Summary of the Young & Partners 34th Annual Senior Chemical Executive <u>Conference</u> November 10, 2021 In Person and Virtual Conference from 11:45 am EST to 5 pm EST

11:45 am	Welcoming Comments
	Peter Young, CEO and President, Young & Partners
12:00 pm	Keynote Fireside Chat: "Leading Company Transformations"
	Ed Breen, Executive Chairman and CEO, <i>DuPont de Nemours, Inc.</i> Moderator: Peter Young, CEO and President, <i>Young & Partners</i>
1:00 pm	Luncheon (in person) and Virtual Networking (virtual attendees)
2:00 pm	"Reimagining Supply Chain Strategies"
	Prakash Chandrasekar, Partner - Chemicals, <i>Boston Consulting Group</i> Raj Gupta, Chairman of <i>Avantor, Inc. and Aptiv PLC</i> , former CEO of <i>Rohm & Hass</i>
2:40 pm	"M&A and Financial Developments – What is Happening and Why"
	Peter Young, CEO and President, Young & Partners
3:20 pm	Virtual and In Person Networking Coffee Break
3:50 pm	"The Industry Outlook: The Journalist Perspective"
	Joseph Chang, Global Editor, ICIS Chemical Business Robert Westervelt, Editor in Chief, IHS Chemical Week
4:30 pm	ESG: What Do You Need to Do?
	Peter Young, CEO and President, Young & Partners
5:00 pm	Conclusion of the Conference

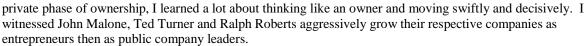
Keynote Fireside Chat: Leading Company Transformations

EDWARD BREEN, EXECUTIVE CHAIRMAN AND CHIEF EXECUTIVE OFFICER, DUPONT DE NEMOURS, INC.

PETER YOUNG, CEO & PRESIDENT, YOUNG & PARTNERS

Young: Could you share some details about the trajectory of your career thus far?

Breen: I've been a CEO for 23 years. I started at General Instrument Corporation right out of college. I spent the first 23 years of my career there and ultimately became the CEO of the company. The company was taken private and then taken public again. During the



Young: Could you share some details about your personal background?

Breen: My father worked for the same company for 49 years and started a camp ground business in the Amish country of Pennsylvania that the whole family was involved in. The business grew to be one of the largest in the region. I studied business and economics in college. I am fortunate to have been married for 42 years and have always had a very stable family life.

Young: What do you think are the most important skills for running public companies today?

Breen: Passion is infectious and people will gravitate towards it. Having a talent for putting the right team members in the right spots is also very important and it is something I spend a lot of time on. I think a lot of companies fall short when it comes to transparency. In my Monday staff meetings, I mandate that everyone discusses both the positives and the negatives of an issue. Transparency makes it a lot easier to diagnose and fix problems.

Young: You have experience in a number of different industries. Is there a common theme that you have taken away from having lead transformations in different spaces?

Breen: Optimizing shareholder value over the long-term has guided my decisions for all of the companies I have led. I have made 16 to17 major decisions during my career that had a significant impact on shareholder value. I studied those decisions extensively and when I reached a conclusion, I moved rapidly.

When I was a young CEO at General Instrument, we had developed the best digital set-top box, but it was too expensive for cable operators to distribute to consumers. Ted Forstmann, a pioneer of the Leveraged Buyout Out industry, was a significant shareholder of General Instrument at the time. I suggested to Ted that we give the cable companies ownership in General Instrument in exchange for their use of our digital set-top box exclusively, with all of their customers. It was a bold move, but Ted encouraged me to do what I thought was right for the company.

At Tyco International, after the company recovered from the corporate scandal of 2002, I proposed that the company be split up. It took a year to convince the board and five years to complete the split up. The actions that I took at General Instrument and at Tyco International were what I thought would create the most shareholder value.

When I am not working on transformational opportunities, I am focused on enhancing the organization's cost structure, usually reducing G&A while investing in R&D. The value of a company is growing the top line and having an efficient operating model.

Young: Can you talk about how things have unfolded during your tenure at DuPont?



