PUTTING IT ON THE SUSTAINABILITY AGENDA

A whitepaper for sustainability and IT Professionals

Because IT shouldn't cost the Earth

Circular Computing™ thought leadership

Every year, major companies like Apple and Samsung deliver their eagerly awaited new product announcements.

Their loyal fans respond by ditching their “old” devices in favour of the latest model, knowing that the next advance is only a few months away!

New technology can be very enticing for consumers but this endless desire for the newest product creates enormous amounts of waste.

For decades, the IT industry has built economies on the principle of ever faster turnover, harnessing the power of marketing to encourage consumers to believe that the sooner they replace their devices, the better.

Today we are waking up to the fact that this approach, which applies to almost every piece of technology we consume, is no longer viable.

It’s time to look for a more sustainable model that is better for businesses, end users and the planet.

1. It And Sustainability: Bringing Best Practices To The Business. (n.d.). Retrieved from https://www.fm-house.com/wp-content/uploads/2014/12/IT_AND_SUSTANTIBILITY_ORACLE.pdf

> “IT has a huge opportunity in terms of reducing its consumption and complexity, and utilising IT assets more effectively to drive down the carbon footprint.[1]”

VIJAY SANKARAN
Ford’s Director of Infrastructure Operations

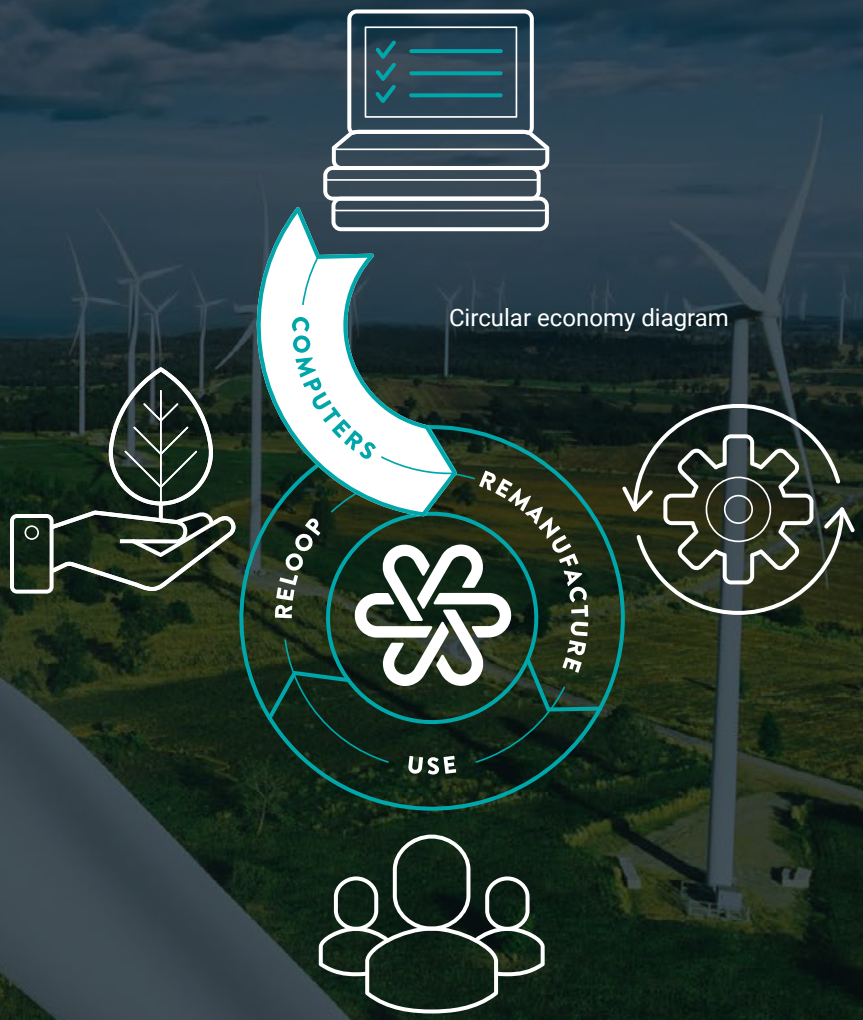
The circular economy - a viable alternative

The need to look beyond the linear industrial model often referred to as 'Take, Make & Dispose', is now well accepted even as we become painfully aware of its damaging effects upon our increasingly fragile world.

Thankfully, there is a much more sustainable approach growing in use, known as 'The Circular Economy'. This is an alternative, more progressive approach that builds economic, natural and social capital through restoration and regeneration.

