ARTHUR D LITTLE

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OVERCOMING THE CHALLENGES TO SUSTAINABILITY

Exploring the state of sustainability & the challenges to adoption

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* Strategy & Organization

EXECUTIVE SUMMARY

Sustainability is a top priority for most business leaders, leading to a constant stream of announcements around specific commitments and targets. Yet, there is a clear gap between talk and action. Nearly three-quarters (71%) of companies that participated in a major Arthur D. Little (ADL) study admitted that they either had no sustainability strategy in place or that it was not fully understood by their employees. Only half have modified how they manage their business, and just 8% have changed their business models.

Sustainability commitments do not seem to have the same urgency or rigor as other business objectives. Among companies participating in the survey, 65% do not link management incentives to sustainability performance and just 24% have structured plans, roadmaps, and milestones to achieve their goals.

These stark findings demonstrate that companies are struggling to embed sustainability in their operations, impacting their competitiveness and even business survival. In part, this is because truly becoming sustainable is a major transformation process spanning culture, planning, metrics, governance, reporting, and mindset. This Report analyzes the current state of sustainability and shares insights from Prof. Tima Bansal of Ivey Business School. It also sets out key recommendations to unlock the benefits of sustainability by adopting an ecosystem approach, integrating sustainability reporting, redefining culture, and focusing on innovation.

1. THE STATE OF SUSTAINABILITY IN ORGANIZATIONS

Driven by public and stakeholder pressure, sustainability has risen to the top of the business agenda for CEOs in all sectors. Demonstrating the focus from investors, nearly a third of shareholders (32%) supported social and environmental proposals at US company shareholder meetings in 2021 — up from 21% in 2017, according to the Sustainable Investments Institute.[1] The Securities and Exchange Commission (SEC) has proposed new rules that mandate that all publicly traded companies disclose climate change risks in their regular filings.[2] Similar regulatory and reporting initiatives are in place in the EU and Asian countries.

This has led to a wealth of commitments covering reporting against sustainability metrics and setting targets for improvement. For example, 45 of the 50 largest companies in the S&P 500 Index now report their carbon disclosures to the CDP (formerly the Carbon Disclosure Project) and 31 have committed to achieving net-zero carbon emissions.[3]

While acting on sustainability initially was perceived as part of being a "good corporate citizen," it is now evident that properly adopting sustainability within an organization can deliver both top-line and bottom-line benefits, leading to higher shareholder returns. Among benefits leaders in sustainability have experienced recently are faster growth, reduced cost of debt financing, lower employee turnover, and increased resilience in the face of business risks and market challenges, as well as improved corporate reputation and branding.

ADL HAS BEEN AT THE FOREFRONT OF SUSTAINABILITY FOR MANY DECADES

However, the road to introduce and implement sustainability within an organization is certainly not without challenges. Many companies have made commitments — but are they able to deliver on them successfully?

ADL has been at the forefront of sustainability for many decades, helping clients and organizations to understand and meet sustainability imperatives. As well as continuous client experience across the globe, ADL has a long history of influential research, including key international surveys on the integration of sustainability and innovation management carried out in partnership with leading global organizations such as the World Business Council for Sustainable Development and the World Materials Forum.[4]

Building on this tradition, ADL recently ran a global study exploring organizations' current maturity in integrating sustainability into their business models (see Appendix for full details of methodology and sample). The study went beyond the buzz to see what is actually being put in place — and what is not. The headline findings are of a business world in transition.

1 Kerber, Ross, and Simon Jessop. "Analysis: How 2021 Became the Year of ESG Investing." Reuters, 23 December 2021.
2 "SEC Proposes Rules to Enhance and Standardize Climate-Related Disclosures for Investors." Press release, US Securities and Exchange Commission (SEC), 21 March 2022.
3 Bansal, Tima. "Big Business Should Be at the COP26 Table." *Forbes*, 30 October 2021.
4 Keeble, Justin, et al. "Arthur D. Little Innovation High Ground Report — How Leading Companies Are Using Sustainability-Driven Innovation to Win Tomorrow's Customers." Arthur D. Little, 2005; and Brown, David, et al. "Building a Better Future: Innovation, Technology, and Sustainable Development." World Business Council for Sustainable Development, 2000.

On the positive side, companies see the benefits of sustainability across multiple dimensions and how it increases their attractiveness to customers, employees, and investors (see Figure 1). However, the majority have yet to see a direct impact on financial results. This is due to a disconnect between business operations and sustainability, with many companies unable to link sustainability performance to financial or innovation metrics and reporting systems. Only 40% of respondents apply any externalities/social return on investment or creating shared value evaluation models when making business and strategic decisions.

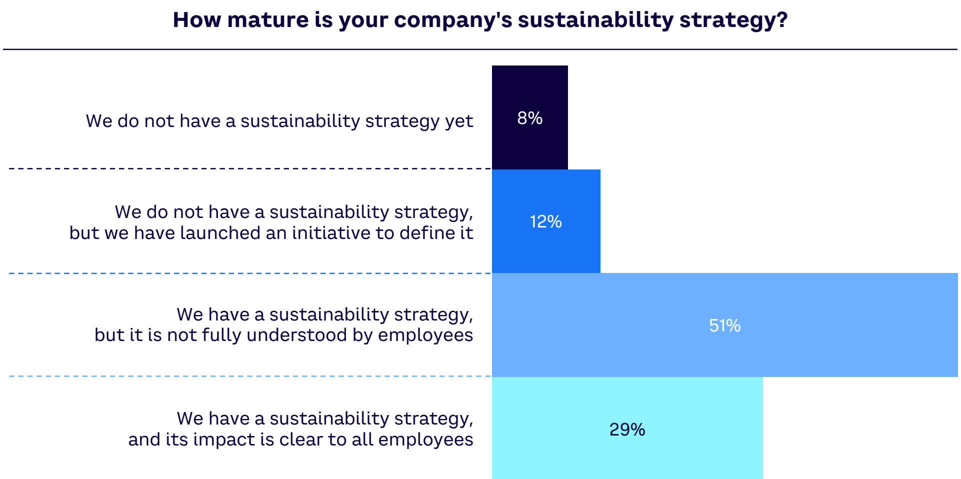
Despite understanding the benefits, a fifth of companies (20%) still do not have a sustainability strategy in place — and less than 30% believe the impact of that strategy is clear to all employees (see Figure 2). The majority are struggling to embed sustainability within the organization, and it is thus currently disconnected from staff, strategy, and operations.

This failure to take meaningful action and embed sustainability at the center of the organization does not only cause potential environmental and social harm; it also holds back business performance.

Figure 1. Corporate benefits of sustainability

Source: Arthur D. Little

Figure 2. Sustainability strategy maturity



Source: Arthur D. Little

2. UNDERSTANDING THE CHALLENGES TO EFFECTIVE BUSINESS SUSTAINABILITY

Achieving sustainability is not a straightforward task. In today's complex value chains, being able to move beyond making commitments to successfully implement sustainability programs requires a transformative approach based on overcoming six key challenges, as shown in Figure 3.

