Global standards for circular ICT:

Recommendation L.1061
Circular Public Procurement of ICTs

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Sustainable Digital Transformation and Standards

International standards represent the amalgamation of knowledge contributed by experts from around the world!

For cities and governments

- Reduce carbon emissions
- Achieve a sustainable digital Transformation
- Improve uptake of green energy
- Achieve targets set in the Paris Agreement and SDGs

For ICT Sector

- Technical guidance to implement green energy solutions
- Provide measurement tools to evaluate progress
- Bring low-cost connectivity to rural areas
- Reach net-zero

ITU-T Study group 5 key topics: towards a sustainable digital transformation

Sustainable buildings

- **ITU-T L.1370** “Sustainable and intelligent building services”
- **ITU-T L.1371** “A methodology for assessing and scoring the sustainability performance of office buildings”

Sustainable management of E-waste and Supply Chain

- **ITU-T L.1015** “Criteria for evaluation of the environmental impact of mobile phones”
- **ITU-T L.1035** “Sustainable Management of Batteries”
- **ITU-T L.1060** “General principles for the green supply chain management of information and communication technology manufacturing industry”

Circular Economy

- **ITU-T L.1000** Universal power adapter and charger solution for mobile terminals and other hand-held ICT devices
- **ITU-T L.1022** “Circular Economy: Definitions and concepts for material efficiency for Information and Communication Technology” (tentative)
- **ITU-T L.1023** “Assessment method for circular scoring”

Climate Actions towards Net Zero

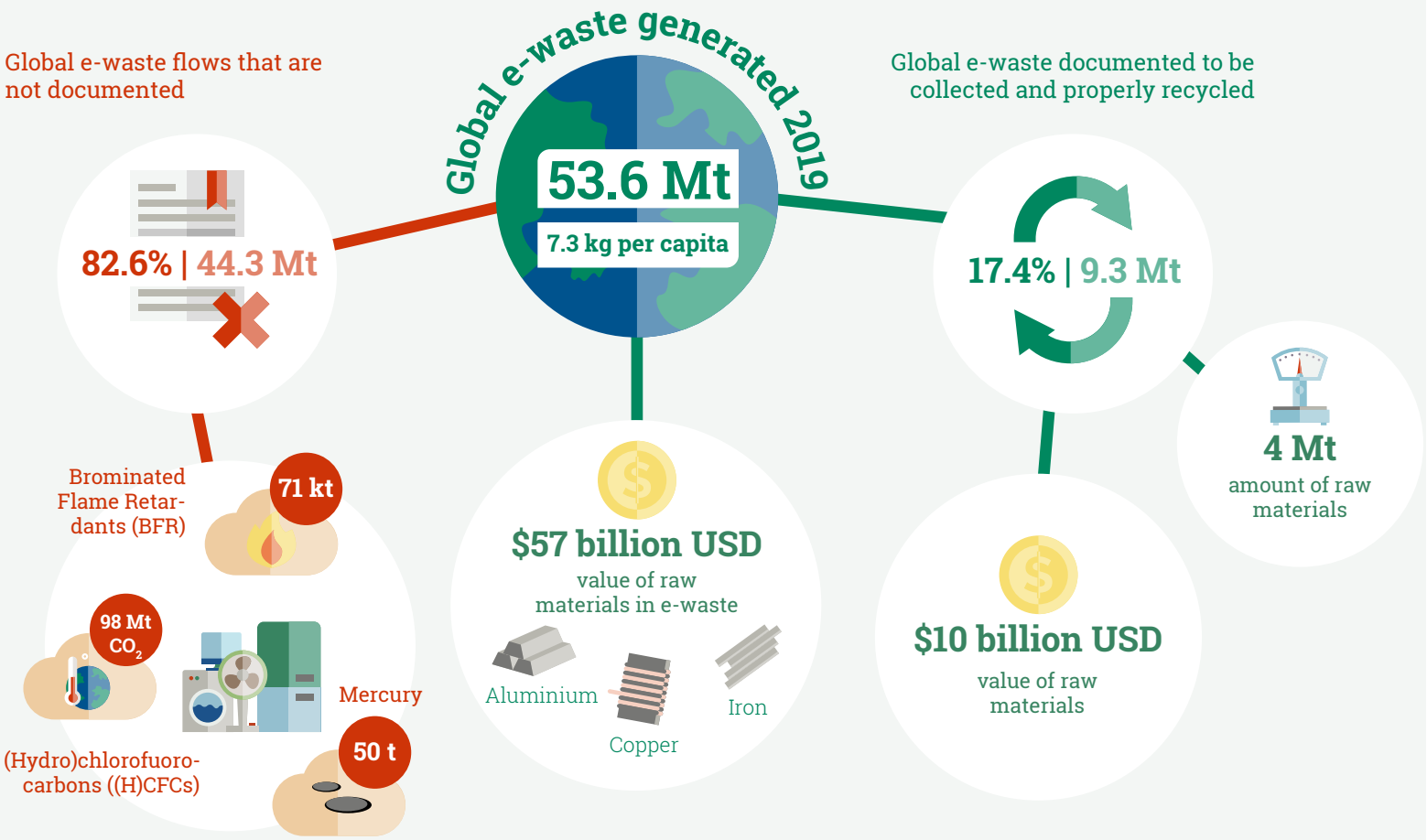
- **ITU-T L.1450** “Methodologies for the assessment of the environmental impact of the ICT sector”
- **ITU-T L.1470** “GHG trajectories for the ICT sector compatible with the UNFCCC Paris Agreement”
- **ITU-T L.1471** “Guidance and criteria for ICT organizations on setting Net Zero targets and strategies”

