

Smart sustainability

How consumer product companies can drive net zero goals through data, IoT technology and AI

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Introduction

In an era where sustainability is an essential growth driver and key consumer priority, businesses find themselves grappling with an ever-evolving regulatory environment. A recent study paints a stark picture: only 24% of companies are prepared for impending sustainability reporting requirements.

This lack of readiness stems from many challenges, most notably companies' reluctance to build technology infrastructure capable of capturing, analyzing and reporting on sustainability data. Other barriers, such as supply chain complexity, reliance on traditional energy sources and the need for executive buy-in for transformation investments hinder organizations' ability to drive enterprise-wide sustainability progress and to manage EGS metrics across their global operations. Meanwhile, the pressure to balance sustainability efforts with profitability and consumer demand for affordability only further complicates the journey to net zero.

To meet sustainability commitments and to comply with international reporting requirements, organizations must take bold steps, including investing in technology and driving large scale business transformation. Surprisingly, just one-third of executives believe they currently possess the necessary technology to achieve this level of compliance.

In our eBook, we address the challenges consumer product (CP) companies are facing and provide practical solutions designed to empower companies on their journey to a greener, more sustainable future.

90% of business executives agree that improvements in digital technology are critical to advancing sustainability goals.



Scope 3 emissions management

Scope 3 emissions: The next step in corporate ESG

Up to 90% of a company's footprint comes from their upstream suppliers' impact. Though notoriously complex, reducing Scope 3 emissions is essential to improving overall sustainability and advancing net zero goals.

At Cognizant, we believe that building a sustainable supply ecosystem starts with the right data. In this section, we explore how companies can leverage digital technologies to overcome Scope 3 emissions challenges and enhance, accelerate and scale emission management programs.



Leveraging data to guide Scope 3 emissions tracking and reporting

Carbon reduction is a data-driven process. Transforming an enterprise with real climate impact reduction requires a clear strategy to capture the data from different silos and create a scalable data platform for IoT, AI and cloud utilization.

How to create a data-driven digital foundation



Step 1: Map visions and capabilities

Engage with stakeholders to understand your organization's vision for sustainability. In doing so, align these capabilities with cutting-edge technologies – including data analytics, AI, cloud infrastructure and data management tools. This alignment will facilitate a seamless transition from design to implementation.



Step 2: Create an agile roadmap

Develop an agile roadmap that evaluates both short-term requirements and long-term scalability. Prioritize capabilities that enhance service delivery, ensuring each step contributes to a groundwork for future expansion.



Step 3: Adopt an ESG reporting tool

Adopt an ESG reporting tool that aligns with your organization's sustainability and transformation goals. Features like data collection, visualization, and compliance tracking should remain top of mind. Once you have selected the right tool, seamlessly integrate it into your existing tech stack to facilitate smooth data flow across systems. For streamlined ESG disclosure and enhanced transparency, automate critical tasks including data collection, aggregation and reporting.



Step 4: Create a harmonized ESG data hub

Establish a centralized ESG data hub that houses all relevant ESG data, including environmental metrics, social impact and governance practices. Engage relevant stakeholders when designing and maintaining the hub to align with business goals and to secure buy-in. Post-launch, implement a data governance framework to maintain data quality, consistency and security.



Enabling dynamic lifecycle assessments (LCAs) to manage Scope 3 emissions

Companies that have a strong digital foundation and robust data capabilities can enable dynamic lifecycle assessments (LCAs) an advanced methodology that continuously assesses the environmental impact of a product across its lifecycle.



What is a dynamic LCA?

A **dynamic LCA** is an advanced methodology that leverages real-time data to assess the environmental impacts associated with all the stages of the lifecycle of a commercial product.

Dynamic LCAs offer several important benefits as compared to traditional LCAs:

- The use of real-time data allows companies to continuously monitor and adjust their processes, which leads to more effective and timely interventions.
- Having a comprehensive, real-time view of key metrics helps teams better engage and collaborate with suppliers, especially when hot spots emerge.
- When integrated with other digital solutions, such as digital twins, a dynamic LCA can inform scenario planning, helping companies simulate the environmental impact of various strategies and decisions.
- Continuous monitoring enables continuous improvement—allowing companies to iteratively enhance their processes and reduce emissions more effectively over time.

