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Improving product reparability: Policy options at EU level

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1. Introduction

“... moving away from a wasteful economy towards one based on durability and reparability of products is likely to create job opportunities throughout the product lifecycle in terms of, maintenance, repair, upgrade, and reuse” European Commission¹

The current pace of our society’s consumption is increasing our demand for finite raw materials and creating an enormous waste problem. Factors contributing to this overconsumption include latest fashion trends, but also the increasing difficulties encountered in maintaining or repairing our

¹ EU Commission (2012) Towards a Job Rich Recovery, SWD (2012)92 available [online](#)

products. As a result local jobs in repair are declining and consumers have fewer options to repair their products.

With the Commission set to publish a revised Circular Economy Package proposal by the end of 2015 this paper aims to provide some suggestions of how EU legislation could better help ensure that products available on the EU market can be easily and economically repaired, including the Ecodesign, WEEE, Energy Label, EU Consumer Rights, Batteries and VAT Directives. These suggestions complement existing positions on the current review of EU waste legislation which include setting separate targets for re-use in the Waste Framework Directive as well as mandatory criteria for Extended Producer Responsibility (EPR) that support waste prevention, re-use and preparing for re-use activities².

In particular, inspiration can be drawn from the automotive sector where repair friendly policies have been introduced already, both within and outside of Europe.

We feel that these suggestions have merit and should be taken into consideration when creating policies to support repair activities and help create jobs locally.

2. Challenges to repair and employment impacts

Difficulties experienced with repair

Consumer goods are now less durable and repairable than in the past. RREUSE has investigated³ the increasing difficulties associated with attempting to repair modern electronic equipment which include:

- **Lack of access to and high costs of spare parts:** costs of repair are higher than purchasing a new appliance
- **Lack of appropriate repair information:** no free access to service manuals, software and hardware of product and components, for independent repair operators
- **Product design and components without re-use potential:** new designs make it increasingly difficult to repair a product or components without breaking them forcefully.

These issues are not exclusively felt for electronic products either. For example, with the increased use of adhesives, staples and poor quality composite materials in furniture repairs have become increasingly difficult.

These factors significantly contribute to the costs associated with repair, making direct replacement of a product, often the cheapest option for the consumer. A recent Eurobarometer study confirms this. Whilst 77% of EU citizens prefer to repair their products instead of buying new ones, they tend to replace or throw away their products instead of repairing and re-using them because costs of repair are too high.

Repair jobs in decline

As a consequence of increasing obstacles and costs to re-use and repair, the decline of jobs in the sector has been noticeable for at least the past 30 years. In the Netherlands the number of repair specialist firms for consumer electronics dropped between 1990 and 1997 from 4500 to 2500 (Uneto

² RREUSE (2015) Making the Circular Economy Package more ambitious through re-use and repair available [online](#) and RREUSE (2014) Role of Extended Producer Responsibility in Promoting Product Reuse and Preparation for Reuse Activities available [online](#)

³ For more information see RREUSE investigation into reparability of domestic washing machines, dishwashers and fridges, available [online](#)

1997)⁴. Elsewhere in Germany in one year alone 13% of radio and television repair shops closed in 1996 (Ax 1997, p.178)⁵.

This downward trend is not only a Western European phenomenon. In Poland, between 2008 and 2010, the number of repair enterprises of personal and household goods decreased by 16% to 14,070 enterprises. In parallel, the number of persons employed during the same period decreased by 25% to 20,905 employees⁶.

Looking across the Atlantic, this trend can also be seen in a global perspective: The American Bureau of Labour Statistics (BLS)⁷ had estimated that in 1963 approximately 110,000 people were employed as television and radio repairmen. By 1982 that number had dropped to approximately 80,000 workers and by 2006 that estimate was reduced to just 40,000 workers. This decline happened in contrast to the fact that the number of television sets per household had increased from 1.13 in 1960 to 2.6 by 2005. In 1967, the BLS also estimated that there were 9,136 shoe repairmen in America, but by 2004 it reported only 2,825 shoe repairmen. This is a significant decline despite the fact that America's population had increased by over 90 million during this same period. Whilst these statistics may paint a bleak picture, the opportunity to reverse this trend and realise the currently untapped potential in reuse and repair are significant.

