

GS SUSTAIN ESG Series

A Revolution Rising - From Low Chatter to Loud Roar
[Redacted]

The following is an excerpt from "A Revolution Rising - From low chatter to loud roar," published April 11, 2018. All company references in this excerpt are for illustrative purposes only and should not be interpreted as investment recommendations.

Environmental, Social and Governance (ESG) topics are permeating the lexicons of society, corporations, regulators, and the investment community alike. **We gather data points and anecdotes of rising ESG focus beyond the usual suspects - including earnings transcripts, social media and asset manager initiatives - as evidence of the growing relevance for investors.**

We believe the ESG Revolution is just beginning, as the logical, empirical and anecdotal evidence for its importance continue to mount. In our view, integrating ESG factors allows for greater insight into intangible factors such as culture, operational excellence and risk that can improve investment outcomes. In this report, we detail several of the key forces powering a virtuous cycle of adoption.

Derek R. Bingham
+1(415)249-7435 |
derek.bingham@gs.com
Goldman Sachs & Co. LLC

Evan Tylenda, CFA
+1(415)249-7440 | evan.tylenda@gs.com
Goldman Sachs & Co. LLC

Hugo Scott-Gall
+44(20)7552-2609 | hugo.scott-
gall@gs.com
Goldman Sachs International

Christopher Vilburn, CFA
+81(3)6437-9897 |
christopher.vilburn@gs.com
Goldman Sachs Japan Co., Ltd.

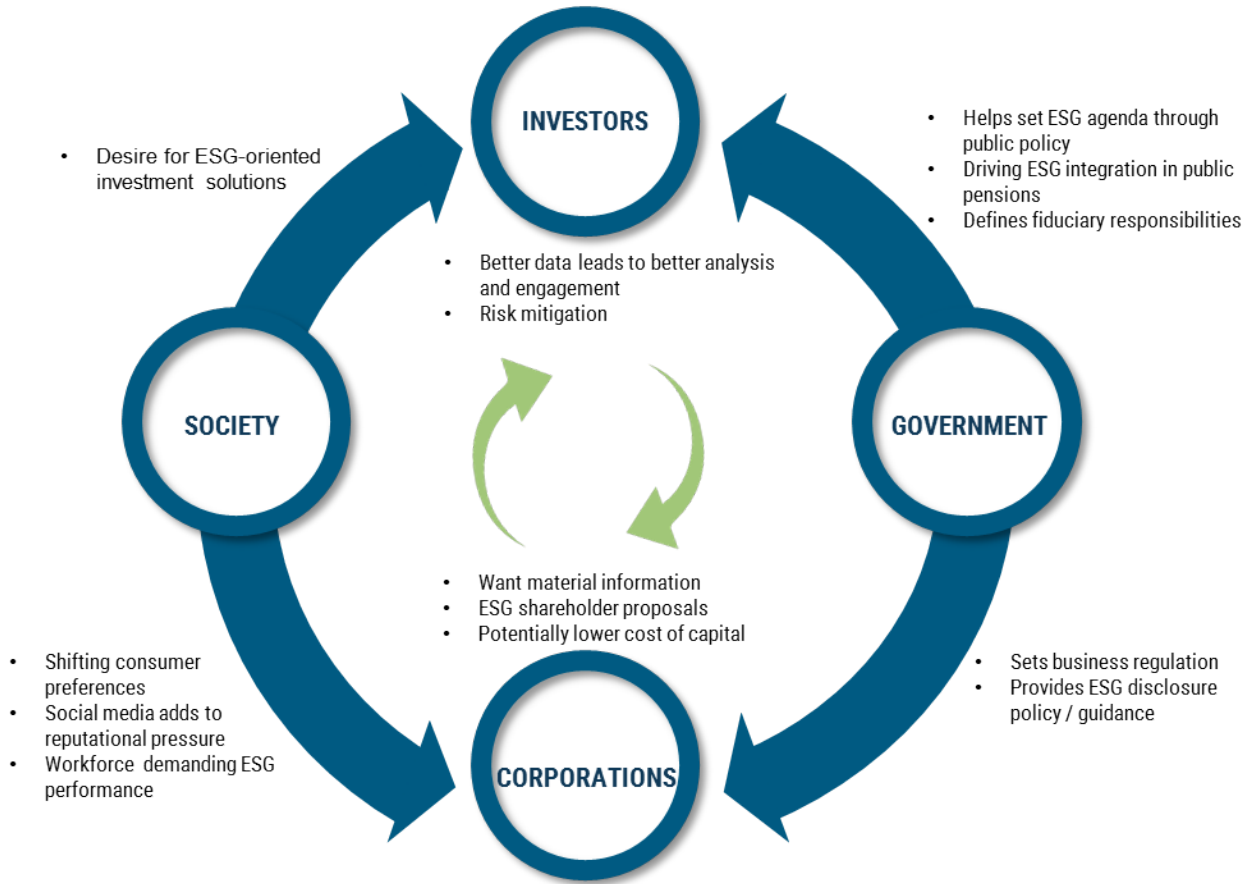
Gabriel Wilson-Otto, CFA
+852-2978-6668 | gabriel.wilson-
otto@gs.com
Goldman Sachs (Asia) L.L.C.

