

Policy Toolkit for the Circular Economy

Potential policy measures for the Dutch context



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Management Summary

The Netherlands and the European Union embrace the transition to a circular economy: they aim to be fully circular by 2050.^{1,2} However, the Netherlands is not on track to meet these goals. Dutch policy focuses too much on increasing (low-grade) recycling and most of its policy measures are too voluntary and without obligation.³

An analysis of existing (policy) measures related to circular economy reveals that:

- There is too much attention to more and higher-grade recycling (R8), even though following circular strategies that are “higher on the R-ladder” have a higher potential for reducing the carbon and material footprints of the economy.
- Current policy is mainly comprised of technical measures, even though this study shows that organizational and financial measures are needed in order to transform value chains.

The *Integral Circular Economy Report (ICER)* by the Netherlands Environmental Assessment Agency echoed her message from 2021 in the recent 2023⁴ report: meeting the goals for the circular economy will be out of reach without further intensifying government policies. According to its authors, there is a need for more “coercion and pressure”, and strong interventions such as taxes, regulations, and standardization should not be disregarded.³

The analysis of this report shows that without organizational and financial embedding, there will be a lack of value chains and financial incentives for a circular economy. Without well-governed producer responsibility organizations (PROs) – in which producers take back their products after its use phase – it is hard to give a second life cycle to products and materials. And without a reduction in labor taxes, it is not financially feasible to disassemble, repair and re-assemble products.

The result of the current policy environment, therefore, is often **recycling (R8)**, or materials are simply discarded. The potential for the circular economy, however, is at higher R-levels: *repurpose (R7)*, *remanufacture (R6)*, *refurbish (R5)*, *repair (R4)* and *reuse (R3)*.

The challenge is clear: climbing the R-ladder is not a ‘nice-to-have’. The circular economy is more than a sideshow to gain control over our own raw materials, but it is essential to meet our climate goals.

This *Policy Toolkit for the Circular Economy* describes the potential contribution of 25 policy measures. Some of these measures fulfil a key role, as they are enablers for the other measures. We give an example of how one policy measure can create a domino effect that enables new policy interventions:

By establishing a higher tax on materials (F1) and a lower tax on labor (F2):

- It will be more interesting to reuse products and materials;
- It will be cheaper to disassemble products and perform repairs;
- Waste separation will be better, because of the lower disassembly costs;
- This leads to a higher availability of recycled material, which makes minimum recycled input requirements (T7) easier to implement;
- Implementing repair manuals and indices (T4) becomes easier and more attractive because repairs are cheaper;
- Because disassembly costs will be lower, it will be easier to implement disassembly requirements (T5);
- Once disassembly is scaled up, product standardization (T1) will be more interesting to producers;
- A system of producer responsibility (O2) will be easier to implement, because
 - it will be relatively cheaper to separately collect, test, and process used products;
 - this gives leeway to better design products (e.g. with recycled material, standardized, and dismountable);
 - producers are better able to disassemble used product and reuse components and materials, which strengthens their business case.

1

Introduction

The Dutch government aims to cut virgin resource use in half by 2030, and be fully circular by 2050.¹ The European Commission also embraces the transition to the circular economy.² However, the Netherlands is not on track to meet these goals.

According to the Netherlands Environmental Assessment Agency (PBL), Dutch policy focuses too much on low-grade recycling and its policy measures are too voluntary and without obligation.^{3,4} In addition, the 2016 *government-wide program for a Circular Dutch Economy by 2050* focuses on eliminating rules that hinder innovation, but lacks focus on policy measures that directly stimulate the circular economy.⁵

To meet its circular economy goals, the Netherlands needs to strengthen its policy base. This is exemplified in the letter to the House of Representatives by the former State Secretary for Infrastructure and Water Management (July 14th, 2021). This letter presents 14 economical, knowledge-based, institutional and societal barriers, which are linked to necessary measures to reach a circular economy⁶ In the publication that lies before you, we endorse the measures suggested in the aforementioned letter, and supplement those with other relevant policy measures. We also touch upon the implementation these policies.

New policy should focus on higher levels of circularity, as expressed by the R-ladder (Figure 1). These measures could potentially remove barriers for entrepreneurs in the

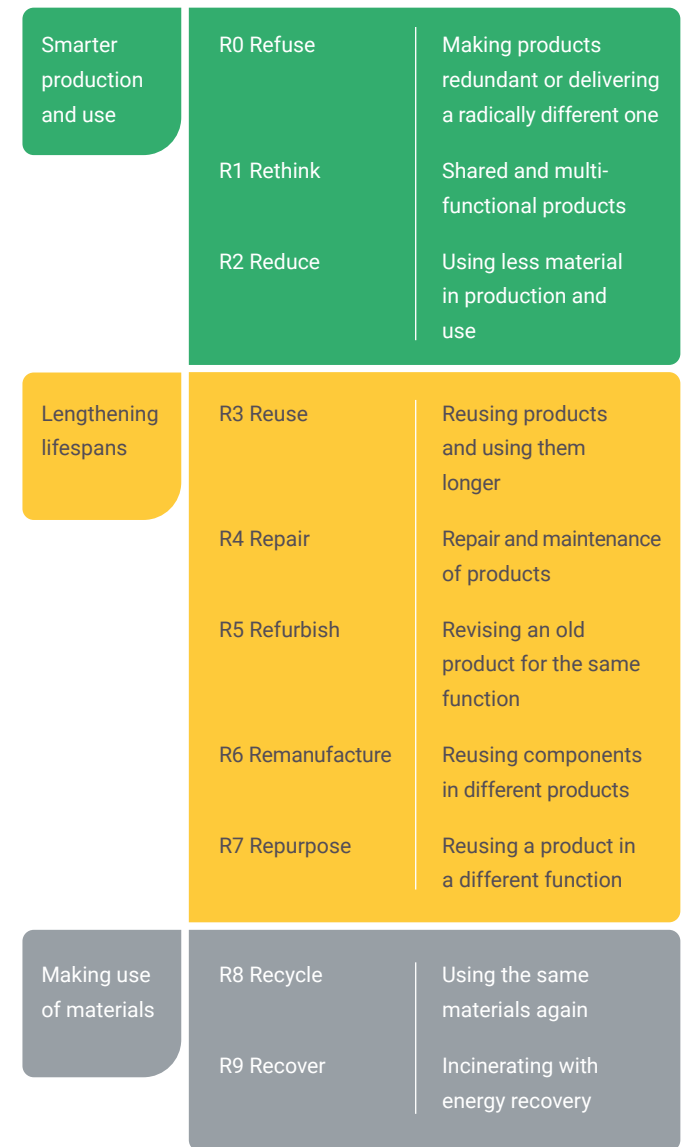


Figure 1. R-ladder. Source: Cramer, 2014. Adaptation by Copper8.⁶



Figure 2. TOF-model

circular economy and promote responsible resource management. Additionally, they make the Dutch and European economies more resilient to international supply risks.

Combining Measures

Successful circular economic policy combines technical, organizational, and financial measures (Figure 2). After all, a circular economy requires that circularity is technically feasible, is properly organized with rules and regulations, and is financially incentivized.^A These prerequisites are currently not being met, and it is unrealistic that market forces can create these conditions in the

short term. Therefore, government intervention is necessary. The policy measures from the *Policy Toolkit for the Circular Economy* are summarized in Figure 3. Many of these measures seem ambitious, but they are necessary to meet our climate and circular economy goals. Their implementation would also allow the Netherlands to anticipate the development of the circular economy in European and international markets. This way, the Netherlands can become the guiding nation on circular economy.