Breen: I was actually retiring from Tyco International and was invited to join the board of DuPont as the company was going through some difficulties. Consolidation of the Agricultural Chemicals industry was going to leave DuPont in an unenviable competitive position. Dow had the same issue with their Agricultural Chemicals business. Our two businesses were complementary and a combination would combine crop protection and seeds creating a balanced portfolio. As I studied the specialty businesses of Dow, I realized they also fit nicely with those at DuPont. So out of DowDupont we created three leading companies. The new DuPont has made a number of changes, including the spin off of our nutrition & health business and its merger with International Flavors & Fragrances to create another world leader. We recently announced that we are exiting Engineering Polymers, the remaining part of the new DuPont that is relatively cyclical. Simultaneously we announced the \$5+ billion acquisition of Rogers Corporation, an electronic materials company.

Young: How would you characterize your management philosophy?

Breen: The threat of disruption has become increasingly acute over the past 20 to30 years. As I look back upon the major transformative moves I have made, around half of them were in response to a major disruptive risk that I perceived would threaten the business in the medium or long term.

Otherwise, I lean more towards the Jack Welch management philosophy. I believe in using benchmarks to assess leadership positions. I spend a lot of time installing the right leaders in the right positions. Conglomerates today need to have some "glue" that adheres all of the different businesses to one another. At DuPont, our "glue" is an R&D engine that is consistently solving materials science problems for our customers.

Young: What practices do you employ as CEO to make sure the board is aligned with your vision?

Breen: Regarding any transformative move, I make sure to engage with the board early and often. I spend the first hour of every board meeting on strategy and risk. Any major move will require the board be given a lot of time to consider and scrutinize. I also try to minimize the time spent on really granular items, like financials, that board members can spend time on individually if they so choose.

Young: How do you position your company in the context of the unique macro challenges being faced today (e.g. pandemic, labor shortages, etc.)?

Breen: We focus on getting in front of these challenges as soon as possible. For example, at DuPont we faced almost \$400 million of raw material cost increases. We got in front of it by imposing price increases on our customers whom did not push back given the concurrent shortage of material.

Additionally, you want to make sure your balance sheet is well-insulated. At the start of the pandemic, I immediately completed a \$2.0 billion bond offering out of an abundance of caution. I was a CEO in 2008-09 when the world really looked like it was falling apart and I have learned the importance of downside protection. It is really important to continue to invest in growth during challenging times. It allows you to emerge stronger when those challenges recede and boosts morale. The CEO needs to be the biggest cheerleader for the company and its employees.

When I joined Tyco, I had to execute a very drastic pivot. I replaced the entire board of directors and 95% of the company's management team. I went through a three month legal battle with members of the board, but remained steadfast. I had to convince the Department of Justice and the Securities and Exchange Commission that the new leadership team was comprised of experienced people whom would ethically steward the organization.

Young: What advice would you give aspiring business professionals on becoming transformational leaders?

Breen: I can not emphasize enough how important it is to "act like an owner." Business leaders should make decisions based as if they owned 100% of the company. If you are creating value for your shareholders, you are going to do well by your employees, suppliers and other stakeholders.

Reimagining Supply Chain Strategies

RAJ GUPTA, CHAIRMAN, APTIV PLC

PRAKASH CHANDRASEKAR, MANAGING DIRECTOR & PARTNER, BOSTON CONSULTING GROUP

PETER YOUNG, CEO & PRESIDENT, YOUNG & PARTNERS

Gupta: Improvements in transportation and information technology infrastructure, globalization and commoditization drove the development and adoption of "just-in-time" production methods over the past two decades. As companies moved production to locations characterized by low-cost labor forces, they exposed themselves to both sourcing and geopolitical risk. The black swan event that was the COVID-19 pandemic exposed the underlying weaknesses of prevalent supply chain models. Labor shortages, overload of air/seal/land shipping infrastructure and unexpected natural disaster events resulted in significant disruptions and substantial cost increases.

At Aptiv, an automobile electrical component manufacturer, we faced repercussions from the shortage of semiconductor supplies. Semiconductor supply chains are global and very complex. Lead time from wafer start is ~6 months. End product purchased in the United States might consist of semiconductors manufactured in Taiwan and processed post-production in Singapore, Malaysia or Indonesia. While we thought a normal recovery was

in store for 2021, semiconductor (along with other materials) shortages will result in a 10% reduction in our projection of revenues. Additionally, inflation, freight cost increases, and labor shortages will result in a \$50-60 million increase in our costs.