3. EU Legislation: Routes to reparability

Existing European legislation provides a strong basis to improve the reparability of our products and boost job creation in the sector, however, as noted by Schridde S. & C. Kreiß, 2013⁸, **implementation is a key issue**. A number of studies highlight that in the existing Ecodesign, WEEE and EU label Directives there are a number of provisions which clearly promote product durability and call for producers to take this into account at the design stage of a product.

The following sections provide a non-exhaustive overview of suggestions about how existing legal instruments could potentially be better adapted or implemented in order to improve the reparability of our products. It is noted that ideas provided for a given piece of legislation may also be applicable to another.

3.1. Regulation EC 595/2009 on type approval of motor vehicles and engines

Obstacles to repair, such as those listed in section 1, have also been experienced in the automotive sector with a number of initiatives having already driven some positive change in legislation. In Massachusetts a "Right to Repair law" was introduced in 2013 in order for independent repair and service technicians⁹ to have up-to-date access to repair and diagnostic information for all makes and models of vehicles on the road using a universal interface system for example. In the EU a similar Right to Repair Campaign¹⁰ has been in operation aimed at promoting a competitive regulatory environment for the automotive aftermarket which has resulted in a number of successes.

⁴Uneto 1997 cited in Wettbewerbsvorteile durch ökologische Dienstleistungen: Umsetzung in der Unternehmenspraxis

⁵Ax 1997 cited in Wettbewerbsvorteile durch ökologische Dienstleistungen: Umsetzung in der Unternehmenspraxis, p.178

⁶ Polish Statistical Office presentation available [online](#)

⁷ McCollough, 2010, Consumer Discount Rates and the Decision to Repair or Replace *in* Journal of Economic Issues

⁸ Schridde S. & C. Kreiß (2013) Geplante Obsoleszenz – Gutachten im Auftrag der Bundestagsfraktion Bündnis 90/Die Grünen. ARGE REGIO available [online](#)

⁹ Massachusetts Right to Repair law – more information can be found [here](#)

¹⁰ EU Right to Repair Campaign. More information [here](#). Also see www.digitalrighttorepair.org.

In particular **Regulation (EC) No 595/2009 on type-approval of motor vehicles and engines** includes **provisions for the transmission of maintenance and repair information to independent operators**.

Concretely the Regulation lays down three important requirements considering the access to repair information:

- Manufacturers shall provide unrestricted access to maintenance and repair information¹¹ as well as diagnostic equipment;
- Manufacturers shall provide a standardised, secure and remote facility to enable independent repairers¹² to complete operations;
- The Commission shall give technical specifications concerning the way the repair and maintenance information is provided and shall ensure the update of these specifications according to current information technology.

Additionally the Regulation provides concrete definitions of the terms “repair and maintenance information” and “independent operators” which is crucial for the correct implementation of the requirements

Such requirements provide inspiration to how other EU legislation could be adapted for electronic products and provides evidence that such provisions are possible and feasible to implement.

Suggestion:

Use EC 595 / 2009 as a starting point for encouraging repair friendly policies in other policy fields, including waste, product and consumer policies.

3.2. Ecodesign Directive 2009/125

The Ecodesign Directive strives to create a framework for defining requirements for the environmentally friendly design of energy consuming and energy related products placed on the EU market. Up until now, however, the focus on these solutions has been on improving energy efficiency rather than material efficiency¹³

Even though the directive does not regulate resource efficiency and protection sufficiently it **does possess the mandate to act** within this field. In particular the law recognizes the importance of a life cycle approach to assessing the environmental impacts of products which should be used to help alternative design solutions (Recitals 3 and 10). Parts 1 and 2 of Annex 1 outline a number of provisions which, if implemented strongly, would indeed improve the reparability of our products such as the use of standardised components in product design¹⁴. Design for ease of repair is crucial

¹¹ ‘vehicle repair and maintenance information’ means all information required for diagnosis, servicing, inspection, periodic monitoring, repair, re-programming or re-initialising or the remote diagnostic support of the vehicle and which the manufacturers provide for their authorised dealers and repairers, including all subsequent amendments and supplements to such information. This information includes all information required for fitting parts or equipment onto vehicles;

¹² ‘independent operator’ means undertakings other than authorised dealers and repairers which are directly or indirectly involved in the repair and maintenance of motor vehicles, in particular repairers, manufacturers or distributors of repair equipment, tools or spare parts, publishers of technical information, automobile clubs, roadside assistance operators, operators offering inspection and testing services, operators offering training for installers, manufacturers and repairers of equipment for alternative fuel vehicles;