A circular economy focuses on maintaining the value of products, materials and resources through a combination of re-use, recycling and remanufacturing.

As a result, the consumption of raw materials, and production of waste are significantly reduced or even eliminated.



Circular economy diagram

Currently only 18% of companies are reusing or remanufacturing recovered materials.

The circular economy is already here

The need to look beyond the linear industrial model often referred to as 'Take, Make & Dispose', is now well accepted even as we become painfully aware of its damaging effects upon our increasingly fragile world.

Accenture Strategy reports that 94% of companies surveyed adopt elements of circular supply chains, with 44% citing 'recycling' as a priority[2]. These positive figures demonstrate the policies already being implemented by leading enterprises, who recognise their social responsibility.

However, this is just the tip of the iceberg. Much more value can and will be released when more organisations actively incorporate the principles of waste elimination, reuse and refurbishment into their supply chains.

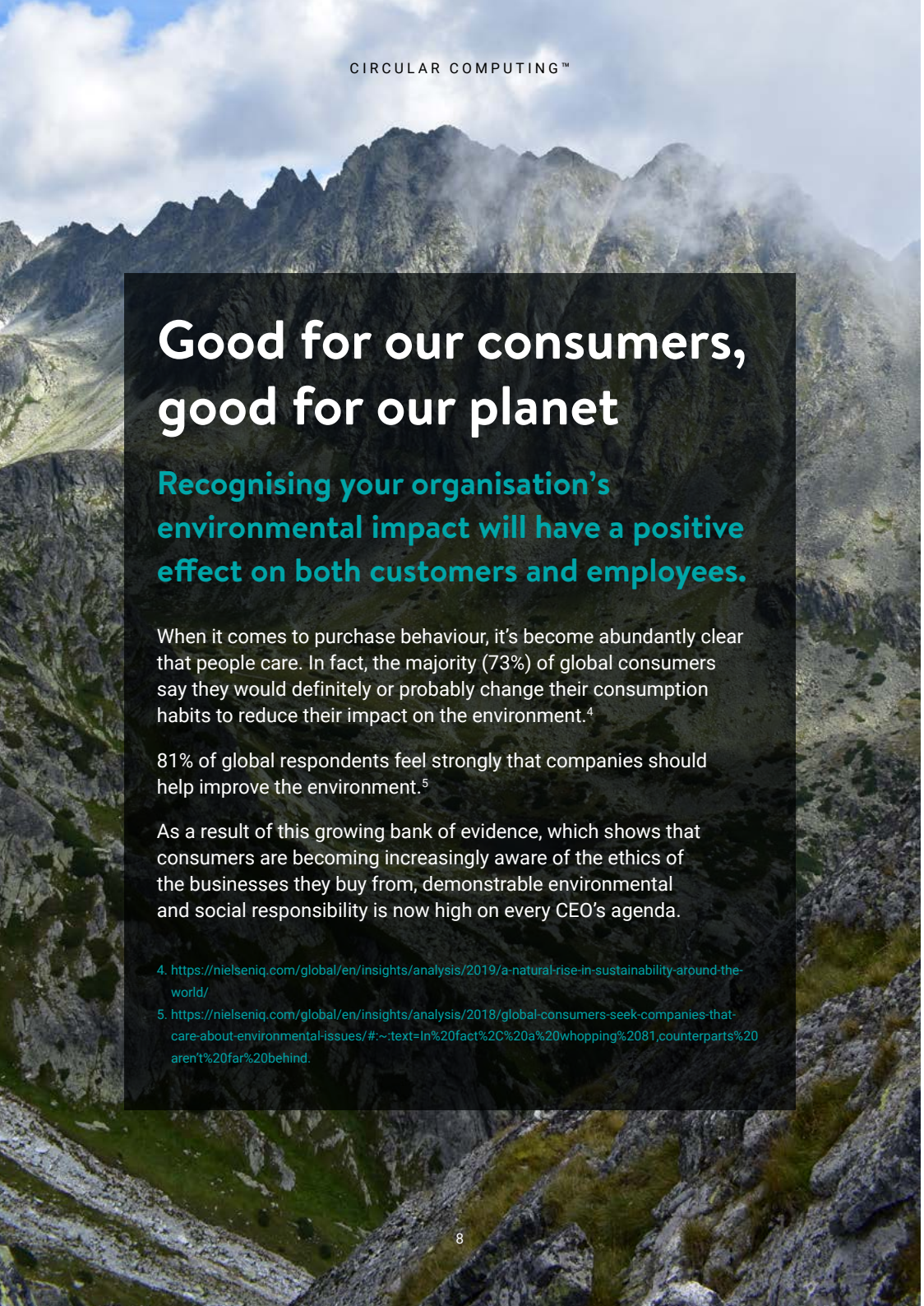
Currently only 18% of companies are reusing or remanufacturing recovered materials. A 2015 study by the Club of Rome says that by 2030[3], carbon emissions could be cut by almost 70% if a critical set of circular economy policy measures were adopted. This still rings true today but we need to commit more to these principles.

