Product Life Extension as a cornerstone of future Strategic Implementation Plan (SIP) on Raw Materials 2021-2027

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1. Introduction

The EU's New Industrial Strategy calls for a shift from linear production to a circular economy. From 1970 to 2017, the annual global extraction of materials grew from 27 billion tons to 92 billion tonnes, while the annual average material demand grew from 7 - 12 tons per capita[1].

In order to support the SIP's aims of 'securing raw material supply', it is essential to focus on strategies that reduce demand for these materials in the first place. These would include tackling consumption levels and providing support to key value retention activities including re-use, preparation for re-use, repair and remanufacturing. The production of goods and management of land account for 45% of global GHG emissions (IPCC,2014 – See Annex A) . Extending the lifetime of all washing machines, notebooks, vacuum cleaners and smartphones in the EU by just one year would save around 4 million tonnes of CO2 annually by 2030, the equivalent of taking 2 million cars of the roads for a year (EEB, 2019). The opportunities for resource and carbon savings are vast and the SIP can be a tremendous catalyst for change.

With product lifetime extension through re-use, preparation for re-use and repair now firmly within the EU's Circular Economy Action Plan a future SIP should provide clear and unambiguous complementarity including on the following actions:

- Setting EU-Wide waste reduction targets (including potential re-use and preparation for re-use targets by 2024 under the WFD)
- A legislative proposal for a sustainable product policy initiative (including follow-up work on design for durability, reparability under Ecodesign Directive)
- An EU Circular Electronics Initiative
- Other key sectoral strategies on textiles, batteries, construction materials and food waste

The following sections provide non-exhaustive comments on how this complementarity could be achieved, not only helping reduce material flows but also providing local, green and job rich circular alternatives.

2. Making the distinction between product life extension and recycling

All too often, re-use, preparation for re-use, repair and remanufacturing are used synonymously with recycling despite being completely different activities, associated with different forms of value retention. Whilst material recycling is a key component of a circular economy, it is only third behind waste prevention and preparing for re-use in the EU's waste hierarchy. The future SIP must make a clear unambiguous distinction between these activities and outline the merits of product lifetime extension. The International Resource Panel (IRP) highlights these activities as an essential way to curb resource use and decrease primary material flows (IRP 2019 - See Annex B). A future SIP should

[1] https://www.resourcepanel.org/reports/global-resources-outlook

integrate such thinking, especially when anticipating the EU's future needs in terms of raw materials which do not necessarily have to increase with a complete restructuring of our future economy.

3. Reducing the impacts of the Digital Revolution and Built-Environment

3a. EEE and WEEE

The EU's Industrial Strategy highlights that while the digital revolution is a key component of the EU's Green Deal, it must address its own impacts and environmental footprint.

Future models for ICT need to look at integrating circularity throughout their full lifecycle and avoid significant impacts incurred during production process and raw material use. Due to its material footprint it has been estimated that upgrading a laptop to one which is 10% more energy efficient should only be justified on environmental terms after 33 – 89 years of use[2] (UBA, 2012).

It is therefore very crucial that design requirements and the Right to Repair remain a priority in future EU product policies and Circular Electronics Strategy. Greater focus is also needed on product life extension of discarded products entering the waste stream, linking well to current SIP priorities.

UNEP estimates around 41 million tonnes of WEEE is generated worldwide every year[3]. Significant resource savings can be made simply by handling and storing WEEE in an appropriate manner that preserves re-use potential. A recent study in Germany found that at least 19% of electrical appliances discarded by German consumers at waste collection facilities could be relatively easily prepared for re-use, but due to poor collection practices and collection systems oriented towards recycling they are all-too often destroyed prematurely. That's equivalent to 137,000 tonnes of WEEE collected in Germany that could have their product lifetimes extended rather than recycled[4].

The Envie Federation, a network of 50 social enterprises in France that collects 180,000 tonnes of e-waste on the territory of France for both re-use and recycling, estimate around 35 jobs are created per 1,000 tonnes of WEEE collected and refurbished rather than recycled.[5] The opportunities to save resource and create jobs in this sector across Europe is therefore significant.

3b. Construction and demolition

The renovation wave is a key component to the EU's Recovery Strategy. The International Resource Panel states that products should be designed with multiple uses in mind and recognises, for example, that it should be possible to design steel rods and beams used in construction so that they can be disassembled, collected, reconditioned and certified for re-use in new buildings.[6]

An Austrian Project, Baukarussell, focussed on selective dismantling and re-use of building components, managed to divert 1% of the demolition mass of a factory primarily to re-use. Based on

[2] https://www.umweltbundesamt.de/sites/default/files/medien/461/publikationen/4317.pdf

[3] Baldé / Wang / Kuehr / Huisman: The global e-was te monitor - 2014, 201,https://i.unu.edu/media/unu.edu/news/52624/UNU-1stGlobal-E-Waste Monitor-2014-small.pdf

[4] L. Messmann, S. Boldoczki, A. Thorenz. A. Tuma (2019), Potentials of preparation for reuse: A case study at collection points in the German state of Bavaria

[5] https://www.rreuse.org/wp-content/uploads/Final-briefing-on-reuse-jobs-website-2.pdf (to be shortly updated)

[6] https://www.resourcepanel.org/reports/mineral-resource-governance-21st-century

an extrapolation of the results, it is estimated that diverting 10% of demolition mass in Austria through re-use, would not only save on resources but also employ 9,000 people.[7]

Building design is therefore important and ensuring the SIP is linked to the EU's renovation wave seems an important step to make in order to inspire re-use in the C+D sector.