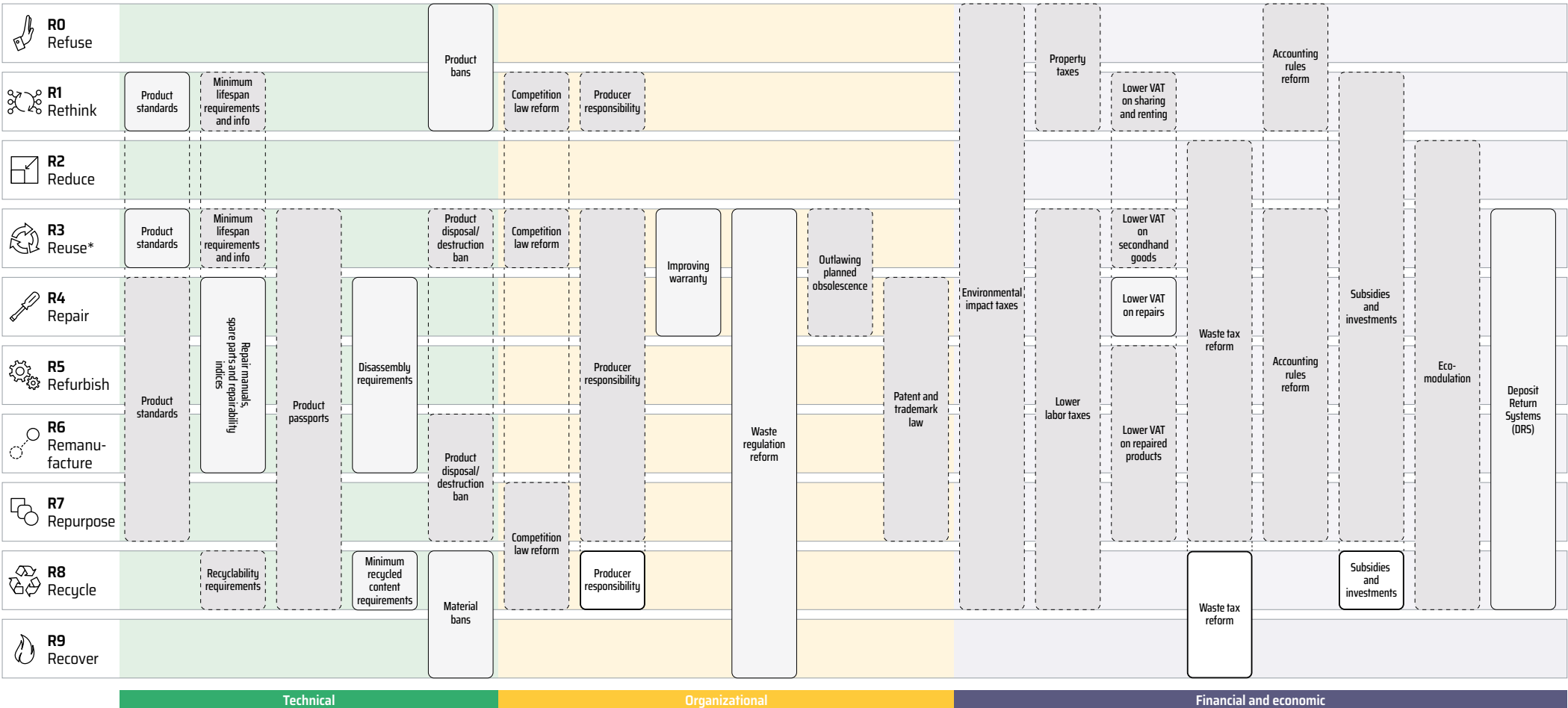
The next page (Figure 3) provides an overview of all measures linked to the R-ladder with an indication of the extent to which policies have already been implemented. In the

subsequent three chapters, we provide more detail on the technical, organizational, and financial measures. Policy measures are also assessed based on two variables:

- The impact of the measure, where higher scores correspond to more meaningful contributions to circular and climate goals;
- The complexity of implementing the measure, where higher scores are given to measures that will be more difficult to implement, for example because of diverging interests.

^A This is also called the TOF-model: technical, organisational, financial.⁹

Policy Toolkit for the Circular Economy



Aa Policy measures that are implemented on a large scale
 Aa Implemented policy measures with a large potential
 Aa Policy measures that are not or hardly implemented
 * R3 Reuse also encompasses policy measures that extend the lifespan of a product

Figure 3. Policy Toolkit for the Circular Economy

2

Technical Policy

Technical measures place requirements on the technical properties of products, such as standardization, repair manuals and material bans. These measures make the circular economy technically more feasible and can reduce the costs for circular processes as materials and products will be easier to reuse.

The table below provides an overview of the policy measures covered in this chapter. For each measure, an assessment is given regarding respectively its impact and complexity of implementation.

#	Measure	Impact	Complexity
T1	Product standards	●●○○○	●●○○○
T2	Minimum lifespan requirements and information	●●○○○	●●○○○
T3	Product passports	●●●○○	●●●○○
T4	Repair manuals, spare parts and reparability indices	●●○○○	●●○○○
T5	Disassembly requirements	●●●○○	●●○○○
T6	Recyclability requirements	●●○○○	●●●○○
T7	Minimum recycled content requirements	●●○○○	●●○○○
T8	Product bans	●●○○○	○○○○○
T9	Product disposal/ destruction bans	●●○○○	●●○○○
T10	Material bans	●●○○○	●○○○○

T1 Product standards

Rethink (R1), Reuse (R3) – Repurpose (R7)

By standardizing products and components, it is easier to give them a second use phase. As such, fewer products will be needed.⁹ Standards are the reason that all bikes use the same adjusting keys and that a broken hard drive can be replaced by a newer model.

Rethink

If more products are compatible, consumers need fewer products. For example, by homogenizing connectors on computers and mobile phones, consumers do not need to purchase peripherals for each device separately. The USB standard for computers and mobile devices is an example of this.¹⁰

Reuse and repurpose

Homogenous products and components are easier to reuse, because the (labor intensive) process for reuse will be more standardized. The standard beer bottle in the Netherlands is a great example of this: the standardized returnable bottle ensures that breweries can accept each other's bottles and refill them⁸. This concept can also be applied to other glass packaging.¹¹

The same principle works for *repurposing*: the reuse of products in a different function. For example, using discarded batteries from electric vehicles as grid storage is

B. The final section of this document provides more information about the success of reusable glass bottles - see page 22

currently challenging. By standardizing certain technical aspects of batteries it will be easier to check the health of the battery and repurpose it for grid storage.¹²

Repair and refurbish

Homogenous products are easier to repair, because the repair process for each product category is similar or identical. Repair agents will not need to look up and learn new procedures for each device, and they can use the same tools and spare parts.

Remanufacture

Finally, product standards make it easier to take working components from discarded products and re-apply them in different products from different manufacturers.

T2 Minimal lifespan requirements and information

Rethink (R1), Reuse (R3)

Regulation can put demands on the minimal lifespan of a product. For some products, this regulation can target the calendar age (such as furniture or phones). For other products, it can target the number of uses (such as batteries or washing machines).¹³ Stricter lifespan requirements stimulate producers to design products that last longer, as products that do not adhere to these requirements cannot be sold.