SUSTAINABILITY STRATEGY NOT UNDERSTOOD

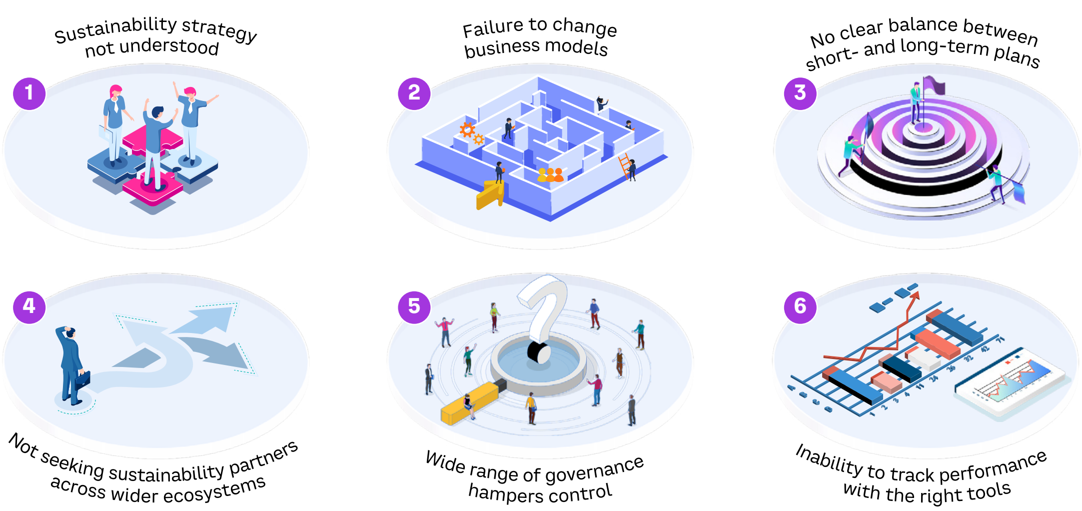
Most sustainability strategies are not yet mature when it comes to being understood by those that are on the front line of delivering them: the employees. Strategies are either not in place or are not understood by staff within 71% of companies. Even among those with a strategy in place, nearly two-thirds admit its impact and direction are not clear to employees (see previous Figure 2).

Three factors stand out as causes for this gap: a lack of commonly understood internal sustainability standards, poor communication, and lack of incentives.

Unclear internal standards undermine decision making

Currently, many organizations suffer from a lack of commonly understood internal standards when it comes to measuring sustainability performance. Companies need to clearly articulate what they are going to measure, what the KPIs are, and what "good enough" performance looks like for the organization. If this is unclear, employees, particularly those who are not in central sustainability teams, will not be able to make informed decisions in their day-to-day activities and will not see how they can contribute to overall sustainability targets.

Figure 3. The challenges to effective business sustainability



Source: Arthur D. Little

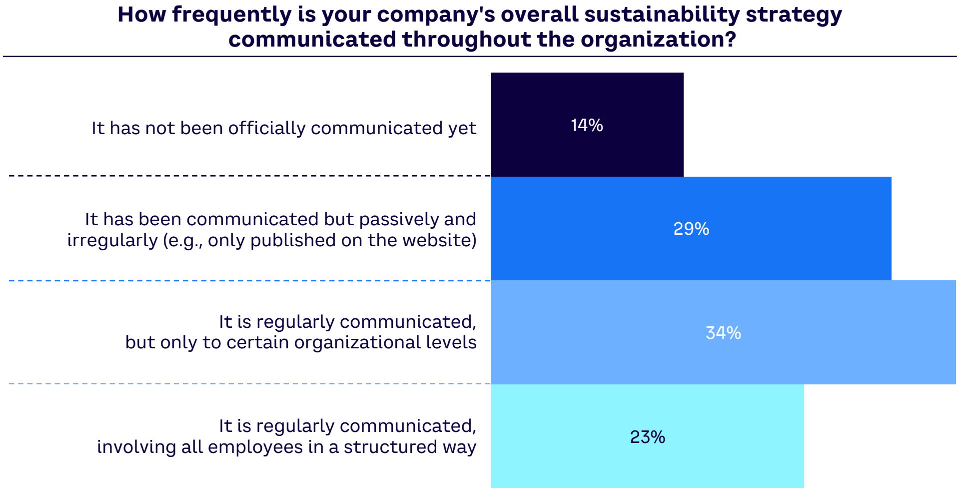
Poor communication holds back understanding

As Figure 4 demonstrates, over three-quarters (77%) of organizations have not communicated their strategy at all, have communicated irregularly, or have shared it only with specific organizational levels.

Becoming sustainable is a major cultural change for many organizations, meaning that it requires an ongoing dialogue with staff to ensure they understand objectives, their role in achieving them, and can measure progress toward success.

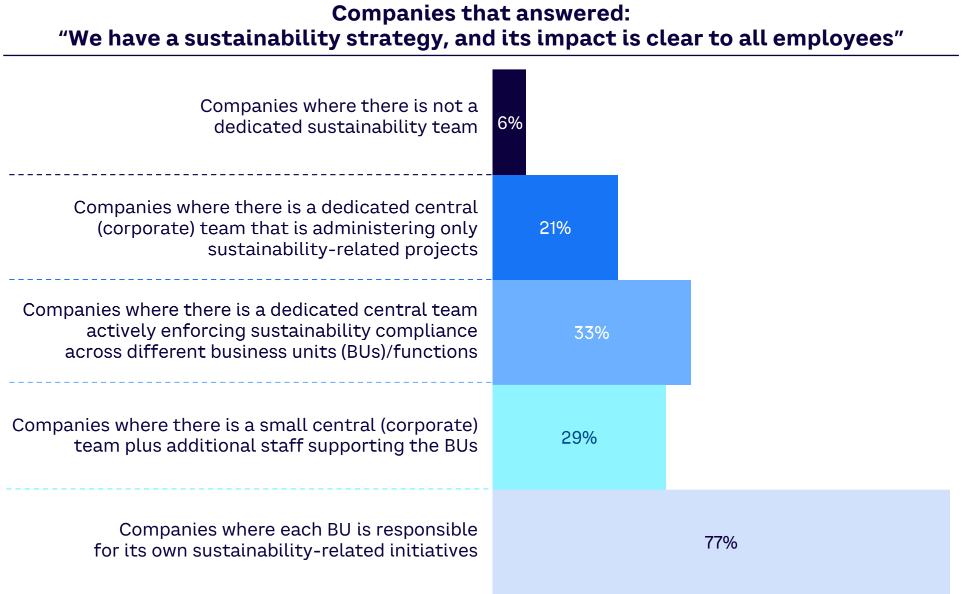
Interestingly, alignment is much more prevalent when organizations have made individual business units (BUs) responsible for their own sustainability initiatives (see Figure 5). Over three-quarters (77%) of this group said their employees understood their sustainability strategy. However, the way sustainability is organized needs to be well-defined and anchored into the wider organization. It needs to fit with how the organization operates and governs itself. Otherwise, activities will not be aligned, particularly around standards on what is "good" performance (i.e., which indicators to follow and what thresholds need to be met) and how management incentives reinforce the right behaviors. It is possible that business unit activities could even counteract or undermine corporate sustainability initiatives.

