THOMPSON RIVERS UNIVERSITY

Solutions for a Sustainable Supply Chain

Sustainable IT Hardware & Software

Computers, laptops, imaging equipment, mobile phones, data centers, cloud services, scientific equipment, etc.

What's in this Information Technology (IT) Factsheet?

1. Top tips for more Sustainable IT
2. The problem: Impacts of IT
3. Criteria for Sustainable IT Hardware
4. Criteria for Sustainable IT Software

Top Tips for more Sustainable IT

1. Choose products with third party eco-certifications, such as EPEAT, TCO Certified, Energy Star, and/or Blue Angel.
2. Look for products that are durable and repairable (with repair warranties) to extend the life-time of the product.
3. Seek vendors and brands that offer take-back programs for reuse and recycling and/or ensure proper e-waste recycling at end-of-life.
4. Look for companies that promote wellness, diversity, and inclusion.
5. Look for power-saver mode, and when not using the devise, turn it off.

Did You Know?

Adding just 2 more years of use to an average PC reduces the carbon footprint by 30%!

(Source: TCO Certified)

The Problem: Impacts of IT

- **Energy Use & GHG Emissions.** Energy use in operations, from plug-in electronics to large data centers, combined with significant GHG emissions from manufacturing, shipment, and disposal of products mean that the IT sector is a significant contributor to harmful climate change.
- **Electronic Waste.** Innovation in digital devices has driven product development very quickly, leading to many obsolete products that either end up in the landfill or sent to developing countries.
- **Resource Use.** Production of an ever-increasing number of electronic products is resource intensive, accounting for significant extraction of natural resources, often of either rare or hazardous materials and plastics made from petroleum.
- **Hazardous Chemicals.** Electronics carry heavy metals like mercury, lead, lithium, and other materials like batteries that pollute the air when incinerated or contaminate the ecosystem if thrown into the garbage. Mining of these metals also has major impacts on the environment.

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Criteria for Sustainable IT Hardware

Look for the following features or ask vendors what they can provide to meet these specifications!

1. Eco-labels & Certifications

These are some of the most recognized eco-labels for IT products. Look for these or ask your suppliers directly if they can provide certified products:

The Logo	Description
	EPEAT (Electronic Product Environmental Assessment Tool) EPEAT is the leading overall Type-1 ecolabel for technology products, and is TRU's preferred IT eco-label, aiming for Gold Standard. It includes gold, silver and bronze levels and is comprehensive of many sustainability criteria at the product and organizational level. Find EPEAT rated products at www.epeat.net.
	TCO Certified TCO is one of the most comprehensive certification frameworks for IT products, addressing various environmental and social responsibility criteria throughout a product's life cycle. Their website is also full of current and helpful guidance and resources for sustainable IT.
	Energy Star One of the most common labels, indicates that a product uses less energy than at least 75% of available products in the market, in its given product category. Find Energy Star products here, everything from electronics, office equipment, and data center equipment.
	RoHS (Restriction of Hazardous Substances) Impacts the entire electronics industry and many electrical products. A RoHS certified product confirms that the proportion of hazardous or difficult to dispose of substances is limited to the maximum allowed and requires more environmentally friendly alternatives.

2. Energy Efficiency & GHG Emissions

Choosing products with energy efficiency features and/or vendors who have taken efforts to improve their own operations means less energy used, fewer GHG emissions, and reduced energy bills.

- Look for eco-labels that indicate energy efficiency (like Energy Star).

- Look for devices with "smart" or "low-power" modes that use less energy when not in use.

- Check vendor's website to see what efforts they have made, such as reducing emissions associated with product manufacturing and transportation, using renewable energy, offsetting their emissions, or setting a science-based emissions reductions target (SBT).

3. Better Materials & Responsible Resource Use

The best way to decrease your electronics footprint is to use environmentally friendly material inputs and keep your equipment as long as possible.

- **Environmentally Preferable Materials.** Many electronic items have wrap-around materials that can be made out of recycled content (ex. recycled metal, postconsumer plastic, ocean-bound plastic) or even with rapidly renewable materials like bamboo.

- **Non-toxic Materials.** Vendors should be able to indicate, either through an eco-label or Safety Data Sheet (SDS), that products and components have been manufactured with non-toxic chemicals to ensure they are safe and easier to recycle.

- **Product Longevity.** Is the product durable, upgradeable and/or repairable? Ask vendors if they provide repair services (or through 3rd party partners) and ask for a long-term repair and maintenance warranty, not a "replace by new" warranty.

- **Purchase Refurbished.** Purchase products that have already been used whenever possible. Check out the possibilities offered by professional refurbishing and remanufacturing businesses.

4. End-of-Life Management

After better design and product life extension, the next steps to consider for sustainable IT products are take-back, reuse, and recycling. When recycling electronics, it's very important to choose a reputable electronics recycling program to ensure that recycled products are ethically handled.

- **Reduce Packaging Waste.** Avoid packaging with film plastic or polystyrene foam; ensure packaging materials can be recycled; look for recycled/postconsumer content, FSC certified paper, or other bio-based materials; and aim for reduced overall volume of packaging.

- **Take-back Programs.** Seek vendors and brands that offer take-back programs for reuse and recycling. Many prominent brands offer repair and take-back options for various IT peripherals and devices (ex. Apple, Dell, HP, Samsung, and Lenovo).

- **Proper E-waste Recycling.** When product take-back is not available, recycling is essential. Responsible recyclers send materials to certified facilities and minimize toxic exposure to employees. Websites like Return-it.ca and RecycleMyElectroncis.ca provide great resources and recycling drop-off locations for electronics.

Investigate product as a service (PaaS) offerings. Under PaaS you pay for the use of products while the ownership of the equipment remains with the manufacturer. As a result, your supplier will aim to keep the equipment running as long as possible by avoiding non-reparable features and planned obsolescence. This increases its useful life and reduces its carbon footprint.

Criteria for Sustainable IT Software

IT software solutions may appear to have lighter footprints than their hardware counterparts, but when looking at the energy, operations, and people behind the software, you will find that there are still opportunities for sustainability.

Check vendor's websites, incorporate specifications into contracts, or directly request information to see if vendors are addressing these sustainability impact areas:

1. Employee Wellness & Diversity

People are at the center of software companies, and so you'll want a vendor that, first of all meets all international standards for human rights and safety, but one that also supports their employee's wellbeing, promotes a culture of equality, and provides opportunities for those who face barriers.

Check to see if vendors:

- Have Diversity and Inclusion programming and/or hiring policies to promote diversity in the workplace and provide employment opportunities for equity-seeking groups.
- Have policies or programming in place to promote employee health, wellness, active living, and/or work-life balance, and mental/physical wellbeing.
- Participate in charitable giving and other social benefit programs.

2. Green Office Buildings

While software solutions do not physically exist, the companies that create and operate software solutions do – which is why green building and office practices are another impact area to help indicate a leading sustainable software company.

- Check if the company indicates they have met any green building standards or certifications for their offices such as LEED, BOMA BEST, BREEAM, or Passive House, etc.
- Look for other green building practices like energy efficiency, renewable energy, GHG or carbon emissions reductions, water conservation, green materials, and waste management.

The Hidden Impact of Data Centers

Use of the Internet requires massive data centers which run on electricity that currently predominantly comes from burning fossil fuels which causes GHG emissions. Data center efficiency and sustainability are emerging priorities for the IT sector with efforts being made to increase use of green and renewable energy as well as other features of green operations like water conservation and waste management.

Check to see if a vendor is addressing the impact of using data centers and/or is reporting on their efforts to reduce GHG emissions or zero waste initiatives in their sustainability reporting.