Chandrasekar: Supply Chain strategies over the past two decades have revolved around optimization of Fixed Costs, Variable Costs and Working Capital. The impetus of the pandemic has prompted consideration of additional variables, Resilience and Carbon.

Companies are beginning to take an analytical approach to design resiliency into their supply chains to better prepare for and absorb exogenous shocks. One approach that is gaining traction is the creation of a "Digital Twin." A Digital Twin is an end-to-end virtual model of a company's supply chain going from every supply point to

manufacturing assets to inventory buffers to customer shipping points. The model accounts for different transportation modes be they rail, road or barge. The models allow for the simulation of any number of plausible disruptive events and quantification of the subsequent economic impact.

The United Nations Climate Change Conference is currently taking place in Glasgow. The President of the European Commission, Ursula von der Leyen, called on world leaders to "put a price on carbon, because nature cannot pay that price anymore." If leaders respond to her call to action, it will likely manifest in one of three forms: 1) a globally consistent price; 2) a price that varies by world regions; 3) or regional differences in pricing but a broad adjustment tax mechanism. Companies may be forced to implement traceability elements to their supply chains that will allow for the allocation of carbon emissions to individual product lines. It may create opportunities for some companies and present a risk to others as they reassess where they can and can not operate economically.

Across our client base we are seeing significant interest in demand planning, challenge response and capability building. Advanced analytics, Artificial Intelligence and Machine Learning models have influenced the ability to accurately forecast demand. The implementation of these tools has given sales people the opportunity to spend more of their time with customers. Past statistical forecasting models relied exclusively on internal data (sales order transactions, pack type, etc., but recently, there has been greater interest in incorporating external data (credit card transactions, web traffic, etc.). Digital twins are being used to simulate interventions to possible challenges. There







is a very limited talent pool of data scientists with familiarity with the Chemical Industry. Most companies do not have the scale to hire and develop that talent and end up having to rent it from partners.

The Greenhouse Gas Protocol established comprehensive global standardized frameworks to measure and manage emissions, classifies emissions into three scopes. Scopes 1 and 2 are emissions from energy consumption in a manufacturing process. Companies are building Marginal Abatement Cost Curves to evaluate internal emissions reduction options such as building decarbonization plants or sourcing energy from renewable sources. Scope 3 covers emissions from suppliers and logistics. Analytics in Scope 3 is still in its nascency. Companies need to be prepared for a world where carbon reporting will be as ubiquitous as financial reporting. Carbon abatement will need to be integrated into supplier selection and management.

Young: To what extent are the companies you are involved with rethinking "just-in-time" production methods and the sources of their raw materials?

Gupta: In the Automotive space, a number of companies are considering investing in internal semiconductor manufacturing capability to create reliability of supply. Companies are also considering how to improve the forecasting process via increased transparency between suppliers and customers.

Young: Which various factors causing current supply chain issues will be resolved in the short-term and which will not?

Chandrasekar: Labor shortages will be resolved as economic activity recovers and people re-enter the workforce. Supplier qualification decisions are a long-term issue as companies balance increasingly stringent requirements with the desire to have supply options and maintain reliability. Congestion in trade lanes will be resolved expeditiously as supply and demand dynamics level out. Carbon pricing will be a long-term issue as various countries will apply their individual policies and on their individual timelines.

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M&A and Financial Developments – What is Happening and Why

PETER YOUNG, CEO & PRESIDENT, YOUNG & PARTNERS

STEVE FLOYD, MANAGING DIRECTOR, YOUNG & PARTNERS

Young: During the first three quarters of 2021, global equity markets surged on the back of continued flow of funds into Western equities, and a lack of other attractive investment market opportunities. The S&P 500 increased by 16.4% and the S&P Euro 350 by 13.2%. Only our Fertilizer and U.S. Specialties chemical indices did better than the market. In terms of P/E valuations, five of the seven Young & Partners Western chemical indices were trading at a premium to the overall market indices at the end of the first three quarters of 2021. On an EV/EBITDA basis, four of the seven Western Young & Partners chemical indices were trading at a premium to the market indices as of the end of the first three quarters of 2021. The multiples are quite high relative to historical multiples for most of the chemical industry sectors. They also continue to be high relative to the average M&A multiples of the chemical industry sector.