Momentum from social media to CEOs, activism to AUM

- **ESG AUM accelerating for mutual funds and ETFs, approaching \$1 trillion.**
Global dedicated ESG/SRI fund AUM grew 29% in 2017 v. 10% in 2016, while ESG ETF flows are on pace to grow ~250% from last year.
- **Nearly half of S&P 500 companies addressed ESG topics in 4Q conference calls.** We provide a catalog of notable company quotes from a diverse set of corporates including Best Buy, Cognizant, Ingersoll Rand, Marriott, P&G and others.
- **Society's rallying call on ESG topics are getting louder.** Twitter posts mentioning ESG topics grew 19x over the last five years and are becoming more 'trendable' - spikes in activity more than doubled in 2017 vs. 2016 as measured by weekly standard deviation.
- **Heavyweights enter the ring as investor activism on ESG picks up.**
Environmental and social shareholder proposals represented 41% of all documented shareholder proposals in 2017, up from 33% in 2016 including contributions from BlackRock, Vanguard, Fidelity, Capital Group and others.

Goldman Sachs does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision. For Reg AC certification and other important disclosures, see the Disclosure Appendix, or go to www.gs.com/research/hedge.html. Analysts employed by non-US affiliates are not registered/qualified as research analysts with FINRA in the U.S.

Exhibit 1: Key stakeholder influences fueling a virtuous cycle for ESG



Source: Goldman Sachs Global Investment Research

Decibels rising

In this report we introduce new tools to track the development of the ESG market, and gather additional supporting anecdotes and data points. It all starts with changing social preferences, in our view, influencing how companies behave, how governments regulate and how asset managers approach investing. But each of these behavioral changes generate reinforcing effects back on the others in turn, with investors raising expectations of corporates, regulators increasing requirements of investors, society demanding greater action from regulators, and so forth.

In the following sections, we gauge indicators of activity in each of four constituencies: 1) Society at large, 2) Public corporations, 3) Asset managers and 4) Governments and regulators, in that order.