Circular and sustainable cities and communities

ITU-T L.Suppl. 46: “Definitions and Recent Trends in Circular Cities”

Importance of the circular economy

We produce as many e-devices as people alive, every year!

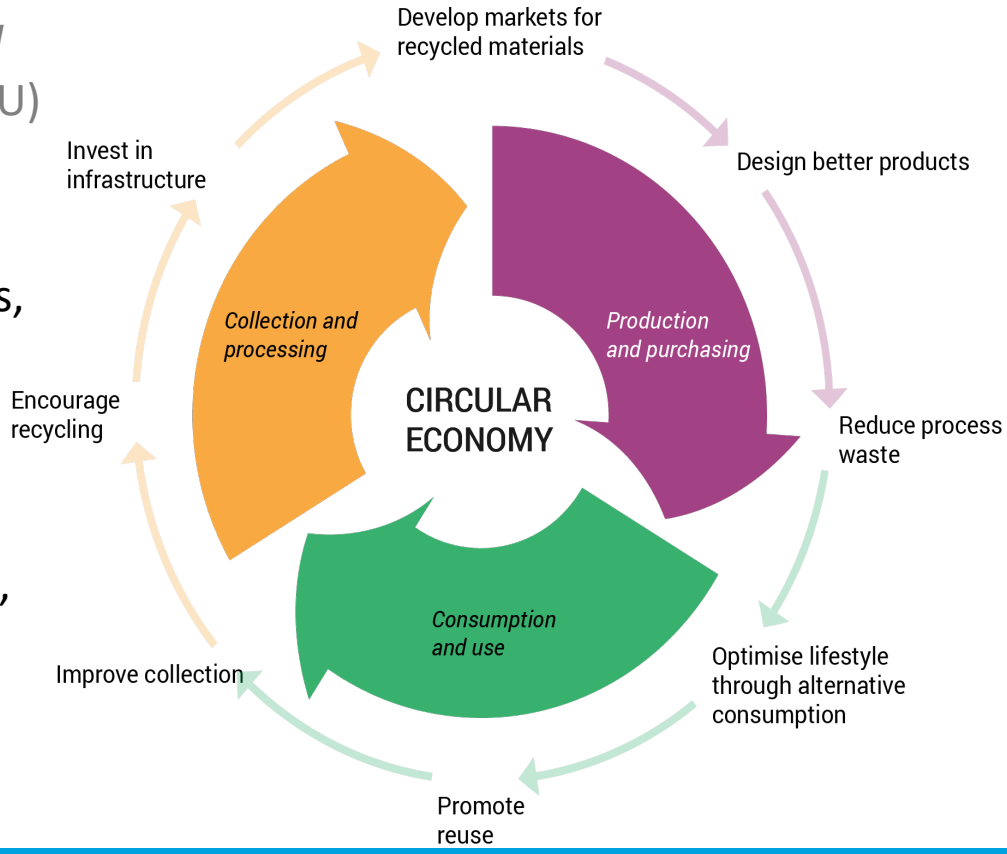


Circular and *green* public procurement

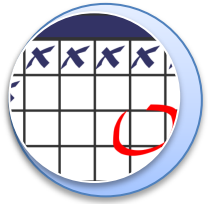
Circular: supporting the assessment of designing, making, selling, re-using and recycling products to determine how to *get the maximum value* from them both in use and the end of their life (UNEP)

Green: procure goods, services and works with a *reduced environmental impact* throughout their life cycle (EU)

Circular and sustainable procurement: the purchase of goods, services, works, and utilities that meets user needs while generating *positive environmental and societal impacts* and *stimulating the circular economy* through purposeful design, production, sale, use, re-use, and recycling processes throughout the lifecycle. ITU-T L.1061



Circular Public Procurement; key solution ITU-T L.1061



Maximize usable life

A Set of principles and policies to:

Maximize the use of energy efficient equipment

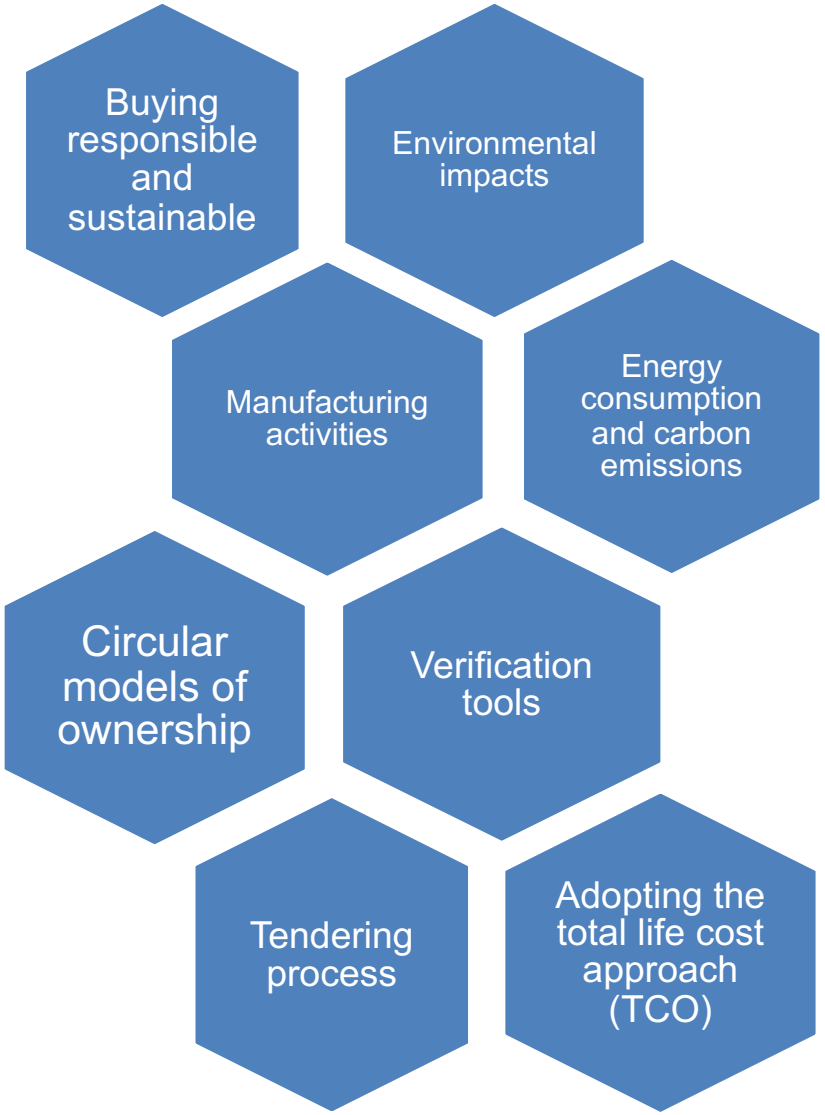
Minimize any resulting amount of e-waste and the adverse effects

