

MEDIUM REDUCTION POTENTIALIA

Supply procurement

The realisation of emission reductions in procurements is affected by

- The magnitude of emissions in the procurement category and the main emission sources in the life cycle
- Low-carbon options for procurement and low-carbon solutions and procurement models on the market
- Existing criteria, tools and means to determine and verify low-carbon solutions
- The know-how of the procurer as well as other existing objectives and boundary conditions of the procurement

Emission reduction potential*

OTHER MACHINERY AND EQUIPMENT

Total emissions from the procurement category account for approximately 7% of public procurement emissions. Machinery, tools and equipment is a very broad product group, and emissions are not precisely defined for certain products. Work machines have been identified as one of the product groups to which a clear low-carbon potential can be presented. Improving the energy efficiency of work machinery is approached differently than that of transport vehicles. While striving to create lightweight and aerodynamic structures for other vehicles, with work machines, it is important to maintain the mass in running order due to demanding work performance. The energy efficiency measures of non-road machinery focus on the energy efficiency of the motor and the transmission.

Work machinery

- Motive power changes
- Biofuels 80–90%
- Zero-emission motive power 100%

Energy efficiency of work performance

- Intelligent systems to optimise work performance 35%

Sharing opportunities

CLEANING, LAUNDRY SERVICES AND SUPPLIES

In terms of cleaning and laundry services, the environmental impact assessment has largely focused on other environmental requirements caused by chemicals, and the carbon footprint has remained in the background. Unilever (2020) estimates that 46% of their cleaning and laundry products' carbon footprint is caused by the chemicals they use. By moving away from chemicals derived from fossil fuels in product formulations, Unilever estimates that it can reduce product emissions by up to 20%.

» [KEINO – Procurement of cleaning services and guidance](#)

» [KEINO – Green Deal criterion](#)

FURNITURE

There are two approaches to low-carbon furniture purchasing: buying used furniture or buying lower-carbon products. For example, the City of Malmö reduced furniture waste by an annual amount of 70 tonnes by acquiring recycled furniture. The procurement has significant emission reductions.

» [Malmö's example: the City's purchase of recycled furniture](#)

» [KEINO – Responsible procurement of office furniture](#)

Depending on the product group, the low-carbon potential of used furniture after refurbishment ranges from 23% to 100%. There are also differences between new products and the EPD comparison revealed that the emission reductions can be tens of percent. Particular attention should be paid to the proportion of emission-intensive materials, such as metals.

TEXTILES

For textiles, low carbon can be viewed from the perspective of textile fibres and/or service life. Textile fibres are not always comparable because they have a different use purpose. However, a comparison can be made regarding the origin of the textile fibres and the energy profile of the country of production. Renewable energy in manufacturing reduces emissions by 18%. The low-carbon potential of organic cotton is 80% compared to regular cotton. Expert interviews have highlighted that the best way to reduce emissions from textile procurement is to extend their life cycle until they are actually at the end of their life cycle. Doubling life span in manufacturing reduces emissions by 49%.

ELECTRONICS AND INFORMATION TECHNOLOGY

The energy efficiency of electronic devices has changed significantly in recent years, highlighting the role of emissions in the manufacture of devices. Expert interviews revealed that different criteria are the best way for the procurer to influence the emissions of procurements. Operators may not yet be ready to meet the criteria, but some pressure is required for the change to take place. Criteria should be set from a low-carbon perspective:

- Software updates (extend the life of devices)
- Energy efficiency of high-consumption devices
- Energy of telecommunication services (renewable energy)

- » [KEINO – Responsible procurement of protective gloves in health care](#)
- » [KEINO – Environmental aspects in the procurement of textiles for health care](#)
- » [Fair Trade – Towards responsible textile procurement](#)
- » [KEINO – Information systems and technology](#)
- » [KEINO – Recycled equipment for lower secondary school students](#)
- » [Climate impact of public ICT procurement – TIEKE](#)
- » [Green ICT: Procurement guide](#)
- » [Green Code, Exove](#)
- » [Carbon neutrality label Code from Finland](#)

*) The estimations of the emission reduction potential are based on individual case studies in which emission reductions indicated by percentages have been achieved for the measure in question. The percentages describe the difference to the alternative solution presented for the applicable life cycle stage(s), depending on the case. However, the amount of emission reductions depends on the entity, circumstances and starting data, so the percentages are only indicative and cannot be directly generalised or compared with each other. Source: Siiskonen et al. 2022.

Sources and useful links in Finnish

- » [Consumption-related emissions information service: kulutus.hiilineutraalisuomi.fi](https://kulutus.hiilineutraalisuomi.fi)
- » [Siiskonen S-T., Alhola, K. & Nissinen, A. 2022. Low-carbon public procurement – Means and opportunities for emission reductions](#)

KEINO Competence Centre for Sustainable and Innovative Public Procurement

KEINO is a consortium whose various areas are implemented and jointly developed by Motiva Oy, VTT Technical Research Centre of Finland, Business Finland, Finnish Environment Institute SYKE and Hansel Oy.

www.hankintakeino.fi/en