Figure 4. Communication frequency of sustainability strategy



Source: Arthur D. Little

Figure 5. Employee understanding of sustainability based on organizational structure



Source: Arthur D. Little

Two-thirds do not incentivize sustainability

Along with effective communication and strong governance structures that anchor sustainability in the organization, linking sustainability progress to incentives is proven to change behavior and drive change. This starts at the top and then cascades down into the objectives of all staff. However, two-thirds (65%) of companies do not currently link senior management incentives to sustainability performance (see Figure 6).

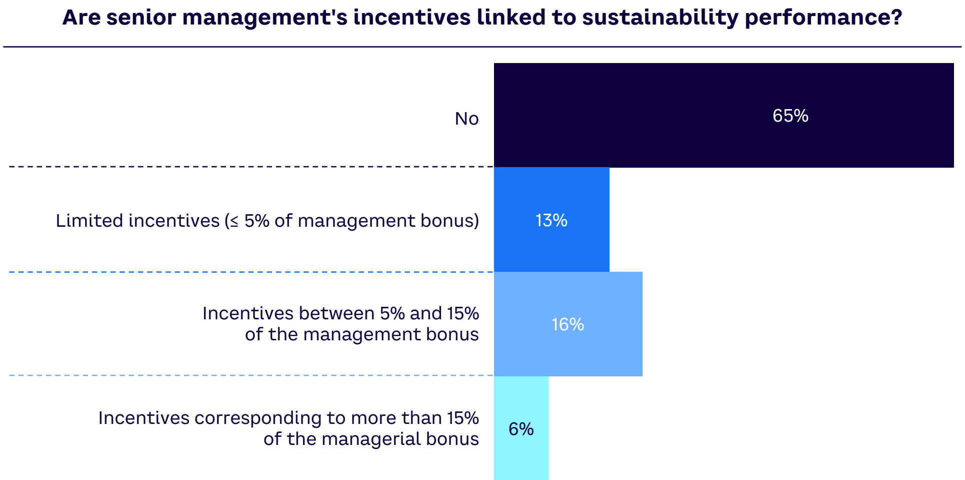
Fixing the issues of communication and incentives is at the heart of engaging employees at all levels with sustainability, ensuring they both understand the strategy and are enthusiastically involved in its execution. Forthcoming legislation makes this a priority — the European Commission's sustainable corporate governance initiative will oblige larger companies operating in the EU to link bonuses to environment, social, and governance (ESG) impacts.

FAILURE TO CHANGE BUSINESS MODELS

Sustainability is an opportunity for organizations, but to be successful it must be central to both new and existing business models. Simply seeing it as another cost to be borne or regulation to be met will not deliver its real, transformative benefits.

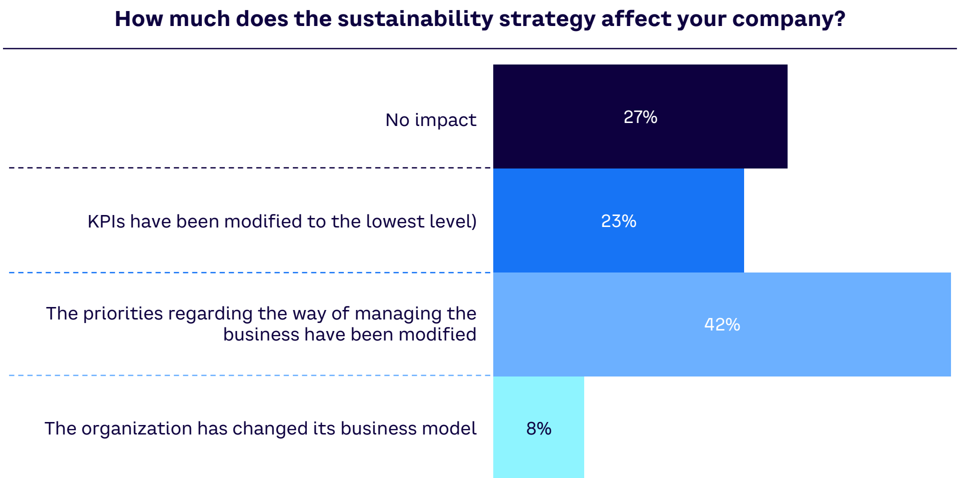
However, just 8% of respondents say that they have changed their business model due to sustainability. Most organizations have simply tweaked existing ways of doing business, as shown in Figure 7.

Figure 6. Incentivizing sustainability performance



Source: Arthur D. Little

Figure 7. Impact of sustainability strategy on company



Source: Arthur D. Little

While some businesses (such as in digital industries) may not need to change their models, the majority (59%) of survey respondents are in sectors such as automotive, energy, chemicals, engineering, and transport that are heavily impacted by sustainability, and are required to make significant changes. This lack of a profound systemic change further demonstrates the current lack of maturity around sustainability. To gain its advantages, organizations must change models and ways of operating, often dramatically, rather than continuing business as usual with minor modifications. Sustainability targets, such as around carbon emissions, cannot be met without starting to take major action now.

NO CLEAR BALANCE BETWEEN SHORT- & LONG-TERM PLANS

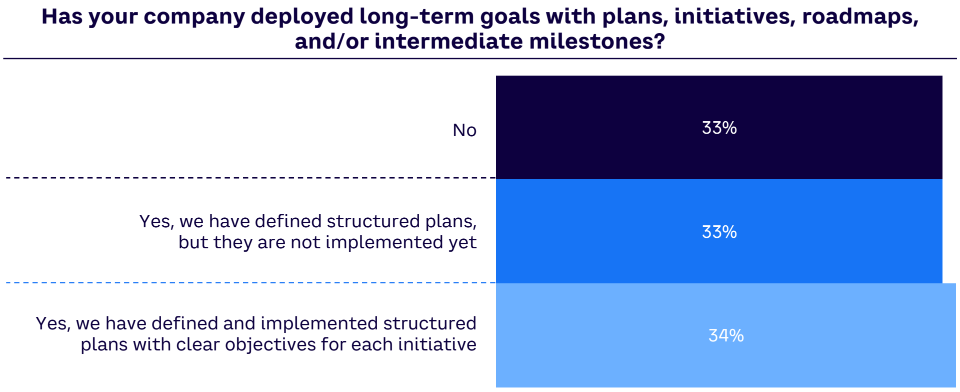
For sustainability strategies to deliver, it is vital to set a mix of long-term (20, 30, or 40 years) and short-term goals. Simply putting a stake in the ground and saying you will achieve net-zero by 2050 is not enough — you need a plan that maps the short-term steps that will get you there. It is critical to start now with a concrete strategy and detailed plans and to involve your wider value chain. For example, in areas such as carbon, emissions are cumulative, meaning companies need to make a big effort now to invert the trend and start to lower emissions if they are to hit science-based targets by 2050.

Insufficient detail & scope in planning

A third of organizations have not yet put long-term plans and goals in place, with a further third defining plans but not yet deploying them (see Figure 8).