One of the major contributors to this reduction in carbon consumption will come from the concept of resource efficiency.

This concept embodies the creation of new industrial systems that actively enable the power of reuse, remanufacturing and recycling.

The result is a decoupling of our current dependency on the endless consumption of raw materials and production of unsustainable levels of waste.

2. https://www.accenture.com/nl-en/_acnmedia/PDF-49/Accenture-Full-Circle-POV.pdf
3. https://www.theguardian.com/sustainable-business/2015/apr/15/circular-economy-jobs-climate-carbon-emissions-eu-taxation



Good for our consumers, good for our planet

Recognising your organisation's environmental impact will have a positive effect on both customers and employees.

When it comes to purchase behaviour, it's become abundantly clear that people care. In fact, the majority (73%) of global consumers say they would definitely or probably change their consumption habits to reduce their impact on the environment.[4]

81% of global respondents feel strongly that companies should help improve the environment.[5]

As a result of this growing bank of evidence, which shows that consumers are becoming increasingly aware of the ethics of the businesses they buy from, demonstrable environmental and social responsibility is now high on every CEO's agenda.

4. https://nielseniq.com/global/en/insights/analysis/2019/a-natural-rise-in-sustainability-around-the-world/
5. https://nielseniq.com/global/en/insights/analysis/2018/global-consumers-seek-companies-that-care-about-environmental-issues/#:~:text=In%20fact%2C%20a%20whopping%2081,counterparts%20aren't%20far%20behind.

Much more than recycling

While the linear economy concentrates on the extraction, consumption and disposal of materials, the circular economy takes a much longer-term view.

It starts with the aim of using as few resources as possible during manufacture. Then it considers how to keep those resources in circulation for as long as possible while extracting the maximum value from them throughout their life cycle. Ease of dismantling, repairability and remanufacture and built in at the design stage.

When the product finally comes to the end of its "normal" lifespan, a circular economy approach seeks to recover, repurpose and regenerate those products thereby significantly extending their service life.

The world has the best chance of avoiding dangerous climate change by moving to a circular economy, thereby enabling countries to meet the goals of the Paris Agreement on Climate Action.

This is the key finding of The Circularity Gap Report 2019, released by the Circle Economy, a group supported by UN Environment and the Global Environment Facility.

The report highlights the scope to reduce greenhouse gas emissions by applying circular principles – notably re-use, re-manufacturing and re-cycling - to key sectors. It comments that most governments barely consider circular economy measures in policies aimed at meeting the Paris Agreement targets.

The report also finds that the global economy is only 9% circular - just 9% of the 92.8 billion tonnes of minerals, fossil fuels, metals and biomass that enter the economy are re-used annually. Climate change and material use are closely linked. Circle Economy calculates that 62% of global greenhouse gas emissions (excluding those from land use and forestry) are released during the extraction, processing and manufacturing of goods to serve society's needs; only 38% are emitted in the delivery and use of products and services.

Yet global use of materials is accelerating, it has more than tripled since 1970 and could double again by 2050 without action, according to the UN International Resource Panel.

What is remanufacturing?

Remanufactured products must have a quality that is equal to or higher than the original product.

Due to a lack of regulatory performance requirements, there has been much confusion about the term remanufacturing and how it differs from related terms such as reconditioning. Thankfully a consensus is starting to emerge that embraces the core concept that remanufactured products must have a quality that is equal to or higher than the original product.

To achieve this level of quality, products are dismantled, restored and tested. Where necessary, individual components are replaced or upgraded, and the final product rigorously tested to ensure that it is within its original design specifications.

THE BRITISH STANDARD BS 8887-211
defines remanufacturing as:

> **Returning a product to at least its original performance with a warranty that is equivalent or better than that of the newly manufactured product.**

‘Newer’ does not necessarily mean ‘better’

Every year more than 272 million new laptops are manufactured.

And every day 160 thousand “old” laptops are disposed of in the EU alone. The result is excessive resource consumption, climate change, pollution and e-waste.[7]

70% of those laptops could be reused.