Increase recyclability

ITU-T L.1061
Covers the purchase of ICT equipment including:

- Personal computer products
- Terminals
- Network equipment
- Imaging equipment

Environmental and circular aspects of public procurement of ICTs



The Tendering Process

Pre-tender phase of buying less

- Selection Criteria (SC)
- Technical specifications (TS)
- Award criteria (AC)
- Contract Performance clauses (CPC)

The tender phase of buying better

- Selection Criteria (SC)
- Technical specifications (TS)
- Award criteria (AC)
- Contract Performance clauses (CPC)

The post-tender phase of using better and longer

- Selection Criteria (SC)
- Technical specifications (TS)
- Award criteria (AC)
- Contract Performance clauses (CPC)

[CFIT21] [JRC21]

The e- waste hierarchy and public procurement

Min of e-waste generation

Max useful life

Max recyclability

Principles for minimization of e-waste & effects (Section 8)

GPP integration into government processes	Materials	Product Design	Needs Assessment
ITU-T L.1470 on GHG **ITU- T L.1031**	**- Hazardous substances to check** **- Restricted substance controls** **- Consider RoHS and REACH**	**Follow product scoring ITU- T L.1023 to assess the tender** **Tenderer to demonstrate ability to recycle, repair, reuse and upgrade equipment level or manufacturer level**	**Preliminary assessment of needs is needed to evaluate current fleet of equipment and decide: Retain- Return- Reuse- refurbish- recycle**

Principles for minimization of e-waste & effects (Section 8)

