Sustainability
as an Advantage

Why focusing on sustainability is critical to the evolving role of the CIO.

In late 2019, 24% of global CEOs were 'extremely concerned' about climate change and environmental damage.[1] These concerns have grown in the wake of the global pandemic, despite the many challenges presented to business leaders. Sustainability presents IT leaders with the opportunity to meet their present needs without compromising the ability of future generations to meet their own needs.

In May of 2020, 155 companies — with a combined market capitalization of over 2.4 trillion dollars and representing over 5 million employees — signed a statement urging governments around the world to align their COVID-19 economic aid and recovery efforts with the aims to reach net-zero emissions.[2] Your CEO or Board of Directors may already be prioritising sustainability, or you may be pushing your organisation to understand the impact that data centres and IT infrastructure are having on our planet. Either way, we are here to help.

This paper discusses the internal and external pressures that are driving European business to become more sustainable. We'll show how technology and a shift in perspective can provide a major advantage for your company in reaching your business goals and sustainability objectives.

Google's journey to operate the cleanest cloud in the industry led us to efficiencies, insights and perspectives that can help our customers. Operating our data centres in a sustainable way has benefited not only our business but our customers' too.

And finally, we will show you how Google Cloud's technology and carbon neutrality can help you reimagine your operations and innovate in ways that improve your environmental impact.

Reading Time: 20 minutes

What's inside

The pressures a CIO faces now include environmental responsibility

Data centres impact climate change

World events have made it an incredibly challenging time to be an IT leader. But it is also a time of unprecedented opportunity for change. It's time to reassess how we work and the impact of our operations.

Data centres and infrastructure are material contributors to global carbon emissions, with data centres around the world consuming an estimated one percent of global electricity.[3]

Physical landfill waste is also at a critical point, and is opening the question of the real cost of disposable data centre components.

Corporations are feeling these pressures, and are being pushed for transparency and responsibility to prove that they are in fact looking at the problem holistically and doing their part.

That pressure previously not associated with IT, is now landing squarely in the CIO's sphere of responsibility. It is not unwarranted, but it adds to the challenge of running a secure and well managed environment.

51%

of Europeans think responsibility lies with business and industry for tackling climate change.[4]

The pressures a CIO faces now include environmental responsibility

Pressure from within the organisation:

Employees: Want to work for a company that thinks and acts responsibly. 80% of companies expect a rise in employee activism, with employees increasingly speaking out if they feel their company isn't doing the right thing. Organisations that suffer bad publicity on the basis of employee activism could struggle to hire and retain staff in the future.[5]

Board of directors: With climate change front and centre, Board of Directors have the responsibility to their investors to protect the organisations they are entrusted with. They are expected to understand their organisation's environmental, social, and governance (ESG) criteria and ensure they make the changes needed to their operating model to eliminate risk. ESG is seen as a keen driver for investor trust, with 61% of investors increasing their investment allocation to companies that excel when it comes to ESG factors. Boards not only face challenges from investors to be proactive around sustainability, they must also respond to governmental and regulatory pressures. Regardless, they must shield the organisation from negative impact, and use positive sustainability action as an advantage.[5]

Through increased transparency on efforts to minimise their carbon footprint and waste, IT can support these stakeholders.

Over 70% of people are more likely to work for a company that has a strong green footprint.[6]

The pressures a CIO faces now include environmental responsibility

Pressure from outside the organisation:

Political: Increased attention from the media and the political spotlight. Intergovernmental Panel on Climate Change IPCC, an environmental group published a report stating there is only 12 years left to solve climate change.[7] The UN, as well, has adopted their Sustainability Development Goals as a blue print to achieve a better and more sustainable future for all.[8] One of the goals is climate action that focuses on taking urgent action to combat climate change and its impacts.

Customers: Customer demand is a key pressure from outside of the organisation, causing companies to step up and act. Customers are increasingly purchasing products based on their sustainability values, and if companies delay or neglect to implement sustainability practices, their customers will find other solutions.