Additionally, product labels that mention that expected lifespan of a product can help consumers to make rational

decisions when purchasing a new product. After all, a € 60 vacuum cleaner with a lifespan of three years is eventually more expensive than a € 100 alternative model lasting ten. If the product lasts shorter than the expected lifespan, the consumer can make a claim to the product's warranty.¹³ Product lifespan information can also help companies use longer and more realistic depreciation periods.

T3 Product passports

Reuse (R3) - Recycle (R8)

A Circular Product Passport (CPP) provides information on the bill of materials of a product, value retention after the use phase and the environmental impacts of the production process. In the transition to a circular economy, information about such properties is paramount because it enables actors to process used and discarded products in a responsible and circular manner.¹⁴ In 2019, the Dutch government started a pilot program to register all materials in one coherent manner in the Materials Information System (GRIS)^c. In the coming years, this system will be further developed.¹⁵

T4 Repair manuals spare parts and repairability indices

Repair (R4), Refurbish (R5), Remanufacture (R6)

To promote repairs, spare parts need to be available to replace defective components. Additionally, it is important that repair agents and consumers alike know how they can effectively and safely repair devices.

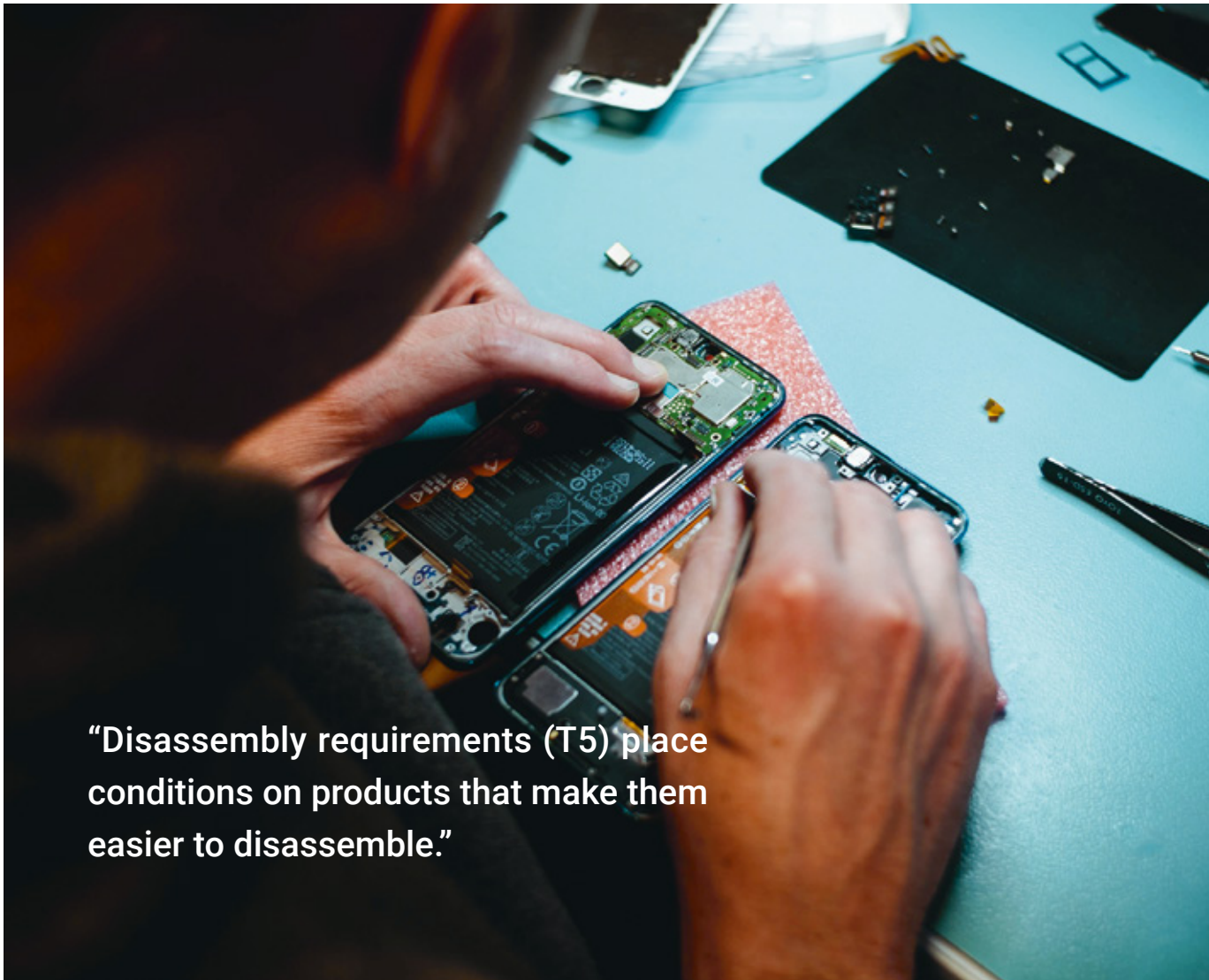
In 2021, the EU established requirements for spare parts and repair manuals in the Ecodesign Directive. These requirements are currently limited to a number of products, and the manuals and spare parts are only available to professional repair agents. Individuals or organizations such as Repair Cafés, therefore, miss essential information for conducting repairs. Additionally, producers have up to three weeks to deliver spare parts and often ask for high prices.¹⁶ By improving the aforementioned limitations of the Ecodesign Directive – or otherwise adopting them in national policy – repairs will be more simple and more affordable.

Repairability indices

A repairability index informs consumers about the reparability of a product before its purchase. Most indices report on the product design, the availability of information (such as a repair manual), and other aspects such as spare parts. While there are already several indices that were developed by e.g. NGO's, in early 2021 France was the first European country that mandated the use of an official repairability index.¹⁷

Repairability indices can also be used to place a requirement on the minimum reparability of products. This will make products easier to *refurbish* and *repurpose*.

C. Dutch: Grondstoffen Informatie Systeem (GRIS)



“Disassembly requirements (T5) place conditions on products that make them easier to disassemble.”

T5 Disassembly requirements

Repair (R4), Refurbish (R5), Remanufacture (R6)

A common problem with defective products is that components are not easy to dismantle and replace. Disassembly requirements place conditions on products that make them easier to disassemble and therefore easier to *repair, refurbish, and remanufacture*.

These requirements can supplement the existing Ecodesign Directive, such as in the case of washing machines, dishwashers, displays, tablets and server equipment. The European Commission (EC) has mandated standards organizations to provide better assessment regarding the disassembly potential of products.¹⁸ Disassembly requirements can be set based on existing reparability indices such as the one in France.

The EC’s new Circular Economy Action Plan puts forward an expansion of Ecodesign guidelines – including disassembly requirements – to new product groups, such as batteries for electric vehicles.¹⁹

The Dutch platform for circular manufacturing industry^p has created a guideline for future CPPs.¹⁴ The Dutch government could promote or mandate the use of these passports.

D. Dutch: Circulaire Maakindustrie

T6 Recyclability requirements

Recycle (R8)

Product requirements can ensure that products are easily recyclable. For example, products that consist of only a few different materials are easier to recycle than products where different materials are glued or mixed together (composites).