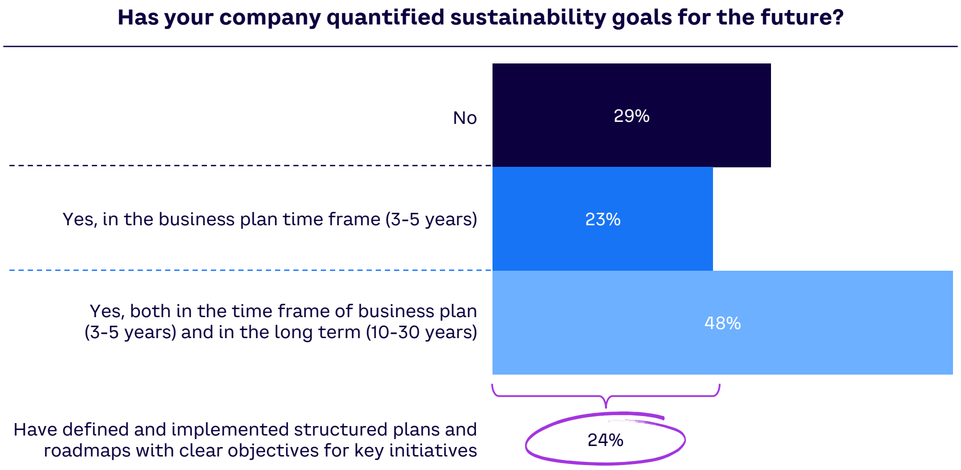
Despite the need to balance long and short timeframes, less than half (48%) of organizations have considered both when creating business plans (see Figure 9). Even here there is a worrying lack of detail — just half of these (24%) have defined and implemented structured long-term plans with clear objectives for every initiative.

Figure 8. Deployment of long-term goals



Source: Arthur D. Little

Figure 9. Quantifying future sustainability goals



Source: Arthur D. Little

This echoes other research findings. For example, the "Corporate Climate Responsibility Monitor 2022," from the New Climate Institute and Carbon Market Watch reports that headline pledges for emissions reductions are often ambiguous or limited, with just 12% of companies surveyed clearly committing to deep decarbonization of over 90% of their full value chain emissions by their set target dates.[5]

Regulations will again demand prompt action. For example, the EU's Corporate Sustainability Reporting Directive (CSRD) requires all large companies (an estimated 50,000 entities) to publish regular reports on their environmental and social impact activities, following a common reporting framework.[6]

Failure to set challenging goals for GHG & carbon emissions reduction

Achieving net-zero for greenhouse gas (GHG) emissions should be a clear first target for most businesses. Yet 43% of companies have not yet set a strategy (see Figure 10).

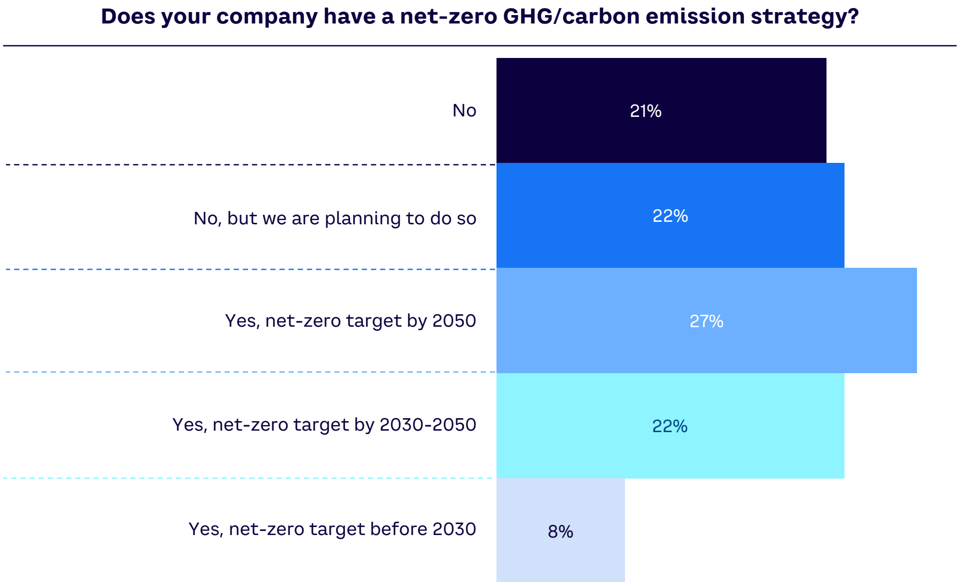
Targets vary, as Figure 10 illustrates. While many are long-term, reaching up to 2050, the nature of science-based targets means they need to be backed up by short- and medium-term plans to show how companies will achieve their overall net-zero aims.

For example, companies that adopt the Science-Based Target initiative (SBTi) Net-Zero Standard are required to specify both short/medium-term and long-term science-based targets.[7] This usually requires making quick emissions cuts as soon as possible, then halving emissions by 2030, and finally coming very close to zero emissions by 2050 with any residual emissions fully neutralized through offsetting.

To meet their targets, organizations need to start by estimating their current GHG emissions. This is challenging for most industries as those emissions occur across their value chain, upstream and downstream of company production facilities. Therefore, it is crucial to involve the wider ecosystem (and its emissions) in improving performance, as we will discuss below.

> ACHIEVING NET-ZERO FOR GREENHOUSE GAS AND CARBON EMISSIONS SHOULD BE A CLEAR FIRST TARGET FOR MOST BUSINESSES

Figure 10. Progress on net-zero GHG/carbon emissions strategy



Source: Arthur D. Little

5 "Corporate Climate Responsibility Monitor 2022." New Climate Institute, 7 February 2022.
6 "The Corporate Sustainability Reporting Directive (CSRD)." Plan A, 2 February 2022.
7 "The Net-Zero Standard." Science Based Targets (accessed May 2022).

NOT SEEKING SUSTAINABILITY PARTNERS ACROSS WIDER ECOSYSTEMS

Given its interconnected nature, sustainability requires an ecosystem approach, as we described in a previous *Prism* article.[8] To unlock the opportunities it brings, organizations must move beyond traditional partners.

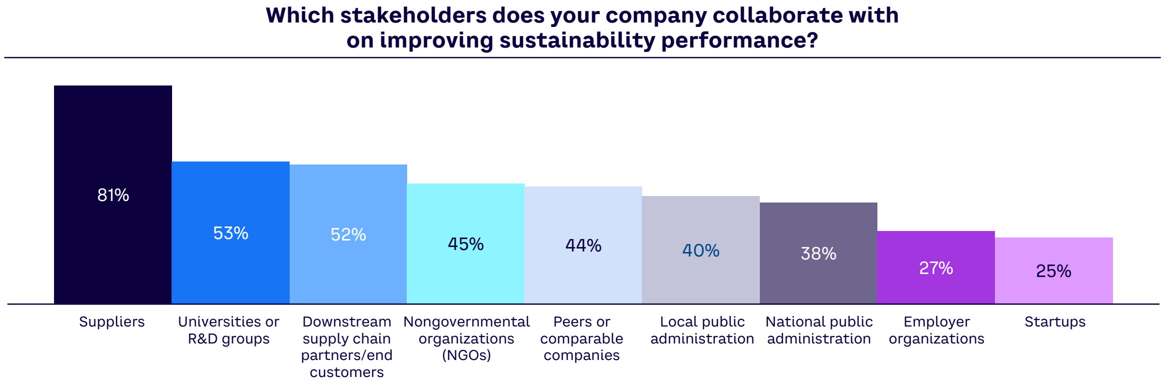
The ADL survey reveals increasing collaboration between organizations and an expanding range of stakeholders (see Figure 11). Most sustainability collaboration remains with existing partners (81%), although a growing number of organizations now collaborate with universities/R&D groups and downstream supply chain partners/end customers. Organizations need to broaden their horizons, such as by cooperating with technology companies and data providers to bring in new thinking and ideas to meet sustainability commitments.

