9 It is never too late to give up, or is it? Revisiting policies for sustainable consumption

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1. Introduction

At a recent event that took place on the premises of a mobile phone manufacturer, I had a discussion with a team of designers. They told me that they had the idea of developing something similar to a Fairphone, but the concept was not considered to be commercially viable.[1] One of the designers stated that their industry was 'stuck in an unsustainable loop that could only be broken through strong regulation'. The company's management team wants a constant flow of new models with novel functions to increase sales, and the same goes for the mobile network operators: new models attract new business and the sales of ever-greater bandwidth subscriptions.

These designers felt 'locked-in', left with few options for adopting more sustainable practices. There was a will but not a way. This is also how Sanne (2002) refers to consumers who would be willing to consume more sustainably: they are also 'locked-in by circumstances' and would be unable to practise more sustainable consumption practices even if they wanted to.

If we look at current climate change and resource use trends, we have no choice but to significantly reduce our resource consumption. This leads us to the question of how to proceed. This question has unfortunately no simple answer. Some answers do exist but these have been ignored since they would require us to call our consumption habits and aspirations into question.

Early discourse on sustainable consumption policies stressed the importance of educating consumers about the implications of consumption, and advocated the use of policies like eco-labelling and consumption-related taxes. This agenda focused mainly on 'greener consumption' rather than 'consumption limits' (see Mont and Dalhammar, 2005), perhaps not surprisingly, since the term 'consumption limits' has never been popular among emerging economies desiring economic development. This agenda and its and associated policies can, at best, achieve (very) modest relative decoupling of gross domestic product (GDP), yet there is little evidence of absolute decoupling, not least because of rebound effects (Jackson 2009).[2]

Indeed, recent studies have taken a more realistic approach, and call for more radical approaches. These studies emphasize that governments need to lead the shift to sustainability by creating the societal structures that make sustainable living the default option, and that innovation in technology and infrastructure, regulation, pricing, marketing and new social norms must be used in combination to create a sustainable choice architecture (Mont et al., 2013).

Although sustainable living should be the default option, it is hard to see how we can attain this. If the issue was only that of informing people about the need for change and the development of a 'new sustainability paradigm' this could be feasible. However, as consumption plays a vital role in the construction and maintenance of our social world, many radical sustainable consumption policies would constitute a threat to our personal identities, and our 'structures of meaning' (see Jackson, 2013: 66). Therefore, countering consumption implies '[the] building of meaning structures, communities of meaning, that lie outside the realm of the market' (Jackson, 2013: 66).

Such developments are, however, nowhere to be seen. Initiatives like the 'degrowth' movement (Latouche, 2010) are still fringe phenomena. When reporting from the latest Davos meeting, Joseph Stiglitz observes only a desire for business as usual among attendees, with little attention paid to sustainability and economic inequality (Stiglitz, 2018). As Stiglitz comments: '. . . CEOs were euphoric about the return to growth, about their soaring profits and compensation. Economists reminded them that this growth is not sustainable, and has never been inclusive. But such arguments have little impact in a world where materialism is king' (Stiglitz, 2018).

The fight against consumption is also hindered by other factors. One important aspect is that products have become less durable. For different reasons, many types of products are cheaper and of lower quality than previously. At times, this is due to planned obsolescence, a strategy introduced during the Great Depression in the 1930s as a way of fostering economic recovery (London, 1932). Planned obsolescence is usually the result of decisions made to manufacture products that are only 'good enough'. At other times, consumers often buy new products, not because the existing ones have broken down but because of the novelty value of something new (Maitre-Ekern and Dalhammar, 2016).

2. Objective and outline

This chapter will review the relevant literature and discuss why it is difficult to make progress in sustainable consumption policy, while also discussing the issue of governmental intervention. It will also discuss the need to rethink the way markets work, our relation to products, and challenge the 'conventional' view – often advocated by neoclassical economics and industries – that governments should not intervene.

Furthermore, the chapter will investigate what could be one of the most promising policy areas to have emerged in recent years, that of European policies promoting longer product life cycles as a key strategy for achieving the vision of a circular economy (see European Commission, 2015). Recently adopted product policies on, inter alia, longer consumer warranties, access to spare parts and repair services, and more durable design (Maitre-Ekern and Dalhammar 2016; Faure and Dalhammar, 2018; Svensson et al. 2018), represent developments that could change some of the 'rules of the game' over time. Indeed, Perez (2016) has identified the regulation of products as a way of incentivizing durability and maintenance, and of making producers responsible for the entire lifespan of their products. This is seen as a key measure for encouraging the circular economy and manufacturing durability, as well as the growth of a rental and maintenance economy (Perez, 2016).

This chapter aims to complement Chapter 2 in this volume by focusing on European product policies and laws, and how they can contribute to sustainable consumption objectives. Section 3 briefly reviews the literature on sustainable consumption policy and issues related to steering and interventions in markets. The key premise is that strong steering and collective action is required for moving forward, yet also that it is necessary to engage in a discussion that questions some of the most 'sacred' ideas related to markets. Section 4 discusses the promises and shortcomings of current policies, as well as regulatory difficulties surrounding the sharing economy and the circular economy. Section 5 analyses European product regulations, and the most recent developments, and why these policies may provide important contributions to sustainable consumption objectives. Section 6 summarizes the main conclusions and points out the need for future research.