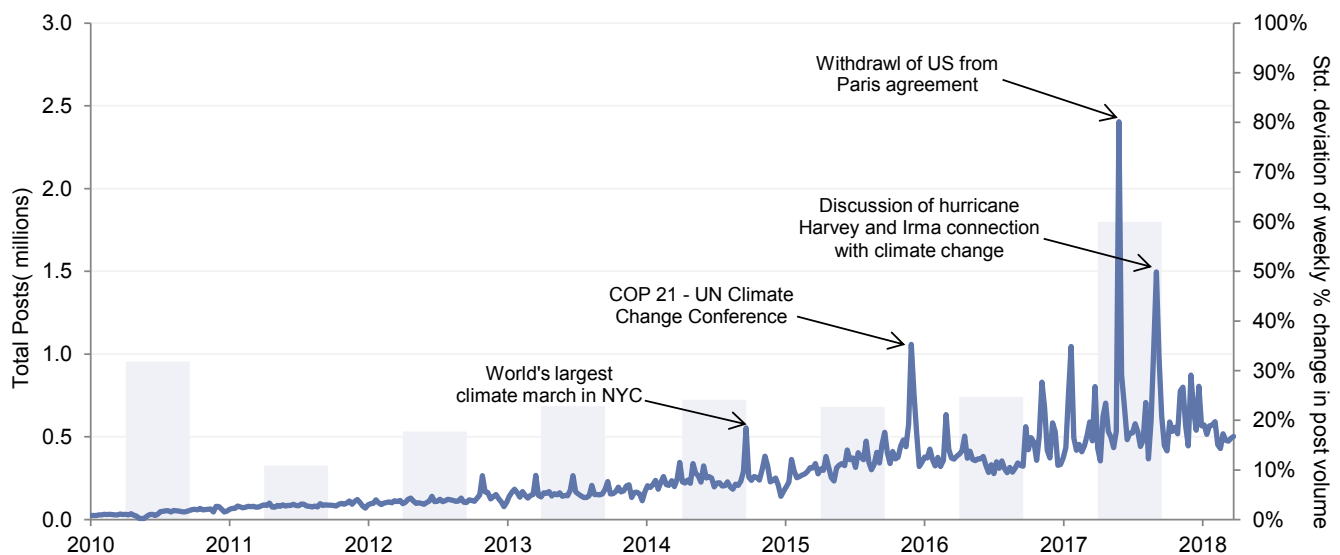
1) Society’s voice growing louder

Social media platforms such as Facebook, Twitter and Glassdoor have handed society a powerful megaphone. The speed and scale at which news now spreads expose companies to new reputational risks and in effect holds them more accountable to internal and external ESG issues.

In partnership with our GS Data Works team, we find that Twitter posts on ESG topics have risen 19x since 2010. While the bulk of posts have predominately been driven by discussions related to climate change, investment-related terms (ESG, sustainable investing, impact investing, etc.) have risen even more - 33x in 2017 from 2010 levels. Corporate topics (employee diversity, reputation risk, worker safety, etc.) have risen 13x since 2010. We also found that the volatility (or ‘trendability’) of ESG topics has increased significantly in 2017 - the standard deviation of the weekly percentage change in post volume was 60% in 2017, more than double the 25% in 2016 and 23% in 2015 (see Exhibit 2).

Exhibit 2: ESG trending

Total social media posts on Twitter from Jan 2010 to March 31, 2018 (left axis); standard deviation of weekly % change in post volume for each year (right axis)



Keywords: employee engagement, corporate reputation, corporate citizenship, corporate responsibility, company culture, employee turnover, employee diversity, employee satisfaction, reputational risk, employee safety, safety performance, corporate volunteering, pollution, recycling, climate change, global warming, social impact, environmental responsibility, water scarcity, water efficiency, clean energy, renewable energy, clean tech, energy efficiency, circular economy, sustainable development goals, SDGs, ESG, Environmental, social, and governance, socially responsible investing, sustainable investing, sustainable investment, impact investing, sustainable finance, dow jones sustainability index, DJSI, green bonds

Source: Crimson Hexagon, Goldman Sachs Global Investment Research

Changing demands from the workforce

In order for companies to effectively compete for global talent, attention to and performance on ESG topics has become increasingly important. For example, according to surveys from Deloitte and Cone Communications (part of Omnicom Group), responsible business practices have a profound effect on Millennial’s views of business and ultimately their employment decisions.

