

# In short!



## Remanufacturing and the Environment

---

**Source:** Sundin, E. and H.M. Lee (2016). "Remanufacturing and the Environment", Chapter in the book entitled "Make-New-Again by Remanufacturing, Rebuilding or Refurbishing", Editor: Weiland F.J., ISBN 978-3-00-052381-6, EPROS, Drukarnia / The Printing House, 119-125.

---

**When a manufacturer** wants to reduce environmental impact, they have several methods at their disposal. One of them is called remanufacturing, where old parts, repaired parts and some new parts are used to make a product that is equivalent to a new one. This method can reduce the effort and material used to make a product, but it also requires additional work, such as the collection of old products, cleaning and upgrading. Intuitively, remanufacturing sounds like a good idea for the environment. To find out just *what* is good about it, Erik Sundin from Linköping University and Hui Mien Lee from IKEA went through what the research has said so far.

**It is always tricky** to compare studies, since they use different methods and define their systems differently; Sundin and Lee, however, summarised what 17 studies of products, ranging from automotive parts to household appliances and electronics, had found. It turns out that remanufacturing has several environmental benefits compared to making new products and material recycling.

**For a start**, remanufacturing uses less material resources than new manufacturing. It also has a lower greenhouse gas effect, since the effort put into material extraction, part making and product assembly is salvaged. Bringing back products for remanufacturing also provides an opportunity to handle toxic or hazardous substances in the products more safely, as the parts containing toxics can be disassembled and separated so that they do not end up in landfill or in material recycling. Even better environmental performance is achieved if the product is designed to be remanufactured at its end of life. The fact that the Automotive Parts Rebuilders Association reports 28 million tonnes of CO<sub>2</sub> saved annually from remanufacturing activities each year clearly underlines how useful the method can be.