3. Sustainable consumption policy

3.1 A brief literature review

Early consumption policy research emphasized the need for consumer information and the use of 'softer' policies, such as eco-labelling schemes and green taxes. The proposed policies – and the discourse –promoted 'greener consumption' rather than reducing consumption levels (Mont and Dalhammar, 2005). Sustainable consumption has often been presented as an isolated policy field, while in practice integration with other policy areas, such as consumer policy, is required for effective policy (Mont and Dalhammar, 2005). No adopted policies have challenged the status quo, which suggests that the policies actually legitimize unsustainable consumption patterns (Shove, 2003). In summary, economic growth continues to be the main parameter for measuring the success of policy; existing policy instruments for sustainable consumption are few and ineffective, and even when there has been consensus for action – for example, increased use of economic instruments – little progress has been made. The European Union (EU) does not have a policy for sustainable consumption and very few European countries have developed national strategies (Mont and Dalhammar, 2008).

This limited progress is hardly surprising given the need for a systems perspective based upon long-term targets, as well as the need to question prevailing ideology. Sustainable consumption is an issue that does not fit neatly into current political structures. This inherent conflict is evident everywhere: people need to fly less, yet many smaller cities continue to subsidize their airports. Many cities support new shopping malls outside cities, even though these encourage private car use, and have a negative effect on the attractiveness of city centres.

If greener consumption is to be accommodated within the current market paradigm ('continuous economic growth'), the idea of slowing down, or even reducing consumption levels challenges this prevailing world view, and accordingly, any such policies would be resisted by vested interests. Business leaders acknowledge the need for radical change in private, but hesitate to make such views public (Confino, 2010).

The idea that we can educate consumers to make more sustainable choices seems to have little support in research, which observes a difference between attitudes and actions. Citizens express a concern for social and environmental issues but place low priority on these in their actual consumption choices (European Commission, 2009; Jackson, 2009). One potential explanation for this 'gap' is that people live both as citizens and as consumers (Berglund and Matti, 2006; Hamilton, 2010). The values people have as citizens cannot be acted upon in their role of consumers due to lock-in effects (Sanne, 2002). Therefore top-down action is considered imperative to give guidance and support to community initiatives pro-social cooperation (Berglund and Matti, 2006). In the right circumstances, top-down action could then also be supported by consumers themselves (Defila et al., 2018).

Thus, it seems that behavioural change must occur at the collective level (Jackson, 2005). In this case, governments would need to go beyond being mere 'information providers' and instead instigate changes that would encourage learning, initiation and active participation from all stakeholders (Jackson and Michaelis, 2003). Support for community groups and projects, and local multi-stakeholder processes, and the support for contexts/projects assuring well-being not directly connected to consumption activities could be part of such an undertaking.

Another issue is that of rebound effects (Binswanger, 2001; Alcott, 2010; 2018). While not all consumption savings will lead to rebound effects, Alcott (2010) claims that these occur, not only on the individual level, but that, in a world with a growing population, increasing economic growth and international trade, any 'consumption savings' made would be consumed elsewhere.

The above seems to imply that 'sufficiency' strategies are needed, as discussed in Chapter 2 in this volume. This could imply caps at the international and/or national level (Alcott, 2010; 2018), and/or limits such as rationing or individual carbon quotas at the individual level (Brown et al., 2010). In order to increase acceptance

for radical policies, these must be preceded by some kind of 'grand dialogue' at the national – and preferably also the international – level. It would need to discuss complex issues like sufficiency and consumption limits, the potential conflict between an 'individual's right to consume' and an equal distribution of the Earth's resources (Brown et al., 2010). This would be no easy task. Democracy is often considered as the best possible system of government, but many features of current democratic countries make democracy an ill-equipped system for dealing with both urgent and long-term sustainability challenges (Rosanvallon, 2009).

There seems to be growing disappointment, not only due to the lack of positive initiatives for involving citizens in environmental policies, but also in the evident scepticism of public authorities with regard to expecting positive outcomes when appealing to citizens' sense of social responsibility (see Sen, 2004). It seems that politicians and policymakers make hardly any effort to address consumerism and prevalent economic structures (Brown et al., 2010), as they are afraid to influence people's values. These concerns are misplaced, since the state has always been in a position to send out signals (Jackson, 2009). It does so by subsidizing norms it considers prudent, or by taxing behaviours it would seem prudent to curtail, for example, alcohol and tobacco use. Governments also shape social context by establishing educational structures and defining the work–leisure balance via wage policy and parental leave and working week regulations. Interviews with policymakers reveal that they are uncertain about how to start the change process, and that they often find existing research is not always useful for guiding policy (Mont et al., 2013).

Recently a lot of hope has been placed on the use of behavioural science to provide ideas on motivating pro-environmental consumer behaviour, based on the widespread acclaim of the book *Nudge* (Thaler and Sunstein, 2009). However, researchers have noted that, while nudging can be cost-effective and useful, it is hard to measure long-term outcomes, and that nudging can hardly be viewed as a 'silver bullet' (Mont et al., 2014). Furthermore, something stronger than a mere 'nudge' is clearly required, given the scale of the challenge.

3.2 Intervention and policy instruments

From the 1960s on, environmental policies have been applied more consistently in most developed nations (Carter, 2007). Table 9.1 outlines some of the changes from the 1960s to the present day.

Policy instruments are specific governmental interventions that can be adopted on several levels (international/European/national/regional/local) and provide incentives for change for different actors. They are classified by most authors into at least three categories (see Mont and Dalhammar, 2005): administrative, economic and informative (Table 9.2). Other public interventions are also of relevance. For instance, infrastructure developments can have great influence on opportunities for living sustainably (for example, cycle safely).