Exhibit 3: ESG initiatives can make workers more engaged and more loyal

Survey of 1020 adults over age of 20, at companies with over 1,000 employees in 2016 (Cone Communications), 8,000 millennials in over 30 countries working predominately in private-sector organizations in 2017 (Deloitte).

Millennial Workforce Stats	
Attraction + Loyalty	75% would take a pay cut to work for a responsible company (vs. 55% U.S. average)
	83% would be more loyal to a company that helps them contribute to E&S issues (vs. 70% U.S. average)
	46% more likely to stay 5+ years if they have opportunities to contribute to charities / good causes in their workplace compared to those without
	88% say their job is more fulfilling when they are provided opportunities to make a positive impact on E&S issues (vs. 74% U.S. average)
	76% consider a company's social and environmental commitments when deciding where to work (vs. 58% U.S. average)
Engagement	64% won't take a job from a company that doesn't have strong CSR practices (vs. 51% U.S. average)
	88% think it is important their employer shares goals, progress and achievements related to CSR efforts (vs. 75% U.S. average)
	89% want to be active participants in helping their company improve its responsible business practices by providing feedback, ideas and potential solutions (vs. 78% U.S. average)
	89% expect employers to provide hands-on activities around environmental responsibilities in the workplace (vs. 77% U.S. average)
	83% want their company to provide support and resources for them to make positive social and environmental changes at home (vs. 70% U.S. average)
	84% want their company to help them identify ways to get more involved in their communities (vs. 65% U.S. average)

Source: Cone Communications, Deloitte

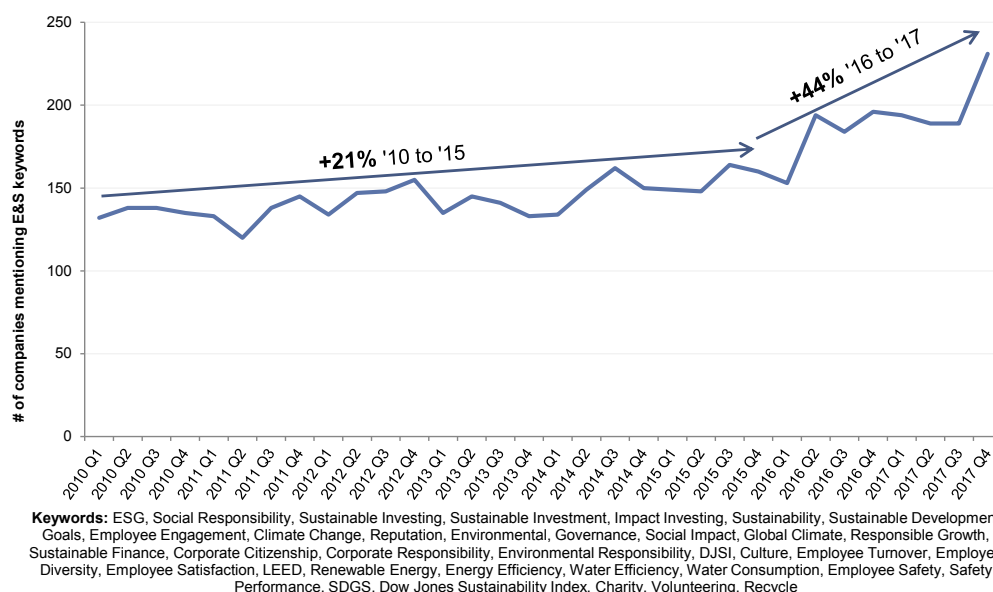
2) ESG finally arriving on the quarterly earnings call

Perhaps the key missing link for progressing ESG integration into investments has been corporate participation in addressing and disclosing ESG performance. A common refrain from investors has been that companies rarely if ever talk about ESG topics on earnings calls. The evidence below shows that this is changing in significant ways.