3 core components of a Dynamic LCA

What do companies need to enable a Dynamic LCA? Here we explore the three foundational capabilities companies need to take their assessments to the next level:



Data lake:

A centralized data repository that incorporates structured and unstructured data from a variety of sources, including enterprise systems, production systems and external sources



LCA calculation engine:

An automated tool that performs the computational analysis required for lifecycle assessments



Al-enabled information support: A support layer that leverages intelligent

technologies to aid in decision-making



Supply chain management

Improving supply chain sustainability through data management

High quality data management allows for more efficient, traceable, agile and competitive supply chains. Cognizant works with leading CP brands to create high-performing solutions, leveraging nextgeneration digital technologies.

In this section, we will explore Al use cases, vendor management solutions, and lastmile delivery strategies that can help organizations achieve more sustainable supply chains.

Use cases

Data analytics and Al can be used for Al-enabled product innovation, sustainable supply chain optimization, predictive maintenance, improved asset and process productivity and more.

Domain	Details	Real-world example
1. Al-enabled product innovation	 Market research and trend analysis Design optimization Personalization and customization 	Al-enabled product innovation empowers companies to drive creativity, efficiency and competitiveness in the product development process, leading to the creation of more innovative, customer-centric and sustainable products.
2. Sustainable supply chain optimization	 Assessing supplier sustainability data and sourcing based on sustainability metrics Decision support to optimize sustainability metrics within the supply chain 	Brands work with external organizations to ensure the materials they used are sourced in a sustainable and ethical manner and that the suppliers they partner with act in accordance with their ESG goals and sustainability metrics.
3. Sustainable facilities	Space planningEnergy managementWater usage	Sustainable facilities are designed, constructed and operated in an environmentally responsible and resource-efficient manner. They also play a crucial role in reducing carbon emissions, conserving natural resources and promoting sustainable living practices.
4. Predictive maintenance	 Real-time monitoring Driver behavior analysis Vehicle performance and maintenance scheduling Driver training and incentives 	Predictive maintenance algorithms allow companies to analyze vehicles to predict maintenance issues before they occur, extending the lifecycle of the vehicle and reducing operating costs.
5. Improved asset and process productivity	Automating tasksOptimizing resource allocation	Al algorithms can predict fluctuation in customer demand, allowing manufacturers to adjust production levels accordingly.
6. Waste reduction	 Optimizing waste collection routes Identifying opportunities for recycling or reduction 	Waste management companies can use data analytics to analyze waste generation patterns, identifying areas with high waste volumes, allowing them to optimize waste collection schedules and routes.
7. Fleet optimization	 Route planning and optimization Fuel management Load optimization Asset utilization Vehicle tracking and telematics 	Al-powered telematics systems can analyze real- time data to provide feedback to drivers on how to implement fuel-efficient practices by monitoring their speed, acceleration and fuel consumption.

Enhancing vendor management through environmental responsibility

Limited control and visibility into the sustainability practices of suppliers and partners pose a significant challenge for CP brands. Vendor management plays a critical role in ensuring products and services are ethically and responsibly sourced.

Access to an accurate and reliable data foundation is vital for organizations to make informed procurement decisions. Enhanced data management processes impact the ability to gather, aggregate and integrate operational and supply-chain data to assess and forecast organizational risks, including impacts on the climate and natural resources.



ESG integration allows brands to identify risks early on and prevent supply chain disruptions. With the rise of ESG reporting requirements, brands should consider integration to avoid legal consequences, fines and reputational damage.

Eco-conscious consumers prioritize brands who offer sustainable products and services when making purchasing decisions.

Despite these benefits, CP brands have been slow to make progress on this front. A study conducted by EcoVadis found that most companies still rely on manual integration for tasks like sourcing and selecting new suppliers, managing supplier relations and contracting suppliers.

However, as regulations tighten and as the industry adopts more stringent sustainability policies, organizations will need to act with urgency to align their procurement software with their ESG goals to stay competitive within their respective industries.

How effectively are you integrating ESG data into your procurement processes?



Respondents were asked whether they have digitally or manually integrated ESG data into the following practices (n=380).

Image source: Barometer 2024 : Sustainable Procurement strategy benchmark report (ecovadis.com)

Strategies for last mile delivery success

Last-mile delivery is anticipated to rise by 78% by 2030, introducing a 36% increase in delivery vehicles across the world's top 100 cities. Yet, CP brands must balance customer's increasing expectations for fast, frictionless shipping experiences with their desires for sustainable products and services.

Brands can optimize last-mile delivery by implementing the following strategies:



Route optimization

Brands should use AI and optimization software to recommend delivery routes, keeping in mind factors like traffic conditions, delivery locations and time windows.



