances, the detrimental net environmental damage and resource depletion effects of that replacement are not negated. By contrast, a repair to the product would benefit the consumer's financial situation, while not incrementally harming the environment or depleting resources. Moreover, in most situations, consumers tend to choose replacement over repair, as a repaired product carries a certain negative psychological stigma. Thus, the net impact of legislatively equilibrating repair and replacement is actually likely to be very net negative, given consumers' logical tendency to prefer replacement over repair - practically leading to this rule achieving the exact opposite of its intentions. In this regard, and

considering the conclusions reached by the case-law developed in the various Member States, the Norwegian Supreme Court's decision in a particular case represents an interesting development to date. The court held that a seller's refusal to replace a pair of boots whose heels had broken six weeks after purchase was lawful and justified because repair was considered by the Norwegian court to be the remedy with the least environmental impact, and also because there was no registered market for second-hand shoes in Norway to which the goods could have been transferred.

The most modern and innovative aspect of consumer and buyer protection relates to the category of 'goods with digital elements'. Those are defined as tangible movable goods which incorporate or are interconnected with digital content or a digital service in such a way that the absence of said digital content or digital service would prevent the performance of the functions for which the good was manufactured [12]. The European legislator has made certain updates to relevant provisions of Directive 2019/771 to the effect that any incomplete or improper corrective updates to the digital elements necessary to maintain the conformity of the goods is considered non-conformity. This applies for a period of time that the consumer can reasonably expect and even if the goods were found to be in conformity as the time of their delivery to the consumer.

If the sales contract provides for a single supply of digital content or service, the trader is obliged to communicate and provide the updates, including security updates, necessary to maintain conformity of those goods or services for the period of time that the consumer can reasonably expect [14]. However, if the sales contract provides for the continuous supply of digital content or service, the aforementioned period is set at two years from the supply of the goods with digital elements - equal to that provided for the period of the trader's liability for lack of conformity of the digital content or service - unless the contract provides for a supply for a period longer than two years, in which case the trader's obligation, and the liability related to it, remains as close as possible to it [11].

However, the installation is configured as a real burden for the consumer, in the sense that, if the seller has adequately informed the consumer of the update availability and of the consequences of the consumer's inability to install it, the seller doesn't bear liability for

any lack of conformity that the update in question would have prevented or avoided. Finally, with regards to goods with digital elements and continuous contractual supply, the European legislator has provided for the reversal of the burden of proof on the seller regarding the non-deformation of the goods for a period of two or more years, if this is provided for in the contract. In either case, this legally authorized possibility of shifting of responsibility or liability to the consumer serves to weaken the directive’s consumer protection against planned obsolescence practices [10 - 14].

A comparative analysis of Directive (EU) 2019/771 and the new Right to Repair Directive (R2R - Directive 2024/1799/EU)

A comparative analysis of Directive (EU) 2019/771 (often referred to as the Right to Repair (R2R)) and the new Right to Repair Directive (R2R - Directive 2024/1799/EU) highlights a European regulatory evolution aimed at promoting the circular economy,

moving from a predominantly legal-warranty approach to one aimed at extending the useful life of the product [11 - 17].

It can be concluded that the R2R Directive provides a significantly stronger level of consumer protection than the preceding directive, as it focuses on the most important period targeted by planned obsolescence tactics - the one starting upon warranty expiration. Additionally, it focuses on repair as a corrective measure as opposed to replacement - thus preventing significant resource depletion and environmental waste problems and fostering sustainability.

However, the R2R directive is far from addressing all legislative challenges related to planned obsolescence. Some of its shortcomings discussed in relevant scientific research include [11]:

- (I) Legal barriers to access to repair are not recognized by the European Commission;
- (II) No measure is proposed to influence the relative price of repair to make it more attractive;

Table 1. Comparative analysis of Directive 2019/771 and Directive R2R 2024/1799.

