Products that go round: Exploring product life extension through design [1]

"Product lifespans of electric and electronic products are in decline, with detrimental environmental consequences. This research maps the environmental impacts of refrigerators and laptops against their increasing energy efficiency over time, and finds that product life extension is the preferred strategy in both cases: refrigerators bought in 2011 should be used for 20 years instead of 14, and laptops for at least 7 years instead of 4. Designers however lack expertise to design for product life extension (through longer product life, refurbishment, remanufacturing) and product recycling. The paper explores a range of product life extension strategies and concludes that tailored approaches are needed. One of the main research challenges is to determine when to apply which product life extension strategy." (http://www.sciencedirect.com/science/article/pii/S0959652614000419 [2])

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Type of evidence:
- Models/scenario building [3]
- Scientific articles [4]
- Other [5]

Sectors:
- Manufacturing [6]
Policy changes:

- Research and innovation policy [7]

Expected changes of economic processes:

- More recycling and use of recycled materials [8]
- Remanufacturing, refurbishment and reuse of products and components [9]

Indirect effects on the economy:

- Impact on value chains [10]

Environmental impacts:

- Use of resources [11]

Time frame for impacts to materialize:

- Medium term (3 to 5 years) [12]

Administrative level:

- Industry [13]

Method of valuation:

- Qualitative assessment [14]
- Quantitative assessment [15]

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