In the first three quarters of 2021, \$54.4 billion worth of deals closed. This compares to \$41.3 billion that closed in all of 2020. IFF's merger with DuPont's Nutrition business alone was \$17.7 billion of the total.

58 deals were completed in the first three quarters of 2021 compared to 67 deals closed in all of 2020, so we are on a pace that will likely see a higher number of deals in 2021 versus 2020.

Valuations continue to stay high in both specialties and commodities (13.3x EV/EBITDA and 12.1x EV/EBITDA, respectively). However, the dollar volume and the number of deals was lackluster in the first two quarters (with the exception of the IFF deal) and volume and dollars surged in the third quarter. The trends on a quarterly basis are particularly telling.

24 deals closed in the third quarter versus 18 the previous quarter and 16 in the first quarter. Dollar volume in the third quarter was \$17.8 billion, up from \$11.4 billion in the second quarter, and \$7.6 billion in the first quarter without the IFF deal and \$25.3 billion with the IFF deal.

Segmentation of the M&A market is also revealing.

The number of commodities transactions in the first three quarters of 2021 accounted for 39.7% of the total, with specialties deals surging up from around 50%. \backslash

The geographic mix has also changed dramatically. In terms of the location of M&A targets, Asian and ROW accounted for only 31.0%. The U.S. surged to lead at 36.2% and Europe accounted for 32.8% of deals completed worldwide. This is a significant departure from recent history when Asia and ROW was close to 50.0% of the total market. Starting in the second quarter of this year, Asian deals slowed dramatically as the economy and consolidation slowed. At the same time, the attractiveness of the western chemical markets, stockpiles of cash held, readily available low interest debt, and a desire for growth have all contributed to the surge in U.S and European chemical M&A deals.

In the first three quarters of 2021, private equity increased its share of acquisitions to 10.3% of the number of acquisitions and 13.9% of the dollar volume. This is not high, but it is an uptick from the more recent miniscule shares, but still well below private equity's long term 20 to 25% market share of acquisitions. The reason for the subdued market share is that private equity investors generally avoid Asian and commodity chemicals and have had difficulties competing with strategic buyers in the Western Specialty Chemical market.





Looking forward, the value of deals announced but not closed as of September 30, 2021 was a healthy \$31.4 billion (42 deals), which suggests a healthy volume going forward. Depending on when the backlog of deals close, this year will end up well ahead of last year, but still well below previous years.

There was a dramatic reduction in non-bank debt financing in the first three quarters of 2021. There was a surge in borrowing last year to assure liquidity and to take advantage of lower interest rates.

There was a significant increase in equity issuance in the first three quarters and on an annualized basis. \$15.3 billion of equity was issued from 92 offerings in the first three quarters of 2021. In terms of IPOs, 45 IPOs were completed worth \$6.2 billion in the first three quarters of 2021.

Asian companies issuing in the Asian public markets continued their dominance of both the IPO and secondary offering markets. .

Floyd: The current level of real interest rates is unusually low when compared to history. While real interest rates have hit the current lows before, it has happened infrequently. There has been an unprecedented level of monetary intervention over the past decade which has driven inflationary downard pressure on real interest rates. Consumer Inflation in October hit a 3-year high. We are likely headed for a normalization of real interest rates in the near to medium term.

Young: The M&A market will continue to strengthen in terms of the number and dollar volume of deals going forward. High M&A valuations will favor sellers. This is a good time to restructure business portfolios or to exit ownership. Inevitably, these high valuations will increase the supply of businesses being sold by public and private chemical companies and private equity. Supply increases will gradually weaken prices. Prices have already shown slight signs of softening in commodity chemicals, although part of the slide in multiples has been increasing EBTIDA that buyers are not confident is sustainable. Relatively high public company valuations of specialty and diversified public companies will continue to make the cost of equity inexpensive. Public valuations for most pure commodity chemical companies are being compressed for the same reason that commodity chemical M&A multiples are softening. Debt financing will continue to be readily available at low interest rates. Equity offerings will continue at the current moderate, healthy pace, but will involve a large number of smaller offerings. There will be a small number of western chemical IPOs and renewable raw materials and circular chemistry company IPOs, and a large number of small Asian IPOs.