Table 9.1 Examples of environmental governance trends over time

	Policy focus	Type of steering	Outcomes	Units of regulation
1960s	Local, national policies, local pollution	Command and control regulations	Prescribing behaviour and technological solutions	Industrial process, dangerous substances, air and water pollutants
Today	Also international, EU policies focusing on new pollutants and problems, such as CO2 emissions and biodiversity	Also market-based instruments and information (labelling, certification)	More focus on setting objectives, leaving it to the market to figure out how to reach them	Increased focus on the life cycle environmental impacts from products, and the impacts of consumption

Table 9.2 Examples of environmental policy instruments

	Compulsory instruments	Voluntary instruments
Administrative	Bans, licences, requirement on information, producer responsibility, recycling and recovery quotas, material and quality requirements, emission levels, chemicals regulation, ecodesign regulations	Industry voluntary commitments and similar initiatives, application of product standards, product panels, management systems, functionality panels, agreements between government and industry
Economic	Deposit-refund systems, taxes and charges, liability rules	Green public procurement, technology procurement, R&D investment
Informative	Information requirement for conflict minerals and chemicals, emission registers, ecodesign requirements, material and quality requirements, chemicals regulation on information for professional and private users, energy labelling, marketing regulations	Eco-labelling, environmental product declarations, green claims, energy labelling, organic labelling of food, certification schemes for hotels and other industries, consumer advice, consumer campaigns, education

Source: Mont and Dalhammar, 2005

Mont et al. (2013) argue that regulations are more challenging to implement than other policies, but also that they are the most effective policy tool for changing consumption patterns. Current policy discourse also notes the limitations of economic and informative instruments.

Most likely, positive visions and stronger regulations, combined with outright bans, are a necessary way forward. Ideas related to behavioural science and nudging may be useful but will probably only achieve modest outcomes. Even when policies

result in behavioural change, it is not yet known how long-lasting these changes would be. Furthermore such policies tend to be resource intensive, and therefore scaling up may be difficult.[3]

Thus a paradigm change is required as well as a rethinking of some of the fundamental assumptions of our economic system (articulated in terms of 'economic growth', 'competition', and 'private ownership'). Although this would be difficult to achieve, nevertheless stronger regulation that could change some of the 'rules of the game' is a necessary objective. Such regulations could – over time and in combination with information, visions, and economic incentives – also lead to paradigm and systemic change.

Laws can have a great effect on consumption patterns, because laws affect the social context in which ideas of human–nature interactions, consumption, well-being, morale and identity are shaped. Regulations concerning advertising, product standards, trade, social policies and education may influence the attitudes of different actors. Our knowledge on how these mechanisms work is, however, limited (Mont and Dalhammar, 2008).

3.3 Working with existing policies while aiming to change the paradigm

Rather than hoping for a major paradigm change, it is perhaps more fruitful to improve existing policies, and to introduce new ones whenever possible, in the hope that these incremental changes will over time also influence behaviour, markets, and ultimately the paradigm itself. However, we do not have the time to wait and therefore we need to push for major action now. This could entail a new discussion about 'rights', the 'good life' and staying within planetary resource limits (see Hardin, 1968). New concepts have also emerged such as consumption corridors (see Chapter 2 of this book for more discussion on this).

Nevertheless we need to go further than merely promoting new ideas and concepts. Most notably, we need to call into question the positive view of innovation and technological change, and whether innovation equals progress in all cases. There seem to be signs that people have started to tire of technological innovations (Sax, 2017). It might be time to call into question the positive aspects of novelty, flexibility and organizational changes, and to revisit older ideas regarding the individual's role in society, moving away from a focus on the individual and individual well-being (see Brinkmann, 2017). However, this is not easy, since it revisits previous criticism of sustainability advocates as being 'anti-development'. Von Wright (1993) stated that he preferred a 'provocative pessimism' to an 'impotent optimism' that assumes that markets can resolve most problems (von Wright, 1993: 150), and that we should perhaps combine the communication of the need for urgency with positive images of the future to move forward.

Researchers in the sustainable consumption field might also need to revisit their own assumptions and beliefs. Relevant issues include:

- *The benefits of resource sharing and the sharing economy*. Recently the negative aspects of sharing economy have been in focus (Rinne, 2018). The potential of peer-to-peer sharing schemes needs to be questioned: it might make sense to share some resources, but more difficult to encourage sharing in other areas. A recent consumer survey indicates that many Swedes are not very interested in sharing resources, and that this number is not growing (Röhne, 2018). An alternative route might be required, for example, like policies that promote long-lasting, high-quality repairable products.
- *Active consumers, repairers, innovators, and prosumers*.[4] Many sustainable development scenarios presuppose active consumers. These roles can take quite different forms, for example, prosumers, bottom-up innovators and repairers. Yet how many people are willing to become 'activated' in these ways? There are signs that people are becoming tired of optimizing their choices, and perhaps more generally tired of being activated.[5] Instead there could be interest in developments that make sustainable living more of a default option.

4. The circular economy and the sharing economy

Today, the most progressive environmental policies in many policy areas are often found in the EU.[6] This section includes general observations on the effects of EU environmental policy as well as making a preliminary analysis of the potential of the sharing and circular economies.

4.1 General observations on achievements and deficiencies of EU environmental policy

Environmental policies adopted in the last 50 years have brought significant improvements, but also have major shortcomings. Table 9.3 outlines main achievements and shortcomings in certain policy areas.

There have been some successes but overall little progress in some areas (see also European Environment Agency, 2015). Most notably, water and air pollution levels from industrial production have been reduced[7] and waste treatment has improved, but without any resulting reduction in total waste levels and total resource use, and the problems of automobile traffic in cities remain. It seems that it is indeed easier to address problems related to point source pollution from industrial production than those related to increased consumption: the environmental footprints of Europeans are not decreasing as we import more products and resources.