Slow progress on embracing the circular economy

Research from Material Economics[9] identifies a strong potential for reducing emissions by adopting circularity. For example, across the four heavy industry sectors of cement, steel, aluminum, and plastics, circular practices could reduce the total carbon footprint of these industries by close to 60% by 2050 in the EU.

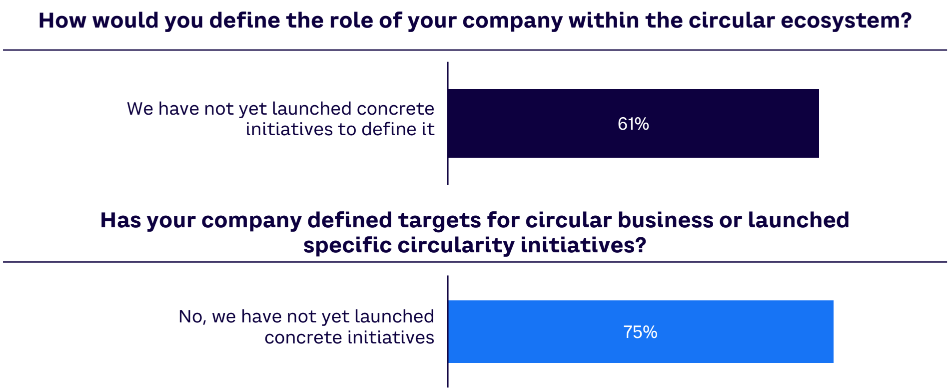
Currently, the vast majority of companies are not yet embracing these opportunities, instead taking a linear approach that does not have concrete circularity initiatives or targets (see Figure 12).

Figure 11. Stakeholder collaboration to improve sustainability performance



Source: Arthur D. Little

Figure 12. Progress toward circular ecosystems



Source: Arthur D. Little

8 Milanese, Stefano, et al. "Corporate Sustainability — Using Your Ecosystem to Sustain the Ecosystem." *Prism*, December 2021.
9 "The Circular Economy: A Powerful Force for Climate Mitigation." Material Economics, 2018.

WIDE RANGE OF GOVERNANCE HAMPERS CONTROL

Successful change requires sufficient resources, accurate data, and strong governance to ensure that the entire organization, at every level, moves in the same direction, speaks the same language, and shares a collective understanding of goals. It is vital that organizations define and measure standards across the business, with everyone clear on what "good" looks like, if governance is to be effectively embedded within daily activities.

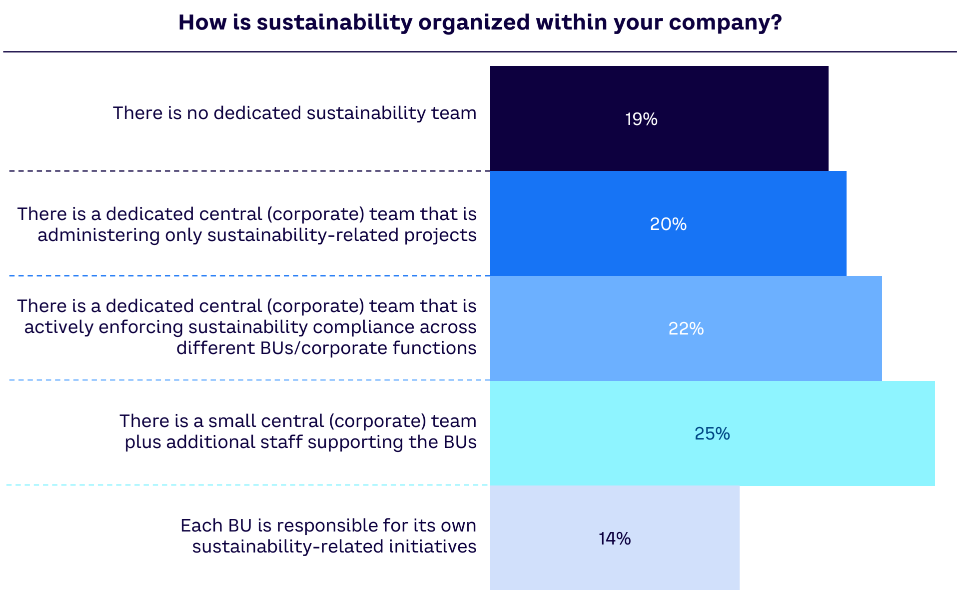
There is no single approach organizations take to governance models, as shown in Figure 13. What is vital, however, is that sustainability governance is organically embedded in the existing corporate organization and structure with some level of corporate control or oversight. Targets and objectives must be cascaded down (and validated bottom-up) to meet overall corporate objectives.

INABILITY TO TRACK PERFORMANCE WITH THE RIGHT TOOLS

Clearly, organizations need to be able to effectively track and demonstrate progress toward their commitments both internally and with external stakeholders such as investors, regulators, and customers. However, a company's activities are complex and are continually changing, due to a variety of situations including:

- Products and divisions can be sold.
- New products are bought or introduced.
- Growth in particular markets or regions impacts emissions.
- Low-carbon products may be retired due to market changes.
- Value chain partners can implement changes that affect a company's emissions.

Figure 13. Organizational structure of sustainability



Source: Arthur D. Little

Consequently, without the ability to track performance it is difficult to understand exactly where you stand and to measure sustainability performance and progress against targets. This will become much more important in the near term when regulators mandate greater transparency around climate change–related emissions and risks. Yet, in this area companies are held back by a lack of flexible, usable measurement tools.

In fact, among respondents, 43% are not confident that they can track performance, while a further 47% have tools but feel they are too labor-intensive to deliver full value (see Figure 14).

