Deloitte.

Analytics for the sustainable business

In an age where companies across industries are placing increasing emphasis on sustainability and climate change, leaders are looking for more and better information to guide their decisions on sustainability-related issues and initiatives. Already, many companies are gathering increasing amounts of sustainability-related data across their operations, ranging from measurements of their greenhouse gas (GHG) emissions to logs of their employees' travel miles to records of their facilities' energy consumption patterns. We believe that the next logical step is for organizations to implement business intelligence and data analytics capabilities that can help turn raw sustainability data into actionable business insights. Through analytics, leaders can obtain the fact-based guidance they need to make informed decisions about how their organizations approach sustainability and climate change issues.

By applying analytics to reliable sustainability data, leaders may be able to more effectively:

- Identify which of their sustainability decisions, actions, and investments are actually achieving their intended goals
- Detect signals of sustainability-related risk or opportunity early, even when those signals are faint or hidden in exploding volumes of data
- Determine the possible outcomes associated with different courses of action
- Allocate resources to efforts that have the greatest likelihood of satisfactory returns
- Understand the interplay of economic, social, and environmental factors associated with the entire value chain of a company's products and services
- Take into account the perspectives, behaviors, and needs of multiple stakeholders, recognizing the dynamic nature of stakeholder expectations and appreciating the nature, implications, and impacts of changes

The value of sustainability analytics

One company with 80 facilities around the globe installed a technology solution to track various metrics related to the company's sustainability goals. Among the items tracked were each facility's level of energy usage and the amount of travel undertaken by individual functions and business groups. By analyzing the results, the company was able to identify facilities that consumed conspicuously large amounts of energy, as well as those where the cost of travel per employee was much higher than average. A closer look at these "outlier" facilities, again drawing on the data collected by the technology solution, revealed a number of opportunities to reduce energy usage and/or employee travel, resulting in substantially lower operating costs. The data gathered through the sustainability technology solution was thus critical in enabling the company to reduce costs as well as to shrink its carbon footprint.

We expect the current strong and growing interest in analytics, coupled with heightened corporate emphasis on sustainability and climate change, to lead to a distinct type of new capability we call "sustainability analytics."

Sustainability analytics: What and why?

Sustainability analytics, in a broad sense, is an approach that aims to effectively use technology to collect, disseminate, analyze, and use sustainability-related information across the enterprise. Technology is used to gather, store, and aggregate sustainability-related data; to facilitate the preparation of internal and external reports; to perform analytics on sustainability data to help leaders better understand the implications; and to present the results to leadership in a clear, easily understandable format. The overarching goal is to provide internal and external stakeholders with the high-quality information about sustainability they need in order to make informed decisions.

The need for sustainability analytics to organize, manage, and understand sustainability-related data is becoming increasingly clear. Leading organizations are discovering that their current applications and architectures are not sufficient for the tasks at hand, let alone the challenges that lie ahead. Today, many organizations manage sustainability data on an ad hoc basis, often with manual, error-prone processes. A growing number of organizations have already experienced the problem of business-unit heads having different data from the chief sustainability officer, or the CEO having different data from a regulator. Even organizations that employ environmental management information systems (EMIS) to report on certain environmental or emissions metrics are finding these solutions inadequate for managing sustainability at an enterprise level, as many of these solutions were deployed on a plan-specific, unit-specific, or otherwise local basis.

More and more organizations are finding that efficient and effective management of sustainability information requires careful data management and enterprise-strength solutions to support a wide variety of informational needs, including operational forecasting, economic evaluations, and analysis of results. This requires an integrated, enterprise-wide approach, with implications for all parts of the application architecture. It is not about a single tool, or

Beyond "green IT"

What does information technology have to do with sustainability and climate change? Some people might say that it's all about "green IT" – but they'd only be partly right. While green IT efforts aimed at reducinwg the IT function's energy and resource consumption can yield tangible cost savings in addition to carbon footprint reductions, that's only a small part of the potential value technology can drive for a company's corporate sustainability and climate change program. To capture the rest of that value, leaders should embrace IT for sustainability, or ITFS – an approach that views technology as an essential enabler of a company's sustainability efforts