Utilizing 3PLs

Brands should consider partnering with third-party logistic providers or courier services during peak demand periods to optimize their delivery operations.



Other sustainable practices

Minimizing package waste, using electric vehicles, bundling purchases, and leveraging parcel lockers for delivery are several ways brands can advance their sustainability efforts.



Click-and-Collect options

By offering click-and-collect or in-store pickup options for customers who prefer to pick up their orders from nearby locations, brands can reduce delivery costs and miles driven, while simultaneously driving foot traffic to their brick-andmortar locations.

5 ways technology is enabling brands to achieve greater sustainability across their supply chains

Enabling greater visibility into suppliers' emission data and other ESG metrics

Software and data analytic tools allow organizations to evaluate and compare suppliers' carbon footprints, resource use and labor practices to make more informed contractual decisions. Additionally, organizations can also evaluate if suppliers' practices align with their supply chain diversity, circularity and social responsibility goals.

2

Tracking environmental impact of materials

Digital tools enable organizations to track the environmental impact of extraction, production and transportation of raw materials, allowing them greater insight into the environmental impact of their products.

Reducing emissions with route tracking

Internet of Things (IoT) devices and route optimization software leverage AI to plan and track logistics and transportation routes, helping to minimize fossil fuel emissions and miles driven.



Enhancing traceability with blockchain technology

Blockchain technology can be harnessed to establish a secure record of goods' traceability and ownership across the supply chain. This enables greater visibility into how products are sourced and if labor and human rights standards are being upheld. -

Anticipating disruptions in logistics

Supply chain optimization tools allow organizations to respond to disruptions and changes in demand faster and with more agility, helping to reduce waste and minimize the impact on the environment.

Transforming supply chain management for the next generation

Cognizant engineers some of the largest and most complex programs to define next generation capabilities for supply chains. Watch this video to learn how we're redefining next-generation digital supply chain capabilities for our clients.



Case studies

Sustainability in action

Case study: Efficient warehouse Automated equipment warehousing

Cognizant partnered with a multinational food and beverage company to automate equipment warehousing. As part of the program, we developed a mobile app that integrates with existing systems to maintain accurate records, track equipment across locations, diagnose and evaluate equipment, and manage shipping for over 1600 field service technicians.

- \$20M minimum projected reduction in onsite capital
- 100% digitized tracking of assets and parts

Case study: Consumption Energy management and food waste reduction

Cognizant partnered with one retail chain to strengthen grocery sales through IoT technology and AI. As part of the program, the retailer selected a device that interacts with refrigeration equipment controllers to periodically retrieve sensor data, predict potential problems, and prevent food spoilage. The platform also monitors energy use and optimizes the supply chain.

- \$40M reduced operating costs
- Automated 87% of work orders
- Reduced average response times from 36 hours to 4 hours



Energy management

Effective energy management: Driving sustainability beyond energy savings

Energy management is a critical component to meeting ambitious climate commitments. However, many CP brands and retail organizations lack the necessary digital capabilities and robust infrastructure required to achieve these goals effectively, especially when it comes to data.

In this chapter we explore the challenges companies are facing as they embark on their energy management journey and the steps they can take to create a successful, scalable program.



Why CP brands are struggling to reach energy management goals

	Achieving stakeholder buy-in and a change management plan
Sustainability	Identifying meaningful projects and securing budget
challenges	Navigating the ethical challenges and risks of carbon offsets and renewable energy credits
	Proving impact and progress to internal and external stakeholders
	Maintaining security and core functionality of the systems
IT challenges	Updating or integrating legacy systems
	Enabling data integration and extraction
	Determining best-fit tools to support all departments
	Low-quality data limits visibility as well as operational improvements through computational processes (modelling and AI)
Operations	Inconsistent data can hide faulty devices and overconsumption
challenges	Lack of continuous monitoring can lead to missed improvement opportunities

Transforming utility bill management with OCR technology and Al

CP companies are increasingly turning to artificial intelligence (AI) and optical character recognition (ORC) technologies to streamline utility bill management and accelerate their sustainability goals.

By tracking and analyzing energy use, emissions, and other sustainability metrics, brands can set targets, monitor progress, and ensure alignment with ESG goals. Scan and store technology has several environmental benefits, including:

Reduced paper usage

Digital receipt management can help businesses minimize environmental impact associated with traditional receipt production



Energy and water efficiency

Digital processes powered by ORC reduce the need for physical printing



Waste reduction

Reduced printing leads to less waste in landfills

Advanced billing software provides real-time usage insights and streamlines operational processes through task automation. For example, Al models excel at predicting maintenance needs and are designed to identify potential issues faster so that CP brands can make more informed decisions.

