



# The sustainability trends transforming business

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*Trends in sustainability and technology are good for business – and the Earth.*

While it's tempting to see sustainability as just another business buzzword, there really is something more to it. Sustainability gives businesses – like all of us – a chance to recalibrate, so that we can prosper and grow in the present without making life impossible for future generations. This isn't just a good idea but an imperative; the Earth's populations are growing, we're using up vital and irreplaceable resources, and we're still pumping out gases that contribute to climate change <sup>(1)</sup>. We need to take the long-term view.

Yet embracing more sustainable ways of working can also be good for business; low-carbon, energy-efficient practices are often also cost-efficient <sup>(2)</sup>. Going sustainable can help businesses engage with the concerns of customers, while some industries are under pressure to assist governments in meeting climate change goals. Sustainability, then, should be on everyone's agenda, with these seven key sustainability issues impacting business through to 2020 and beyond.

# 1.

## The drive for more sustainable business models

Established business models around selling products and supplies may no longer be the best way forward. Instead of a conventional 'take-make-waste' product cycle, manufacturers are embracing circular economies, where they take a wider look at products in terms of the whole lifecycle, from supply chain to end-of-life.

They then bring the two poles together so that recycling, recovered materials and renewable energy play a bigger part in manufacture and supply chain. For example, more than 5% of the plastic in an HP PageWide printer is post-consumer recycled content<sup>(3)</sup>. More than 80% of Original HP ink cartridges contain between 45% and 70% recycled content<sup>(4)</sup>.

Moving to an 'as a service' business model also boosts sustainability, both for manufacturers and resellers and consumers. There are clear advantages for the former in terms of long-term growth and recurring revenues, plus benefits for the latter in terms of reducing upfront investments and improved scalability. And because 'as a service' embraces a long-term, lifecycle view, it's easier for all parties to tackle issues of energy efficiency and recycling.

For instance, Merck KGaA used an HP Managed Print Services agreement to reduce their number of printers by nearly 45%, with a corresponding reduction in real-estate footprint, power and management costs, and CO2 emissions<sup>(5)</sup>.

# 2.

## Plastics under scrutiny

The airing of Blue Planet II in Autumn 2017 has proved a flashpoint, clarifying just how much plastic waste is floating in the Earth's oceans and how damaging that waste can be. The UK government has launched a consultation into using the tax system to encourage more responsible use, harnessing any money raised from new taxes on plastic packaging to encourage the creation of new green products and services – a business opportunity to be grasped. A further £20 million has been earmarked for businesses and universities to research ways to reduce the impact of plastics, looking at the whole supply chain and at single-use plastics, creating further scope for innovation<sup>(6)</sup>.

The EU has also proposed a strategy, with the aim of having 55% of all plastics recycled by 2030; only 30% of the 25 million tonnes of plastic waste created in Europe is currently collected for recycling<sup>(7)</sup>. Companies of every size in every industry need to think about how they use plastics and how they dispose of them, even if that just means reducing plastic packaging or ensuring all plastics used – where possible – are responsibly recycled.

Companies can get involved. In 2017 HP manufactured more than 3.8 billion ink and toner cartridges using more recycled plastic from more than 784 million recovered cartridges, 86 million apparel hangers, and 4 billion plastic bottles<sup>(8)</sup>. And by bringing Haitian bottle collectors into the supply chain, HP created economic opportunities for them and quality of life improvements for their families<sup>(9)</sup>.



# 3.

## A new focus on water

A lot of the discussion around sustainability focuses on energy use and gas emissions, but there's now a growing attention on how firms use water. High quantities are used in manufacturing, particularly in electronics, the food and beverage sector, mining and the pulp and paper industries. It's used to cool, process, sanitise, irrigate and clean, not to mention processes that involve steam or boilers. Ongoing analysis shows that, by 2030, South Africa will run out of water<sup>(10)</sup> and while this isn't a key concern for most in Europe, over half the world's population lives in similarly water-scarce areas. If companies with international manufacture or supply chains aren't already thinking about water, it's time to start.