In the Netherlands, the *KIDV Recycle Check* developed by the Netherlands Institute for Sustainable Packaging is promoting the use of recyclable packaging made of plastic and paper; whereby it is expected that this will be extended to glass in the near future.²⁰ The same principle can be applied to textiles by discouraging the use of multiple fibers.

T7 Minimum recycled content requirements

Recycle (R8)

Minimum recycled content requirements place an obligation on manufacturers to use more recycled materials. This leads to a lower virgin materials use. The EU, for example, requires manufacturers to use more than 30% recycled plastics in the production of plastic bottles.²¹ Other product categories can also be given a minimum recycled content requirement, such as textiles.

T8 Product bans

Refuse (R0), Rethink (R1)

A product ban removes an undesirable product from the market, especially when it can be replaced by a similar product with a lower environmental impact.

The EU, for example, prohibits the use of disposable plastics in many cases.²¹ Another example is the opt-in system for door-to-door advertising in many Dutch municipalities, which avoids junk mail and therefore paper waste. This system could be introduced nation-wide.

T9 Product disposal/ban on incineration

Reuse (R3), Remanufacture (R6), Repurpose (R7)

Banning the incineration of goods by producers and retailers forces them to find a use for products when they are not sold. The incineration of products happens because brands and retailers do not want to sell out-of-season products or when storage costs get too high. In 2021, for example, it was revealed that Amazon destroyed more than 100,000 items on a weekly basis.²¹ A ban on product incineration and disposal will ensure that brands and retailers will instead donate, recycle or otherwise find a use for these goods.²³

In France, it is prohibited to destroy unsold products from 2024 onwards.²³

T10 Material bans

Recycle (R8), Recover (R9)

Material bans prohibit producers and importers to sell products with certain undesirable materials, such as toxic and poorly recyclable ones. Examples are the ban on devices with lead (bar exceptions)²⁴ and packaging with PVC.²⁵

Material bans can be included in the *Reach* and *RoHS* regulations.

Repair Cafés

In a Repair Café, people can get their product repaired free of charge by skilled volunteers. Electronic devices, furniture, clothing, bicycles, and other goods are the most common products. It is an accessible way to give products a second life.

The foundation *Repair Café International* publishes a *Repair-Monitor* with statistics about its conducted repairs on an annual basis. This report highlights the most common causes of failed repairs:

- Product excessively damaged (46%)
- Components cannot be replaced (32%)
- Cannot be disassembled (10%)
- Lack of time; other circumstances (10%)
- Lack of knowledge, tools and/or materials (5%)

Product standards ensure that components are easier to repair and that repairer agents need less expert knowledge and fewer tools. Disassembly requirements make it easier to open products. Repair manuals make repairs less knowledge-intensive and quicker.

In short, Repair Cafés will be more successful if technical measures are taken to promote the circular economy.

Source: *Stichting Repair Café International*²⁶

3

Organizational Policy

Process-oriented policy is focus on the organizational aspects of the circular economy: who is responsible for making supply chains circular, and which rules and regulations can streamline circular business? By better organizing the circular economy, circular business models will become more attractive and profitable.

The table on the right provides an overview of the policy measures covered in this chapter. For each measure, an assessment is given regarding respectively its impact and complexity of implementation.

#	Measure	Impact	Complexity
01	Competition law reform	●●●○○	●●●○○
02	Extended Producer Responsibility (EPR)	●●●●○	●●●○○
03	Improving warranty	●●●○○	●●○○○
04	Outlawing planned obsolescence	●●○○○	●●●●○
05	Waste regulation reform	●●●○○	●●●●○
06	Patent and trademark law reform	●●○○○	●●○○○

01 Competition law reform

Rethink (R1), Reuse (R3), Repurpose (R7), Recycle (R8)

Dutch *Competition Law*^E was established to prohibit agreements between firms that reduce competition,²⁷ with the aim of increasing consumer welfare.²⁸ This law is aimed at organizations that decide to cooperate through price fixing and market sharing. Exceptions apply, but to meet the prerequisites for an exception, the advantages need to be calculated in terms of consumer welfare. There is little space to take non-economic considerations into account. Only when cooperation is seen as necessary requirement for a positive effect on consumer welfare, it can continue.²⁸

More intensive collaboration

Renewing national and European competition policy can enable companies to collaborate more intensively on non-price-related aspects for e.g. the reuse of each other's

waste streams. This value chain cooperation would strengthen the circular economy.

There are roughly three options to achieve this:²⁸

1. Considering the opportunities for (far-reaching) collaboration within the current legal landscape. This approach has limited applicability;
2. Changing the foundations of competition law, such that it is not only focused on consumer welfare, but also on non-economic (environmental) interests;
3. Changing some foundations of the market-driven economic system (e.g. by questioning the goal of free and efficient competition). These foundations can be incompatible with the transition to a circular economy. This, however, is a long-term solution.

E. Dutch: Mededingingswet

02 Extended Producer Responsibility (EPR)

Rethink (R1) – Recover (R9)

Extended Producer Responsibility (EPR) is a concept in which producers and importers are held responsible for the processing of products after they are discarded by the consumer. This lowers the burden on consumers and municipal government to manage waste, and (ideally) it incentivizes producers to maximize product value retention. EPR results from European and national policy, such as the *Waste Framework Directive*.²⁹

EPR can be improved by extending it to new product categories, but even more by improving the organization of the system. EPR is a complex system where the interests of the market players often do not align with the collective interest.³⁰ Therefore, government plays a key role in improving EPR policy.

Changing the goals

The Dutch government sets collection and recycling quotas to promote producer responsibility. High-grade reuse, however, is often not in scope. Some highly circular practices, such as *refurbishment*, do not even count towards the quota.³⁰ Incorporating higher R-levels of circularity in the EPR targets would promote the circular economy.

Extending to new product categories

In the Netherlands, EPR is applied to, amongst others, car tires, car wrecks, batteries, electric and electronic devices, and some packaging. An EPR system for mattresses³¹ went into force January 2022, and for textiles in July



“The EPR system voor packaging aims at improving the composition of the packaging (P2).”

2023.³² The system, however, can be applied to many other product groups, such as furniture and building materials/components.

Individual Producer Responsibility

EPR systems in the Netherlands can be described as a system of 'Collective Producer Responsibility'. In this system, there is a Producer Responsibility Organization (PRO) which is paid by the producers and manages the collection and processing of discarded products. This means that producers are not individually incentivized to practice circular design, as they are unable to reap the full benefits of the retained value in the returned products. Additionally, reaching high-grade circularity is challenging for a PRO, because of the complexity associated with collecting many different products. As such, EPR in the Netherlands typically does not progress beyond recycling and recovery (R8, R9).

An alternative EPR system that is able to reach higher circularity levels is Individual Producer Responsibility. In this system, producers retain ownership of discarded products, and are able to control what happens with them. This way, producers are incentivized to think about the product value beyond its end of life phase.³⁰ This promotes circularity that is higher on the R-ladder.

Financial incentives for improving EPR

Currently, producers pay a fee to the PRO. Producers will be more inclined towards circular design and processing, however, when this contribution depends on environmen-

tally friendly design (see Eco-modulation on page 20), which means that environmentally friendly designs lead to a lower contribution.

Another financial incentive to improve EPR is a deposit return system. This allows for an easier system of returning discarded products to the producer.

Both of these measures are further discussed in Chapter 4 on Financial and economic policy.

