

Where Decarbonization Meets Digital Transformation

*How Infosys is helping businesses to accelerate their
Net Zero initiatives*

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AUTHOR



Nick Mayes is a Principal Analyst at PAC, and plays a key role in many areas of the leading European industry analyst firm's coverage of the global software and IT services market. Based in the UK, he is part of the team leading PAC's research on decarbonization and digital transformation.



SUSTAINABILITY & DIGITAL TRANSFORMATION

The last two years have been pivotal for many reasons, but this period will come to be viewed as a critical time in the sustainability ambitions of corporations across all industry sectors.

Against the backdrop of the COP26 climate event, a growing number of businesses have been putting a stake in the ground in setting a timeframe for achieving net zero or zero carbon status.

According to research from the *NewClimate Institute*, the number of businesses and public sector organizations committing to reaching net zero emissions has almost doubled in less than a year. Recent movers include social media giant Facebook, auto-maker Ford and building materials company LafargeHolcim.

Increasingly, these ambitions are being backed up by real commitment. Drinks manufacturer Heineken is one of a growing list of companies that is linking executive pay to the achievement of sustainability targets. And Unilever, which is aiming to achieve net-zero emissions across its entire supply chain by 2039, became the largest global corporation to put its climate transition action strategy to a shareholder vote. More than 99% backed the plan, which will see Unilever report annually on its progress.

Why has this momentum started to build now? The impact of climate change is becoming increasingly apparent, from soaring temperatures in the Pacific Northwest to devastating storms in Europe. But the drivers for change are coming from all sides.

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The investment community has emerged as one of the key influences in encouraging business leaders to double-down on decarbonization. The world's largest asset management firm BlackRock has launched several Paris Agreement-aligned funds, and as part of its new climate-centric strategy, it expects the companies in which it invests to disclose a plan for transitioning to a lower carbon economy. Citigroup, which has committed to achieving net zero emissions across all its financing activities by 2050, has set up a dedicated division to help its key accounts accelerate their decarbonization journeys.

The development of regulatory frameworks around decarbonization is at an early but dynamic phase. The US Government is encouraging the Securities and Exchange Commission to take a firmer hand in enforcing greater transparency in climate disclosure, while new climate-friendly building standards are being proposed across the country. On the other side of the Atlantic, the European Union has announced a raft of climate change proposals aimed at achieving carbon neutral status by 2050, including plans to tax aircraft fuel and phase out the sale of petrol and diesel powered cars within 20 years.

One of the biggest challenges facing businesses as they look to rebuild momentum in the post-pandemic environment is to attract and retain the best talent. Delivering meaningful progress on decarbonization will be a critical success factor, with a *Fast Company* survey finding that 70% of millennials would prefer to work in a company with a strong sustainability agenda, with three-quarters willing to take a smaller salary to work for an environmentally-responsible firm.

Consumer power is the other major factor shaping corporate sustainability strategies. Research from the *Economist Intelligence Unit* identified a massive 71% rise in online searches for sustainable goods globally over the past five years. Meanwhile, a survey by *Hotwire* found that 47% of internet users had stopped using products and services from a brand that went against their personal values. If businesses do not deliver on their decarbonization pledges, their customers will vote with their feet.

But a lot of hard work is ahead if sustainability strategy leaders are going to deliver real progress on their targets in both the short and longer-term.

One key weapon in their fight to deliver decarbonization will be technology, both in improving the efficiency of the corporate IT function and in harnessing it to unlock new ways of transforming operations and ways of working.

The enterprise IT function has been a focus for energy efficiency initiatives since the "Green IT" movement that played out over a decade ago. The contribution of the ICT industry to global emissions has been estimated by various studies (including most recently by the *Royal Society*) at somewhere between 1% to 4%, and the advent of cloud computing has certainly helped to stop this spiralling upwards – despite the explosion in data, storage and compute volumes.