# 4.

## 3D Printing – a new industrial revolution

Technology is too often seen as the enemy of sustainability when it can also play a bit part in solutions. 3D Printing or additive manufacturing, where large-scale printers 'print' 3D objects layer by layer, has the power to transform manufacturing and supply chains, by enabling manufacturers to produce goods in smaller batches, or even on demand, in more energy-efficient micro-plants located nearer to where their customers live. There are clear efficiencies for business in reducing shipping costs, waste and warehouse space, with companies able to maintain virtual inventories and manufacture when and where the product's wanted.

There are equally clear wins for sustainability in terms of cutting back on wasted materials and emissions due to distribution. According to a study by the Energy Policy Journal, combining 3D printing with localized supply chains could reduce global carbon emissions by 535.5 million metric tons by 2025



# 5.

## The impact of machine learning and AI

Machine learning, AI and automation will affect every business over the next ten years, and companies will need to think carefully about how they maximise the benefits without bringing on wider social consequences. That said, these same technologies could be harnessed in the service of sustainability. In Germany, Solactive AG has teamed up with Deutsche Bank to develop a machine language-powered sustainability index which tracks the performance of environmentally and socially responsible companies in Europe, helping businesses that prioritise sustainability make more informed choices<sup>(12)</sup>.

In other fields, including fleet logistics, manufacturing and service and support, AI and machine learning could help companies operate in a more sustainable – and cost-efficient – manner, or even – through embedded sensors – help them run their offices in a more responsive, energy-efficient way. Through analytics or predictive modelling, even industries like agriculture can benefit, with real-world examples that diagnose crop diseases or target pesticides more effectively<sup>(13)</sup>.

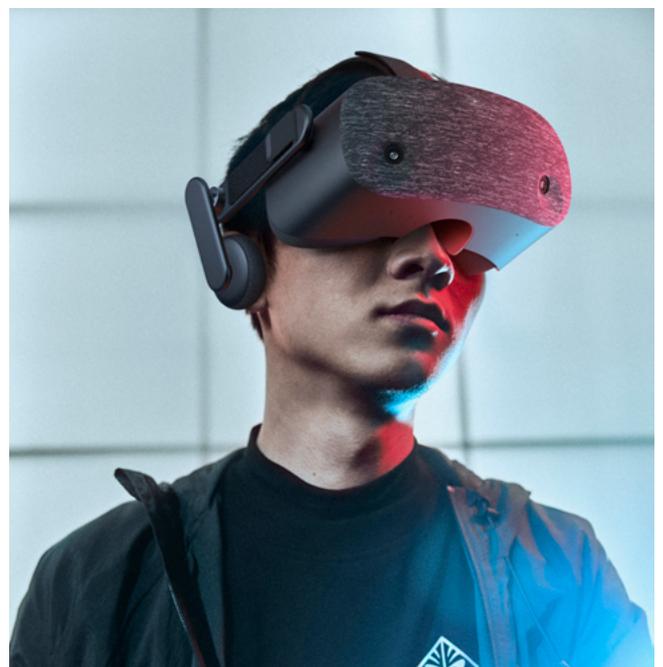


# 6.

## Delivering telepresence through VR and AR

It's hard to see an immediate link between sustainability and Virtual Reality (VR) or Augmented Reality (AR), and yet the technology has enormous potential to help companies reduce their carbon emissions through business travel. The secret is telepresence – VR and AR's ability to give someone something closer to a physical presence during meetings, training activities and collaborative work, but without needing all concerned to actually be in a single location at a single time.

VR and AR will create enormous business opportunities for innovative enterprises, and enable other businesses to save time, money and – in their own small way – the planet.



# 7.

## Blockchain and supply-chain transparency

Blockchain might be best known as the technology behind Bitcoin, but it could also transform the way companies manage and audit their global supply chains. It enables companies to track how goods or materials are moving and where they are, plus every transaction as those goods or materials move up through the chain. When blockchain-powered digital ledgers connect suppliers, manufacturers and intermediaries, there's scope to optimize routes and processes and reduce carbon emissions, waste and the overall environmental impact.

Blockchain also delivers higher levels of transparency, so that everyone knows what came from where, and could show whether those involved have also embraced sustainable business practices. While energy-hogging Bitcoin mining isn't doing much for sustainability, Blockchain could help redress the balance<sup>(14)</sup>.