Interoperability-reusability of components

ITU-T L.1002

Decouple purchase of accessories from new devices

Transparency and Reporting

ITU-T L. 1031 e-waste targets

Digitalized product information

Procurement Process

Buy Digital

Due Diligence

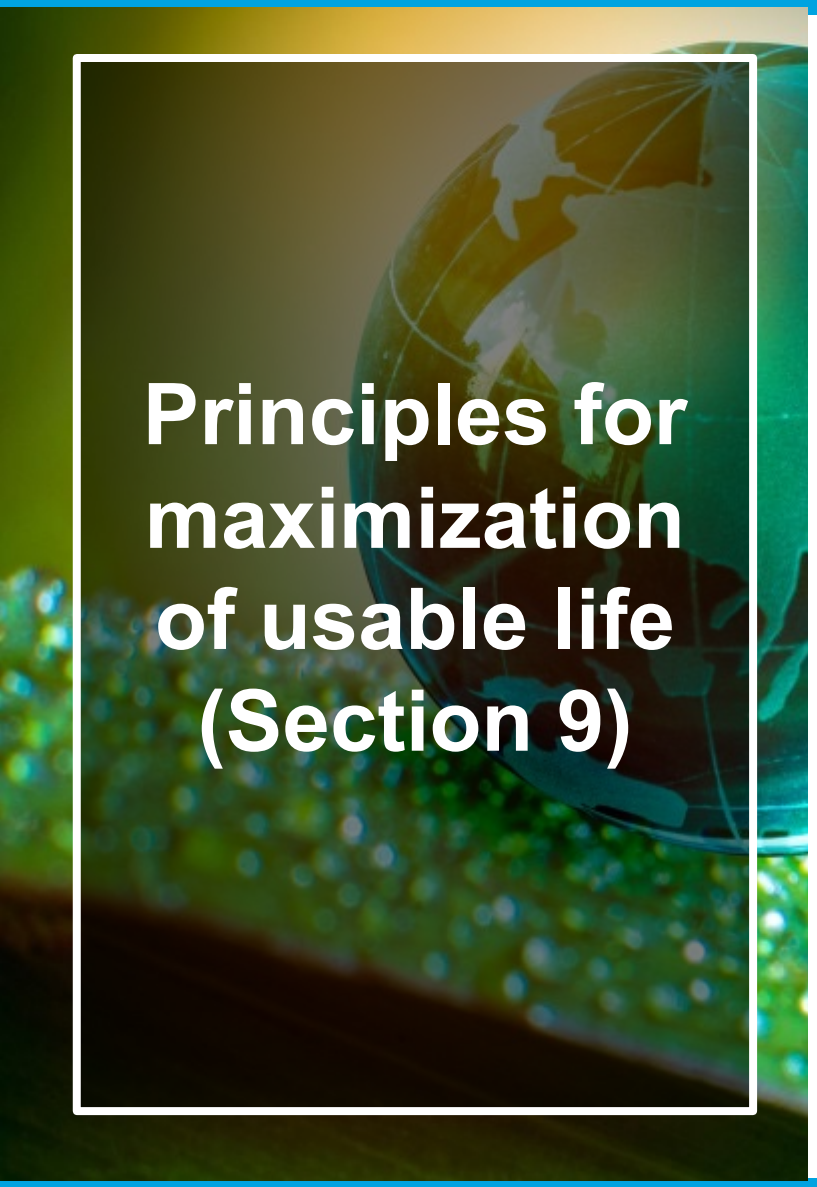
Traceability

Tracing

Tracking

