



Electronics Procurement Category – incorporating SRS considerations

Summer 2018 update

A full implementation plan is available from the Department for Social Responsibility and Sustainability.

What this category includes

Procurement in the electronics category covers a wide range of goods and services, including:

- Mobile Tech
- Servers/Storage
- Networking Equipment (Large Routers)
- PCs: Macs/Workstation/Thin Client
- Printers/MFD's
- Cages and Racking, Isolators
- Laboratory Small Apparatus and Equipment Purchase
- Medical, Surgical, Nursing Supplies & Services
Small Apparatus, Equipment and Instruments

Total category spend – £19.9M p.a.

Key issues

Products in this category share some common issues: high energy consumption and associated carbon emissions, large volume of e-waste, long supply chains troubled by poor working conditions and potentially parts made of so called conflict minerals.

Climate change

Modern IT devices typically have relatively low **power consumption**, however during any day, 8,000-11,000 machines may be on at the same time, cumulatively

having a large impact. Small laboratory equipment is similar in the sense that the impact of individual devices may not be high, but they are often used in large quantities. It is important to use such devices rationally, power down when not needed, install timers, share and centralise.

Energy consumption is a significant issue for servers; efficient ways of maintaining them should be pursued, especially in terms of cooling. Laboratory animal cage design (open cages vs Individually Ventilated Cages) can have a substantial impact on the ventilation required.

It is estimated that a single PC may have ca. 250 kg **CO2e embedded** throughout its lifecycle, from minerals extraction to disposal. PCs are typically on a 3-5 years lifespan at the University, however are still often in good working condition after this period, it is therefore important to try to extend their life.

Materials

All products in the electronics category may include **conflict minerals** (notably tin, tungsten, tantalum, and gold – “3Ts + G”). Those are minerals mined in conditions of armed conflict and human rights abuses, which are sold or traded by armed groups, effectively fuelling wars. This has for some years been a particular problem in the Democratic Republic of Congo, where over 5.4M people died in civil war between 1998 and 2008.

The University has a Conflict Minerals Policy which commits the University to continue its collaborative work to eradicate conflict minerals from its supply chains. As of March 2016, most University computer purchasing is done via the Scottish Government ICT Client Device Framework, which asked suppliers to demonstrate what they're doing about conflict minerals. During quarterly contract management meetings, the University is routinely asking its suppliers for updates on conflict minerals.

Equipment may use **rare earths** – minerals which are particularly scarce and which can be mined in only a few countries around the world. Due to their scarcity,



efforts should be made to ensure at least recycling of such minerals.

The University's Waste Electrical and Electronic Equipment contract is heavily oriented towards reuse and closed loop recycling and recovery to ensure that any equipment sent for recycling follows the waste hierarchy.

Waste

There is a significant amount of e-waste produced by the University as a result of replacing older models with newer ones and due to fail rates. Some equipment has a complex component mix, making it difficult to recover materials. The industry is increasingly using **recycled** plastics in its products, but there is more to be done in terms of using recycled minerals, as well as on repair/remanufacture and reuse.

To extend the life of University PCs, a pilot programme aimed at **reusing** PCs at the University started in June 2015, with ca. 550 machines reused internally and donated to external partners. Other Waste Electronic and Electrical Equipment (WEEE) is recycled, with materials recovered remaining in the UK.

Polystyrene, used for computer **packaging** is particularly problematic, as there is little that can practically be done with it in terms of recycling or reuse.

The University is engaging with its suppliers to understand why there seems to be low levels of recycled metals used in the production of new machines. It is also actively engaging suppliers on what can be done to eliminate polystyrene packaging. A number of new services are being proposed to the University, including removal of packaging at local reseller (doesn't eliminate the problem), or pallet delivery for orders over 50 units.

One of the University's suppliers is now offering a service of delivering equipment without packaging. Packaging is fully recycled within Scotland (*awaiting confirmation*).

Hazardous materials

There are reports that production line workers within ICT supply chains are being exposed to **toxic chemicals** that harm their health. Please check the Fairly and ethically traded section below to find out what we do about labour standards in our supply chains.

Heavy duty chemicals are required to sterilise cages and racking.

E-waste may contain many minerals, which, if not treated properly, may be toxic (e.g. mercury, lead). Greenpeace has reported unsafe recycling methods causing pollution and damage to environment and health of workers from developing countries. Please check the Waste section above to find out what we do about our e-waste.

Biodiversity

Biodiversity is not a high priority issue in procurement of electronics as it seems that there is little more that can be done outwith current legislation.

Heritage

There are no obvious considerations here.