Not all these trends will be relevant to every business, but they might give you new ideas on steps that your company could take to promote sustainability. That might simply be thinking of ways to reduce waste or use innovative technology to boost efficiency. It might mean thinking harder about the products and services you buy and where they come from. With the right approach, sustainability isn't about onerous rules and regulations, but about looking to the long-term future, both for your business, the wider community and the planet.



**LINKS:**

- (1) Global Energy & CO2 Status Report, International Energy Agency, March 2018:  
<https://www.iea.org/geco/> <https://press.ext.hp.com/us/en/blogs/2018/hp-sources-more-than-550-000-pounds-of-ocean-bound-plastic-for-n.html>
- (2) The business case for energy efficiency in buildings and plants. Energy Star, September 2018:  
<https://www.energystar.gov/buildings/reference/business-case>
- (3) HP Pagewide review, EcoguideIT, current:  
<http://www.ecoguide-it.com/en/product/hp/pagewide-pro-477dw-multifunction-printer>
- (4) HP sources more than 550,000 pounds of ocean-bound plastic for new cartridges, HP Press Center, October 2018:  
<https://press.ext.hp.com/us/en/blogs/2018/hp-sources-more-than-550-000-pounds-of-ocean-bound-plastic-for-n.html>
- (5) HP Case study, 2017  
<http://h20195.www2.hp.com/v2/GetDocument.aspx?docname=4AA6-9515EEW>
- (6) Single Use Plastics: Budget 2018 brief, Gov.uk, October 2018:  
<https://www.gov.uk/government/publications/single-use-plastics-budget-2018-brief>
- (7) A European strategy for plastics in a circular economy, European Commission, January 2018:  
[https://ec.europa.eu/commission/sites/beta-political/files/plastics-factsheet-challenges-opportunities\\_en.pdf](https://ec.europa.eu/commission/sites/beta-political/files/plastics-factsheet-challenges-opportunities_en.pdf)
- (8) HP sources more than 550,000 pounds of ocean-bound plastic for new cartridges, HP Press Center, October 2018:  
<https://press.ext.hp.com/us/en/blogs/2018/hp-sources-more-than-550-000-pounds-of-ocean-bound-plastic-for-n.html>
- (9) Earth needs our action every day: The path ahead, Sustainable Brands, May 2018:  
[https://www.sustainablebrands.com/news\\_and\\_views/walking\\_talk/nate\\_hurst/earth\\_needs\\_our\\_action\\_every\\_day\\_path\\_ahead](https://www.sustainablebrands.com/news_and_views/walking_talk/nate_hurst/earth_needs_our_action_every_day_path_ahead)
- (10) National Sanitation Master Plan, Department of Water and Sanitation South Africa, October 2018:  
<http://www.dwaf.gov.za/National%20Water%20and%20Sanitation%20Master%20Plan/default.aspx>
- (11) A global sustainability perspective on 3D printing technologies, University of Groningen:  
[https://www.rug.nl/research/portal/publications/a-global-sustainability-perspective-on-3d-printing-technologies\(6380f6f7-2732-478f-98b7-c865e07dc78e\)/export.html](https://www.rug.nl/research/portal/publications/a-global-sustainability-perspective-on-3d-printing-technologies(6380f6f7-2732-478f-98b7-c865e07dc78e)/export.html)
- (12) Launch of new sustainability index, Deutsche Bank, January 2018:  
[https://www.db.com/newsroom\\_news/2018/launch-of-new-sustainability-index-en-11474.htm](https://www.db.com/newsroom_news/2018/launch-of-new-sustainability-index-en-11474.htm)
- (13) AI is re-inventing how farmer's produce your food, Down to Earth, April 2018:  
<https://www.downtoearth.org.in/news/agriculture/from-identifying-plant-pests-to-picking-fruit-ai-is-reinventing-how-farmers-produce-your-food-60079>
- (14) Supply chain, blockchain and carbon footprint, Medium, June 2018:  
<https://medium.com/coinmonks/supply-chain-blockchain-and-carbon-footprint-888d377c7d14>