Our GS Data Works review of quarterly transcripts for the S&P 500 going back to 2010 identified a 75% increase in the number of companies discussing key E&S terms on their earnings calls. In the latest completed quarter ending 2017, over 230 companies mentioned E&S topics, representing almost half of the S&P 500. We saw noticeable increases in sectors such as Health Care, Financials, Industrials and Materials. Below we highlight notable quotes from Q4 transcripts touching on water & energy efficiency, workforce culture and turnover, skills training, product health, carbon emissions and more. We list additional quotes from 2016 and 2017 later in this report.

Exhibit 4: Showing up on the CEO agenda

Number of S&P 500 companies mentioning at least one E&S keyword, Q1 2010 to Q4 2017 (calendar year)



Source: Company data, Goldman Sachs Global Investment Research

Sample Corporate Quotes from 4Q 2017 earnings**Operational Excellence and Efficiency**

*“One of our first applications is using reclaimed beach plastic for Head & Shoulders bottles. As supply of these materials grows, we’ll look to expand their use to other categories. In Health Care, we’re launching ZzzQuil PURE Zzzs, a melatonin-based sleep aid, naturally free of artificial flavors, gluten, lactose and gelatin. Our supply network transformation further enabled improvements in environmental sustainability as we move manufacturing and distribution closer to consumption. Since 2010, we’ve **reduced truck transportation kilometers by more than 25%**. Over the same time period, **our plant sites have reduced water usage by 24% and increased our use of renewable energy to 10%, with a goal of 30% in the next 4 years...***

*As you know, we completed a \$10 billion productivity program in fiscal 2016 and have doubled down another \$10 billion starting next fiscal year. We continue to progress our supply chain transformation. Next month, we expect to start production of the first of several categories at our new state-of-the-art, multi-category manufacturing facility in West Virginia. **The sustainability efforts I recited earlier obviously go hand in glove with our productivity efforts, contributing significantly to reductions in cost.**” - Proctor & Gamble, Jon Moeller, CEO, Q4 2017*

Employees and Culture

*“This skills gap threatens the competitiveness of American businesses. To help close this gap, **the Cognizant U.S. Foundation will fund and develop STEM education programs, public-private partnerships and other initiatives designed for high school graduates, community college and college students, veterans and others in***

the workforce seeking specialized technical skills for digital business jobs. As part of Cognizant's overall social responsibility focus, we've been enabling STEM education for a dozen years. The work of our new foundation will build on our global commitment to train tomorrow's technology professionals, reskill and upskill today's workers and give back to the local communities where the company does business. Our company runs on highly skilled talent." - **Cognizant Technology, Francisco D'Souza, CEO, Q4 2017**

Customers and Reputation

"First, our underlying strategic objectives continue to be to deliver profitable growth through leadership positions and durable markets **underpinned by global mega trends such as sustainability and the need to dramatically reduce energy demand and resource constraints** in buildings, homes, industrial and transport markets around the world. We focus on innovation, and **delivering the most reliable energy-efficient and environmentally friendly products and services available**, enabled by digital and other exponential technologies. **We excel at delivering energy efficiency and reducing greenhouse gas emissions, reducing food waste, preserving natural resources and generating productivity for our customers.**" - **Ingersoll Rand, Mike Lamach, CEO, Q4 2017**

ESG Commitments

"We've made significant strides to reduce our environmental footprints and have **already lowered our carbon emissions by 31% from 2005.** In 2017, we extended our **commitment to reduce carbon emissions by 40% by 2030. With more than \$11 billion dedicated to building more efficient natural gas-fired plants and renewable generation**, we will continue to diversify our generation portfolio, while maintaining competitive rates for our customers." - **Duke Energy, Lynn Good, CEO, Q4 2017**