Regulations: Laws are changing. Initiatives have begun. By 2050, Europe plans to become the first climate-neutral continent and make the EU's economy sustainable.[9] These regulations and others will transform sustainability accountability from largely voluntary to one with the force of law behind it.

33%
consumers purchase from companies they believe are environmentally good[10]

75%
of millennials pay more for sustainable products[11]

CEOs see CIOs as the key driver of business strategy in the next 3-5 years.[12]

Leveraging the cleanest cloud in the industry

Google can help

CIOs have a unique opportunity to lead with new ideas to improve the organisation's environmental impact, leveraging the cloud to help other areas of the business innovate in ways that reduce waste and increase sustainability.

52%

of the companies surveyed had a sustainability strategy in 2020.[13]

Leveraging the cleanest cloud in the industry

At Google, we build technology that helps people do more for the planet. We are committed to making it easier for customers to incorporate sustainability considerations into their strategy, and linking IT environments with their environmental impact. As you drive digital transformation in your organisation we can help you.

Move your workloads to GCP

Sustainable Operations

Reducing the immediate impact of IT by lowering operational emissions.

Sustainable Innovations

Use technology to build new solutions and enable sustainable business models.

Google Cloud users run their businesses on the cleanest cloud in the industry. Through increased energy efficiency and renewable energy efforts we provide a platform that can help reduce your environmental impact. By moving your applications from a self-managed data centre or colocation facility to Google Cloud Platform (GCP), you can reduce the net operational emissions associated with your workloads to zero, and by 2030 we aim to be using only clean energy to power your workloads.

Leveraging the cleanest cloud in the industry

Reduce the emissions of collaboration tools

Businesses that switch from locally hosted solutions to Google Workspace have reported reductions in IT energy use and carbon emissions up to 85%.[14] Besides using a collaboration tool that embraces sustainability, Google Workspace provides all productivity apps your team needs to get work done in one place.

Use innovative tools for sustainability

Leverage Google Cloud products and solutions to support your transformation journey, whether using BigQuery to reduce waste or AI to improve efficiency. For example, Google controls data centre cooling using an AI-powered recommendation system that is already delivering consistent energy savings of around 40 percent on average.[15] This helps make our data centres more efficient, but also saves on energy costs. Google is now making this AI technology available to the world's largest industrial enterprises, building management software providers and data centre operators in the form of our new Adaptive Controls Platform. Commercial and industrial facilities around the world can use AI to increase the output of their data and align the need for efficiency with their environmental goals.

Google Cloud's platform and technologies help drive better performance, at a lower cost with a net carbon emissions of zero giving you the benefit of cost and energy efficiencies for the organisation.

How Google realised value through sustainability

Google is leading by example in corporate sustainability. At Google, our practices, partnerships and products are united around a single mission — to foster sustainability at scale.

"Google was one of the first tech companies to commit to going 100% renewable, and since 2017 has met its goal to purchase enough renewable energy to match its electricity consumption globally each year."[17]

How Google realised value through sustainability

Google's Responsibility:

Today, with over a billion users of our enterprise and consumer applications including Gmail and Google Workspace, we have a responsibility to help organisations everywhere to make a positive impact themselves.

We are entering our third decade of climate action, and as of September 2020, we neutralized Google's entire carbon footprint since our founding in 1998 through the purchase of high-quality carbon offsets. Google is the first major company to have a lifetime net carbon footprint of zero.[16]

Our next goal is to use only clean energy across our global operations. **By 2030, our goal is for your cloud workloads to use carbon free electricity every hour of the day in every region. We intend to ensure our data centres run on clean energy 24 hours a day, 7 days a week.**

We will accomplish this by investing in policy efforts, new technologies and more renewable energy projects. Our long term renewable energy contracts have helped make it possible for wind farms and other sustainable energy sources to make the necessary capital investments to move forward with critical innovative green power projects.