The overall picture for the planet is bleak (Steffen et al., 2015). Resource use and waste generation is increasing, climate efforts are insufficient, and biodiversity is severely threatened.

Table 9.3 Major achievements and shortcomings in EU environmental policy and law

Policy area	Main achievements	Major shortcomings
Energy and climate	• Binding targets for greenhouse gas reductions, energy efficiency, and renewables • Costs of renewables decreasing rapidly	• Targets not stringent enough to stop dangerous global warming • Carbon markets do not perform well • Energy efficiency difficult to achieve in practice • Many countries have reduced territorial CO2 emissions, but CO2 in imported products are increasing
Chemicals	• An increasing number of substances are being examined and banned; the burden of proof that a substance is safe is put on manufacturers • National regulations on microplastics	• Major legal trade-offs means that it is difficult and time-consuming to ban and regulate substances • Implementation problems and limited information in supply chains
Waste and recycling	• A combination of banning certain landfills for waste, and compulsory collection and recycling levels has all but eliminated landfills in some European countries	• The developments are very uneven within Europe • Total waste levels have not been reduced, and there is no reduction in resource use
Water and air	• Significant emission reductions, health benefits • Evident improvement, e.g. in water quality in many regions	• Difficulty in tackling some air emissions, e.g. local air pollution from traffic • Difficult to regulate CO2 effectively • Some waterways very hard to improve due to e.g. farming
Nature conservation	• Protection of habitats and species has led to some successes	• The overall trend is still negative

Note: Table 9.3 is clearly only a personal account of some major noticeable trends, and does not attempt to provide a complete picture. See also Selin and VanDeever (2015).

4.2 The sharing economy and the circular economy

The sharing economy and the circular economy are two concepts that have experienced major policy developments recently that are of great interest to the consumption policy agenda. The sharing economy can be understood as an umbrella term for different economic activities (see Chapter 8 in this volume). The sharing economy is mainly concerned with the organization of economic activity and is a 'market-oriented' policy field rather than a 'sustainability-oriented' one. It is generally considered a macroeconomic development, driven and enabled by other trends such as digitalization.

Obviously, the sharing economy has some potential to achieve resource savings. A 2017 Swedish governmental inquiry did not propose significant public policy effort for promoting the sharing economy, although it stated that consumer protection legislation and informative measures might be necessary to protect users (Finansdepartementet, 2017). The European Commission, while generally positive (calling it a 'collaborative economy'), has stressed the need for social protection and to carefully consider tax legislation (European Commission, 2016). Thus, the sustainability promise of the sharing economy is uncertain, and there have been few attempts to 'steer' it in a more sustainable direction by governments or the European Commission.

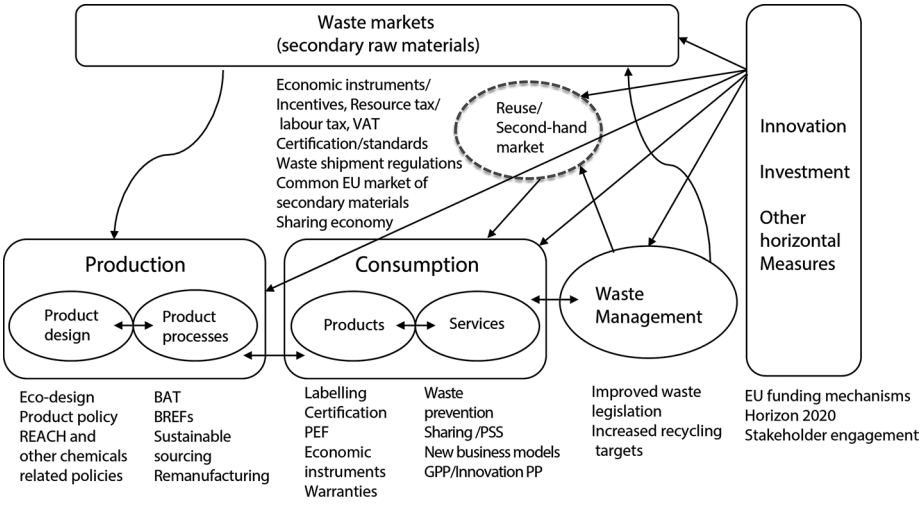
The circular economy complements current energy–climate policy by focusing on natural resources and materials.[8] The most widely used definition is:

> [. . .] an industrial system that is restorative or regenerative by intention and design. It replaces the end-of-life concept with restoration, shifts towards the use of renewable energy, eliminates the use of toxic chemicals, which impair reuse, and aims for the elimination of waste through the superior design of materials, products, systems, and, within this, business models. (Ellen MacArthur Foundation, 2012: 7)

In its Action Plan on the circular economy, the European Commission refers to a '[. . .] circular economy, where the value of products, materials and resources is maintained in the economy for as long as possible, and the generation of waste minimised' (European Commission, 2015: 2). Murray et al. (2017) state that the circular economy represents the most recent attempt to conceptualize the integration of economic activity with environmental and resource concerns. In other words, the concept of circular economy combines older, established notions of resource efficiency with economic aspects.

Unlike the sharing economy, the circular economy is considered a sustainability-related vision that requires many policy interventions (Milios, 2017). The EU Action Plan (European Commission, 2015) outlines existing and new policies for supporting this transition (Figure 9.1).