Additionally, Al algorithms effectively manage renewable energy sources and fossil fuel emissions by analyzing historical and real-time data. These insights have the potential to drive more efficient energy production, reduce reliance on fossil fuels and diminish carbon emissions and environmental waste.

4 key elements to enable a comprehensive energy management program

To achieve energy-related emissions savings, companies must develop a comprehensive energy management strategy that unites sustainability, operations, and IT teams. This integrated approach relies on four key steps:

1. Acquire granular data.

To effectively identify and develop effective energy management opportunities, companies must acquire granular data. This requires automated, real-time energy monitoring and data collection systems that provide detailed insights into energy consumption. By integrating these systems with other data sources, companies can get a comprehensive view of energy usage, identify inefficiencies and discover areas for improvement.

Improving data accuracy also enables companies to generate customized energy goals and alerts tailored to specific needs, leading to more effective energy-saving measures. Additionally, improved data granularity enhances the functionality of existing Energy Management Systems (EMS) and Building Management Systems (BMS), enabling organizations to optimize performance and achieve better energy efficiency by leveraging their current infrastructure while integrating new capabilities.

2. Host data on an Energy Management Platform.

To maximize the benefits of granular data acquisition, it is crucial to host this data on an advanced Energy Management Platform (EMP). Such a platform should feature a vertical-specific user interface (UI) with personalized dashboards that allow users to access relevant data and insights, support real-time energy consumption monitoring, identify inefficiencies and opportunities for optimization and offer robust reporting capabilities.

The EMP should also support the integration of public data sources, which could help organizations enhance decarbonization strategies based on a wider array of input.

3. Identify projects and opportunities.

To successfully implement an energy management program, companies must prepare for change. To achieve this, they should evaluate new infrastructure elements with respect to existing systems and embrace science-based suggestions and recommendations to ensure energy management strategies are grounded in reliable data and proven methodologies.

In addition, companies should leverage the expertise of experienced SMEs and use their industry knowledge to update software, systems and processes to reflect the evolving regulatory landscape and to ensure all energy management practices remain compliant with the latest standards.

4. Prioritize investment and manage pipeline maturity.

As part of the energy management program, companies must prioritize their efforts, focusing on high-impact, low-risk projects and opportunities that align with business goals and support regulatory requirements. Companies should consider the following elements to ensure the energy management pipeline remains robust and adaptable to changing conditions.

For instance, companies should leverage optimization features and develop scalable best practices to ensure that actions are standardized across all sites. Additionally, they should conduct regular risk assessments and monitor key metrics to ensure program goals are met and to maintain compliance with relevant regulations.

Culture and change management

Creating a culture of sustainability

Creating a culture of sustainability is essential for guiding and advancing corporate ESG programs. By fostering strong leadership, ensuring accountability, managing risks, and embedding sustainability into the organizational culture, companies can drive meaningful environmental, social and governance outcomes.

This comprehensive approach empowers businesses to meet their ESG goals while fostering long-term resilience and value creation. Here we offer design recommendations across four key areas:

Design principles



Accountability

- Define clear identification of roles and responsibilities
- Establish ownership of metrics with business units
- · Develop data products in accordance with users' needs

Risk

- Establish ownership of data reporting with the business unit
- Work with the Center of Excellence (COE) to provide the framework to manage and address risk



overall priorities

Commit to transparency over development paths for ESG elements

Establish ownership of ESG strategy, materiality, and

Provide clear direction setting and advocacy

Incorporate ESG into the core of operations

Leadership

Leverage and contribute to existing L&D frameworks and pathways

Building a sustainability COE at your organization

Achieving sustainability goals are dependent on the collective efforts of IT, ESG teams and leadership working together toward a common goal of promoting environmental and social responsibility.

By collaborating and aligning efforts, these three parties can create a comprehensive and effective sustainability practice that promotes the culture of sustainability and creates a COE for others in the organization to look to.

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COE key stakeholder responsibilities

IT/Technology Teams

- Advocating for and implementing sustainable technology solutions
- Providing training and resources on how to leverage technology for more sustainable operations
- Developing tools for monitoring and managing resource consumption

ESG Teams

- Defining ESG strategies and targets
- Implementing ESG initiatives
- Facilitating reporting across the enterprise
- Fostering a culture of sustainability and responsible decision-making
- Communicating sustainability
 initiatives and goals to employees
 and business partners

Business Leadership

- Setting vision and direction of sustainability initiatives
- Providing resource allocation and support
- Showcasing value of sustainability investments and reinforcing the importance of the initiatives to shareholders

5 steps to prepare for sustainability transformation

Secure leadership commitment

Get alignment from executive leadership, IT and ESG teams and work cross-functionally to set clear visions, goals, and strategies for sustainability, keeping in mind your organization's missions, values and culture.