Our responsibility to our customers and the world is to push forward, to innovate and to inspire others to follow. We're continuing to invest in technologies to help our customers, partners, and people all around the world achieve their sustainability goals.

There are four key components that make up Google's sustainability strategy today.

Sustainable Operations
Lower your IT emissions

Efficient and smart data centres

Renewable energy and carbon neutrality

Circular economy and zero waste to landfill

Sustainable Innovations
Use IT innovation to be more sustainable

Data-driven innovation

How Google realised value through sustainability

Efficient and smart data centres

Google data centres are designed, built and operated to maximise the efficient use of resources.

- Custom-designed sustainable Google servers aim to use minimal energy and operate at maximum efficiency.

- Tensor Processing Units (TPUs)—are highly efficient computer chips we designed specifically for machine learning applications. Google Cloud TPUs are designed with energy efficiency in mind, specifically to accelerate deep learning workloads at higher teraflops per watt compared to general purpose processors.

- Innovative cooling approaches use AI and ML and sustainable water management to minimise energy use.

Benefits for you
Help achieve carbon neutrality and reduce your company's overall footprint every workload you move to Google Cloud.

40%

energy savings thanks to our AI cooling system[15]
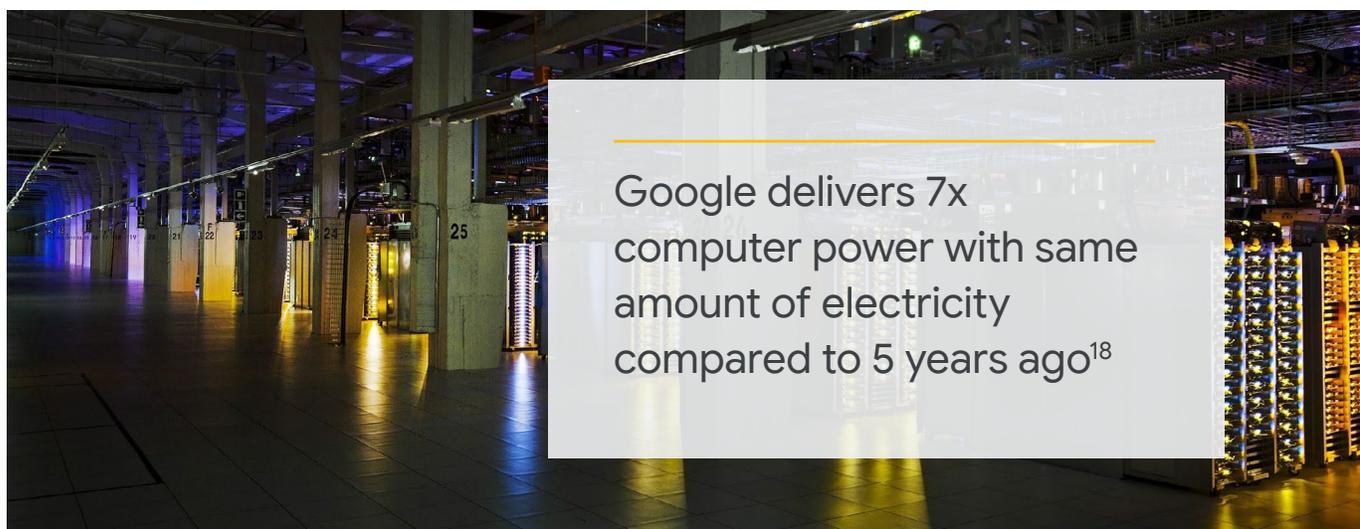
Google delivers 7x computer power with same amount of electricity compared to 5 years ago[18]

How Google realised value through sustainability

 Renewable energy and carbon neutrality

Google data centres help accelerate the transition to renewable energy and low or zero-carbon solutions.

