

Case studies: Sustainable solutions for transforming the smartphones and ICT sector

Eco-labels: how to demand comprehensive change with a single procurement choice

Various sustainability criteria for ICT have been developed – by industry, NGOs and international policymakers. Yet uptake by manufacturers has been low and consumers are often unaware of them. There is a need for more demand from procurers, consumers and policymakers if these criteria are to be widely adopted.

Purchaser requests are a [primary driver of sustainability](#) for the ICT industry. A critical mass of demand from high-volume procurers is crucial to incentivise change among ICT brands, who in turn must collectively demand change in their suppliers. But it is next to impossible for procurers to keep up with what sustainability looks like in each product. Each product contains hundreds of components, and the industry is notorious for constant and rapid change in design and supply chains.

Eco-labels are a well-established concept to help buyers make decisions without being experts in the evolving detail of the industry. They also allow many

organisations to ask for the same thing – creating mass demand for specific positive changes. Several eco-labels are available for ICT, covering a growing range of products and sustainability issues. Many major public and private entities now demand particular eco-labels in all their ICT supply contracts, but some buyers settle for single-issue labels – such as [Energy Star](#) – which are helpful but do not address the full set of issues.

TCO Certified

TCO Certified is an independent sustainability certification for ICT. Its criteria cover environmental and social responsibility from a whole life cycle perspective. It started out in 1992 with basic criteria for product energy efficiency and product safety. Over the years it has added comprehensive additional criteria on other environmental impacts, product lifespan and social responsibility. It was

the first ICT eco-label to require socially responsible manufacturing, such as freedom of association for workers. It is a type 1 eco-label in accordance with ISO 14024, meaning that criteria

are based on scientific principles and are developed with multiple stakeholders and experts in an open process. It offers certification for eight product types: displays, notebooks, tablets, smartphones, desktops, all-in-one PCs, projectors and headsets. A brand can apply to have individual products certified, at which point it must show that its tier 1 suppliers¹ comply with the criteria or are on a path to do so.

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¹ Tier 1 is the last facility before a product is shipped, undertaking the final assembly and packing.

TCO Certified updates criteria every three years. This is vital to keep abreast of industry changes. For example in 2015, an independent review of smartphone sustainability criteria found that TCO Certified was strong on lifespan, recyclability, packaging, and hazardous substances in the final product. For some other points, it came closer to benchmarking the industry's existing practice². However, since TCO Certified was [updated in December 2018](#), it now includes stronger criteria on some of these elements, such as following OECD guidance on conflict minerals including cobalt³.

TCO also adopts or harmonises with other specialist frameworks which have already developed robust sustainability criteria that are relevant. For example, on phasing out halogenated flame retardants, the replacement chemical must be independently verified and benchmarked as safe in accordance with the [Green Screen for Safer Chemicals](#) hazard assessment framework.

How it works

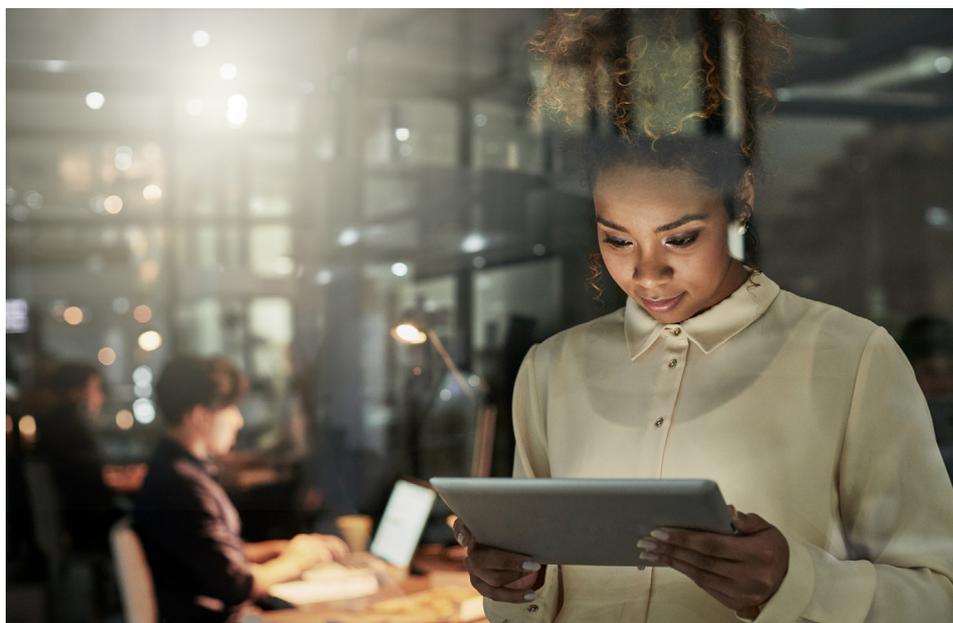
When a brand applies for TCO certification, it must commit to long-term transparency in its supply chain. The product itself is tested up-front to make sure it complies with performance and safety requirements. TCO Certified arranges third-party social audits of first-tier manufacturing sites, and the report from this is analysed by an independent verifier. With the audit comes an action plan for the factory to follow, addressing any areas of concern and specifying a timeframe for correction. A follow-up audit occurs roughly a year later, and again after that, to ensure that corrective [actions are done](#). Certificates are valid for two years. ² [The study](#) argued that 'benchmark' areas included responsible minerals sourcing, water and energy, and health impacts of hazardous substances in the supply chain. It also claims that an 'independent audit' methodology may not detect some breaches of social criteria. However, the date of this study means that it does not reflect 'Generation 8' of TCO Certified. ³ Tin, tantalum, tungsten and gold are the most frequent focus of initiatives on conflict minerals, but cobalt is also a risk.