This would reduce raw materials and energy consumption as well as cut waste production.

The potential for extending the usable life, particularly for computing products, is becoming recognised increasingly by industry experts and corporate buyers alike, thanks in part to a shift in perception around Moore’s Law.

Moore’s Law is a principle made famous by Intel founder Gordon Moore.

In 1965, Moore used the pace of development in chip technology to define a model for technological advancement which saw the performance capacity for computing chips double, year on year. While the industry proved Moore right for many years, experts now say that technology has reached an inevitable plateau.

Some claim the operating speed of high-end chips has been plateauing since the mid-2000s.[8]

7. United Nations University
8. https://www.economist.com/technology-quarterly/2016-03-12/after-moores-law

The IT sector poses one of the biggest threats to the environment.

We need to recognise and reverse the environmental damage created by the IT industry.

Pollution, child labour, and the extraction of scarce natural resources.

The price of our dramatic IT progress is paid by people and communities in developing countries, who are “put to work” to meet manufacturer demand. While pay is low by western standards, it is often the best source of family income. In some parts of the world children as young as four years old work in mines to extract minerals destined for new computers.

Throwing money at this problem is not a viable solution. There needs to be more comprehensive consideration for meeting short term needs, while investing in longer-term solutions that give these communities a real choice, without creating a “void” in family income.

The legacy impact of IT CO_2 emissions.

There is a legacy of CO_2 debt carried by everyone engaged with IT operations. We all need to be committed to tackling this legacy through initiatives such as reforestation projects that compensate for the production, use and disposal of our IT. Such projects support local communities by generating sustainable employment, infrastructure and income security.

Encouraging ethical labour practices within IT manufacture supply chains.

The technology sector has typically done little to offer transparency around the working conditions caused by our relentless demand for newer, better, faster technology. Aligning with the Electronic Industry Citizenship Coalition (EICC) reinforces an ongoing commitment to giving a choice back to the workers, who are a crucial part of supply chains. We all need to play our role by advocating ethical labour practices and standards.

Environmental and health damage caused by e-waste dumping

Millions of tonnes of ICT WEEE are sent to Ghana and Hong Kong illegally and disposed of without any duty of care to the local communities or the environment.

Lives are put at risk in these vulnerable communities due to inadequate education on how to handle and dispose of IT waste; for example, burning e-waste to salvage scrap results in the production of carcinogenic compounds which inflict lasting harm on residents.

Our industry must work much harder to ensure that a higher proportion of e-waste is dealt with by legitimate recycling centres for re-use, repurposing and re-entry into the circular economy.

Are you keeping IT on the sustainability agenda in your business?

Keep IT in the sustainability loop

It's essential that you involve your IT team early on in sustainability discussions. With the impact of IT so widely accepted today, it's difficult to justify keeping it off the agenda. Leaving IT out of the debate can fragment sustainability and undermine sustainability efforts.

Ideate and innovate

Keeping the sustainability conversation open with all departments across the business can help drive new idea creation and help keep IT on the sustainability agenda. When there is a robust strategy, at the heart of the company you'll be able to fulfil many objectives by avoiding duplication or conflicting initiatives.

Measure and publicise

Sustainability is as much to do with company culture as it is appealing to those consumers looking to buy from sustainability-focused businesses. Increasingly, employees too want to work for organisations actively practising sustainability. In addition to creating reporting systems to track your progress, make sure that you actively communicate it across the business. Doing so will create a sense of transparency, affinity and buy-in from consumers, employees, and executives alike.

Lead from the top

When business executives set a positive example by taking a forward-thinking approach to sustainability the rest of the workforce are more likely to follow suit. Only then, will sustainability become a core part of the organisation's culture.

IT Procurement - time for a change

To reverse the considerable environmental damage created by the IT industry, we need to make significant changes in the way we procure IT.

Transforming the way that IT and Sustainability work together.

It appears that many organisations have yet to make the connection between IT and corporate social responsibility. The upshot of this short-sightedness means that IT and CSR departments end up pursuing separate and often conflicting goals.

A sustainable IT procurement strategy will make a significant contribution towards your CSR goals, without compromising your IT requirements.

More and more CIO's are embedding sustainability within their existing procurement practice to deliver increased value while still meeting business needs and environmental responsibilities. This approach may include working more closely with suppliers to encourage innovation while improving their sustainability capacity.

> **"Procurement officials who fail to consider this are missing an opportunity from a sustainability and cost-effectiveness standpoint."**

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