03 Improving warranty

Reuse (R3), Repair (R4)

Warranties give consumers the right to a product replacement, repair, or refund when a product does not function properly. This acts as an incentive to both producers and retailers to deliver products that last long. There are several ways to improve the warranty system. This will promote the circular economy and consumer rights.

Extending the warranty period

In the Netherlands, the legal warranty period is not a fixed term, but is as long as the consumer can reasonably expect the product to last.^{32,33} This makes sense, because not every product category lasts as long. The warranty period, therefore, is based on expectations and averages, and therefore does not give an incentive for making products that last longer than the sector average. Ideally, the warranty period would always be set slightly longer than the average lifespan of a product category in order to increase the average over time.

For example, the industry association Techniek Nederland maintains a table with the expected lifespan per product. On this list, many products of more than € 100 euro only last several years.³⁵ Many electric and electronic devices, however, can be designed to last much longer.

The legal warranty period can also be linked to a legally required product label containing the lifespan expected by the producer (see Minimum lifespan requirements and information on page 8). This is similar to the 'best by' date on food packaging.¹³

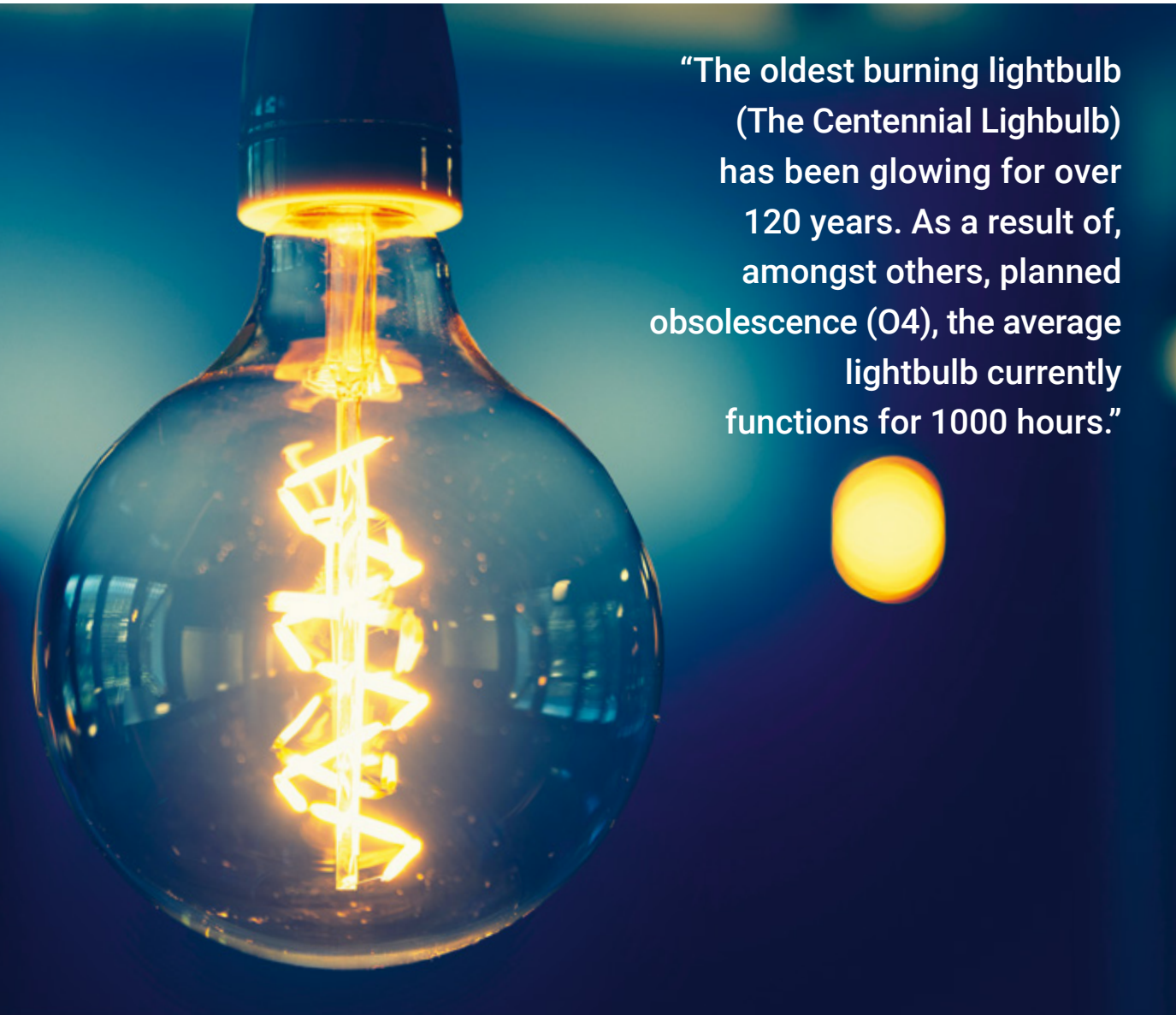
Reducing the burden of proof to consumers

In the current warranty system, consumers must prove that they are not at fault if a product is defective more than six months after purchase.³⁴ However, it is challenging to prove that someone did not cause a malfunction. By moving the burden of proof to the consumer much later, or removing this burden of proof at all, producers have a stronger incentive to produce long-lasting products.

Enforcing consumer rights

Manufacturers, especially those of electric and electronic devices, sometimes make consumers think that their warranty expires when they repair a product. They use, for instance, stickers with the text "Warranty void if broken". The legal warranty, however, is not affected by repair attempts³⁶ The Netherlands Authority for Consumers and Markets^F can act against such misleading claims.³⁷

F. Dutch: Autoriteit Consument en Markt (ACM)



“The oldest burning lightbulb (The Centennial Lightbulb) has been glowing for over 120 years. As a result of, amongst others, planned obsolescence (O4), the average lightbulb currently functions for 1000 hours.”

O4 Ban on planned obsolescence

Reuse (R3), Repair (R4)

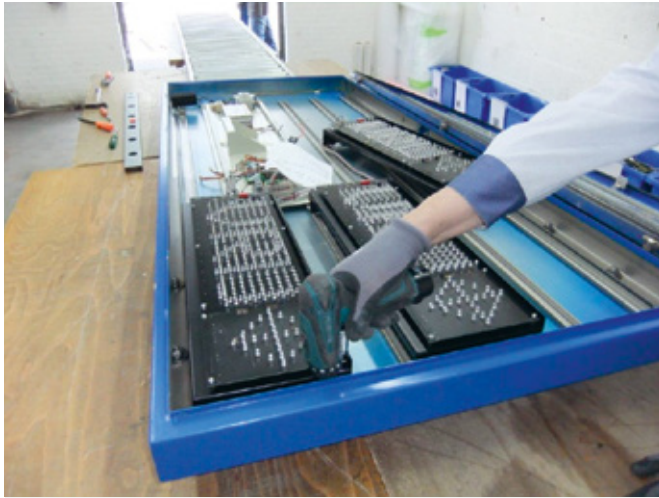
Planned obsolescence is a strategy in which producers design products in such a way that they have a limited lifespan. Therefore, products will be replaced more quickly and the company's sales increase.³⁸ This was once meant as a cure for the Great Depression in the thirties, but it also creates needless waste and a reduction in consumer welfare.

