



CASE STUDY

The role of CIOs and IT decision makers in climate action

Introduction

The 2020s are the decade of digital transformation. The role of CTOs and CIOs has shifted from IT operations to digital transformation and strategic business development. Today, digital solutions are underpinning and transforming most aspects of business operations and customer relations.

In parallel, the 2020s are also the decade of delivery on the UN Sustainable Development Goals. Most importantly, it is the decade to deliver on the climate commitments from the Paris agreement and reduce global carbon emissions by 50% by 2030.

Today, it is estimated that the ICT sector is responsible for a little over a half-gigaton of carbon emissions annually (Recommendation ITU-T L.1470, 2020). Clearly, there is a need to continuously reduce the

emissions from the operations of digital technology. At the same time, there is an untapped potential in leveraging digital solutions to enable and drive the sustainable low-carbon transformation with AI, ML, and IOT enabled solutions to drive resource efficiency in production, transport, cities, agriculture, and more.

CTOs and CIOs have a key role to play in driving the digital transformation of their organisations whilst reducing the carbon footprint of the digital solutions and seizing the opportunities to drive sustainability benefits and carbon emission savings with smart digital solutions, including interactions and linkages systems within the broader ecosystem.

The CTO and CIO need to be front and centre of the climate conversation, given tech has a critical role in the transition to a low carbon economy. An important first step is to forge strong relationships with those leading the organization's climate action programme, particularly the sustainability function, to identify the highest priority opportunities to affect change. Engaging procurement and the supply chain to understand how purchased assets are impacting the organization's footprint will help to highlight actions to reduce emissions, including the deployment of more digital solutions to have the greatest impact.

This section talks through the role of the IT decision maker in terms of Procurement, Operations, Digital Solutions and Partnerships.

Key messages

Future capabilities and enablers such as IT and IT solutions need to be aligned to targets and commitments. This means fully integrating sustainability and climate into procurement practices and processes, including features such as: going for the more sustainable solution, and; making sustainability count in the evaluation.

When integrating IT and IT solutions, it is important to consider operational practices

which optimise outputs, while minimising impact from their use. This means considering impact across the products lifecycle and enabling decision making that supports climate targets and commitments.

Digital solutions can be used to either enable, or power climate transformation within an organisation. By exploring and exploiting new technologies, this can help drive change in the business model, accelerate

climate initiatives and reduce impact through resource efficiency and carbon emission reductions.

Collaboration and integration with the organisation's sustainability function is key to delivering success. It spreads risk, pool's resource and ensures the right skills are applied to the tasks at hand. This can also be expanded externally among industry peers to help accelerate activity through partnerships and expanded relationships.

01 Procurement of IT and IT solutions

Successful integration of sustainability within the business model is dependent on an organisation's ability to future-proof their capabilities, including ICT, with robust and modern procurement practices. When procuring IT and IT solutions two key factors need to be integrated: actively choosing sustainable solutions, and; making sustainability a core part of the evaluation process.

Go for the more sustainable solution

When investing in IT solutions, new technologies and engaging in procurement practices, go for the more sustainable choice. The best ways to make the sustainable choice are by ensuring technology and supply partners have strong environmental programs and that they can provide products that meet leading standards and frameworks. For example, your IT partners should be able to provide:

- Equipment with recognized eco-labels like EPEAT and Energy Star
- Product carbon footprint analyses
- Carbon offsets or a carbon neutral certified solution using a credible scheme
- Asset take-back and reuse, resale, recycling services with reporting on data-wiping and management of equipment

In addition, your procurement and supply partners, and technology deliverers should:

- Be reporting climate-performance annually, and publicly, through CDP
- Have science-based and preferably SBTi-validated climate targets for scope 1, 2, and 3.
- Have a robust program for supply chain social and environmental responsibility aligned with leading industry standards like Responsible Business Alliance (RBA).
- Have innovative sustainability programs with quantified targets for the amount of recycled or renewable materials in products and packaging.

These are attributes and considerations that can be applied across sectors and size of business, knowing that some decisions may have environmental trade-offs

which need to be weighed and considered. The relationship with climate programme and/or sustainability organization will make that evaluation process more effective.

Our 'Beyond Zero Impact' initiative takes our commitment to a positive impact on climate change beyond the direct impact of our own company. We want to drive future technology to be relevant to sustainability, both through R&D, sales and marketing. Our initiative aims to develop software and create technological solutions for our customers, not only to improve the efficiency of their operations but to also aid them indirectly in achieving carbon neutrality.

VMware, Inc.
(Telecommunications, Media & Technology)



Make sustainability count in the evaluation

Make sustainability count in the evaluation and selection of your technology Partner. Chose an overall cost evaluation model based on total cost of ownership rather than upfront investment. Apply a mix of minimum criteria for qualification and award criteria for innovative or aspirational features and give it a weight of minimum 10% in total evaluation criteria.

Although investment may result in a short-term increase in CAPEX, they can deliver significant cost and competitive advantage in the long-term. Therefore, integration of these decisions in line with the long-term business strategy is critical to ensure optimal value from the investment, which should include considerations for the carbon impacts happening behind the scenes.

We have a target to be net-zero for our operational emissions by 2030 and for our end-to-end Scope 3 emissions, including supply chain and customer emissions by 2040. We are well on our way of meeting our targets, having reduced the carbon emissions intensity of our operations by 57% since 2016/17 and by 19% for our supply chain in the same time period.