Directive 2019/771/ EU	Directive R2R 2024/1799
Sale of goods; legal guarantee	Right to repair
Time of application: 2019/771 applies during the statutory warranty (for defects existing at the time of delivery)	R2R applies after the expiry of the legal guarantee.
Harmonized rules on contracts for the sale of goods, with particular emphasis on defects of conformity.	Aims to extend the life of products after the legal warranty expires by encouraging repair rather than replacement.
Defines a legal guarantee of compliance /usually 2 years/.	Obligation to repair: requires manufacturers to repair technical repairable goods (household appliances, technology) even after the legal warranty has expired.
Remedies: in the event of a defect, the consumer has the right to repair or replacement, or alternatively, to a price reduction or termination of the contract.	Warranty extension: provides a 12-month extension of the seller’s liability period after repair.
Restoration of conformity of the purchased goods - on site.	Introduction of a European platform - online to facilitate the connection between users and services, providing a European information form to transparency of costs and deadlines.
2019/771 is applied by the seller.	R2R imposes stricter obligations directly on manufacturers.
2019/771 aims at compliance.	R2R aims at sustainability and combating planned obsolescence.

(III) Only convenience/trust barriers are addressed in this Directive proposal, with focus mostly on information tools;

(IV) New Ecodesign regulations impose a repair mandate which is redundant, and adds relatively little. Access barriers are removed only if the consumer opts to use the authorized repair services - granting control over the emerging repair market to the manufacturers themselves, so that the benefit of the economic shift from replacement to repair would not necessarily result in income transfer from manufacturers to independent repairers.

(V) Independent repairers are likely to face incremental competition from manufacturers, as independents are facing higher costs from additional administrative and bureaucratic burdens, while having no additional tools to overcome barriers to repair.

Particular analysis of the policies in Bulgaria

Directive 2019/771 has been transposed into Bulgarian law through amendments to national legislation, mainly to the Consumer Protection Act. This was achieved through a bill on amendments and supplements to the Consumer Protection Act from 2021. These amendments replace the old regulation based on Directive 1999/44/EC, introducing new rules for conformity of goods with contracts, certain remedies (repair, replacement, price reduction, termination of contract), as well as guarantees and liability of the trader [14].

The main innovations introduced by Directive 2019/771 include:

I) Full harmonization of consumer sales rules;

II) Reversed burden of proof - within a certain period, it is assumed that the defect existed at the time of delivery;

III) Clear hierarchy of remedies (first repair/replacement, then reduction / termination of contract);

IV) Extended rules for goods with digital elements;

V) Stronger requirements for commercial guarantees.

The fact that only Directive 2019/771 has been adapted within Bulgarian national legislation implies that all of this directive's shortcomings and challenges, as detailed above, represent key problems in Bulgaria's legislative measures against planned obsolescence. For example, manufacturers and sellers are not obligated to disclose expected product lifetimes, precluding

consumers from alleging and proving planned obsolescence. Additionally, repair is not prioritized over replacement as a remedy, effectively precluding progress in environmental sustainability. Importantly, the measures focus on mostly the wrong time period, as the period post-warranty-expiration is the most critical for curtailing these tactics. Possibly the most problematic challenge is the that the directive does not require national legislations to impose penalties for non-compliance. Given Bulgaria's history with corruptive practices, this legislative omission exposes effective state actions to additional uncertainty. Presently, there is a lack of relevant scientific research on the measurable impact, if any, of the adapted measures of Directive 2019/771.

Directive R2R 2024/1799 is not currently implemented in Bulgaria. It must be transposed by 31 July 2026 according to the EU framework and national plans. There are indications that it will be implemented through amendments to the Consumer Protection Act, as with other consumer directives. Bulgarian consumers have rights under existing rules but the new rights for mandatory repairs after warranty are not yet in force. Post transposition of the R2R Directive - consumers will most likely be able to request repairs in more cases, there will be easier access to spare parts, and repair will be encouraged instead of replacement [14 - 17].

