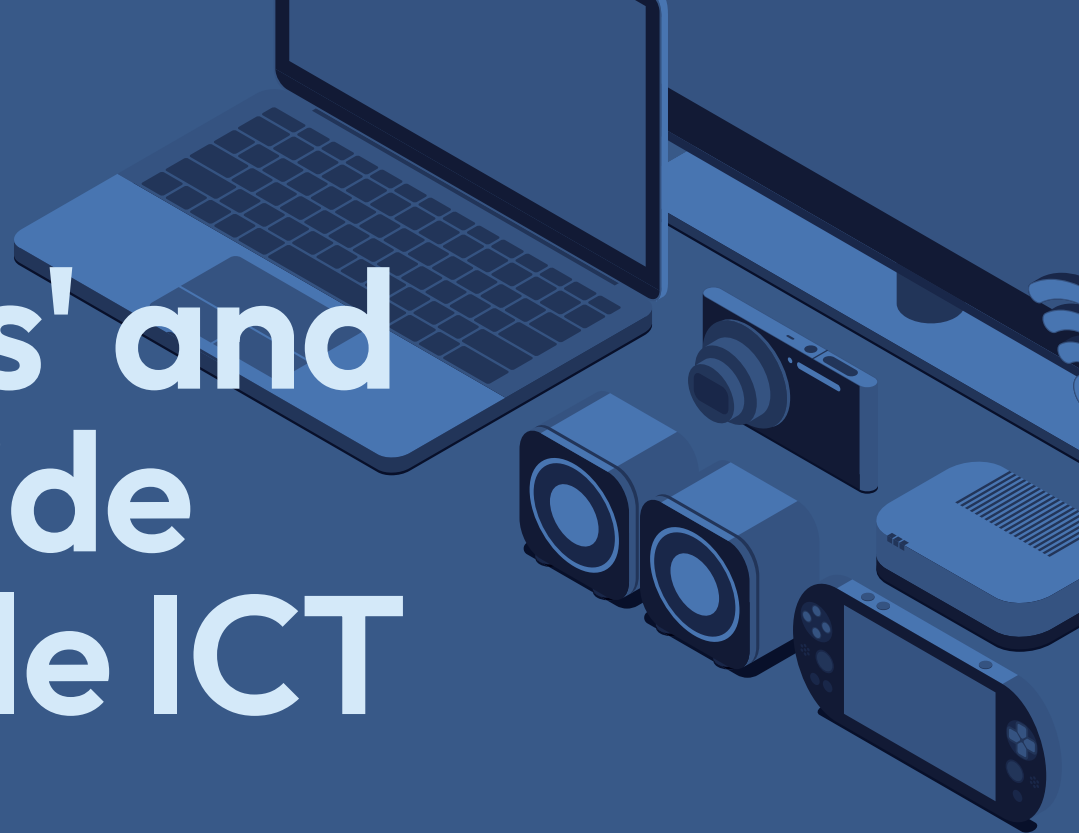


ICT managers' and procurers' guide for sustainable ICT



Circular and Climate Friendly Public Procurements
– A Nordic Vision Project



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INSIGHT FOR THE GUIDE HAVE GIVEN

Frederik Beyer, KOMBIT
William Bjørnstad, SKI
Marte Otterdal Drageset, DFØ
Johanna Brusquini,
Upphandlingsmyndigheten
Alice Dalsjø, Oslo Kommune
Adam Goslett, SKI
Kathleen McCaughey, Kammarkollegiet
Kerstin Roberts, Københavns kommune
Antti Sipilä, TIEKE
Suvi Sippola, Motiva
Gabriella Sydorw, Kammarkollegiet
Christian Tangene, DFØ
Joakim Thornéus,
Upphandlingsmyndigheten

EDITING

Suvi Sippola, Motiva Oy
Kathleen McCaughey, Kammarkollegiet

LAYOUT

Jukka Luoma, Created by Oy

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Background of the guide



This guide is made within the Nordic Vision project **Circular and Climate Friendly Public Procurement** in cooperation with Nordic procurement experts from cities, centralized procuring organizations and procurement counseling organizations.

Tips, advice and recommendations given in this guide are based on the findings made during discussions, workshops and market dialogue events organized during the project. We hope our findings are useful but want to emphasize that situations and goals might vary in different organizations. In addition, the ICT sector is subject to rapid changes. For these reasons, active market dialogue is the best tool to make sure you get the most suitable products and services for your organization's needs.