Verifiability

Principles for maximization of usable life (Section 9)



Maximizing useful life

Stress during usage	Drop testing – Ingress protection – Temperature range- Mechanical Stress and shock

Maintenance and repair

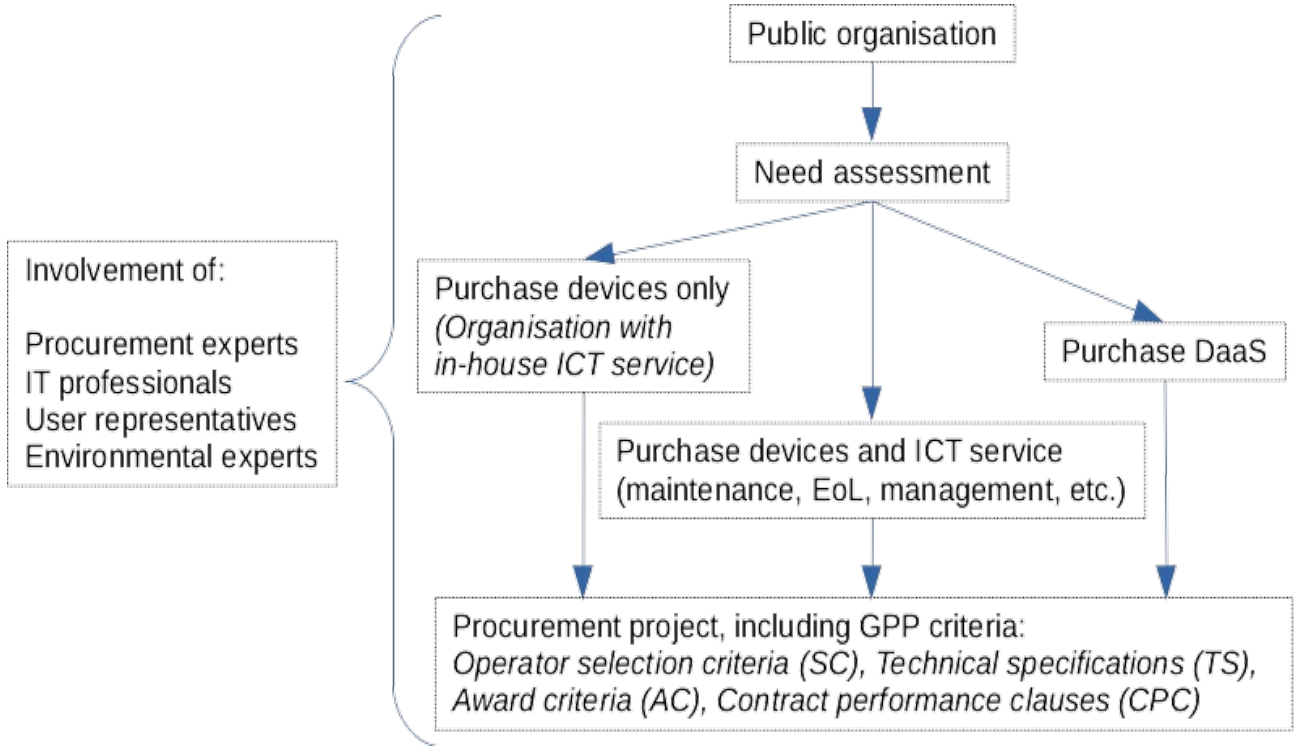
Manufacturer’s warranty	Extended services agreement-