But rather than viewing technology as the main focus area for decarbonization initiatives, it should be seen as the primary tool in driving improvements across all

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areas of the organization. One critical challenge is in providing business with the insight into current emissions levels. This is an increasingly complex task due to the constantly changing nature of the organizations, such as the sudden shift to widespread homeworking.

But businesses are now tasked with looking beyond electricity consumption and taking a wider view across the whole lifecycle, looking at the carbon footprint of the products that they use, the travel patterns of their workforce and the contribution across their supply chains. For most, this will require significant investment in data analytics tools to bring together the insight that the business will need to deliver on increasingly stringent reporting requirements. Auditing of this reporting will require data to be integrated into ERP systems of record through digital transformation agendas.

We are starting to see an acceleration investment in new connectivity and intelligent automation solutions to help business manage critical infrastructure assets more efficiently. For example, oil majors BP and Shell are using cloud-based AI and analytics propositions to accelerate the transformation of their business towards renewable energy sources.

Increasingly we are also seeing businesses announce new digital transformation strategies that are also geared to supporting the sustainability and decarbonization ambitions. Automotive giant Volkswagen's "New Auto" strategy, will see battery-electric vehicles account for 50% of its global sales by 2040, when it says nearly all of its new vehicles in major markets will be zero-emission. The firm also aims to grow revenue by selling new features and services via the internet, and offer mobility services enabled by autonomous machines.

In the next section, we look at how Infosys, one of the world's leading digital transformation services organizations, is positioning itself to help its clients harness the power of technology to support their decarbonization ambitions.

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INFOSYS IN PROFILE

Infosys has a long history in supporting the sustainability ambitions of its customers, and is the first of the world's largest IT services corporations to commit to achieving carbon neutral status – something that it has achieved 30 years ahead of the 2050 timeline set out by the Paris Agreement.

The company launched its climate strategy in 2008 and became carbon neutral in compliance with PAS 2060 standards in 2020, with close to half of its electricity consumption now coming from renewable energy sources. Infosys has reduced its per capita electricity consumption by over 55% in recent years, in part through driving energy efficiency across its physical estate and driving fully funded community-based carbon offset projects. It was subsequently included in the Dow Jones Sustainability Indices (DJSI) and became a part of the DJSI World and DJSI Emerging Markets Indices.

Infosys has mapped out its longer-term commitments on sustainability and other areas in its “ESG Vision 2030.” The plan encompasses core areas including: climate change, technology for good, diversity and inclusion, energizing local communities, ethics and transparency, data privacy and information management. On the decarbonization side, the company aspires to remain carbon neutral across Scope 1, 2 and 3 Greenhouse Gas emissions, to eliminate 75% of Scope 1 and 2 emissions and reduce absolute Scope 3 emissions by 30%.

One of the critical factors in successfully delivering these long-term strategies is to ensure that it has a clear point of leadership and accountability at the highest level. Infosys has now formed an Environmental Social and Governance Committee of

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the Board Independent Directors of the Infosys Board, who will take on oversight for the delivery of organization-wide ESG initiatives.

Infosys leverages its internal experience in driving decarbonization to support its clients. The company's market-facing capabilities are led by the Sustainability and Design practice, which brings together tools, platforms and design and engineering capability from across the company. It operates across all of Infosys' core territories across North America, Europe and Asia.

The practice helps senior business leaders in driving a more sustainable approach across their operations, and helps them to explore the viability of solutions to reduce Scope 1-3 emissions. The practice also helps organizations explore how they can better incorporate circular design loops into their products, services, and supply chains, reducing waste and increasing reuse and recycling.

Infosys has built up a diverse base of case studies, some of which we explore in the final section of this report. They span a wide range of industry sectors, from designing solutions to enable the charging of electric vehicles while they are on the move, to helping financial services companies gain access to the data they need to support investment in sustainable businesses.