This guide aims to provide ideas for procurers, ICT managers and organizations regarding:

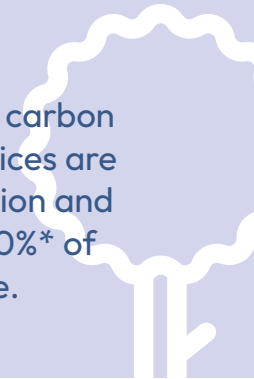
1. How to create a more sustainable ICT fleet.
2. How to make more sustainable ICT procurements and enable a longer lifespan for computers, laptops and phones.
3. The communication and change in attitudes that are needed to succeed with a sustainable ICT policy.

Why should we aim for a longer lifespan for ICT devices?

1

To decrease CO₂ emissions

Approximately 70-90%* of the carbon dioxide emissions from ICT devices are generated during their production and transportation, while only 30-10%* of emissions occur during their use.



2

To act in a socially and environmentally responsible manner

The manufacturing of ICT devices requires non-renewable mining minerals, which are increasingly needed to facilitate the green transition, especially to produce necessary batteries. The mining of these minerals involves significant environmental issues and human rights concerns.



3

To produce less e-waste

Electronic waste (e-waste) is the fastest-growing waste stream globally. E-waste recyclability is currently not optimally supported and utilized.



4

To save money

While prolonging the lifespan of the physical resources, you also save resources in your budget.



* Share depends on the energy production mix in each Nordic country.



A more sustainable ICT fleet

How to create ICT strategies that work in practice?



Good ICT strategies are created together with relevant internal and external stakeholders (procurers, employees, sustainability experts, ICT managers). The inclusion of external stakeholders is especially valuable when ICT maintenance is decentralized, as the case may be in bigger city organizations.

Make sure that the ICT governance structure and ICT strategies are aligned with:

1. Sustainability
2. User friendliness
3. Security
4. Cost efficiency

This way, conflicts between decisions and priorities at the operational level and the strategic level can be avoided.

Recommendations for creating and mobilizing a sustainable ICT strategy



Prepare

- Map and analyse your organization's ICT governance structure and ICT life cycles.
- Analyse the needs of your organization (different functions and tasks where hardware is being used).
- Find the balance between flexibility and standardization of devices.
- Set a goal for used/refurbished products' % share. emissions occur during their use.

Execute

- Identify key performance indicators for your ICT fleet's sustainability.
- Create an asset management system.
- Make it mandatory to ask for used goods from ICT suppliers first. New products can be a second option.
- Aim to facilitate a lifespan of six years for new laptops.
- Make sure that used devices are being returned and reused
- Make sure that used devices are repaired or refurbished for a second life or materials are being recycled.

Evaluate

- Measure and evaluate! If you don't measure your ICT fleet's sustainability performance, it's difficult manage it.
- Keep track of the devices you buy, who uses them, how long they are being used
- Keep track of your KPI's and communicate how your organization is doing.

ICT policy recommendations



1. Create incentives for employees to use their phones or laptops longer.
Can their monthly fee be cheaper or can they have better quality if they commit to use a phone for example 3 years instead of 2 years?
2. When procuring ICT hardware, look at all aspects of the lifecycle, but prioritize good quality and long lifespan.
3. Consider whether it would be possible to enable employees to have only one device for work and private purposes, which is more sustainable. Employees might use their work device for private purposes anyway, so train their data security awareness.
4. Create financial incentives for employees to return used/old hardware. It is a waste of resources to have IT-devices laying on shelves instead of being used.

In the public sector, only small proportion the phones are returned. Prioritize including phones in your asset management system. Returning or cleaning days once a year, where employees can hand in their old phones anonymously might be helpful.

Insist employees always return their laptops with the charger. If it is not being returned and the laptop is refurbished, a new charger must be bought.
5. Consider whether it is necessary to destroy laptops and phones after use because of data security reasons. Old IT devices contain lots of parts and depleting minerals that can be used again. Instead, set a criteria for data destruction and demand that devices are refurbished, or parts and minerals are recycled.