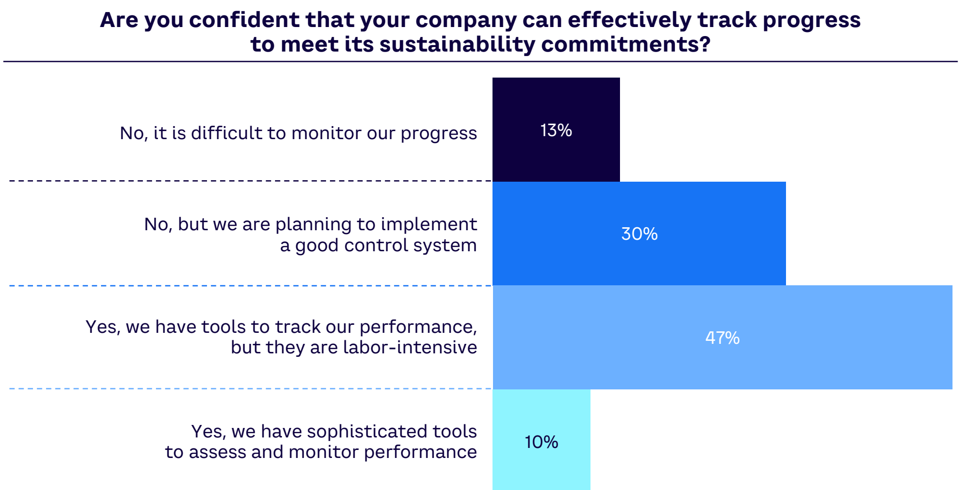
As an example, carbon pricing is becoming a significant factor in business decision making. It is used to drive decisions around investment and product development, extending down to the level of planning and measuring the impact of company travel. However, 68% of organizations have not yet developed an internal carbon-pricing system. This lack of relevant data holds back sustainability; just 11% of responding organizations apply carbon pricing to important business decisions, with a further 3% extending this to other externalities.

SUSTAINABILITY PERFORMANCE REPORTING REMAINS THE POOR COUSIN OF FINANCIAL REPORTING

The business impact of poor measurement & reporting

There is a growing volume of investment capital looking for sustainable investment opportunities. Attracting this requires organizations to be able to demonstrate their sustainable credentials and progress toward achieving commitments.

Figure 14. Ability to track sustainability progress

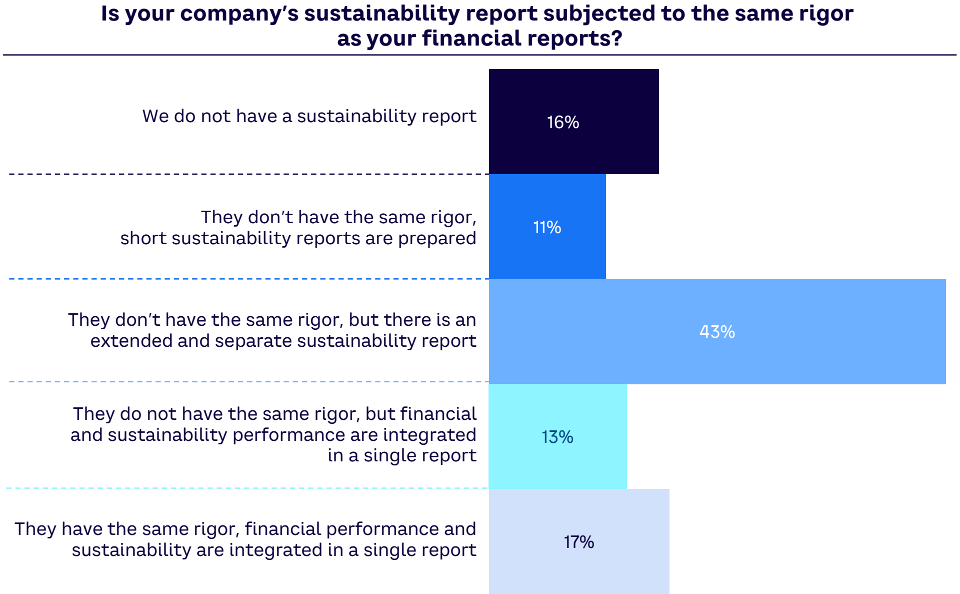


Source: Arthur D. Little

Yet sustainability performance reporting remains the poor cousin of financial reporting. Just 17% of organizations surveyed believe that the two areas share the same rigor, while only 13% integrate sustainability and financial reporting into the same document, as Figure 15 highlights.

Often this lack of rigor comes from companies being reactive rather than proactive. They begin with the goal of creating a sustainability report rather than starting with the bigger objective of setting a strategy and governance that will allow the proper steering of sustainability inside the organization. As a result, these companies fail to articulate their strategies and develop the necessary confidence around their sustainability initiatives, which are essential in discussions with investors. Of respondents, 30% say they do not discuss sustainability with investors at all, and only 22% are using their performance metrics to attract green investors. Essentially, 78% of the organizations are not fully exploiting the growing availability of green investment and the better terms it offers.

Figure 15. Sustainability vs. financial reporting rigor



Source: Arthur D. Little

3. OPERATIONALIZING SUSTAINABILITY

Many organizations are currently struggling to embed sustainability within their operations and governance. This holds back their progress toward their stated goals and prevents them from unlocking the benefits that sustainability brings. At the same time, there has been a growth in new, sustainability-native organizations. Akin to digital natives, these organizations have been created with sustainability at their core and are providing potential competition (and ecosystem partners) for more traditional businesses.

Overall, to deliver progress in operationalizing sustainability, companies need to focus in four key areas:

1. Adopt an ecosystem approach.
2. Integrate sustainability indicators, reporting, and tools.
3. Redefine culture and build new capabilities.
4. Focus on innovation and technology.

ADOPT AN ECOSYSTEM APPROACH

Currently, many organizations are turning to their traditional, linear supply chain partners to increase sustainability. This does deliver some benefits but given the scale of the challenge, they need to adopt more circular approaches and involve nontraditional partners.

These partners could include nongovernmental organizations, peers, local and national public administrations, employer organizations, and startups.

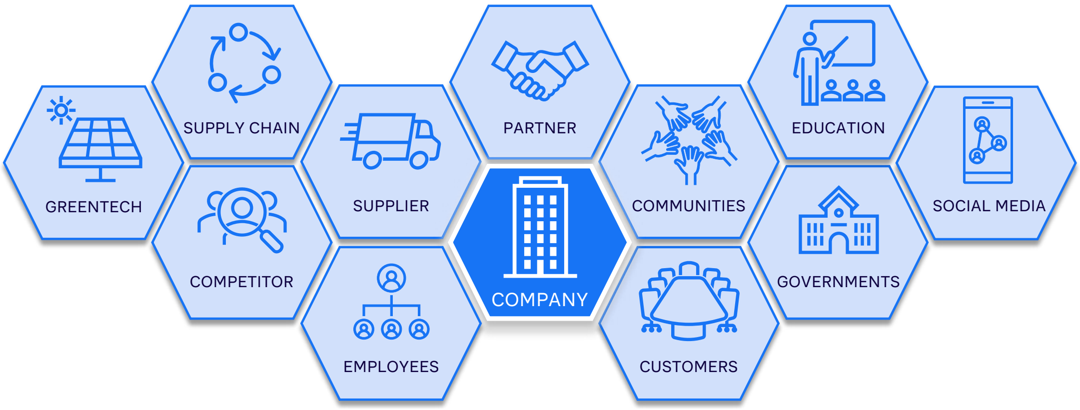
> MANY ORGANIZATIONS ARE CURRENTLY STRUGGLING TO EMBED SUSTAINABILITY WITHIN THEIR OPERATIONS AND GOVERNANCE

Next, it is vital to listen to those entities' concerns, incorporate these into strategy, adopt common standards, and take action. Examples of companies that have reached beyond their traditional partners include the following:

- **Umicore.** Looking outside its traditional value chain, Umicore set up new relationships with Toyota, Nokia, and Sony around the "closed loop" recycling of materials.
- **Aena.** One of the largest airport operators in the world, Aena published an ambitious Climate Action Plan. Recognizing the need to influence the broader aviation ecosystem, the plan also includes measures for airlines and handling companies.