4. <u>Socio-economic and environmental opportunities through re-use, repair and remanufacturing as part of EU Raw Materials Policy</u>

Job creation potential is often cited as one of the key reasons to support a circular economy with a number of Commission Communications indicating that a move to a circular economy could create 700,000 jobs. However, recent figures in a more disaggregated fashion are extremely difficult to come by. Making a comparison in terms of value retention, job creation and resource use of business models promoting lifetime extension vs. those based on a current pure linear model would be of high relevance to the EIP and SIP on Raw Materials. All stakeholders who could help provide such data are part of the EIP on Raw Materials. An improvement in the knowledge base of the socio-economic and environmental value added through supporting product lifetime extension as an essential component of EU Resource Policy would be of significant benefit to policy actions and industrial dialogue regarding resource support measures of the future.

5. Overall Recommendations

RREUSE has the following initial reflections on the future SIP:

1. Strategies supporting lifetime extension must have a separate section with dedicated actions in the SIP, notably focused on re-use, preparation for re-use, refurbishment and remanufacturing. This should be a separate section using clear terminology leaving no ambiguity as to whether we are talking about product lifetime extension vs. material recycling.

2. Actions under a 'product lifetime extension' section of the SIP should be complimentary to the EU's Circular Economy Action Plan and Green Deal (notably concerning eco-design, waste and fiscal policies). Specific actions must include a general improvement in the EU's evidence base as to the value retention of product life extension actions from a socio-economic and environmental perspective versus status-quo linear business models. This should also involve reflection on the most effective way to support local job and skill provision for all workers, especially those who are most vulnerable in the labour market. Such work will hopefully help complement, inspire and accelerate the move toward an inclusive resource-efficient economy

3. Focusing on resource intensive sectors, which have been cited in the EU's Recovery Plan, CEAP and Industrial Strategy could be helpful as first step, but not exclusively for the duration of the new SIP. As such this would include the ICT sector linked to the EU's Digital Revolution as well as the construction sector, linked to the EU's Renovation Wave.

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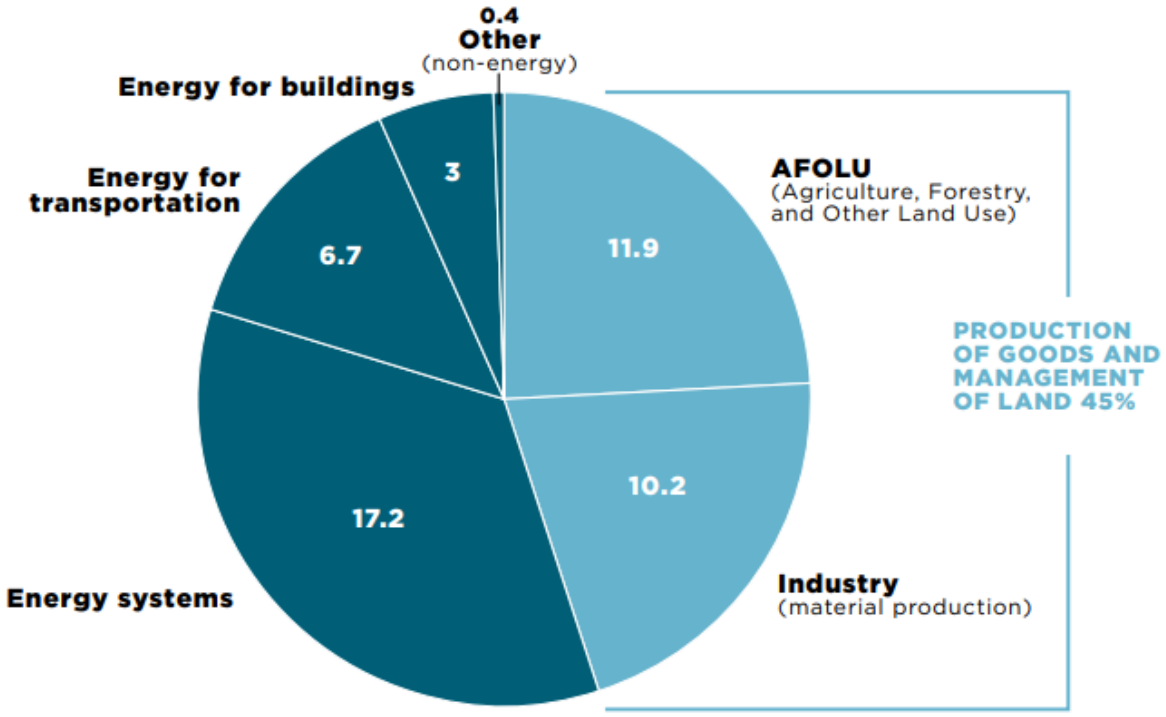
[7] https://www.repanet.at/projekte-2/baukarussell/