As can be seen in Figure 9.1, the regulatory agenda is quite ambitious, targeting several actors and life cycle phases. The main problem with the circular economy concerns its implementation: progress requires vision, new business models and, most notably, stringent policies. The policies outlined in the Action Plan are ambitious, but most are only proposals. From a sustainable consumption perspective, it is interesting that these circular economy documents stress product-oriented policies, like ecodesign and various labels: these will now be discussed.



Source: Milios 2017

Figure 9.1 EU policy landscape for the circular economy

5. Product policies to combat obsolescence

5.1 The emerging palette of European product regulations

While early environmental policies focused on production activities, in recent decades there have been an increasing number of regulations addressing the different life cycle phases of products, for example: (1) chemicals in products, (2) collection and recycling of used products and (3) energy efficiency of products (Faure and Dalhammar, 2018). New policies are emerging to address conflict minerals and product durability.[9] Policies can be both compulsory and voluntary, and be adopted both at the EU level and national level (Faure and Dalhammar, 2018; Maitre-Ekern and Dalhammar, 2016; Svensson et al., 2018). Table 9.4 outlines the main European policies.

European policymakers are currently very interested in incentivizing longer product life cycles and in supporting repair services, especially for consumer products. This can be done in several ways (see Maitre-Ekern and Dalhammar, 2016). Table 9.4 illustrates the different approaches applied in the EU and at member state level, including:

- Direct regulation of durability through the Ecodesign Directive. Regulations have set durability requirements for vacuum cleaners and lighting.[10] Further similar regulation is expected.
- Planned obsolescence has been criminalized in France.[11]
- Scheme in France to promote availability of spare parts.[12]
- Public procurement of remanufactured computers and furniture is taking

Table 9.4 Product-related policies in Europe

Type of environmental aspect	European Union law and policy	Examples of Member State policies
Chemical and material content	Horizontal legislation (e.g. REACH) Conflict minerals Sector oriented laws on chemical restrictions (e.g. Packaging, electronics)	Green public procurement criteria for, e.g. chemicals and conflict minerals Eco-labels Taxes on chemicals
Collection and recycling of waste products	General rules and guidelines (e.g. Waste Framework Directive) Sector oriented EPR laws (e.g. WEEE Directive; Waste and Packaging Waste Directive)	Waste-related taxes Infrastructure for re-use and recycling Re-use parks/shops for re-used products/repair activities Mandatory re-use obligations for white goods (Spain)
Energy efficiency	Mandatory energy performance standards (MEPS) (set under the Ecodesign Directive) Mandatory energy labelling (set under the Energy Labelling Directive) Voluntary labelling (Energy Star)	Eco-labels Green public procurement criteria The use of life cycle costing (LCC) in public procurement
Durability, lifetime and reparability	*Direct incentives:* Mandatory lifetime requirements set under the Ecodesign Directive Vacuum cleaners, lighting products Proposal: providing information about expected lifetime to consumers through mandatory information set under the Energy Labelling Directive Voluntary eco-design agreement, imaging equipment *Indirect incentives:* Minimum rules on consumer guarantees	*Direct incentives:* Banning planned obsolescence (France) *Indirect incentives:* Incentivizing the provision of spare parts (France) National rules on longer consumer guarantees and/or changed rules for burden of proof is transferred from seller to consumer (several EU Member States) Lower VAT on repairs Public procurement of remanufactured furniture and computers (Sweden)

Source: Amended from Faure and Dalhammar, 2018.

place in some EU member states (for example, computers in Sweden; see Crafoord et al. 2018).
- National consumer legislation in several EU countries has introduced longer compulsory consumer warranties than the minimum requirements stipulated in EU law.
- Reduced value added tax (VAT) for some repair services has been introduced in some countries, for instance in Sweden.

These policies are quite different in nature and include both compulsory legal requirements and market-based approaches. Interestingly, some of the policies clearly signal that markets cannot be trusted to deliver durability even if consumers want it, and that governmental intervention is needed. Governments are starting to take serious action when they suspect corporations are undertaking measures that promote obsolescence. One case that received a great deal of media attention is the investigation of French prosecutors into Apple iPhones and whether there was evidence of planned obsolescence (BBC, 2018). While this can be hard to prove, the signals that governments send to markets are important, and this is likely to affect industrial practices such as standardization. That is why these new regulations have the potential to become real game changers.

We also note that several states in the USA have proposed laws that mandate producers to support independent repairs with tools and manuals for repair, which can make repairs more economically attractive for consumers (Svensson et al., 2018).

Currently, there is discussion at EU level on whether there should be consumer labelling on the expected life cycle of products so that consumers will be able to benchmark products (Maitre-Ekern and Dalhammar, 2016). This type of labelling could be compulsory or voluntary; compulsory labelling would of course have a greater effect. Such labelling could trigger innovation among manufacturers to compete around the issue of durability. However, designing such labelling is complex (Dalhammar and Richter, 2017).

It seems that some 'policy experimentation' is likely to take place in the coming years. Reversing current trends probably requires an effective policy mix, with many components that include:

- Ecodesign rules that force manufacturers to make products easy to disassemble, repair and reassemble.
- Forcing manufacturers to provide spare parts and repair tools at reasonable cost.
- Reducing VAT for the repair sector.
- Providing information for consumers about the environmental impact of electronics and environmental gains from repairs.
- Supporting to do-it-yourself activities like repair cafés.

5.2 Policies addressing product obsolescence

Planned obsolescence consists in 'instilling in the buyer the desire to own something a little newer, a little better, a little sooner than is necessary' (Stevens, 1954, cited in Adamson, 2003: 129). *Oxford Dictionaries* defines planned obsolescence as 'a policy of producing consumer goods that rapidly become obsolete and so require replacing, achieved by frequent changes in design, termination of the supply of spare parts, and the use of non-durable materials'. Thus, obsolescence can be triggered by several different factors.