Organizations must act now to position themselves effectively within these ecosystems. In many cases, first-mover advantage is vital to maximizing their share of the opportunity ahead of competitors and other ecosystem players (see Figure 16).

Figure 16. Players in sustainability ecosystems



Source: Arthur D. Little

INTEGRATE SUSTAINABILITY INDICATORS, REPORTING & TOOLS

Organizations should set the right science-based targets that are understandable and clear — and measure them effectively, internally and externally. Understanding progress toward sustainability goals relies on accurate, timely data that can be used to underpin every business decision. This approach must be embedded within the organization so that managers have immediate access to tools such as carbon-pricing calculators when planning operations. With science-based targets there is a major risk of failing to meet long-term objectives if companies fail to achieve interim goals through poor planning.

The right tools

For many organizations, a lack of effective, automated tools is holding back collecting and sharing data and thus monitoring and improving sustainability performance. Given their importance, sustainability tools should be as strong and feature-rich as those used in operational and financial systems and should integrate with these systems as well.

Whether created in-house or sourced externally, tools should follow industry-standard frameworks and harness artificial intelligence and machine learning to remove the need for labor-intensive collection and analysis to deliver faster, more automated monitoring and reporting.

Given the complexity of many organizations, the tools must be able to monitor sustainability at both a product and portfolio level and cope easily with major business changes such as divestments and M&A. (The sidebar "Adopting sustainability tools and frameworks" highlights some examples.)

SUSTAINABILITY TOOLS SHOULD BE AS STRONG AND FEATURE-RICH AS THOSE USED IN OPERATIONAL AND FINANCIAL SYSTEMS

Adopting sustainability tools and frameworks

Examples of some of the tools and frameworks organizations have employed to monitor sustainability include:

1. **Portfolio sustainability assessments.** Aimed at the chemicals/materials industry, this framework was developed by the World Business Council for Sustainable Development, with assistance from ADL. It aims to provide a common framework for organizations, enabling consistency and providing a shared language around sustainability across the value chain.
2. **Mobile Climate Action Toolkit.** Developed by the GSM Association and partners, this toolkit is part of the first science-based pathway created to cut GHG emissions across the information and communications technology sector. Approved by the SBTi, it gives guidance on how to set, measure, and plan targets to achieve net-zero emissions by 2050.
3. **Amazon Web Services (AWS) customer carbon footprint tool.** This tool enables customers to calculate the environmental impact of their use of the Amazon cloud, now and in the future. AWS has pledged to reach net-zero by 2040 and to power its global operations with 100% renewable energy by 2025.

Incentivize based on a balanced set of indicators

Oftentimes, the linkage between management incentives and sustainability performance is lacking, due to the difficulty of selecting meaningful and appropriate indicators. Sustainability targets are long-term and require cooperation within and beyond the organization, making it hard to capture meaningfully in annual renumeration packages.

Companies should therefore work toward developing and reporting on a balanced set of indicators suitable for their particular business, backed up by a strong governance system to track progress. These should take into account key principles, such as:

- Reflecting both short-term and long-term goals in incentives.
- Ensuring that these goals accurately reflect corporate strategy.
- Taking a broader stakeholder view, measuring beyond company activities to include the wider supply chain.
- Considering multiple sustainability dimensions; for example, not just climate change but also waste, energy, and diversity and inclusion.
- Balancing lagging impact measures (such as emissions) with leading proactive measures (such as controls implemented).

Develop investor-oriented reporting

Simply creating a sustainability report because it is considered mandatory due to the current business climate is counterproductive. Such a report will lack strategic direction and objectives and will not contain robust data. This means it can hinder the potential for unlocking sustainable investor value.

Instead, companies should rethink their reporting from a mere end-of-year assessment toward an ongoing, regular (e.g., quarterly) commitment toward shareholders and investors, similar to their approach to financial reporting. Such a strategy puts organizations in a better position to leverage green/sustainable financing, increase the accuracy of analysts' earnings forecasts, and reduce negative ESG incidents, such as accusations of greenwashing (claiming better sustainability performance than is happening in reality).

REDEFINE CULTURE & BUILD NEW CAPABILITIES

Integrating sustainability into existing operations is a transformative exercise. Organizations need to successfully undergo cultural change to ensure all employees understand its importance and what it means to their roles. Implementing new systems and processes will be successful only if the people involved use them.

As with any culture change program, embedding sustainability requires:

- **Regular, in-depth, clear communication.** Sustainability is a journey, so take everyone with you by showing the benefits. Inspire your people to want to become involved.
- **Defining and adopting a common language around sustainability.** This language must extend not just within the organization but across the wider value chain and convey what sustainability means to the business on a day-to-day basis.
- **Strong leadership and clear incentives.** From the top down, ensure behavior reflects the fact that sustainability is an integral part of the success of the business, not just a regulatory necessity.
- **Increase "pull" from employees.** The entire organization should seek shared beliefs, values, and aligned incentives, rather than just relying on "push" techniques such as imposing new rules and processes.

Ensure you have the right capabilities in place. In addition to tools and technology, look to develop the skills you need internally, whether through retraining, recruitment, or ecosystem partnerships. Provide adequate resources and put in place strong governance and a detailed roadmap against which to measure and monitor your progress.

FOCUS ON INNOVATION & TECHNOLOGY

New and improved technology is central to successful sustainability initiatives. On the positive side, innovation is accelerating progress in areas as diverse as solar, EV/batteries, waste recycling, air/water treatment, and green hydrogen. As such technologies mature, their costs are decreasing, enabling large-scale deployments and making sustainability more accessible. For example, the cost of solar photovoltaic energy dropped by 82% between 2010 and 2019, while efficiency saw a fivefold increase.

Organizations should look to bring sustainability and innovation together. Four ways to achieve this are:

1. Leverage innovation to increase sustainability

Use innovation to become more sustainable, from product service ideation to organizational improvements. Factoring sustainability into decisions about which projects to pursue not only enables organizations to meet current requirements but also creates future opportunities. For example, Ericsson is now taking development of its range of System on a Chip products (integrated circuits that bring together all or most components required to operate in a single chip) in-house. Through close codesign of hardware and software, it is now able to create high-performing, energy-efficient products for a wide range of deployment options, as well as providing Ericsson greater control over its 5G portfolio development.

2. Seek out the right technologies across your ecosystem

Sustainability breaks down barriers between traditional value chains, so do not limit your technology choices. Explore wider ecosystems and engage with diverse, new partners (such as research institutions and universities) to find the right innovations to improve sustainability performance. Revisit your own innovation pipeline — are there technologies you can develop, acquire, or harness to deliver sustainability?

3. Encourage adoption of sustainable technologies

Adopting new sustainability technologies is vital but needs to be managed carefully to avoid impacting current performance when deploying immature solutions. Create clear mechanisms and processes that enable the testing and adoption of sustainable innovations and technologies within the core business, such as through large-scale pilots.