Annex A

FIGURE 1: 45% OF GLOBAL GHG EMISSIONS CAN BE ATTRIBUTED TO THE PRODUCTION OF MATERIALS, PRODUCTS, AND FOOD, AS WELL AS THE MANAGEMENT OF LAND

Global GHG emissions
Billion tonnes of CO_2e per year, 2010



Note: 'Industry' and 'AFOLU' include their own energy-related emissions but not indirect emissions from electricity and heat production.
Source: IPCC, "IPCC's Fifth Assessment Report (AR5)" and Material Economics analysis.

Annex B

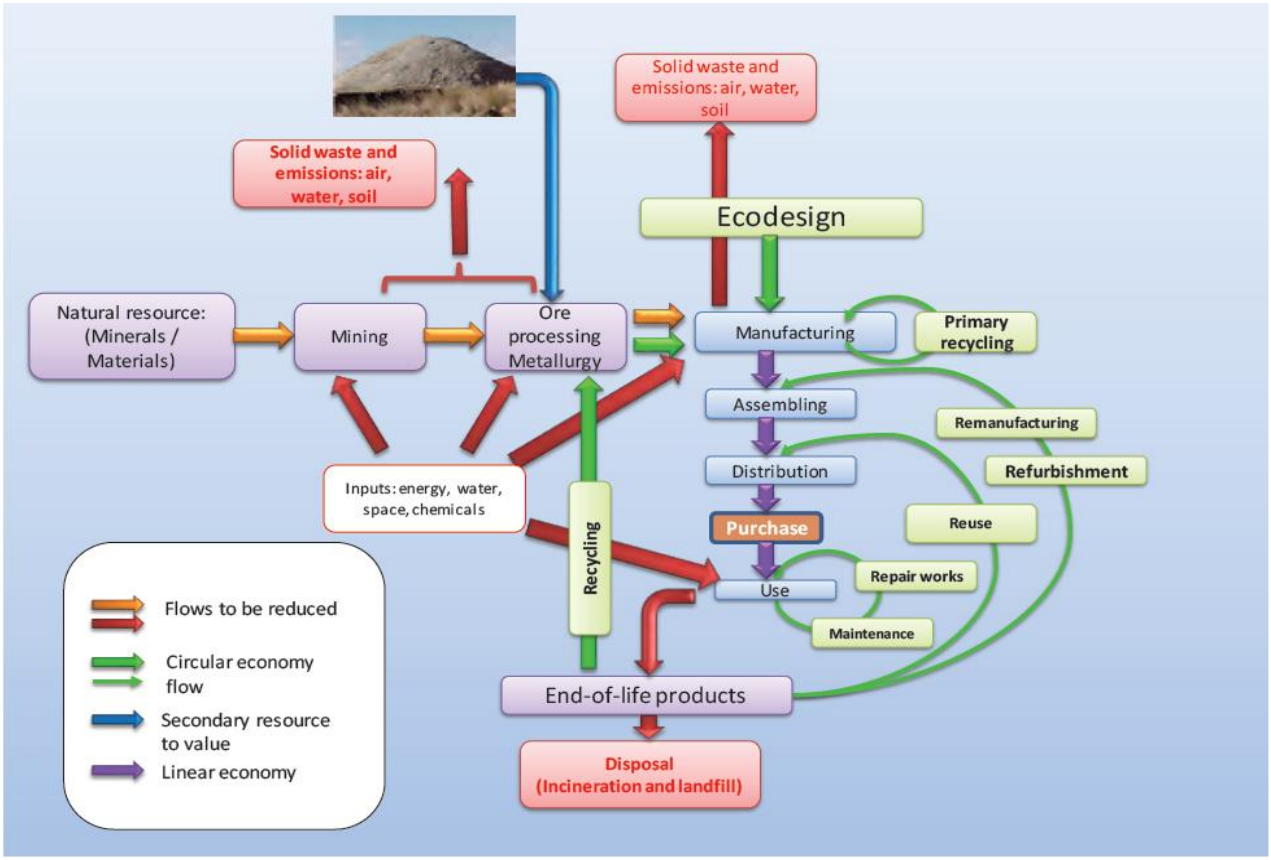


Figure 1 Source: Christman in ILO's Mineral Resource Governance in the 21st Century