¹³ E.g. Prakash S., R. Liu, K. Schischke, L. Stobbe (2012) Timely replacement of a notebook under consideration of environmental aspects. Umweltbundesamt – Environmental research of the federal ministry of the environment, nature conservation and nuclear safety

¹⁴ Schridde S. & C. Kreiß (2013) Geplante Obsoleszenz – Gutachten im Auftrag der Bundestagsfraktion Bündnis 90/Die Grünen. ARGE REGIO

as it will cut down significantly on time needed for repairs which is crucial as labour costs are high (See 3.7).

Suggestion:

In order to improve the reparability of Energy Related products falling within the scope of Ecodesign Directive, RREUSE suggests that a number of mandatory horizontal and product category specific measures should be introduced within implementing measures of the Ecodesign Directive.

An interesting place to start would be to investigate the criteria used in the *Austrian Durability Mark for Electrical and Electronic appliances designed for easy repair* (ONR 192102)¹⁵. The standard, the only one of its kind in existence, is relevant for white and brown goods and has recently been updated in 2014. Following a recent investigation into obstacles to repairing large household appliances¹⁶, some of the criteria of this standard could be potentially applied horizontally across different product categories covered by the Ecodesign Directive including:

- The product should be able to be disassembled non-destructively into individual components and parts without the need for special proprietary tools to do this. Looking at a specific time limit on disassembly for product categories should be an aspect to be investigated further. If special tools are required however, these must be readily and freely available to every repair shop (not just to the after sales service providers of the manufacturers). This has been supported also by a recent study by Fitzpatrick et al., 2014, which states that strong emphasis should be placed at the ease and speed of disassembly which allows for simple upgrade, refurbishment and disassembly at end of life¹⁷
- The availability of replacement parts must be guaranteed for a period of at least 10 years following the last component batch. Another potential idea would be to set minimum availability of spare parts equal to 100% of the products 'average expected product lifetime' (AEPL) (See section 3.4. for more info).
- Free access to repair service documentation for all independent reuse and repair centres of the after-sales service providers together with any relevant fault diagnostic software and related hardware.

Further ideas could include:

- to safeguard consumers from early product failure e.g. within the first two years of purchase, higher "Mean Time Between Failure (MTBF)" requirements for critical subassemblies such as those with electro-mechanical parts/components, should be investigated by the Commission.

¹⁵ Austrian Standard ONR 192102 - Durability mark for electrical and electronic appliances designed for easy repair (white and brown goods). Updated 2014

¹⁶ RREUSE (2013) Investigation into the reparability of domestic washing machines, dishwashers and fridges, available online [here](#)

¹⁷ Fitzpatrick et al., 2014, Sustainable life cycle engineering of an integrated desktop PC; a small to medium enterprise perspective *in* Journal of Cleaner Production, volume 74 pp 555-160

3.3. Directive on Waste Electrical and Electronic Equipment (WEEE) 2012/19

The WEEE Directive includes guidelines which aim to promote the repair and preparation for re-use of products. Both activities extend the lifetime of products.

There are two aspects crucial for reuse and repair activities which are highlighted in particular. One aspect applies to the design of the product (Art. 4) and the other applies to the information provided by the manufacturer to WEEE treatment operators, including reuse and repair centres (Art. 15). (4)

These two aspects are addressed in two articles of the directive:

Article 4. calls to make sure that *producers do not prevent, through specific design features or manufacturing processes, WEEE from being re-used, unless such specific design features or manufacturing processes present overriding advantages, for example, with regard to the protection of the environment and/or safety requirements*".

Article 15. provides important guidelines concerning the information given by manufacturers to treatment facilities for reuse and repair: *"Member States shall take the necessary measures to ensure that producers provide information free of charge about preparation for re-use and treatment in respect of each type of new EEE placed for the first time on the Union market within one year after the equipment is placed on the market"*.

This indicates that manufacturers should be obliged to forward relevant information to re-use and repair centres.

Lastly, article 15 states that access to all information to treatment operators must happen within one year of the product coming onto the market. This is a real issue because reuse centres often receive brand new equipment which may initially have been faulty and otherwise scrapped. In order to safeguard resources and give a life to these machines, waiting one year for the service manuals and diagnostic tools is simply too long.