4. Harness a portfolio sustainability analysis approach

Portfolio sustainability analysis (PSA) helps focus innovation pipelines on relevant technologies. PSA acts as a radar to capture weak sustainability signals and move them to research and development, maximizing resources and increasing the flow of sustainable innovations.

DEVELOP & ADOPT NEW BUSINESS MODELS

Sustainability delivers new opportunities for growth, particularly within the circular economy. For example, new revenue streams can be built around waste processing, recycling end-of-life products and reusing or selling their constituent parts. Working with partners, sustainable materials can be created (such as from biomass) and used to underpin new business models, such as bio-based clothing.

Introducing "as a service" business models provides additional revenue opportunities by enabling companies to connect more closely to customers to meet their ongoing needs.

This also gives a greater incentive to create longer-lasting, more durable products as the company is responsible for maintenance and ensuring uptime. For example, automotive manufacturers are not only rapidly transitioning to electric vehicles, reengineering their traditional business models and supply chains to support this change, but are also introducing new mobility-as-a-service offerings. Service-based models are typically winner-takes-all, so companies should explore opportunities early to identify the right targets. First-mover advantage can be crucial to success.

The opportunity to operationalize sustainability: Thoughts from Prof. Tima Bansal , Ivey Business School

Sustainability is no longer an option, it is a corporate imperative. ADL's survey found that 92% of companies have taken some steps toward a sustainability strategy. These companies see important benefits accruing through sustainability — some of the most significant being stronger customer and employee relationships.

So why is sustainability so hard to implement? It's simple. What matters most to most decision makers is meeting short-term financial targets. It's hard to focus on abstract, long-term ambitions when the next quarterly earnings call or performance evaluation is around the corner. Sustainability initiatives that do not advance the bottom line are often shut down early. Yet, failing to act on sustainability will ultimately come back to bite most companies. It is only a matter of time before sales contracts are lost and employees look for jobs elsewhere.

Successfully operationalizing sustainability requires a concrete strategy, as described in this Report. Alongside this, a few simple measures can go a long way in advancing the company on an ambition that sometimes seems elusive:

1. **Include sustainability in the company's purpose, vision, or North Star.** No matter what you call the statement that guides your company, a nod to a higher purpose than profits will send a strong signal to key stakeholders and give executives permission to widen the types of issues they consider in making decisions.
2. **Measure a few key sustainability metrics.** Identify five key metrics on which you want to focus — a few environmental metrics, such as carbon emitted, recycled content sourced, carbon and waste emitted, and a few social metrics, such as employee wellness and diversity. These metrics will signal all the way from senior executives to shop floor supervisors that they need to widen the focus of their attention.
3. **Create a sustainability innovation fund.** Many companies set aside money for local philanthropy without a second thought. The same logic should be applied to sustainability initiatives that can be proposed by anyone in the organization. This fund will uphold the company's purpose statement, advance progress toward the wider set of metrics, and best of all, inspire creativity.

Although sustainability is now a corporate imperative, it is also an opportunity. It gets companies off the earnings treadmill to consider how they can create value in making the world better for all.

CONCLUSION

THE NEED & BENEFITS OF ACTING NOW

Despite the majority of organizations setting concrete targets for sustainability, ADL's research shows that progress on embedding it has been slow. This is largely due to the enormous, practical challenges of putting sustainability at the heart of operations and business models. Organizations are struggling to measure sustainability performance, communicate strategy internally, change culture, and engage with their wider ecosystem, all while dealing with the complexities of running and growing their business.

The positive news is that the wider picture is changing. Technology advances are enabling sustainability, new tools and frameworks are being proven in the field, consumer demand is growing, and best practice is emerging and being shared across ecosystems. At the same time, institutional and government players are offering greater volumes of green funding.

Therefore, now is the time to act and operationalize sustainability. Not only will this deliver benefits in combating climate change and improving the world around us, but it simply makes good business sense. Effective sustainability strategies improve efficiency and financial performance, lower the cost of capital, better engage internal and external stakeholders, and provide new opportunities for growth. Overcoming the challenges to embedding sustainability is therefore a business imperative for all.

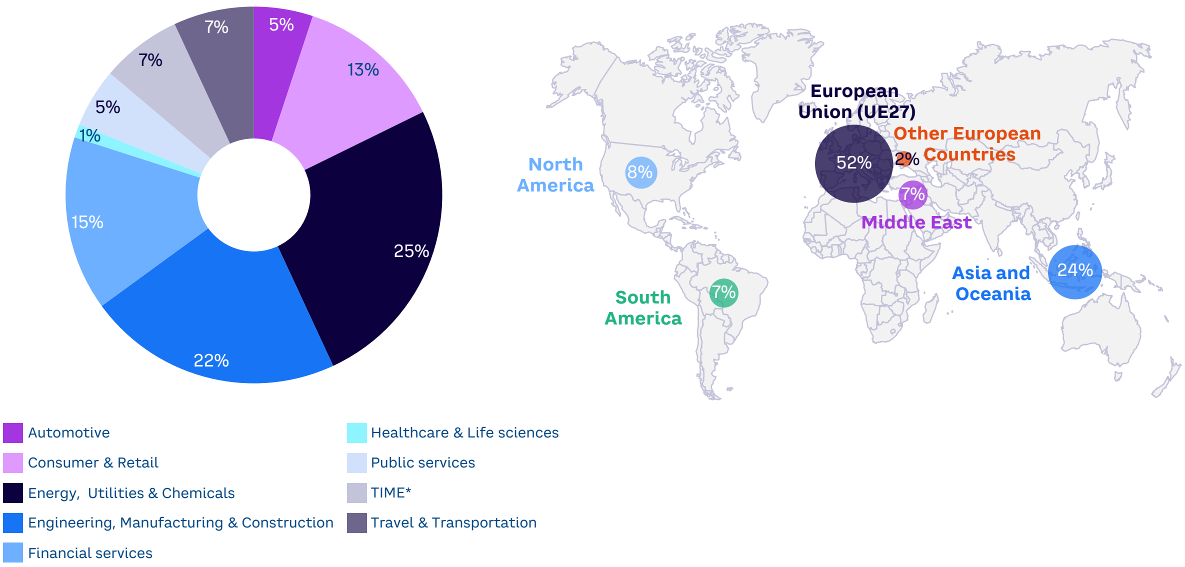
> **EFFECTIVE SUSTAINABILITY STRATEGIES IMPROVE EFFICIENCY AND FINANCIAL PERFORMANCE**

APPENDIX: SUSTAINABILITY INTEGRATION IN BUSINESS MODELS, ORGANIZATIONAL RESEARCH

During the third quarter of 2021, ADL conducted an anonymous questionnaire-based survey focusing on the degree of integration of sustainability into business models and organizations.

The survey included more than 85 large and medium-sized companies, spanning sectors and geographies (see Figure A). Some 47% of companies come from the process industries (chemicals, construction, industrial goods and services, and oil and gas sectors).

Figure A. Respondent breakdown by sector and geography



*Telecommunication, Information Technologies, Media & Electronics
Source: Arthur D. Little

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