Conduct assessment and benchmarking

Audit your organization's current environmental impact, social responsibility and governance structures to identify targets for transformation.

Set targets and KPIs

Establish clear sustainability targets, key performance indicators and metrics to ensure progress toward sustainability goals and regularly track the performance to ensure a culture of accountability and continuous improvement.

Commit to reporting

Empower employees to identify and implement sustainability initiatives and be transparent on your company's progress toward sustainability goals and initiatives.

Engage with stakeholders

Regularly communicate with customers, suppliers, investors, community members and employees to gather feedback, build partnerships and accelerate your company's commitment to sustainability.

Only **18**% of large organizations have a specific, comprehensive, sustainable IT strategy with well-defined goals and target timelines.

Our offerings

Reducing impact, increasing profits with sustainable solutions from Cognizant

Our sustainability experts collaborate to provide the optimal strategy, design, technology, data and partnerships to accelerate transformation and drive sustainability initiatives for CP brands.

Our offerings are grouped into three strategic areas of focus:



Organizational

We provide tailored strategies, innovative technology solutions and consulting expertise to help organizations achieve sustainable practices and achieve measurable impact.

Specific offerings:

- Sustainable Pathway
- ESG Data Management and Reporting



Value chain

We conduct comprehensive assessments, identify areas for improvement and leverage data analytics and digital solutions to optimize supply chain processes and enhance transparency across the entire value chain.

Specific offerings:

- Sustainable Supply Chain
- Circular Economy & Sustainable Products



Operational

We leverage advanced data analytics and technology solutions to streamline processes, reduce waste and drive efficiency improvements that align with environmental stewardship and social responsibility objectives.

Specific offerings:

- Sustainable Manufacturing & Operations
- Sustainable IT

Conclusion

Net zero is fast becoming the corporate norm with almost half of Forbes 2000 companies (929) having publicly set such targets as of June 2023. Yet, only 4% of company net zero commitments meet the revised UN guidelines set in June 2022, suggesting that enterprises are underprepared for the evolving regulatory landscape.

Despite the lack of preparation, organizations echo the importance sustainability plays in driving business growth and maintaining brand reputation. To accelerate their progress toward achieving their sustainability goals, organizations will need to find a way to integrate digital solutions into their core technology infrastructure to harness the power of speed, automation and Al.

To learn more about how Cognizant is helping CP brands achieve their sustainability goals, visit our website <u>here</u>.

69% of CEOs view sustainability as a leading business growth opportunity in 2024.

Our expert



Dana leads advisory services for sustainability, smart products, smart manufacturing, PLM and mobility. With 25+ years of experience, she is driven to bring out the best in diverse teams to make a difference in the world.

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Additional resources

To see how we're helping CP brands implement stronger sustainability practices, visit:

- For retailers, sustainability is a two-lane street
- How to attract LOHAS, the \$427b sustainability-conscious customer segment
- For US businesses, sustainability is all about growth
- Sustainability demands: 6 keys for retail and consumer goods
- The future of retail in the net zero age

Services/Offerings

To learn more about our sustainability solutions, visit:

- Cognizant Sustainability Services
- Cognizant Sustainability Resilience
- Cognizant ESG



Social shares



Sources

- 1. Just 24% of companies say they are prepared to meet impending sustainability requirements, Bain & Company survey finds | Bain & Company
- 2. cdn.cdp.net/cdp-production/cms/reports/documents/000/005/554/original/CDP_SC_Report_2020.pdf?1614160765
- 3. Barometer 2024: Sustainable Procurement strategy benchmark report (ecovadis.com)
- 4. WEF_Future_of_the_last_mile_ecosystem.pdf (weforum.org)
- 5. Net zero targets among world's largest companies... | Net Zero Tracker
- 6. Gartner Survey Reveals 69% of CEOs View Sustainability as a Growth Opportunity



Cognizant (Nasdaq-100: CTSH) engineers modern businesses. We help our clients modernize technology, reimagine processes and transform experiences so they can stay ahead in our fast-changing world. Together, we're improving everyday life. See how at www.cognizant.com or @Cognizant.

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