- **Carbon neutrality.** Google has been carbon neutral since 2007. Because of our renewable energy and carbon offset programmes, our net operational carbon emissions during this period were zero.

- **100% renewable energy.** Since 2017, Google purchased enough renewable energy to match 100% of our annual global electricity consumption.

- **24/7 Carbon-free Energy.** This is our biggest commitment yet. We're working towards carbon-free energy by 2030 at all of our data centres and campuses around the world.

Benefits for you
Help reduce your IT energy use and carbon emissions by leveraging Google Cloud.

2007
Carbon Neutrality
(Offsetting emissions)

2017
100% Renewable Energy
(Reducing emissions)

2030
24/7 Carbon-free Energy
(Eliminating emissions)

How Google realised value through sustainability

🌐 **Circular economy and zero waste to landfill**

Google recognises the clear link between a sustainable world and the need to regenerate and protect the natural systems that we rely upon.

Our circular principles are the heart of our approach, inspired by the breakthrough work of our partners at the Ellen MacArthur Foundation, and adapted for Google's specific impact and opportunity. The principles are designed to drive consistency and replicability across our business.

A circular economy model is restorative and regenerative by design. Products, components and materials in a circular economy are made to be made again—they are created to be easily refurbished, repaired, reused and recycled.

The Google data centre team implements circular economy at scale by the way we plan, locate, build, manage and disassemble our data centres.

Benefits for you
Help transition toward a zero-landfill status by partnering with Google Cloud.

In 2018, 19% of components used for server upgrades were refurbished inventory.[18]

Google Cloud's circular principles

By partnering with Google, CIOs gain immediate benefit from Google Cloud's circular principles to help achieve goals of reducing their data centre's impact on landfills and working towards a zero-landfill status. These are Google's circular principles.

- Design out waste and pollution by custom-building our servers to replace parts easier.

- Keep products and materials in use by recycling parts or selling them to third parties.

- Promote healthy materials and safe chemistry to enable perpetual recycling of resources.

Nearly 3.5M components put into the secondary market for reuse by other organisations.[18]

How Google realised value through sustainability

🟢 Data-driven innovation

Data-driven innovation supports smarter decisions for a better future. Businesses are using Google Cloud technology to reimagine their operations and drive better business outcomes while doing more for the environment. Customers are using cutting-edge Big Query, AI/ML and data analytics to achieve their digital transformation goals that enables data-driven decisions which positively impact the environment and their bottom line. By working together, we can create a more sustainable and resource-efficient world.

Benefits for you
Combine your data with our innovative tools to lower costs and reduce waste.

Customers are using data-driven innovation to make an impact beyond sustainability.

Carrefour reduced their inventory waste
Use Google BigQuery to analyse large data sets to help forecast demand and reduce inventory waste.

Carrefour

Lush sells their products more sustainably
The Lush mobile app uses AI to recognise the product to provide consumers with ingredients and use instructions to eliminate plastic packaging.

LUSH

National Geographic reduced their CO2 emissions
Moving their photo library to Google Cloud reduced their emissions by 16,992 kg Co2e per year.

NATIONAL GEOGRAPHIC

E.ON reduced costs and CO2 footprint
Use Cloud Data Analytics to offer real-time energy consumption data to energy managers, helping them make decisions that reduce costs and CO2 footprint.