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The Industry Outlook: The Journalist Perspective

JOSEPH CHANG, GLOBAL EDITOR, ICIS CHEMICAL BUSINESS ROB WESTERVELT, EDITOR IN CHIEF, IHS CHEMICAL WEEK

PETER YOUNG, CEO & PRESIDENT, YOUNG & PARTNERS

Young: The economic picture since the beginning of 2020 has been a challenge. After the plunge in economic activity that occurred after the onset of the pandemic in March and April, China recovered quickly, followed by a recovery in the U.S. in the third quarter. Economic conditions in the rest of the world were far less positive. Through this past summer, China and the U.S. showed strong economic growth and Europe evidenced a partial, but anemic recovery. Much of the rest of the emerging and other countries continued to suffer through a difficult period. More recently, there have been significant economic set-backs around the world for a host of reasons. Shortages of semiconductors, severe disruptions in the supply chains, rising inflation, shortages of labor, and the ongoing negative impact of the pandemic with the onset of the delta virus variant have dealt material blows to economic growth and strained profitability. Much of the world is going through an energy crisis with high prices and shortages of oil, coal and natural gas. China is going through its own very special set-backs with the Evergrande real estate crisis, high levels of corporate and government debt, severe shortages of electricity, a scarcity of oil/gas/coal, and government clampdowns on a host of industries. The U.S. economy has slowed, but it is not clear what the picture will look like going forward. Rising oil and gas prices, shortages of labor, rising inflation, disrupted supply chains, and shortages of semiconductors are plaguing the U.S. as they are plaguing the rest of the world. It appears that we are facing a high degree of uncertainty with regard to the global economy.

On a relative basis, the chemical industry has been in the middle of the pack in terms of industries that were affected by the pandemic and the other economic factors. Profits have been strong since the third quarter of 2020. The impact of economic and the pandemic events on specific chemical companies has varied by the markets served, supply chain configurations, nature of manufacturing and R&D, specific raw materials required, oil and natural gas prices, etc. In addition there have been sustainability pressures around plastics, sustainability, and carbon neutrality.

The economic outlook is complex, with positive and negative factors, but the net outlook is positive for the chemical industry. However, it depends on what sectors you are in and whether you are in commodity or specialty chemicals. Headwinds include inflation, supply chain disruptions, shortages of semiconductors, geopolitical related factors, price of natural gas and oil, negative pressures on plastics, costs related to push for carbon neutrality, increasing ESG reporting and compliance requirements and economic growth challenges in various parts of the world. Positives include relatively stable economic growth in the U.S. and Europe, importance of chemicals to most economies, and innovation in bio-based and circular chemicals.

Westervelt: Global GDP is ahead of pre-COVID levels. China recovered the quickest, but has now slowed. The US followed while Europe lagged. IHS Markit is projecting 4.3% real GDP growth in 2022. Supply chain constraints are capping output and boosting price and margin. Capital spending appears to be in check in the medium term and will not return to peak 2019 levels until 2024. Net-zero commitments are driving big capital commitments and portfolio shifts. The drive to a circular economy is underway with investments in advanced and mechanical recycling and efforts to incentivize waste collection.







Chang: Companies will try to accelerate the transition to zero carbon emissions. Companies will need to take risks and start investing in scaling up existing technologies like hydrogen firing, electrifying compressors, electric-crackers, electric de-hydrogenation, etc. Dow has announced a net-zero carbon emissions cracker in Canada. ExxonMobil has proposed Houston as a hub for Carbon Capture & Storage.

There is a dramatic slowdown in new cracker projects in North America and Europe. China has implemented a dual-control policy to cut absolute emissions and energy intensity. Saudi Aramco is hoping to get to net zero from operations by 2050.

Chemical recycling is projected to ramp up rapidly through 2024.

Young: Will the issues related to circularity and net-zero ultimately have a positive impact on the chemical industry?

Chang: The halt in olefins capacity expansion may ultimately prove to be a positive development. It should reduce volatility in commodities pricing in the near to medium term. This should allow companies to maintain a strong margin profile. Companies will still have to dedicate capital to investment in new decarbonization technology.

Westervelt: There appears to be a willingness to pay a "green premium." This premium should cover the cost associated with carbon taxes/border adjustments.

Young: Major transitions, like what we are seeing in energy today, can be very painful. There is a game theory element for countries setting carbon policies. Policies enacted by developed countries like the US and Europe need to be mimicked by emerging countries like China and India. There has to be a system of penalties for those countries that don not enact and enforce the appropriate reforms. Is this movement going to favor certain companies over others?