Many of Infosys' engagements shake up traditional business relationships by focusing on customers and suppliers working closely together to co-create new products or services. A good example of this is Infosys' work with oil major BP where the two are developing an integrated Energy as-a-Service (EaaS) offering designed to provide end-to-end management of a customer's energy assets and services. The pact brings together BP's renewable energy sources such as solar and wind, as well as its technology in areas such as electric vehicle charging and battery swapping, to enable Infosys campuses to access reliable low-carbon energy and use energy more efficiently, without having to invest in additional energy infrastructure.

This relationship launched with a pilot initiative at Infosys' Pune campus, with the aim of extending coverage to other Infosys locations, as well as business parks and cities. The move builds on Infosys' native experience in driving energy efficiency across its own buildings, with its most recently developed sites among the most efficient buildings in the world, consuming just one third of the energy compared to a regular office building in India.

Buildings account for as much as 38% of all greenhouse gas emissions according to research from the *Global Alliance for Buildings and Construction (GlobalABC)*, and Infosys sees huge potential gains in this area for its customers' decarbonization ambitions. Infosys has worked for more than a decade with U.S. Department of Energy's Lawrence Berkeley National Laboratory on the development of technology to assist Architects, Engineers, Designers, Developers and Facility Managers to create and operate the most energy efficient commercial buildings possible.

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Infosys has built its own office space since the 1970s, and has harnessed this experience in its Smart Spaces proposition. Through Smart Spaces engagements, Infosys helps organizations to integrate and optimize the physical and the digital environments through various technology interventions. Infosys uses their SCALE framework (Sustainable, Connected, Affordable, Learning Systems and Experiential) to assess, implement and operate smart spaces.

Infosys complies with applicable environmental regulations in the countries where they operate and have established management systems with ISO14001:2015 certification. The significant concerns identified in their practices as having an environmental impact include the following: 1. Depletion of resources like power and water; 2. waste generation and its disposal; and 3. emissions that are part of their material aspects. They conduct environmental impact assessment studies for all new projects, wherever applicable, covering impacts related to air, water, social aspects and biodiversity, among others. Infosys had 50+ million sq. ft of campus area, with 30+ million sq. ft of Smart Spaces office buildings across 18 campuses in 50 countries. The firm has 270,000 full-time employees under continuous monitoring, delivering 55% per capita reduction in energy consumption, driving down its own water consumption per employee by 59%, and using a waste management approach based on predictive modeling, which uses big data analytics of for Reduce, Reuse and Recycle over a 10-year period ending 2020. Infosys believes that technological advancement has maximum societal impact, and the initiative will focus on the 3 key segments of eGovernance, Healthcare and Education. A core focus area of the program is called Tech for Good and is targeted to impact 80MN lives by 2025.

The company is now assisting clients including a leading global high-tech company, a leading New York City real estate company and a leading university in driving efficiency across their campus estates through the use of the SCALE framework.

One of the key challenges facing decarbonization strategy leaders is to build a clear view of their current emissions data, which will enable them to meet the reporting requirements of an evolving regulatory landscape. Infosys aims to help its clients in this regard with its “REF-OR-M Eco Watch” solution, which brings together the necessary components (including Microsoft Business Applications) for data collection and monitoring, in both manual and automated modes. It also enables auditing, and rule-based approvals and tracking, for better adherence to sustainability standards.

Infosys has outpaced many of its peers in its own journey to achieving carbon neutral status, and it using this experience to help its customers build momentum with their initiatives. Infosys’ commitment to sustainability forms just one part of a wider goal to have a directly positive impact on the lives of 80 million people through its “technology for good.” In PAC’s view, the company has a strong platform from which to reach this target.

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INFOSYS IN ACTION

Driving 30% Energy Savings in the Financial Sector

Infosys consulted with a global financial institution to decrease energy and ultimately reduce their carbon foot print of their facilities. In the absence of a common platform, capturing the data from various monitoring and data collection systems (i.e. BMS, LMS, EMS, PMS, etc.), integrating it with operations, along with diagnostics and decision-making processes, was exceptionally complicated. Critical data, needed in order to make real-time decisions, resided in different networks that relied on manual intervention for processing. The result was decreased productivity of both the real estate and facility teams, and poor employee experience.