e·on
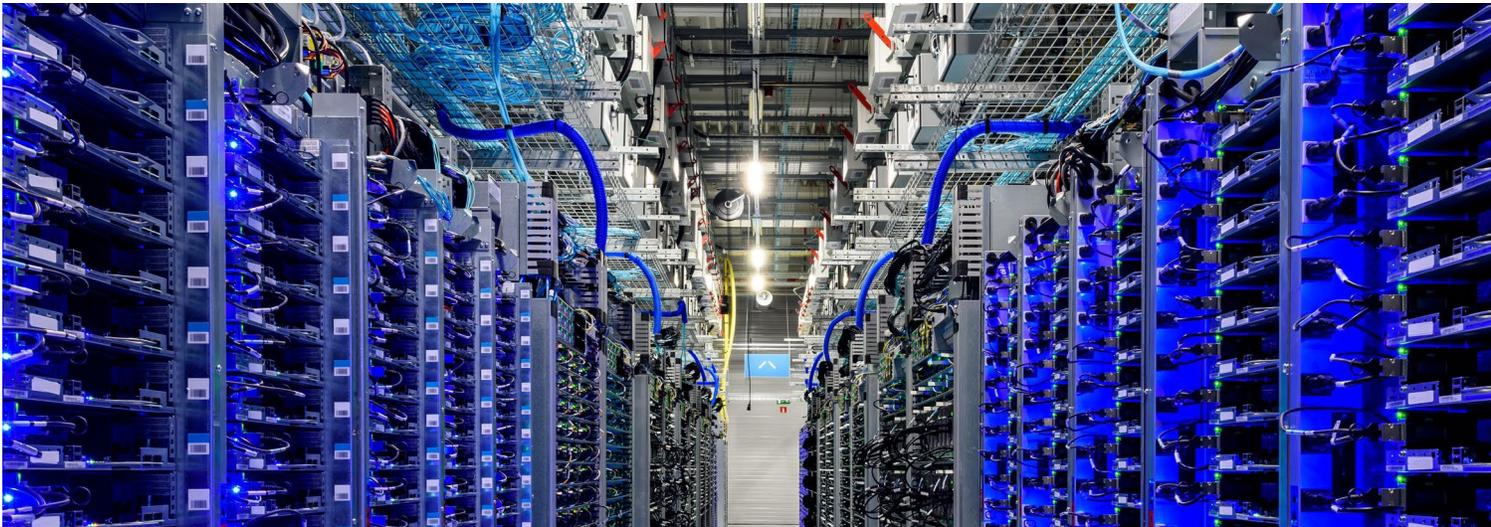
Sustainability as an advantage

The recent shifts in business priorities have reinvigorated the importance of IT in an organisation.

Make sustainability part of your solution by choosing a sustainable cloud partner, like Google Cloud. Not only does a sustainability strategy reduce your IT energy use and carbon emissions, it leads to operational efficiency, lower cost and less waste.

Create meaningful change that helps to future-proof operations and drive real value by leveraging Google's sustainable operations and innovation.

- Efficient and smart data centres

- Renewable energy and carbon neutrality

- Circular economy and zero waste to landfill

- Data-driven innovation

66%

of companies report that they integrated sustainability into the core of the business[13]

Sustainability as an Advantage

The need for a sustainability strategy worldwide is crystallising as one of the most important topics facing business leaders globally.

When organisations begin to associate sustainability with business performance, they benefit at a brand level, attract people who value corporate responsibility and build their own momentum – bringing in those who care about the natural environment tends to propagate a sustainability culture.