Banning planned obsolescence makes it illegal to sell products with an artificially low lifespan. In France, there is a fine of 5% of annual revenue on planned obsolescence, and even a prison sentence. Its public prosecutor has sued Apple because it was knowingly slowing down iPhones after they were sold.³⁹

O5 Waste regulation reform

Reuse (R3) – Recover (R9)

The use of waste materials is more strictly regulated than virgin materials in order to protect human health and the environment. However, this also makes it more difficult to use this waste in the circular economy. In European and Dutch law, something is a waste material when the owner wants to discard of the material or object. The guiding principle is the intention of the discarder, not the properties of the material.⁴⁰ This, however, is not the best way to look at waste: one person's trash is another person's treasure. European and Dutch waste reform make it difficult to let one actor use someone else's waste as an economic input,⁴¹ also because of the administrative burden.⁴²



Reusing materials

A&M Recycling aims for higher-grade recycling using its own knowledge and innovation centre. For example, the company has reused components from discarded digital parking information signs in new ones (*remanufacture, R6*). Because environmental laws are not designed with this type of circular activity in mind, it requires a lot of time and energy from entrepreneurs to follow higher R-strategies. Legal reform could make trade in waste materials and products easier.

Source: A&M Recycling

Waste regulations should be written not only to reduce environmental and health risks, but also to stimulate the highest possible circular use of materials. In 2018, the EU already took some steps: materials that can be considered a 'by-product' or have achieved 'end-of-waste status', can now be used if application is certain.⁴²

EU member states can place their own conditions on when waste can become an input material. The Netherlands is doing this for construction waste. This can be expanded to other types of waste.⁴²

European Waste Shipment Regulation (EWSR)

The European Waste Shipment Regulation (EWSR) regulates the transport of waste materials over the European internal and external borders. This regulation, however, creates administrative costs and confusion about the interpretation in different member states.⁴¹ The EC has adopted a proposal to update the regulation, but its policy process has not yet reached the implementation phase as of June 2023.^{43,44}

06 Patent and trademark law reform

Repair (R4) – Repurpose (R7)

Intellectual property exists to protect the work of inventors and designers.⁴⁵ However, it also imposes restrictions on extending the lifespan of products:

- It is complicated to repair a product within the 'expected lifespan', which is set in part by the producer. In the circular economy, however, we should strive to a lifespan that is as long as possible.^{46,47}

- There is a grey area between 'repair' and 'reconstruction' of a patented product. In some cases, repairing or refurbishing a product can be seen as a breach of intellectual property law.⁴⁶⁻⁴⁸
- The sale of spare parts can be seen as a breach of intellectual property rights.⁴⁷
- Definitions of 'expected lifespan', 'repair' and 'reconstruction' differ between European countries. This makes conducting a circular business strategy risky and difficult for entrepreneurs.⁴⁷
- Products made from other discarded products can contain trademarks. This can be an issue if the product benefits from the success of the trademark.⁴⁶
- Original producers of refurbished products can block the sale of their products if they are altered or deteriorated.⁶ This deters entrepreneurs from engaging in refurbishment practices as a part of their business model.⁴⁶

Reforming current regulations around intellectual property could allow for more practices that extend the lifespan of products. The aforementioned challenges can be solved using the following reforms:

- Include in patent and trademark law that activities aimed at extending the life of a product are not an intellectual property breach.⁴⁷
- Change the legal term 'normal lifespan' to a new term, such as 'sustainable lifespan'.⁴⁸

G. Directive (EU) 2015/2436 of the European Parliament and of the Council of 16 December 2015 to approximate the laws of the Member States relating to trade marks (Recast), article 15.2.

4

Financial and Economic Policy

Financial policy concerns monetary incentives for both consumers and producers to engage in circular practices. For example, by making a circular business strategy more profitable than a linear one. A new economic paradigm and ensuing economic rules need to ensure that circular businesses are rewarded.

The table below provides an overview of the policy measures covered in this chapter. For each measure, an assessment is given regarding respectively its impact and complexity of implementation.

#	Measure	Impact	Complexity
F1	Environmental impact taxes	●●●●●	●●●○○
F2	Lower labor taxes	●●●●●	●●●●●
F3	Property taxes	●●●○○	●●●○○
F4	Lower value added tax (VAT) on circular products and services	●●●●○	●●●○○
F5	Waste tax reform	●●●○○	●●●○○
F6	Accounting rules reform	●●●●○	●●●●●
F7	Subsidies and investments	●●○○○	●●○○○
F8	Eco-modulation	●●●○○	●●●○○
F9	Deposit Return Systems (DRS)	●●●○○	●●○○○

F1 Environmental impact taxes

Refuse (R0) - Recycle (R8)

Imposing a tax on environmental impact gives a clear incentive to producers to make more sustainable choices regarding their energy and resource use. By applying taxes not only to direct emissions and pollution (scope 1), but also on emissions upstream in the supply chain (scope 2 and 3), the environmental impact of materials are taxed as well. Ideally, virgin resource use would be taxed more than the use of secondary materials.

Environmental taxes can be imposed in any of the following places in the supply chain:

- (Raw) material extraction
- First use in industry
- Sale to consumer

For implementation in the extraction phase and the first industrial use, it should be taken into account that the Netherlands does not have a large mining sector and heavily relies on imports. By taxing raw materials and semi-finished products at the border, the production of goods in the Netherlands becomes more expensive. This can negatively affect the competitiveness of the Dutch economy. At the same time, it can be an incentive for producers to use less of a material. This tax can be compensated for using subsidies on the same industries, or by creating a tax-exempt status for exports.⁴⁹ In the latter option, however, the impact of the measure is reduced. Implementing pollution taxes on a European level is preferred, as implementation is more straightforward, does not violate European trade rules, and creates a level playing field. For greenhouse gas emissions specifically, the

European Union is already in the process of implementing a Carbon Border Adjustment Mechanism (CBAM) that will enter into force in 2026.^{50,51}

Implementing environmental impact taxes during the sales phase does account for imports. However, it is challenging to identify the environmental impact and resource use of each product individually, and it is subject to change. This makes the tax base more uncertain.⁴⁹ The Dutch government and the European Union therefore could consider making the production process of products more transparent, as is discussed in Chapter 2 on Technical Policy in the section Product passports.

A large part of environmental impacts can be taxed at the sales phase using estimates. Examples are taxes on meat and other animal products, airline tickets and plastic packaging.

F2 Lower labor taxes

Reuse (R3) – Recycle (R8)

If we want to use materials more economically, we need more labor. Labor is required to repair products, to separate waste streams well, and by delivering services instead of products. For this purpose, taxes on labor can be lowered, which makes labor-intensive processes on the R-ladder more economically feasible. Despite the lower tax revenue from labor, this measure is considered feasible because increased labor implies fewer people need unemployment benefits. The measure can also be compensated for by increasing taxes on resource use, pollu-

tion and emissions, as discussed above. This combination is promoted by the Ex'tax movement.⁵²

F3 Property taxes

Refuse (R0), Rethink (R1)

By increasing property taxes, it becomes less economically appealing to own certain goods. As a result, people will avoid purchasing certain goods to avoid reduce their tax burden.

One current example of a property tax is the motor vehicle tax. This makes car ownership less financially appealing,⁵³ and shared mobility relatively more appealing. It is also possible to increase the motor vehicle tax on a household's second or third car.