BT Group plc
(Telecommunications, Media & Technology)

02 Technology associated operational practices and decision-making

Once technology is procured and delivered, operational practices also need to reflect the organisation's climate objectives. This may include selecting low impact service delivery models, as well as integrating full lifecycle management of outputs, so as to take into account their true impact.

Consider 'as a service', consumption-based models for technology solutions

Though organizations traditionally have preferred to buy and own their equipment there are many good reasons to transition towards an 'as a service' based consumption model, whether for printing, computing, or datacenter solutions. A consumption-based model is more adaptable to

changing needs. It supports better utilization of the underlying technology infrastructure. It can offer low-carbon opportunities for energy sourcing. Also, it can ease the process of ensuring that technology assets are reused or disposed of responsibly at end-of-current-use.

We see that the future is working more with leasing rather than selling, so that the product will automatically be brought into the value chain. Bringing electronic waste back into the loop is a huge opportunity. When electronic waste is the highest growing waste stream in the world, we need to act and take responsibility for the products brought into the market by us.

RECONO.ME
(Telecommunications, Media & Technology)

Full lifecycle management

Especially when buying equipment, it is imperative to consider a total cost of ownership approach and responsible end-of-use management. Factoring in the total lifecycle cost amplifies the business case for investing in higher quality, more resource efficient solutions, and those with lower energy consumption over the lifetime. At end of the first use-cycle, make sure to factor in a robust and

responsible take-back program with a certified standard for secure data-wiping. This allows organisations to refurbish and resell the equipment for a second life or reuse, and recycle materials and components at end-of-life. Incorporating metrics related to the saved emissions (and other data) as well as final disposition information will ensure that the process meets expectations and can be properly calculated and included in reporting.

Exploiting the circular economy substantially reduces our impact and holds significant opportunities for our business. Working with partners such as Dell Technologies. We aim to stretch the life cycle of the products, thus reducing their impact, especially from production emissions. By adapting our business model to include repair, recycling, and re-use services, we have managed to bring products back into the value-chain. It will also allow us to exploit the electronic waste market.

Media company
(Telecommunications, Media & Technology)

03 Digital solutions to accelerate the low-carbon transformation

Drive resource efficiency and carbon emission reductions

Sustainable IT and digital transformation can offer benefits across all parts of an organisation. CTOs and CIOs should explore how digital solutions like AI, Machine Learning (ML), and the Internet of Things can enable their organisation to reduce its environmental impacts by:

- Optimising resource efficiency in supply chain, production, and logistics.
- Reducing carbon emissions in buildings and campuses with integrated systems optimizing light, cooling, heating, water, and energy supply.

- Reducing datacentre or production carbon emissions with AI and ML enabled solutions to shift workload according to availability of renewable energy.
- Shifting to more 'as a service' and consumption-based business models, reducing the production of 'stuff' and optimization of resources in use.

We are supporting the development of digital tools and data usage for projects to achieve more efficient design, to visualise mitigation and resilience, and to take a holistic approach to low-carbon, whilst ensuring better informed decision-making. For infrastructure, we want carbon assessments to be integrated in the decision-making process that works across different sectors linked to Building Information Modelling (BIM). Technologies we're considering include digital twins, Internet of Things and Artificial Intelligence.

Mott Macdonald (General Services)

04 Partnerships: internal and external

Advancement requires new or expanded relationships

CTOs and CIOs don't have to do this work in a silo and should consider:

- Building a strong, working relationship with their organization's sustainability team
- Familiarizing themselves with any sustainability-related materiality analyses completed by their organization
- Identify specific IT priorities to help advance the organizations

broader sustainability and/or climate commitments

- Connecting with industry peers also interested in exploring the role of IT capabilities in larger solutions providing positive social and/or environmental impact

We launched a five-year sustainability plan in August 2019 and all business units now report regularly on progress against this plan. Energy champions assigned, trained and deployed across

each business unit, have responsibility for reviewing energy data monthly, setting targets to reduce energy consumption, and supporting the business units to implement appropriate changes to reduce energy consumption. The role is embedded within people's day jobs, with a range of different people/job titles (including IT services) undertaking this work to align to business need.

Peel L&P (Construction & Real Estate)

DELL Technologies

Dell Technologies' climate goals are part of the next evolution of its environmental, social and governance (ESG) program and public commitments called [Progress Made Real](#), led by a net zero goal and a collection interim, time-bound, science-based targets to address emissions reduction across Scopes 1, 2 and 3.

Dell Technologies' focus on the full value chain, from operations, the supply chain and even the use of sold products is critical and requires global cooperation and collaboration. This includes deep engagement with customers and partners to leverage our technology to help their own transition to a low carbon environment and evolving solutions, like Dell Technologies' APEX as a Service (aaS) offering.

Finally, we believe that we must lock arms with other like-minded organizations in public-private engagements to do more together. To that end, Dell Technologies is pleased to be a founding member of the Goal 13 Impact Platform and to participate in a number of key alliances and organizations to advance the transition to a low carbon economy.

References

GeSI, Deloitte. (2019). *Digital with Purpose: Delivering a SMARTer2030* (Summary). Brussels: GeSI. Retrieved July 9, 2021, from <https://gesi.org/research/download/36>

Recommendation ITU-T L.1470. (2020). *Greenhouse gas emissions trajectories for the information and communication technology sector compatible with the UNFCCC Paris Agreement*. International Telecommunication Union.