Do it together with your personnel

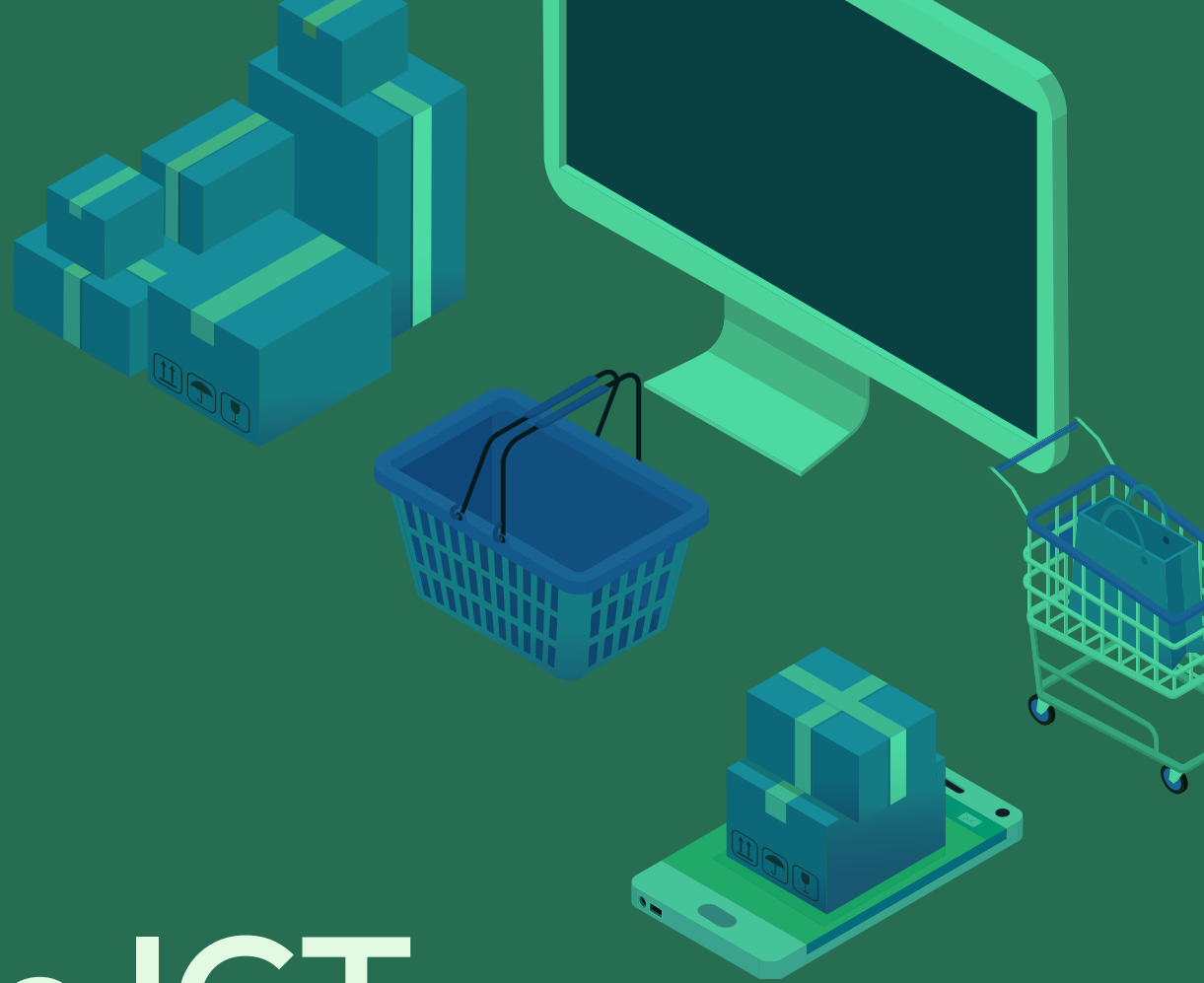


Employees appreciate that their organization does its best to reduce its environmental footprint. More sustainable ICT policies and practices are part of this work.

Make sure that your employees know that:

- Most of the CO₂ emissions and environmental footprint of laptops and phones come from the production phase of new devices. For this reason, we need to aim for longer lifecycles for phones and laptops.
- It's better for the environment to use your phones and laptops as long as possible or have used or refurbished devices.