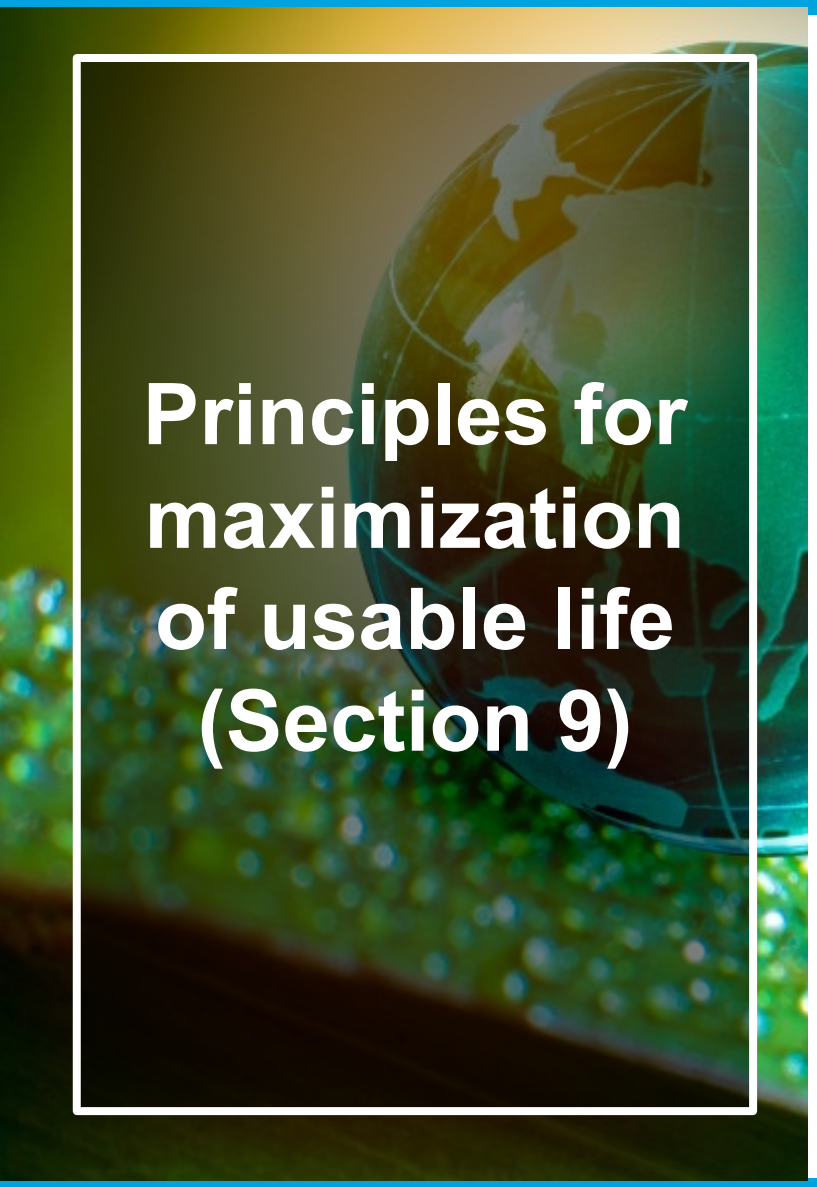
Usage

Evaluate usage performance	Digitalization: meters, digital twinning	Secondary usage: internal & external	Financial considerations	Circular procurement models

Principles for maximization of usable life (Section 9)

Management





Principles for maximization of usable life (Section 9)

Energy consumption & efficiency

- Typical energy consumption
- Testing, levels

Procurement of refurbished & remanufactured

- Preparation
- Quality assurance

Batteries

- Life & cycle endurance
- Battery management
- Battery protection software

Principles for maximizing recyclability (Section 10)

Maximizing recyclability

- Design for recycling
- Design for dismantling
- Information: disassembly instructions, digital information
- End of life management

Thank you!

Questions? Interested in learning more?
Let us know!

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SG5: Environment, climate change and circular economy