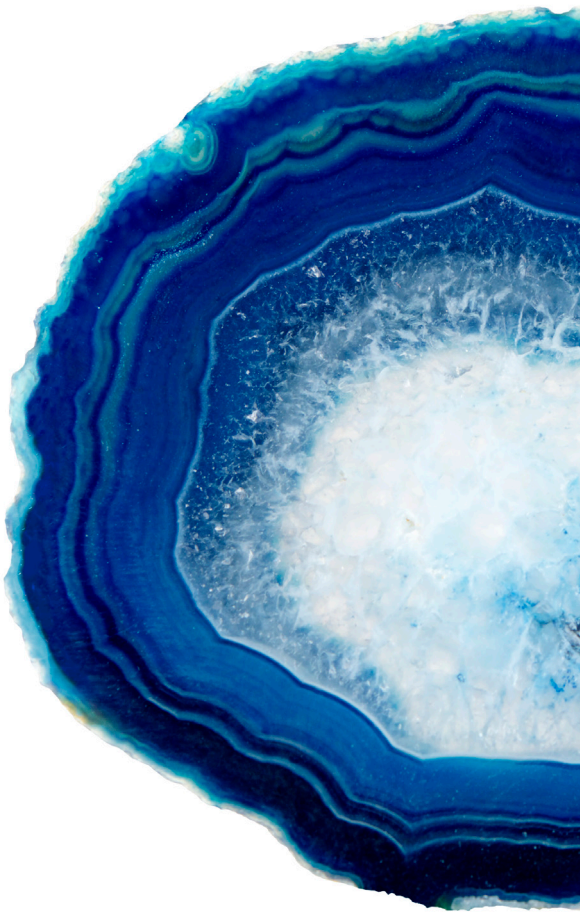
Planning and executing sustainability analytics requires broader thinking, structured planning, and multi-step implementations.

some “killer application” that meets all needs. It’s just not that easy. Planning and executing sustainability analytics requires broader thinking, structured planning, and multi-step implementations.

First priorities for sustainability analytics

We believe that companies adopting a strategic approach to sustainability analytics should focus initially on three priorities:

- **Automating reporting.** The automation of reporting is already a top priority for many enterprises, since automation can drive greater consistency and accuracy as well as enable cost savings. One key challenge in automating sustainability reporting is to address fundamental data governance and data management capabilities for sustainability-related data. To support effective governance, the automation of reporting must be viewed as an end-to-end process from the data’s initial creation and acquisition through its presentation in various forms to multiple users. For additional information on the need for sustainability reporting and analytics refer to "Envrionmental, social and governance reporting - Supporting informed decisions."
- **Monitoring operational performance.** Performance monitoring is another area of increasing interest and a vital capability for leaders interested in managing the effectiveness of an organization’s sustainability efforts. For example, some companies are deploying technologies to provide for real-time monitoring of energy usage or other operational metrics. This automated monitoring provides useful information to managers who are seeking to reduce energy usage. Such information can enable comparative analysis, identification of performance anomalies, and early warning of potentially adverse events. In addition, monitoring and making performance information visible can be a powerful aid in engaging employees, suppliers, customers, and other stakeholders who can influence performance against sustainability goals.
- **Enabling sustainable supply chains.** Sustainability considerations are new and significant variables in supply chain improvement. Just as the supply chain accounts for a large portion of a company's cost structure, it also accounts for a large part of a company's environmental and social footprint. Suppliers, even those hidden in the details of the supply chain, can account for a large part of energy usage or greenhouse gas emissions, and their activities may have other implications for an organization’s sustainability goals. Having the right systems and tools to enable sustainability data collection and monitoring through all steps of the supply chain is critical. The ability to collect sustainability data can be particularly important at the individual product line level, especially as lifecycle analysis becomes more mainstream.



Monitoring and making performance information visible can be a powerful aid in engaging employees, suppliers, customers, and other stakeholders who can influence performance against sustainability goals.

Don't think about tools first, or in a vacuum, without also considering the other elements of effective sustainability information management.