Other options for property taxes for a circular economy are taxing (second) homes, tiled gardens and gas stoves.

F4 Lower value added tax (VAT) on circular products and services

Rethink (R1), Reuse (R3) – Repurpose (R7)

Circular services and products can be fiscally promoted by putting them under the lower VAT rate (9%), or abolishing their VAT altogether. This makes circular choices, such as repair, cheaper for the consumer than the linear alternative. It also enables circular products and services to scale up further.

There is already a reduced VAT rate on some circular activities, such as repair of bicycles, shoes, leather goods and

clothing, as well as book loans.⁵⁴ Some activities (not per se circular) are even exempt from VAT, such as airplane deliveries and fish catch. In order to promote the circular economy, the VAT on services in the sharing economy, second-hand goods and repairs can be lowered.

Services in the sharing economy, including rentals

Goods are used more intensively when they are shared or rented, and therefore fewer new products and materials are needed. Currently, shared mobility concepts fall under the high VAT rate, even though other passenger transport falls under the lower VAT rate or is even exempt. A lower VAT rate on shared mobility, rentals and other business models in the sharing economy make rentals and sharing relatively cheaper than purchasing new products.

Second-hand and refurbished products

VAT has already been paid on second hand goods and materials during their previous use phase, but it is still mandatory to pay VAT on these products. This makes second-hand products needlessly expensive and is therefore also called the 'double VAT'.^{55,56}

The 'margin scheme for used goods' can be used for the sale of second-hand goods (reuse, R3), even after repair (R4). In that case, VAT is only paid over the difference between the original purchasing price and the selling price.⁵⁷ This exception, however, does not apply to rentals or pay-per-use contracts, or the manufacturing of new goods out of used goods (*remanufacture, R6; repurpose, R7*)⁵⁸ or when the used goods have been acquired

for free, such as in thrift shops. There are roughly two solutions to decrease VAT on second-hand products and associated services:

1. Extending the margin scheme

Extend the margin scheme, in order to enable all entrepreneurs that reuse materials and products can apply it, regardless of the R-strategy or contract type they use.⁵⁹

2. Lower VAT on second-hand products

Introduce a separate VAT rate for second-hand products and materials. Using eco-modulation, the VAT gets lower the more circular the business activity is on the R-ladder.⁵⁹

Repairs and maintenance

Even though home maintenance and repairs on bicycles, textiles and shoes are already taxed using the low VAT rate, there are many types of repairs and maintenance that fall under the high VAT rate.⁵⁴ As a result, it is often not worth to repair a product in terms of price. Examples are electric and electronic appliances, furniture and musical instruments.

F5 Waste tax reform

Reduce (R2) – Recover (R9)

Waste taxes make creating waste more expensive and promotes economical use of resources. This measure, however, should be paired with waste regulation reform to ensure that waste streams can actually be used in production processes. Waste taxes already exist to promote recycling (R8), but to climb the R-ladder, it should be



“In thrift shops VAT is imposed (again) on second-hand products (F4).”

considered to introduce a small tax on recycling as well, to ensure higher circular strategies, such as repurposing (R7). Additionally, it could be considered to implement different rates for high-grade and low-grade recycling (also see Eco-modulation on the next page).

In an EPR system, waste taxes can also lead to an economical use of (new) materials (R3, *reduce*), because the entity that designs products is also the entity paying the waste tax.

F6 Accounting rules reform

Refuse (R0), Rethink (R1), Reuse (R3) – Repurpose (R7)

Accounting rules hinder the circular economy in several ways. Many accounting rules have been designed by the *International Accounting Standards Board (IASB)*. Listed

companies are expected to follow these rules, and non-listed companies can choose between applying European or national regulations.⁶⁰ Therefore, the Dutch and European governments can influence accounting practices.

Depreciation periods

Companies are required to depreciate the value of the goods they possess to the € 0 during a product's (technical) lifespan. Companies, however, are free to decide over which period they depreciate: this can be the economic lifespan^H or even shorter.⁶² Additionally, companies are fiscally stimulated to depreciate products quickly because this lowers profit taxes.⁶¹ These factors stimulate artificially low lifespans and value estimates, while in reality these products can still be used and retain value. By requiring companies to use a product's technical lifes-

pan as a minimum period for depreciation periods, long-term use of goods is promoted. It is also possible to promote the use of longer depreciation periods by providing a discount on profit taxes when depreciation periods are equal to or higher than the technical lifespans. This can be implemented within the small-scale investment tax deduction.^I

Leases on the balance sheet

Since 1 January 2019, lease customers are required to put leased products with a minimum value of \$ 5000 USD on their balance sheet.^J This leads to a balance sheet increase, which are considered risky by investors.⁶³ This makes lease constructions less attractive, although they are an important revenue model in the circular economy, because they give producers and incentive to create products with a long lifespan.

Residual value at buyback

Accounting rules stipulate that the maximum price at which a company can buy back a product from its customers is 10% of the original price.^K At higher residual values, the sale should be replaced with a lease. As described above, this situation creates a financially un-

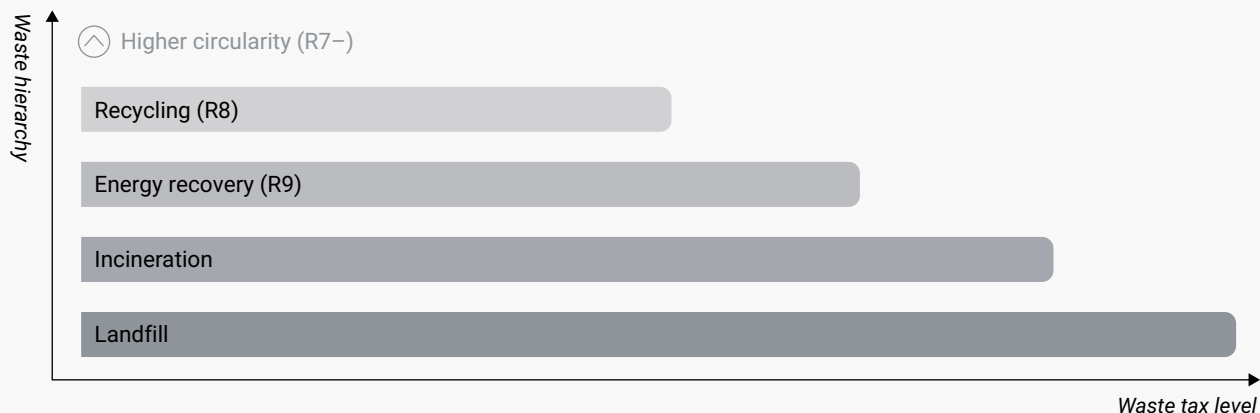


Figure 4. Waste tax differentiation

H. "The economic lifespan of an asset has expired if it no longer has any economic benefit to your business, even if it is still technically in good condition."⁶⁰

I. Dutch: kleinschaligheidsinvesteringsaftrek (KIA)

J. Because of the implementation of IFRS 16.



Refurbished solar panels

The company Boldz refurbishes solar panels with damaged frames and junction boxes. These refurbished panels get a second use phase, which means that the glass, the frame, and the critical materials will not be lost.

Solar panel refurbishing is still a very small sector, partly because it is disincentivized by the tax system. After all, refurbishing is a labor-intensive process, while new solar panels are more material-intensive. This shows the necessity of a tax shift from labor to resource use.