TIPS for sustainable ICT procurements



Use criteria that enable a longer lifespan

- Choose high quality products, avoid cheap short lifespan products. (Check how long the product can be updated).
- Check if you can get better quality and achieve cost savings by purchasing used ICT equipment.
- Choose robust products, that have been tested according to durability standards such as MIL-STD-810H and IEC 60068-2.
- Choose equipment that have standardized USB Type-C™ connectors (port) for data transfer that is backward compatible.
- Look for products that are modular and parts that can be easily removable. This makes it easier to repair and recycle.
- Spare parts should be available for the device for at least 5 years from the time of purchase.
- Require at least a three-year warranty for batteries.
- A laptop's connector or sealing techniques must not prevent repair and replacement of the following critical components (battery, display panel/ display assembly, memory (SSD, HDD and RAM), external/internal power supply, keyboard and motherboard). A maintenance or repair manual for the device should be available free of charge.

More specific sustainability criteria for ICT procurements can be found

- Finland:
www.kriteeripankki.fi
- Norway:
<https://kriterieveiviseren.anskaffelser.no/>
- Sweden:
www.upphandlingsmyndigheten.se/kriterier/

Criteria tips for new hardware

When procuring new hardware, longer lifespan for the products can be enabled by prioritizing:

1 Quality

- Battery longevity
- Robustness and quality

2 Warranties

3 Ability to replace and update products/parts

- Long term support and service
- Swap-repair service
- Repairability
- Modularity
- Availability of spare parts

4 Other sustainability aspects

- LCA Life Cycle assessment based on ISO 14040/14044 - > This information can be used to report sustainability of your ICT fleet, but not to compare products in the procurement phase.
- Code of conduct and due diligence.
- Certificates such as TCO Certified, EPEAT, Blue Angel, Energy Star, etc.
- Requiring reasonable lead times for the delivery of your hardware will help you to reduce CO₂ emissions from transportation, as well as reduce risks of excessive overtime in the supply chains.