Given Bulgaria's transitory position at the juncture of an adapted Directive 2019/771 (enforcing relatively weak protections against planned obsolescence) and soon to be adapted Directive 2024/1799 (enforcing stronger protections), the ultimate empirical test of the effectiveness of European legislation against planned obsolescence practices in a Bulgarian environment is yet to be conducted - possibly in a future update to this work.

CONCLUSIONS

Positioned at the intersection of consumer protection, market regulation and environmental sustainability, E.U. legislation against planned obsolescence faces numerous challenges related to product and contractual complexities, and harmonious and effective adaptation within Member States. As this article has shown, the phenomenon of planned obsolescence is neither new nor incidental; rather, it has evolved into a structured business strategy that directly affects product durability, reparability and ultimately the lifecycle of goods. Its

consequences stand in clear opposition to the European Union's objectives of sustainable development and transition to a circular economy. The analysis of the legal framework prior to Directive 2019/771 demonstrates that protection against planned obsolescence was fragmented and largely indirect, relying on general rules concerning guarantees and liability for lack of conformity - ultimately resulting in shortcomings such as regulatory inconsistency, weak enforcement, and limited deterrence. While some Member States adopted more advanced approaches - most notably France, with explicit prohibitions and criminal sanctions - there was no coherent or harmonized response at the European level. Directive 2019/771 introduced important innovations, particularly by incorporating durability and updates for goods with digital elements into the concept of conformity. However, its approach remains limited, mostly due to a lack of binding durability requirements, absence of prioritization of repair and limited enforcement mechanisms. As a result, its capacity to effectively counter planned obsolescence and promote sustainable consumption is constrained [9].

In view of this, the adoption of Directive 2024/1799 on Right to Repair marks a decisive step forward. By extending obligations beyond the legal guarantee period and directly targeting manufacturers, it shifts the focus from mere compliance to sustainability. The emphasis on repair, the introduction of transparency tools, the extension of liability following repair - all contribute to prolonging product lifecycles and reducing waste. This Directive therefore complements the earlier framework and strengthens the EU's commitment to a circular economy [14]. Nevertheless, challenges remain. Shortcomings of the 2024/1799 Directive relate to its asymmetric focus mostly on informational tools, insufficient promotion of consumers' preference for repair, as well as regulations favoring manufacturers to the detriment of independent repair shops. The effectiveness of these measures will depend on their implementation at national level, as well as on consumer awareness and market practices.

A case study of the implementation of relevant EU directives in Bulgaria indicates an approximate 2-year lag between EU-level adoption and Bulgarian adaptation, with R2R Directive 2024/1799 revisions to Bulgarian consumer law expected to be introduced in mid-2026. Presently, only provisions of Directive 2019/771 have

been adapted, providing relatively weaker protections due to various shortcomings of this regime discussed above. As such, when measured against other EU Member States, especially France where the practice is criminalized or other European nations having already adapted Directive 2024/1799, Bulgaria appears to be on the relative tail-end in the European battle against programmed obsolescence.

In conclusion, while the European regulatory framework has made significant progress in addressing planned obsolescence, it is still evolving. A more integrated and robust approach will be essential to ensure that consumer protection, economic efficiency, and environmental sustainability are effectively aligned. This paper clearly establishes significant EU achievements in confronting planned obsolescence, while also illustrating important shortcomings of even the most evolved EU legislation, while also highlighting the varied nature of individual Member States' approaches to adaptation and relative strength of legislative measures. Given the complexity of the problem and proposed solutions, the nascent nature of relevant legislation, and the varied application of this new legislation within EU Member States, designing and conducting analytics measuring and comparing the effectiveness of enacted legislation in subsequent research efforts will be of critical importance to all stakeholders involved – consumers, policymakers, manufacturers, sellers and repairers.

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Authors' contributions

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