Planned obsolescence cannot be viewed only as a business strategy but also as a way of life, associated with the 'throwaway society' (see Slade, 2007). For instance, consumer electronics are today replaced more and more frequently and one of the main reasons for this seems to be consumer preferences (Prakash et al., 2015). Consumer tastes and choices are being shaped in order to encourage rapid product replacement. This psychological aspect is deeply embedded in our society. Obsolescence is especially complex in the case of information and communications technology as consumers must match hardware and software (Basulto, 2012).

Product durability and prolonging the life cycle of products are promising strategies for saving resources. Consumer preferences lead to a chicken-and-egg dilemma with regard to obsolescence: if there is constant innovation, with new models constantly appearing, consumers are persuaded to change models often. If a producer designs a more durable product with a longer life cycle, this could lead to wasted resources ('over-engineering') if consumers nevertheless change the model before the product breaks down. Here producers have little incentive to ensure longer product life cycles. Interviewee studies with producers, however, indicate that if producers were forced to design long-lasting, expensive, high-quality products, they would probably consider changing not only product design practices but also business models (Dalhammar, 2016). Here it could make sense to make a product that can be upgraded and leased out to consumers, thus focusing on the service and functionality.

In the case of consumer electronics, it is especially relevant to use them for longer periods, as most life cycle environmental impacts come from the raw material, production and waste phases (Prakash et al., 2015). However, the trend has gone in the opposite direction. This is due to several factors, including the continuous output of products with novel functions, the failure of vital product components (e.g. batteries) that break down before other product components, software updates that can inhibit functionality, and the fact that repair is not an attractive option due to labour costs, expensive spare parts and lack of guarantees (which new products have). Labour costs are high in countries like Sweden (where products can be repaired) but lower in areas where new consumer electronics are produced (mainly Asia). Low raw material costs are also a factor. Thus companies with a 'circular' business model that is based on remanufacturing or leasing find it difficult to compete with companies with 'linear' business models. However, there are now a number of policies that have the potential to incentivize longer product life cycles

as they influence product design and make product repairs a more attractive option compared to product replacement when a product breaks down. In a truly circular economy there is no place for cheap products: products and materials must be high quality and durable, and repairable.

6. Concluding remarks and need for further research

The development of an agenda for sustainable consumption progresses (see Chapter 2 in this volume) is not keeping pace with that required to maintain the integrity of our ecosystems. It would appear we need a new consumption paradigm, based on a 'grand dialogue' related to lifestyles, rights, markets and consumption. However, there seems to be little appetite for this among politicians and citizens. Also, a new paradigm might not result from a grand dialogue but instead from several more minor policies that – taken together – could influence mindsets and markets over time.

This chapter has aimed to point towards a less progressive but perhaps more immediate path forward. It has looked at relevant developments that could lead to greater changes over time. Recent EU policies and national policies in EU member states regarding products have been noted as an especially promising development, as these policies challenge the current logic of the market. Adopting policies to prolong product life cycles challenges the current way markets operate where only some manufacturers compete on quality and durability. This issue is gaining traction also because some new proposed policies – most notably policies aiming to incentivize design for durability and repairability, and policies that makes repair accessible and economically attractive – are supported by the general public and consumer non-governmental organizations (Svensson et al., 2018). However, buying quality products costs more, and everyone – private consumers as well as the public sector – will need to learn to pay more for quality if we are going to move towards a circular economy.

Several avenues are relevant for future research. First of all the elements in new policy areas that have potential for real changes in consumption habits need to be defined, along with an analysis of how these elements could be strengthened and supported. Furthermore, it is necessary to identify policies that have real 'leverage' and could lead to greater systemic change. Research into the design of new policies and new policy packages specifically targeting markets and consumption activities is required; this could include schemes to communicate information about product durability to consumers. Such policies will be contentious as they alter the power dynamics of the market (Svensson et al., 2018). Therefore the research task is a challenging one. Nevertheless, to revisit the title of this chapter, it is too early to give up just yet.

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NOTES

1 Fairphone is a mobile phone with modular design where ethical considerations have been integrated into the design and supply chain; see https://www.fairphone.com/en.
2 Rebound effects are behavioural responses to changes in technology or policy that offset some of the environmental gains. For instance, if cars become more fuel efficient, the response may be to drive longer distances: direct rebound effect. If the response is not to drive less, the consumer may use the savings to consume other goods and services: an indirect rebound effect.
3 One example is the efforts of municipalities in Sweden to work with selected families to decrease their carbon emissions through 'carbon dieting': change in diets and travelling habits (Håkansson, 2012).
4 'Prosumer' is a relatively new term in the energy field – it usually refers to consumers who both produce and consume electricity.
5 This claim is based on discussions with researchers and staff at Swedish municipalities. The issue is highlighted in research related to prosumers (Lavrijssen, 2017).
6 See Bradford, 2013; Selin and VanDeveer, 2006.
7 This includes pollution reductions due to changes in production techniques and fuels, but there are of course also instances when pollution levels have decreased due to outsourcing of industrial production from Europe to other jurisdictions.
8 Strategies related to resource efficiency can greatly contribute to climate mitigation (see Sitra et al., 2018).
9 'Conflict resources', or 'conflict minerals', are natural resources extracted in a conflict zone and sold to perpetuate the fighting.
10 Regulation 666/2013/EU of 8 July 2013 Implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign Requirements for Vacuum Cleaners [2013] OJ L192/24; Regulation 1194/2012 of 12 Dec. 2012 Implementing Directive 2009/12/EC of the European Parliament and of the Council with Regard to Ecodesign Requirements for Directional Lamps, Light Emitting Diode Lamps and Related Equipment (2012) OJ L342/1.
11 Article L. 213-4-1 of the Consumer Code FR490.
12 Article L. 111-3 of the Consumer Code FR490.