Suggestion:

In order to implement article 15 of the Directive at national level in the most effective manner the following must be provided free of charge to all approved/accredited reuse and repair centres:

- Access to repair and service manuals of the manufacturer's after sales service providers. This could be done in the form of free access to online repositories of service manuals.
- Access to any test or fault diagnosis software of the after sales service providers
- access to any relevant hardware such as laptop connectors for example
- Any related training for use of these tools/software

All documents, software and hardware must be made available to reuse centres as soon as the product goes on the market.

Lastly, where replacement component by a repair or re-use operator conform to the same **technical specification** as the original component, irrespective of who manufactured it, then the re-use or repair operator cannot be seen legally as a producer of a new product as no significant change has taken place.

3.4. EU Consumer Rights Directive (2011/83/EC)

The reparability of products can also be improved through legislation on consumer rights. Having a minimum guarantee on products can motivate manufacturers to produce goods with longer lifespan in order to avoid economic losses. Consumers must be aware about the expected longevity of the products which they purchase and competition stimulated amongst manufacturers to produce durable, easily repairable on long lasting products, especially concerning the provision of spare parts.

Under the Consumer Rights Directive, the seller is liable for a product for a period of two years, however, after the first six months the burden of proof of there being a defect at the time the product was delivered, lies with the consumer. While this aspect of the directive has been implemented in various ways on national level, Portugal has set the good example by extending the length of the rebuttable presumption from six months to two years¹⁸. Such a law could motivate producers to make sure their products will not fail in a short period of time¹⁹.

Suggestion:

- Extending the burden of proof on the manufacturer to at least two years EU wide. This could be enforced through higher “Mean Time Between Failure (MTBF)” requirements for critical subassemblies such as those with electro-mechanical parts/components.
- Introduce requirements for showing the ‘average expected product lifetime (AEPL)’ at the time of purchase in order to better inform consumers about purchase decisions. Calculating the AEPL should be based on a standardized methodology, similar to the energy consumption label, based on scientific proof / tests etc.
- Explore the effects and impacts of extending minimum functional guarantee period, for example, on independent repair operators. The length of time of the guarantee could be set, for example, in relation to the AEPL e.g. for half of that time.
- Obligation to use only standardised, freely available components for as many parts as possible (e.g. screws, motors, pumps etc.,) to avoid being forced to only use "OEM-or OEM approved components", which is making repair economically unfeasible through high prices for OEM components or because the components are unavailable in general - there MUST be a component market competition to make repair more feasible
- An obligation to provide spare parts etc. for 100% of the AEPL or obligation to open the market and accept non-OEM components for repair without rejecting producer liability in this case.

These requirements may also be valid for other directives such as Ecodesign.

3.5. EU Energy Labelling Directive 2010/30

The EU Label directive aims to inform European users about the energy consumption of a product. Due to the 2010 expansion of the label to categories other than household devices as well as the

¹⁸ COM/2007/0210 Communication from the Commission to the Council and the European Parliament on the implementation of Directive 1999/44/EC of the European Parliament and of the Council of 25 May 1999 on certain aspects of the sale of consumer goods and associated guarantees including analysis of the case for introducing direct producers' liability.

¹⁹ For more information on Consumer policies, see BEUC recommendations <http://www.beuc.eu/durable-goods#ourecommendations>

expansion of competence beyond the energy consumption it is possible according to recital 2 of the directive to provide information concerning other environmental aspects.²⁰

Article 2 of the directive gives the opportunity of providing additional information on the Label which can be used to inform about the durability of a product: “**supplementary information**’ means other information concerning the performance and features of a product which relate to, or are helpful in evaluating, its use of energy or other essential resources based on measurable data”.

Additional information on durability and reparability of a product on the EU Energy Label would give consumers the possibility to choose products which are contributing to a higher degree to the preservation of natural resources and furthermore push manufacturers to produce more durable quality products.

Today the EU Label is implemented in a way which lacks information about protection of natural resources as well as the rights of the consumer.

Suggestion:

Widening of the criteria within the EU energy label to help better inform consumers about the environmental impacts of the products they are purchasing. Information relating to the AEPL, as mentioned in 3.4. could also be introduced as part of energy labelling requirements. At the time of writing the new proposal for revising the directive does call for the possible integration of ‘durability aspects’ into the label (recital 20 of COM (2015) 341²¹) which is a step in the right direction.