Questions for market dialogue when procuring new hardware

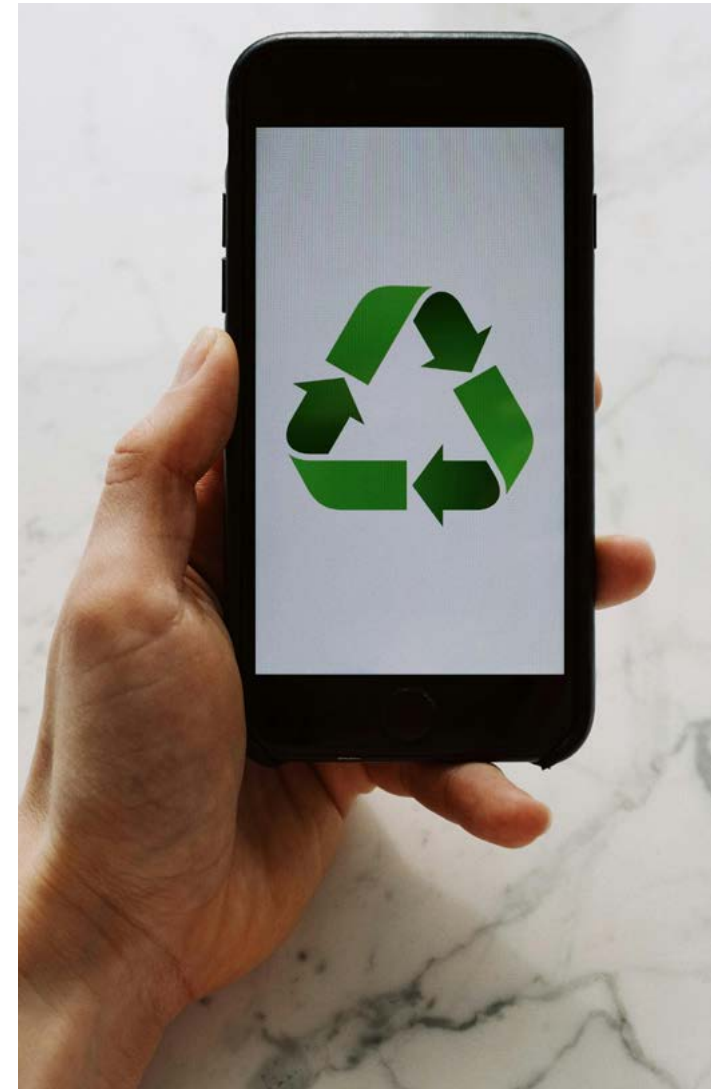


- What kind of financial incentives do resellers need to invest in longer lifespans for devices? Do present incentives promote the sale of new equipment instead of refurbished ICT?
- Do the products meet our criteria suggestions for quality, warranty and ability to replace and update products/ parts?
- Do the products have certificates, such as TCO Certified, EPEAT, Blue Angel, Energy Star, etc. ?
- Are the raw materials for the equipment sourced in a fair and ethical manner? If so, how? Are there routines and processes to abide by OECD guidelines?
- How do suppliers with take-back systems ensure that used equipment does not end up in so called hot spots for electronic waste?

Benefits of buying used or refurbished laptops and phones

- It saves money.
- It reduces CO₂ emissions.
- It reduces the need to mine depleting minerals that also entail human rights risks.
- It reduces e-waste.
- In many cases you could even get better quality per spent euro compared to procuring new devices.

- Define a target for the portion of used or refurbished devices that will be bought.
- Refurbished devices are cleaned , data wiped and often look like new devices.
- Many user groups might even prefer used devices, if they know about their environmental benefits. Communicate the environmental advantages.



Criteria tips when you procure refurbished and used laptops

TOP 3 criteria

Price and model/technical specifications:

Price

- for different models with different technical specifications and performance. Letting suppliers compete on low prices for refurbished devices increases the chance the refurbished devices will be procured.

Security

- data wiping process and its documentation.

Warranty time

- ask for 2-3 years warranty for refurbished laptops.

Other criteria

- Material recycling for hardware that cannot be sold again.
- Software/operational/security upgrades: Set criteria for how long the refurbished devices should be able to receive upgrades.
- Refurbished devices are tested and cleaned.



TIP: It is more important to compare CO₂ emission savings of used laptops compared to new laptops than to compare CO₂ emissions of two used laptops.

Questions for market dialogue when procuring new or refurbished hardware



- Do the suppliers have devices that match your technical specifications? (model of processor, screens, chips, surface materials, standardized power supplies etc. and the grade you prefer - typically from A-E but depends on the country and manufacturer).
- What kind of replacing models do they have, if they don't have enough of the models that are primarily ordered?
- How long warranties can they give for used devices?
- Are the suppliers certified according to ISO standards relevant for repairing processes of used ICT (for example ISO 9001, ISO 14001, ISO 27001)?
- What do the suppliers do with obsolete hardware that cannot be resold? How is it recycled?

Data security of refurbished devices



- Information security is typically the biggest concern when IT departments consider purchasing used equipment.
- Currently a very small share of used devices goes to the public sector, according to vendors of used equipment, and an even smaller portion of used phones.
- Safe data deletion processes that are done according to international standards don't pose data security risk.
- The organization's data security services must run properly in older and newer devices used in the organization.

Don't fall for these myths about used and refurbished ICT

Myth

If we buy used devices, we get too many different laptop models which makes it more laborious for IT services to support them.

Truth

Typically, companies selling refurbished devices can supply large quantities of similar devices as long as it is within reasonable lead times. A procurer can set criteria for the devices to ensure the same functionality in the case that all supplied devices are not of the same model.

Myth

Employees feel unappreciated if they get used or recycled devices.

Truth

Refurbished laptops are cleaned and often packed, so they look like new. If employees are aware of the benefits of used ICT devices, they are also more likely to appreciate them.

When renting or leasing



Criteria recommendations

- 5-6 years service life for laptops or suppliers should be able to offer two cycles for the devices.
- Make sure also from the financing company that 5 years service life is ok.
- Service for the reuse and recycling of used devices.
- Similar sustainability criteria can be applied to leased hardware as recommended for new hardware (page 10-12).



TIP:

If you are not able to get more than a three years leasing contract, consider buying your own products or organize a market dialogue to check the current market situation.

Questions for market dialogue when renting or leasing



- In which ways do the suppliers promote long lifespan for the products?
- Do they offer refurbished hardware?
- What kind of processes do the suppliers have for recycling parts and materials of used hardware?
- Are the raw materials for the equipment sourced in a fair and ethical manner? If so, how? Are there routines and processes to abide by OECD guidelines?
- Do the suppliers offer ICT equipment that include recycled parts or recycled materials? How much?