Water

It takes roughly 35 litres of water to manufacture a single computer chip (ca. 500 litres for 350g loaf of bread or 200g of cheese). Due to low impact per chip, this is not a prioritised issue. Water is heavily used in paper and cotton production. There is also a significant amount of water used in the sterilisation of lab equipment.

Employment, skills and training

There are some opportunities to improve new skills or jobs especially in reuse and circular economy.

There are important implications with regards to data security, which are managed by University's Information Services section.

Fairly and ethically traded

Manufacturing of electronics goods has a reputation of having very poor **working conditions**. Working 12 hrs/day, 6days/week, with no overtime pay, wages significantly lower than living wage, withholding documents, compulsory expensive living quarters, high recruitment fees, gender and nationality discrimination are all common in some supply chain countries (<http://electronicswatch.org>). There are reports of bonded or forced labour within electronics supply chains.

The University is actively addressing those issues with suppliers and is a member of Electronics Watch.

Slavery still exists in the world today, from trafficking to bonded or forced labour, and effects a broad range of industries both overseas and within the UK. The International Labour Organization (ILO) estimates that over 20 Million people around the world are victims of forced labour. The University now has a duty to report annually on what it is doing to reduce modern slavery, under the UK Modern Slavery Act and has associated action plans.

Health and wellbeing

Prolonged use of computers has negative health implications for users. Health and safety advice is provided to staff to mitigate those.

Communities

Risks to communities are mostly at extraction and manufacturing on an international scale. Please check the Fairly and ethically traded section to find out what we do about labour standards in our supply chains.

Security and crime

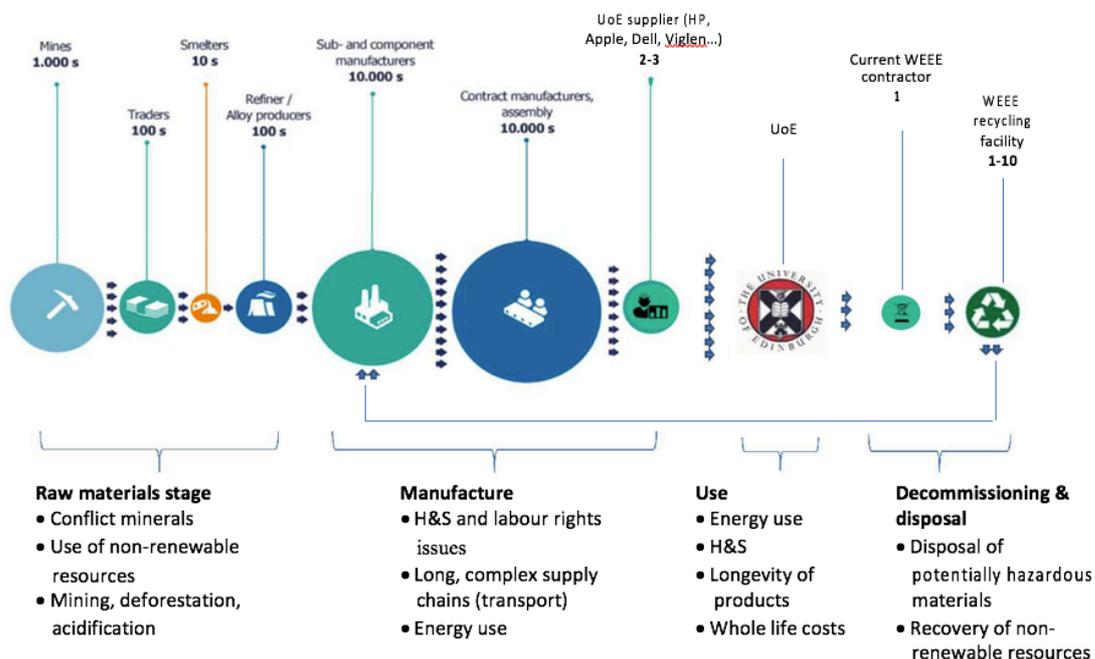
Risks occur mostly at extraction and manufacturing on an international scale. Please check the Fairly and ethically traded section to find out what we do about labour standards in our supply chains.

Equality

Equalities factors including age, gender, sexuality, disability etc. must be considered regarding the workforce in supply chains for all goods – unfair discrimination must not take place. There are particular risks in the Medical Apparatus, Equipment and Instruments category, as some equipment is not well suited for use by staff and students with disabilities.

Fair work

There may be some considerations with regards to call centre staff working for 2nd tier suppliers (e.g. ICT helpines).



Adapted from Dell