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years. After certification, there are regular visits to periodically review any changes at each factory. If standards slip, the certificate can be revoked. Based on this interaction, TCO Certified maintains a list of 'approved' and 'preferred' factories. Those that show continued compliance and rapid correction of non-conformities are subject to less frequent auditing.

All checks are undertaken by independent partners of TCO Certified. The partners and the test methods are reviewed regularly by TCO Certified and by independent accreditation organisations.

For procurement departments, there is a free step-by-step guide to embed TCO Certified in their contracts and business culture. This includes educating colleagues on the sustainability risks of ICT products, making sure that the overarching sustainability strategy covers ICT, informing vendors early to give them time to source the right products, and requiring the certificate as proof.



Impact

About 3,000 products currently hold TCO Certified, and can be found [on this database](#). Currently, factories manufacturing products for more than 20 IT brands are compliant with TCO Certified criteria. This includes some factories producing for major brands such as Dell, HP, Lenovo, Casio and Epson. Once a factory has met the criteria in order to fulfil demand from high-volume procurers, an added benefit is that sustainable practices begin to percolate through the

industry, gradually becoming standard practice in some cases.

Major buying departments are using this certification to easily improve their ICT procurement. One example is the government of Swedish city Vetlanda, which did not have the staff time or expertise to develop their own ICT sustainability purchasing criteria. It also would have been next to impossible to verify them. Asking for TCO Certified allows them to save time and money while ensuring that their



purchases contribute towards Vetlanda's wider sustainability aspirations. Other notable buyers of TCO Certified products include the Canadian federal government, public bodies in Europe, Swedbank, Electrolux, and Svenska Handelsbank. These organisations state that it is chosen for its independent verification and its full range of social, environmental and performance criteria.

Other eco-labels for electronics

Blue Angel was initiated by the German government in 1978 as the world's first eco-label. It is available for various consumer products, including several categories of ICT (projectors, computers, keyboards, various types of phone, data centres, shredders, monitors, and printers). Like TCO Certified, it is a Type 1 ecolabel (ISO14024), sets criteria by life-cycle stage of the product, and incorporates criteria from other frameworks such as Energy Star and ILO labour

standards. For some products, Blue Angel accepts TCO Certified as fulfilment of part of its own criteria⁴. On materials, Blue Angel used to focus mostly on recyclability but has recently adopted OECD guidelines on conflict minerals.

Like TCO Certified, Blue Angel covers points about device quality as well as environmental impact, and criteria are updated every two to four years depending on product type. However, verification is based on declarations submitted by the applicant,

not independent audits. Some tests must be carried out at laboratories that meet certain ISO standards, but the applicant can undertake and write-up their own tests if their laboratory qualifies for the tests. Documents are assessed by Blue Angel itself. Most evidence must refer to measures taken less than a year before applying.

ECOLOGO is another Type 1 (ISO14024) eco-label, established in 1986. In electronics it covers seven types of product including [phones](#), printers, cameras, tablets, and wearables. It focuses mostly on reduced environmental impact, again based around the lifecycle

stages of the product. The label and its standards are created by Underwriter Laboratories (UL). Product tests and factory audits are carried out by UL itself. Audits occur every three years but spot-checks can occur at any time. Some mobile phones that meet

ECOLOGO also appear in the [EPEAT Registry](#), a major directory of greener electronics.

EPEAT is its own eco-label, standing for Electronic Product Environmental Assessment Tool. It is run by the [Green Electronics](#)

[Council](#), and assigns ratings to products at three levels: bronze, silver and gold. This allows buyers to compare and reward improved performance. All EPEAT certified products are searchable at the [EPEAT Registry](#). Testing and certification are carried out by 'conformity assurance bodies' which are overseen by the [Green Electronics Council](#) to ensure they

⁴ For example, [Blue Angel accepts TCO Certified as fulfilment of basic criteria](#) for reparability, materials selection and ergonomics – but also includes further criteria.

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are qualified to do so. Among other buyers, EPEAT is particularly sought-after by the procurement departments of various parts of the US government (and is mandatory in some).

EPEAT encourages buyers to require suppliers to record all EPEAT products that are bought, allowing an annual calculation of the sustainability benefits achieved through this procurement. Green Electronics Council's interactive [environmental benefits calculator](#) allows purchasers to measure and report the environmental benefits gained from purchasing electronic products covered by the EPEAT ecolabel, including greenhouse gas emissions, water consumption, and waste reduction. The benefits calculator also allows purchasers to estimate how they can achieve further environmental reductions by using products longer and responsibly recycling them when taken out of service.

Find out more:

[TCO Certified](#)

[Blue Angel](#)

[ECOLOGO](#)

[EPEAT](#)

Keys to success

- Third-party, independently-verified audits of manufacturing sites and products
- Scientifically-based criteria comprehensive across social and environmental matters
- Continuous revision of criteria to stay abreast of changes
- Eco-labels allow procurers to efficiently combine their demand for change
- Eco-labels can allow brands to combine their leverage for change in complex component supply chains.

Next steps

- Growing the demand for eco-labels from major procurement departments
- Delving deeper into the supply chain
- Exploring stronger ways to verify human rights compliance – perhaps working with other initiatives that have a successful track record in this.

About Transform Together

[Transform Together](#) works with civil society, governments and businesses to advance sustainable consumption and production in high and middle income countries. Bioregional is the convenor and secretariat of the partnership.

About Bioregional

[Bioregional](#) works with partners to create better, more sustainable places for people to live, work and do business. We call this One Planet Living®.