Further, sustainability helps to future-proof operations and drive real value for organisations. A sustainability strategy leads to operational efficiency, lower cost, and less waste, increasing the ability to comply with regulations.
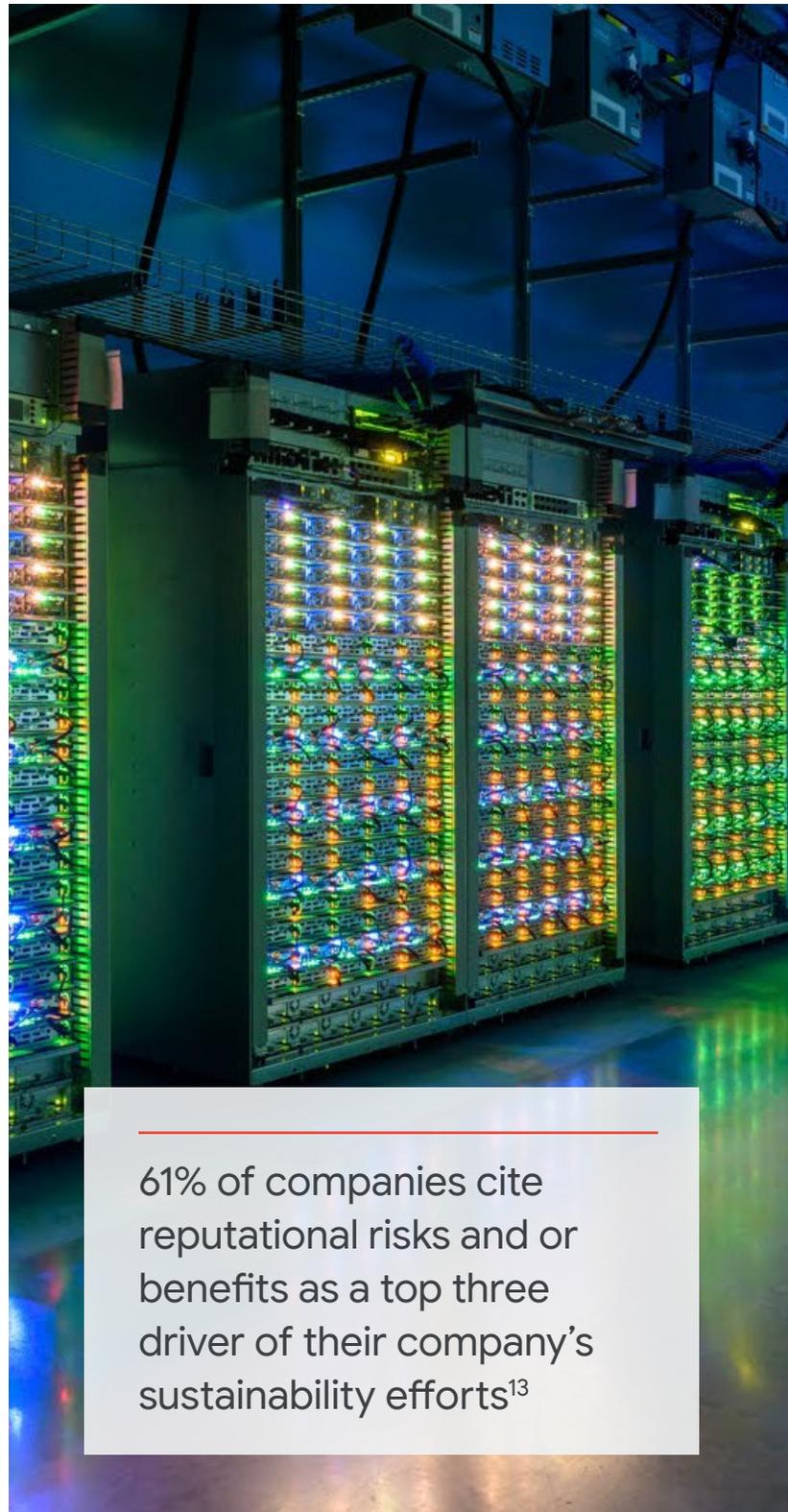
61% of companies cite reputational risks and or benefits as a top three driver of their company's sustainability efforts[13]
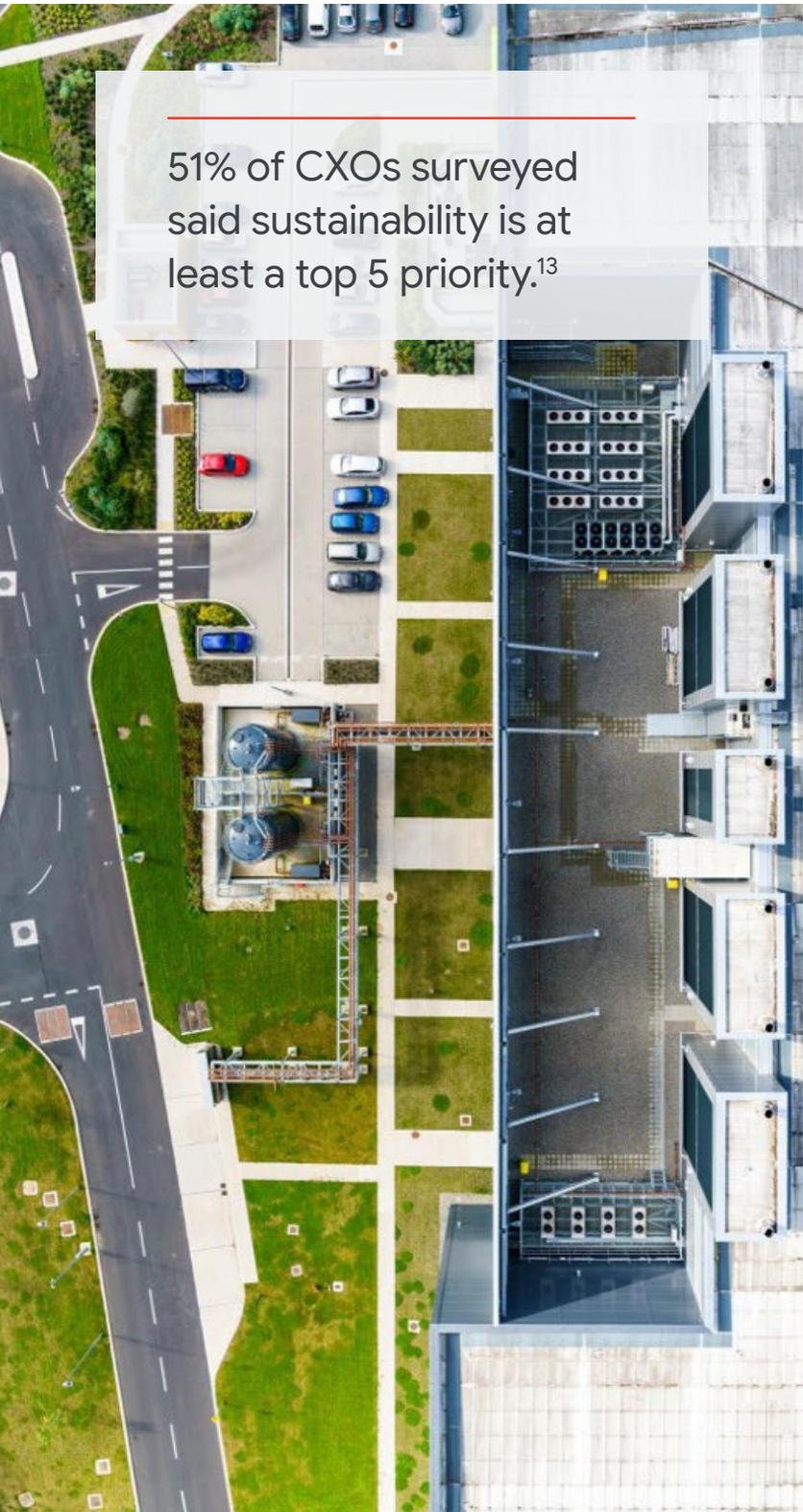
> 51% of CXOs surveyed said sustainability is at least a top 5 priority.[13]

Many IT Leaders and large corporations are now embracing sustainable practices and continuously improving throughout their organisation.

Leveraging your advantage

You have a very important role to play as a catalyst for change in your organisation. Use this moment to get out in front of your future, and let sustainability become that advantage that gives your organisation an edge in the market, recruiting power and a story to tell your investors. Help your teams embrace sustainability, and its various components. Everyone wins when the definition of winning is doing good while doing well.

By turning sustainability into an advantage, CIOs move from reacting to pressures, into leading with vision.

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