The key was capturing the right KPI's through real-time data analysis, and automating the decision-making process from a manual reporting system. By bringing together AI, Cloud, IOT and 5G, the client will be enabled to monitor and control operational assets to drive efficiencies across buildings, energy, water, lighting and air quality through data-driven predictive analytics.

By conducting an advisory engagement that consisted of a deep dive energy assessment, Infosys was able to provide the client with a phased approach that will produce energy savings of 10%-30%; thus easing their carbon footprint as a whole. Other benefits included enhanced occupant experiences, 100% business continuity, and optimized resource usage.

Getting Back Control with a Command Center

The building industry continues to run largely on manual operations and legacy field level devices, which means that the possibility of errors or inaccuracy tends to be high. Instead of defined algorithms or performance parameters driving systems such as air conditioning, lighting, etc., it is the understanding of the system by the operators, that drives the system efficiency or optimization. Infosys was approached by both a high-tech manufacturer and a global IT company to address issues and challenges that are commonly found in disparate systems that monitor building operations and energy management. In addition, initiatives that were deployed in different campuses were isolated and were not shared with other campuses. The initiatives were implemented based on their own understanding and in silos.

With a Central Command Center set up, both the high-tech manufacturer client and the global IT company established centralized operation of all buildings through global remote monitoring. This smart approach helped them in converting the brownfield physical spaces into low energy footprint facilities with digital experiences. Infosys has developed solutions, architecture reference blueprints and partnerships with the leading technology, hardware and solution providers for smart buildings and intelligent workspace for the clients.

By creating a common platform for managing resource efficiency, the high-tech manufacturer was able to realize a 15% energy savings and a 20% reduction in IT support costs for maintenance of Building Management Assets & Systems by leveraging the Central Command Center. The Central Command Center's online smart energy monitoring has helped provide the global IT client the ability to contribute positive results through continuous monitoring. The data-driven approach has helped them avoid energy consumption of about 1,700 million kWh in the last eight years. This translates into avoided energy costs of \$185m and 1.45 million tons of carbon emissions into the environment. In fiscal 2018, the company reduced per capita electricity consumption by about 53% against baseline year 2008.§

ANNEX

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Infosys is a global leader in next-generation digital services and consulting. We enable clients in more than 50 countries to navigate their digital transformation. With over four decades of experience in managing the systems and workings of global enterprises, we expertly steer our clients through their digital journey. We do it by enabling the enterprise with an AI-powered core that helps prioritize the execution of change. We also empower the business with agile digital at scale to deliver unprecedented levels of performance and customer delight. Our always-on learning agenda drives their continuous improvement through building and transferring digital skills, expertise, and ideas from our innovation ecosystem.

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teknowlogy Group is the leading independent European research and consulting firm in the fields of digital transformation, software, and IT services. It brings together the expertise of two research and advisory firms, each with a strong history and local presence in the fragmented markets of Europe: [CXP](#) and [PAC \(Pierre Audoin Consultants\)](#).

We are a content-based company with strong consulting DNA. We are the preferred partner for European user companies to define IT strategy, govern teams and projects, and de-risk technology choices that drive successful business transformation.

We have a second-to-none understanding of market trends and IT users' expectations. We help software vendors and IT services companies better shape, execute and promote their own strategy in coherence with market needs and in anticipation of tomorrow's expectations.

Capitalizing on more than 40 years of experience, we operate with a network of 140 experts.

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Contact:

teknowlogy | PAC

**Holzstr. 26
80469 Munich, Germany**

+49 (0)89 23 23 68 0

info-germany@teknowlogy.com

www.vendor.teknowlogy.com

www.sitsi.com

PAC

a teknowlogy group company