3.6. Directive on batteries and accumulators 2006/66

Irremovable batteries can often dictate the lifespan of a product, which is often much shorter than of an equivalent appliance that has a removable battery.

The recent amendment to Directive 2013/56/EU of the Batteries directive states that: “Member States **shall ensure that manufacturers design appliances in such a way that waste batteries and accumulators can be readily removed**. Where they cannot be readily removed by the end-user, Member States shall ensure that manufacturers design appliances in such a way that waste batteries and accumulators can be readily removed by qualified professionals that are independent of the manufacturer. Appliances in which batteries and accumulators are incorporated shall be accompanied by instructions on how those batteries and accumulators can be safely removed by either the end-user or by independent qualified professionals. Where appropriate, the instructions shall also inform the end-user of the types of battery or accumulator incorporated into the appliance.”

Suggestion:

RREUSE supports the amendments made in Article 11 of the Batteries Directive which aim at ensuring manufacturers design appliances in such a way that waste batteries and accumulators can be readily removed, if not by end-users at the very least by qualified professionals independent of the manufacturer. A time limit, for example, on the removal of batteries and other hazardous substances would be useful.

This should also be supported within implementing measures of the Ecodesign Directive.

²⁰ Schridde S. & C. Kreiß (2013) Geplante Obsoleszenz – Gutachten im Auftrag der Bundestagsfraktion Bündnis 90/Die Grünen. ARGE REGIO.

²¹ COM (2015) 341 available [online](#)

3.7. Making repair more economically viable

Currently reuse, repair and preparation for reuse activities are becoming more marginalised because they are labour intensive activities and subjected to high labour costs. This incites the consumer to constantly upgrade and buy new products and appliances rather than repair the ones he/she already owns.

In order to ameliorate this situation, reuse and preparation for reuse activities, especially carried out by social enterprises must be better supported through a number of measures including reduced VAT rates to reward the resource efficiency and socio-economic benefits they provide to society.

Lastly in a number of countries such as Belgium, retailers find it economically attractive to directly send unsold new stock directly for recycling, landfill or incineration rather than donate it to a social enterprise who would give it a new lease of life. This is because the producer responsibility scheme or waste management company which receive the new appliance issues the retailer with a "green" certificate that proves that they disposed of the product in an "environmental friendly" way. With this certificate retailers can recoup the VAT they have paid when they purchased the machine. They cannot, however, recoup this VAT if they donate a new appliance to a social enterprise.

Suggestion:

Should the EU VAT Directive (2006/112/EC) be opened up, RREUSE suggests using differentiated VAT rates in accordance with the waste hierarchy to make repair more economically feasible.

- Zero VAT on repair, maintenance, upgrade services and sales of second hand/refurbished products
- Allow retailers to recoup VAT through donation of unsold new products to approved/accredited reuse centres from the social economy
- Zero rated VAT for preparation for reuse activities and services carried out by social enterprises²²

Beyond the VAT Directive, produce products that are easy to disassemble for repair thus making repair faster and therefore cheaper (see point 3.1)

4. Conclusions

There are a number of legislative files available that if amended or implemented in a positive way could dramatically improve the reparability of our products. Inspiration should be drawn from the legislation in the automotive sector where steps have already been taken to tackle escalating costs in car repair through access to information, fault diagnostic software and spare parts to independent repair operators. Whilst many of the directives are not up for revision very soon, it is hoped that this overview will provide an idea of where to act as and when they will be reviewed and also feed into the current discussions on a more ambitious circular economy package. Although it is true that it will also need a shift in consumer behaviour in order to help re-use and repair become the centre-piece of a circular economy, regulation still plays an important role in inspiring changes in business models.

²² For more information see RREUSE position on Differentiated VAT rates and the waste hierarchy [here](#)

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About RREUSE

The Reuse and Recycling EU Social Enterprises network (RREUSE) is a European umbrella organisation for national and regional networks of social enterprises with re-use, repair and recycling activities. Approximately 130,000 workers, trainees and volunteers work throughout our 30 member organisations across 16 European countries and the U.S.A. Although structures and national contexts are diverse, RREUSE members share common elements such as the protection of the environment, the fight against poverty and, especially, the progress of disadvantaged people back into the labour market. RREUSE's main goal is to put sustainable development into practice by encouraging job creation and social inclusion in the field of waste prevention and sustainable waste management activities