References

Adamson, G. (2003), *Industrial Strength Design: How Brooks Stevens Shaped Your World*, Cambridge, MA: MIT Press.

Alcott, B. (2010), 'Impact caps: Why population, affluence and technology strategies should be abandoned', *Journal of Cleaner Production*, **18** (6), 552–60.

Alcott, B. (2018), 'Environmental caps as a solution to rebound effects', in R. Mastini (ed.), *Sufficiency – Moving beyond the Gospel of Eco-Efficiency*, Brussels: Friends of the Earth Europe.

Basulto, D. (2012), 'Welcome to the new planned obsolescence', *Washington Post*, 9 November, accessed 20 December 2018 at https://www.washingtonpost.com/blogs/innovations/post/welcome-to-the-new-planned-obsolescence/2012/11/09/6d6188f4-2901-11e2-aaa5-ac786110c486_blog.html?noredirect=on&utm_term=.3a51e071fc3b.

BBC (2018), 'Apple investigated by France for "planned obsolescence"', 8 January, accessed 15 September 2018 at http://www.bbc.com/news/world-europe-42615378.

Berglund, C. and S. Matti (2006), 'Citizen and consumer: The dual role of individuals in environmental policy', *Environmental Politics*, **15** (4), 550–71.

Binswanger, M. (2001), 'Technological progress and sustainable development: What about the rebound effect?', *Ecological Economics*, **36** (1): 119–32.

Bradford, A. (2013), 'The Brussels effect', *Northwestern University Law Review*, **107** (1), 1–68.
Brinkmann, S. (2017), *Stand Firm: Resisting the Self-Improvement Craze*, Cambridge: Polity Press.
Brown L., C. Dalhammar and O. Mont (2010), 'The right to consume: Exploring the legitimacy of sufficiency policies' (Working paper 2010:1), IIIEE, Lund University.
Carter, N. (2007), *The Politics of the Environment: Ideas, Activism, Policy*, Cambridge: Cambridge University Press.
Confino, J. (2010), 'Sustainability depends on breaking free of our consumerist fixation', *The Guardian*, 2 December, accessed 13 October 2018 at https://www.theguardian.com/sustainable-business/consumerism-sustainability-short-termism.
Crafoord, K., C. Dalhammar and L. Milios (2018), 'The use of public procurement to incentivize longer lifetime and remanufacturing of computers', *Procedia CIRP*, **73**, 137–41.
Dalhammar, C. (2016), 'Industry attitudes towards ecodesign standards for improved resource efficiency', *Journal of Cleaner Production*, **123** (1):155–66.
Dalhammar, C. and J.L. Richter (2017), 'Options for lifetime labeling: design, scope and consumer interfaces', paper presented at the Product Lifetimes and the Environment conference (PLATE), Delft University of Technology.
Defila, R., A. Di Giulio and C. R. Schweizer (2018), 'Two souls are dwelling in my breast: Uncovering how individuals in their dual role as consumer–citizen perceive future energy policies', *Energy Research & Social Science*, **35**, 152–62.
Ellen MacArthur Foundation (2012), *Towards the Circular Economy, vol. 1. Economic and Business Rationale for an Accelerated Transition*, Cowes, UK: Ellen MacArthur Foundation.
European Commission (2009), 'Europeans' attitudes towards the issue of sustainable consumption and production', Analytical report, Brussels: The Gallup organisation, Hungary and the European Commission.
European Commission (2015), 'Closing the loop – An EU action plan for the circular economy', Communication, COM 614 final, Brussels: European Commission.
European Commission (2016), 'A European agenda for the collaborative economy', Communication, COM(2016) 356 final, Brussels: European Commission.
European Environment Agency (2015), 'The European environment: State and outlook', Synthesis report, Copenhagen: European Environment Agency.
Faure, M. and C. Dalhammar (2018), 'Principles for the design of a policy framework to address product life cycle impacts', in E. Maitre-Ekern, C. Dalhammar and H.C. Bugge (eds), *Preventing Environmental Damage from Products – Analyses of the Policy and Regulatory Framework in Europe*, Cambridge: Cambridge University Press, pp. 57–86.
Finansdepartementet (2017), 'Delningsekonomi på användarnas villkor' (SOU 2017:26), Stockholm: Stadens offentliga utredningar.
Håkansson, M. (2012), 'Koldioxidbantning – Vilken roll skulle det kunna spela i den kommunala klimatpolitiska styrningen?', paper, Lund University, Sweden.
Hamilton, C. (2010), 'Consumerism, self-creation and prospects for a new ecological consciousness', *Journal of Cleaner Production*, **18** (6), 571–5.
Hardin, G. (1968), 'The tragedy of the commons', *Science* **162** (3859), 1243–8.
Jackson, T. (2005), *Motivating Sustainable Consumption*, Guildford, UK: Centre for Environmental Strategy, University of Surrey.
Jackson, T. (2009), *Prosperity without Growth: Economics for a Finite Planet*, London: Earthscan.
Jackson, T. (2013), 'Angst essen Seele auf – Escaping the "iron cage" of consumerism', *Wuppertal Spezial* **48**, Wuppertal Institute for Climate, Environment and Energy.
Jackson, T. and L. Michaelis (2003), 'Policies for sustainable consumption', a report to the Sustainable Development Commission, Centre for Environmental Strategy, University of Surrey with Environmental Change Institute, Oxford University.
Latouche, S. (2010), 'Degrowth', *Journal of Cleaner Production*, **18** (6), 519–22.