Chang: The playing field is uneven in terms of feedstocks, infrastructure, carbon tax, etc. Companies will have to navigate all of the different factors when evaluating these carbon investment decisions.

ESG: What Do You Need to Do?

PETER YOUNG, CEO & PRESIDENT, YOUNG & PARTNERS

The topic of Environmental, Social and Governance (ESG) is now constantly in the news along multiple fronts: investors, new standards, rating organizations, government regulators, stock exchange directives, accounting standards, financial institutions, etc. In the last two years there has been an explosion of money going into new funds that are dedicated to investing in companies that are ESG focused and existing mutual/pension funds have added ESG ratings to their criteria for investment.



States and stock market exchanges are dictating minimums related to the diversity of

boards directors along gender and ethnicity lines. Lenders and bond investors are also using ESG criteria when they provide debt financing for companies. Regulations are becoming even more stringent around environmental standards, emissions, carbon content, etc. Furthermore, companies are being asked to produce detailed reports on how they are performing along a number of ESG dimensions, but standards are not well defined and/or difficult to measure.

Chemical companies have been subject to environmental, safety, financial reporting, discrimination and other labor related rules, and other regulatory requirements for decades, but the scope has mushroomed. In addition, there are pressures on single-use plastics and chemical producers specifically for environmental reasons. Very few companies, certainly in the chemical industry, will be let off the hook with regard to performance and reporting.

ESG impacts overall priorities, business and M&A strategies, reporting requirements, relationship with investors, board and management recruiting, and management of employees and operations. Waiting until things settle down and standards and practices become stable is not an option for all but a handful of small companies.

Environmental issues include Greenhouse Gas Emissions (e.g. carbon, methane), Resource Use (e.g., energy, water), Waste Production (plastic, toxic waste production and disposal), Energy Sources (coal, fossil fuels, renewables, etc.), Land Use and Other high-profile risks (oil spills, mine reclamation, water pollution). Social issues include Human Rights, Working Conditions, Employee Relations, Diversity (e.g. gender, racial, etc.), Discrimination Policies, Product Quality and Safety and Responsible Marketing. Governance issues include Bribery and Corruption policies and practices, Board Structure, Board Quality and Experience, Board Size, Board Independence (insiders vs independent directors), Executive and Director Pay, Whistleblower Policies, ESG Disclosure Policies, Shareholder Rights and Balancing of Stakeholder Interests.

A problem facing companies with regard to ESG can be either a lack of standards or an oversupply of standards. Environmental matters have had decades of regulation and standards. In the Social category, most of the factors have no standards or are difficult to measure. The Governance category is somewhere in between Environmental and Social with regards to measurement and standards.

Accounting, public company regulators, and environmental regulators have established reporting requirements in selected areas of ESG for decades. Separately, the international business community has been working towards establishing sustainability reporting standards through non-profit, independent multilateral organizations. These collective efforts have materialized into a number of international organizations and initiatives that aim to provide guidelines for sustainability and ESG reporting. Examples include the Sustainability Accounting Standards Board, the Global Reporting Initiative, the Task Force on Climate-related Financial Disclosures, the International Integrated Reporting Council, and the International Financial Reporting Standards Foundation.

Some of these organizations are trying to work together to try to rationalize their different reporting standards, but we are very far away from any common set of reporting requirements.

What should companies do to respond to ESG pressures?

Establish ESG priorities and explicitly tie your business and shareholder strategies to those priorities.

Create a dedicated cross-functional team focused on ESG that includes manufacturing, financial, environmental, human resources, accounting and finance, investor relations, and business strategy representatives. The team should lead the company's efforts to draft annual sustainability reports and other periodic publications as well as provide survey responses to third-party ESG ratings and data providers. The ESG team should report directly to the CEO and C-Suite executives to ensure priority treatment. The ESG effort should be monitored by the board of directors.

Assess ESG ratings and data providers to determine which ones have the greatest influence and credibility with investors and regulators. Establish relationships with the main ESG ratings and data providers and determine their rating cycles and the timing of the company's assessment. Monitor and measure your company's performance across all of the ESG categories using standards and criteria that you believe are the most effective and are recognized by important third parties. Constantly monitor how you are being rated by third parties.