Additionally, discarding a solar panel is currently relatively inexpensive, which means that most people will not think about service life extension of solar panels.

Source: Boldz

attractive balance sheet increase.⁶⁴ In the circular economy, the goal is to retain as much value as possible and to keep producers responsible for the products that they create. In accounting, a higher residual value should be stimulated without the necessity of a lease construction.

F7 Subsidies and investments

Rethink (R1) – Repurpose (R7)

Subsidies and investment schemes for the circular economy can be used to actively promote activities that are higher on the R-ladder. Historically, many of these initiatives have focused on recycling and the use of biobased materials. Higher R-strategies, such as repairs (R4) and shared goods (*rethink*, R1), were less prevalent. This was the case in, for example:

- TSE Industry subsidy, before 2023⁶⁵
- Subsidy for circular supply chain projects^{L,66}
- Subsidy for climate and efficient materials^{M,67}
- Energy and Climate Innovation Demonstration^N subsidy⁶⁸
- Biobased Economy and Green Gas^{O,69}

The 2023 Knowledge and Innovation Agenda - Circular Economy (KIA CE) is different in that regard, as projects that are primarily focused on *recycling* and *recovery* do not qualify.⁷⁰

Investment schemes

The Green Projects Scheme^P stimulates green investments in specific project categories by giving a tax ad-

vantage to investors.⁷¹ The use of sustainable materials and recycling qualify for this scheme, but high-grade circular strategies such as repairs and shared economy concept do not.⁷²

The *Environmental Investment Deduction*^Q and the *Arbitrary Depreciation of Environmental Investment*^R schemes provide a fiscal benefit to entrepreneurs investing in environmentally friendly practices covered on the *Environment list*^{S,73}. Although the list is being updated on a regular basis, it does not yet contain a comprehensive overview of high-grade circular measures. In many cases an emphasis is once again placed on recycling products and sustainable raw materials.⁷⁴

F8 Eco-modulation

Reduce (R2) – Recycle (R8)

In simple terms, eco-modulation refers to creating rate differentiation for producers' or consumers' waste, based on environmental criteria.

K. RJ 270 en IAS 18.63

L. Dutch: circulaire ketenprojecten

M. Dutch: klimaat en efficiënte grond- en hulpstoffen

N. Dutch: Demonstratie Energie- en Klimaatinnovatie (DEI+)

O. Dutch: Biobased Economy en Groen Gas (BBEG)

P. Dutch: Regeling Groenprojecten

Q. Dutch: Milieu-investeringsaftrek (MIA)

R. Dutch: Willekeurige afschrijving milieu-investeringen (Vamil)

S. Dutch: Milieulijst



“A number of municipalities in the Netherlands impose differential waste disposal charges (F8) for household waste.”

For producers

When producers are responsible for the collection of products at the end-of-life phase, they are often organized in a producer responsibility organization (PRO). The PRO arranges the collection and treatment of waste products, and the producer pays a fee to the PRO for compensation. By making this fee dependent on the circular design of a product, producers are financially stimulated to pursue higher levels of circularity.³⁰ The contribution to the PRO can also be made dependent on product lifespan, repairability, and the quantity of reused materials.

Eco-modulation can also make the system of producer responsibility easier, because products that were designed for circularity are easier to process. This is one of the reasons that eco-modulation has already been

applied to packaging in the Netherlands. In other sectors with extended producer responsibility in the Netherlands (e.g. electronics, batteries, car wrecks, and tires), eco-modulation has not yet been applied.³⁰

For consumers

Differential waste disposal charges^T are an alternative to conventional disposal charges. Instead of making waste disposal charges a set amount per person or household, households pay an amount dependent on the amount of waste that they produce. By making residual waste more expensive than other waste, people are stimulated to better separate their waste. The disadvantage, however, is that this can create an incentive to throw residual waste in waste flows for recycling to avoid paying taxes, which reduces the quality of recyclable material.⁷⁵

In the Netherlands, waste collection is a municipal responsibility. However, the national government can still be involved in mandating or promoting separate waste collection methods. It should be noted that differential waste disposal charges require careful implementation to avoid the mixing of recyclable material with residual waste and to set the right rate.

F9 Deposit return systems (DRS)

Reuse (R3) – Recycle (R8)

A deposit return system (DRS) rewards consumers for bringing back a used product to a collection point by giving back a small deposit. Manufacturers and suppliers get the products that they sold back, after which they can be reused, repaired, or recycled. DRS's are a straightforward way to bring back products from consumer to producer, and therefore enhance extended producer responsibility.

In the Netherlands, there is already a DRS with a return rate of over 90 percent for plastic and glass bottles.⁷⁶ These bottles are then recycled or washed for reuse. A DRS was introduced to cans on April 1st, 2023.⁷⁷

Extending deposit return systems to other product categories provides an opportunity to increase their return and circular use. Only 38% of sold batteries are collected, and only 43% of electric and electronic appliances.⁷⁶ Also the separate collection of textiles can be promoted by establishing a deposit return system.

T. Dutch: gedifferentieerd tarief; diftar

Success story: reuse of beer bottles

As described in the introduction, the most important conditions for achieving a high-grade circular economy are technical feasibility, proper organization, and the right financial incentives. The Dutch return system for beer bottles is a success story that meet all three criteria.

Technical feasibility

Many Dutch brewers use a standardized bottle: the Brown Dutch Return Bottle^U, popularly known as 'het pijpje'. This packaging was developed in the eighties to enable brewers to use each other's bottles in the so-called 'bottle pool'^V. The logistics of the return bottle are very standardized. For these reasons, bottles are reused up to forty times.⁷⁸ Once reuse is no longer possible, the bottle can be high-grade recycled because it is manufactured from only one material.

Organization

As brewers and beer importers are responsible for the processing of returned packaging, it is in their interest to aim for maximum value retention of the product. In the Netherlands, there is an extended producer responsibility (EPR) scheme for packaging. Nevertheless, the common bottle was implemented in the eighties well before EPR was established by law. This case, therefore, shows the importance of making reuse cheaper than using new products.

Financial incentives

To realize the reuse of packaging, it needs to be attractive for consumers to return bottles to the vendor. The deposit of € 0.10 per bottle⁷⁹ ensures that consumers do not see a bottle as a worthless item, but bring it back to a shop to get their deposit back. From these collection points, such as supermarkets, bottles are sent back to breweries.

Extending this scheme

The same principle of a standard packaging with a deposit and extended producer responsibility can be applied to other glass packaging, such as drinks and non-perishable goods.

U. Dutch: Bruine Nederlands Retourfles (BNR)

V. Dutch: flessenpoel



5

In conclusion

The transition to a circular economy is a difficult and complex challenge. This challenge cannot be accomplished within one policy area, but requires interventions from multiple perspectives (e.g. environment, finance, and intellectual property) and multiple governance levels (European Union, national governments, municipalities).

In this *Policy Toolkit for the Circular Economy*, our aim was to show which policy interventions can make the transition to a circular economy easier. Not only to accomplish our national circular economy goals, but mostly to contribute to a society that can function within the planetary boundaries.

“We come from a world in which resources are plentiful, but move to a world in which resources are scarce.”

This quote, among others from the Swedish scientist Anders Wijkman, shows how the world around us is changing. Policy and regulation was created in a certain age, and often with good reason. But now that times are changing, we will also need to change the political and legal frameworks in which our economy operates.

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