Getting started in a confusing market

Once an organization has decided to develop or enhance its analytic capabilities around sustainability, an immediate priority should be to transition from what are now largely manual and error-prone processes for managing sustainability data to automated, architected solutions to meet sustainability information needs. Relevance, accuracy, timeliness, and transparency are the desired attributes of sustainability information. Also, keep in mind that integrating sustainability into core processes and systems may require an organization to both add new activities – such as implementing new technology to measure energy usage – and make substantive changes to existing processes – such as modifying the vendor evaluation process to include considerations about candidates' sourcing practices.

Our advice is to take a disciplined approach to sustainability analytics. Don't allow short-term concerns to inappropriately limit your thinking or direct too much focus on new tools until you understand your needs, your capabilities, and your gaps. In other words, don't think about tools first, or in a vacuum, without also considering the other elements of effective sustainability information management. To start with, step back and assess your needs from an enterprise perspective while thinking about the long-term implications of new solutions and your company. Where will your organization be in three to five years? Where do you need to put the right kind of flexibility, scalability, and robustness in place to enable a truly integrated enterprise sustainability data strategy?

Here are some guidelines to help you move forward in your strategy development and planning:

1. **Employ a thoughtful strategy for managing sustainability information.** This will require collaboration between IT professionals and business leaders with functional sustainability knowledge.
2. **Work cross-functionally.** Have the team come together to develop principles, plans, architectures, and roadmaps, as well as the governance and management processes necessary to enable a value-driven program.
3. **Assess your current state and your goals.** Before defining the purpose-built sustainability software products needed to complete your architected solution, you may find it helpful to conduct a quick, current-state assessment of your readiness to meet sustainability information requirements. Consider a diagnostic of six factors, as described in the accompanying table ("Diagnostic framework").

Applying these three guidelines can lead to a thoughtful, well-structured assessment and reviews that can help you produce a roadmap for your journey. The good news is that such a diagnostic can be done in a matter of several weeks. The better news is that the journey does not require a "big bang" approach. Value can be added with measured steps, bite-sized projects, and prudent investments as long as an integrated, long-term vision and analytics strategy has been defined

Diagnostic framework

Factor 1: Strategy	Factor 2: Data management	Factor 3: Governance	Factor 4: Organization and skills	Factor 5: Information delivery methods	Factor 6: Tech architecture/ Infrastructure
• Strategic alignment • KPIs, baselines, goals and targets • Value definition	• Management framework • Scope and boundaries • Data availability • Data quality	• Ownership, account-ability, and controls • Audit and verification	• Business-IT coordination • Internal reporting capabilities	• Accepted standards and processes • Analysis of performance data • Reporting strategic alignment • Reporting process • Data refinement based on feedback	• Tools, applications, and systems

The thoughtful, strategic use of analytics can be a valuable asset in creating and managing an organization's sustainability and climate change efforts.

Take stock, then move forward

A holistic approach to sustainability analytics requires leadership to establish a vision for how sustainability fits into the organization's corporate strategy. Officers and board members should develop an understanding of what types of information they need in order to manage and oversee execution of their sustainability strategy. CIOs should work with the chief sustainability officer to gain insights about what types of information he or she will be asking for in the near future. Out of these explorations, the executive team can build a sound strategic foundation, and then carefully assess its ability to move the organization toward that vision. By understanding the organization's existing systems and architecture, as well as areas where opportunities for new analytic capabilities exist and will emerge, leaders can determine how to implement the right solutions, software, and processes that will create real value for the organization.

The thoughtful, strategic use of analytics can be a valuable asset in creating and managing an organization's sustainability and climate change efforts. It's not a simple transition, and anyone who says otherwise is trying to sell you snake oil in a fancy set of spreadsheets. But done well, it can help an organization more effectively take advantage of its sustainability efforts to enhance enterprise value. It's time for leaders to take advantage of the benefits that analytics has to offer for helping them make better decisions about their organizations' sustainability strategy and execution.

Contacts

Lee Dittmar
Deloitte Consulting LLP
+1 215 446 3692
ldittmar@deloitte.com

Chris Park
Deloitte Consulting LLP
+1 617 437 2215
chrpark@deloitte.com

Anthony Rydell
Deloitte Consulting LLP
+1 212 618 4532
arydell@deloitte.com

Teresa Wong
Deloitte Consulting LLP
+1 714 241 5156
terwong@deloitte.com