Lavrijssen, S. (2017), 'Power to the energy consumers', *European Energy and Environmental Law Review*, **26** (6), 172–87.

London, B. (1932), *Ending the Depression through Planned Obsolescence*, New York.

Maitre-Ekern, E. and C. Dalhammar (2016), 'Regulating planned obsolescence: A review of legal approaches to increase product durability and reparability in Europe', *Review of European, Comparative & International Environmental Law (RECIEL)*, **25** (3), 378–94.

Milios, L. (2017), 'Advancing to a circular economy: Three essential ingredients for a comprehensive policy mix', *Sustainability Science*, **13** (3), 861–78.

Mont, O. and C. Dalhammar (2005), 'Sustainable consumption: At the cross-road of environmental and consumer policies', *International Journal of Sustainable Development*, **8** (4), 258–79.

Mont, O. and C. Dalhammar (2008), 'Public policy for sustainable consumption', in S.J. Evans (ed.), *Public Policy Issues Research Trends*, Hauppauge, NY: NOVA Science Publishers.

Mont, O., E. Heiskanen, K. Power et al. (2013), 'Improving Nordic policymaking by dispelling myths on sustainable consumption', *TemaNord* (2013:553), Denmark: Nordic Council of Ministers.

Mont, O., Lehner, M. and E. Heiskanen (2014), 'Nudging – A tool for sustainable behaviour?' (Report 6643), Stockholm: Swedish Environmental Protection Agency.

Murray A., K. Skene and K. Haynes (2017), 'The circular economy: An interdisciplinary exploration of the concept and application in a global context', *Journal of Business Ethics*, **140** (3) 369–80.

Perez, C. (2016), 'Capitalism, technology and a green global golden age: The role of history in helping to shape the future', in M. Jacobs and M. Mazzucato (eds), *Rethinking Capitalism*, Hoboken, NJ: Wiley Blackwell.

Prakash, S., G. Dehoust, M. Gsell et al. (2015), 'Einfluss der Nutzungsdauer von Produkten auf ihre Umweltwirkung: Schaffung einer Informationsgrundlage und Entwicklung von Strategien gegen "Obsoleszenz"', Report, Dessau-Roßlau: Umweltbundesamt.

Rinne, A. (2018), 'The dark side of the sharing economy', World Economic Forum, accessed 25 May 2018 at https://www.weforum.org/agenda/2018/01/the-dark-side-of-the-sharing-economy.

Röhne, J. (2018), 'Svenskar vill inte dela', *Aktuell Hållbarhet*, 3 March, accessed 28 April 2018 at https://www.aktuellhallbarhet.se/svenskar-vill-inte-dela.

Rosanvallon, P. (2009), *Demokratin som problem*, Hägersten, Sweden: TankeKraft Förlag.

Sanne, C. (2002), 'Willing consumers – or locked-in? Policies for a sustainable consumption', *Ecological Economics* **42** (1–2), 273–87.

Sax, D. (2017), 'Our love affair with digital is over', *New York Times*, 18 November, accessed 7 July 2018 at https://www.nytimes.com/2017/11/18/opinion/sunday/internet-digital-technology-return-to-analog.html.

Selin, H. and S. VanDeveer (2006), 'Raising global standards: Hazardous substances and e-waste management in the European Union', *Environment Science and Policy for Sustainable Development*, **48** (10), 6–18.

Selin, H. and S.D. VanDeveer (2015), 'Broader, deeper and greener: European Union environmental politics, policies, and outcomes', *Annual Review Environment and Resources*, **40**, 309–35.

Sen, A. (2004), 'An essay on entitlement and deprivation: Why we should preserve the spotted owl', *London Review of Books*, **26** (3), 10–11.

Shove, E. (2003), 'Changing human behaviour and lifestyle: A challenge for sustainable consumption?', in I. Ropke and L. Reisch (eds), *Consumption: Perspectives from Ecological Economics*, Cheltenham, UK and Northampton, MA, USA: Edward Elgar Publishing, pp. 111–32.

Sitra, the Finnish Innovation Fund, European Climate Foundation, Climate-KIC et al. (2018), 'The circular economy – A powerful force for climate mitigation', Report, Stockholm: Material Economics Sverige.

Slade, G. (2007), *Made to Break: Technology and Obsolescence in America*, Cambridge, MA: Harvard University Press.

Steffen, W., W. Broadgate, L. Deutsch et al. (2015), 'The trajectory of the Anthropocene: The great acceleration', *The Anthropocene Review*, **2** (1), 81–98.

Stiglitz, J. (2018), 'Post-Davos Depression', *Project Syndicate*, 1 February, accessed 19 March 2018 at https://www.project-syndicate.org/commentary/davos-ceos-tax-cuts-trump-by-joseph-e--stiglitz-2018-02.

Svensson, S., J.L. Richter, E. Maitre-Ekern et al. (2018), 'The emerging "right to repair" legislation in the EU and the US', paper presented at Going Green – Care Innovation conference, Vienna, Austria, 26–8 November.

Thaler, R. and C. Sunstein (2009), *Nudge: Improving Decisions about Health, Wealth, and Happiness*, New York: Penguin Group.

von Wright, G.H. (1993), *Myten om framsteget*, Stockholm: Albert Bonniers Förlag.