3) Investment giants awaken to meet the demand

We believe the potential benefits of ESG are underutilized by asset managers. In our view, ESG integration offers a differentiated and alpha-additive complement to fundamental analysis with the added benefit of helping to attract and retain a growing pool of assets. As corporate disclosure and dialog continues to improve, investors will be better able to assess ESG's influence on company and stock performance, helping to further deliver alpha and refine engagement. A selection of key recent developments demonstrate the growing influence of ESG on the investment community:

- **Rising tide for ESG AUM.** We identify two sources for measuring the size and growth of ESG AUM that we believe offer more focused and accurate assessments than some commonly cited measures. Each of these point to accelerating growth of assets in the space. Global ESG/SRI open-ended funds (including exclusionary screens) saw 29% AUM growth in 2017 vs. 10% in 2016, with total global AUM reaching \$900 bn by the end of February 2018 according to Morningstar. Excluding funds with negative screens not core to the investment strategy, total global ESG fund AUM grew 37% in 2017 to \$445 bn, while in the first two months of 2018, ESG ETFs have seen inflows of \$1.3 bn compared to \$3.2 bn for all of 2017 according to Bloomberg. We note that these numbers don't include SMAs or funds that integrate

ESG but market it as such, suggesting these numbers provide a floor for total ESG AUM with the overall value likely being much larger.

- **More from ETFs and green bonds.** Based on data from BlackRock, 22 and 18 ESG ETF's were launched in 2016 and 2017, respectively, compared to a combined 24 over the previous 10 years. Furthermore, green bond issuances are expected to exceed \$250 bn in 2018, up 60% and eclipsing \$155 bn in 2017 according to Moody's.
- **Cost of capital now directly being tied to ESG performance in some cases.** We have identified four publicly disclosed cases of banks directly linking loan margins to corporate ESG performance for Danone, Royal Phillips, Olam International and Unibail-Rodamco. For example, a \$2 bn syndicated credit facility for Danone will be directly adjusted, up or down, based on 1) sales from their sustainably certified ('B Corp') subsidiaries and 2) third-party independent ESG scores. This ultimately links ESG directly to the cost of capital and should spur ESG disclosure looking forward, in our view.
- **ESG is directly impacting credit ratings**, as agencies integrate ESG factors into their risk assessment and ratings methodologies. For example, S&P Global Ratings had 106 cases between July 2015 and August 2017 where environmental and climate concerns directly impacted a company's rating through either an upgrade, downgrade, outlook revision or CreditWatch placement.¹
- **Environmental and Social shareholder proposals rising.** E&S proposals made up around 41% (345) of all shareholder proposals (approx. 827) in 2017, up from 33% (299 E&S, 916 total) in 2016.² A preview of the 2018 proxy season shows similar rates of E&S proposals filed compared to last year.³ While average support remained low at 21.4%, this has increased from 19.7% in 2016. Proposals included topics addressing climate change, diversity, wage gaps, sustainability reporting, supply chain impacts, etc. The number of proposals that received majority support has also increased, with 6 proposals being passed in 2017, up from 4 in 2016.⁴
- **The largest asset managers are flexing their muscle on ESG issues.** Four of the ten largest asset managers voted for E&S proposals for the first time in 2017, including Fidelity and Capital Group, along with BlackRock and Vanguard who both voted against Exxon Mobil and Occidental on climate proposals. Each of the latter organizations have committed to adding additional ESG resources, with BlackRock saying they will double the size of their investment stewardship team over the next three years to "foster even more effective engagement" with companies.
- **Recent asset manager acquisitions point to arms race in ESG expertise.** Beyond the steady growth of internally incubated ESG expertise, we also observe the

¹ S&P Global Ratings, How Does S&P Global Ratings Incorporate Environmental, Social, And Governance Risks Into Its Ratings Analysis, Nov, 2017

² Shareholder Proposal Developments During the 2017 Proxy Season, Harvard Law School Forum, July 12, 2017

³ *Proxy Preview 2018*, As You Sow, the Sustainable Investments Institute, and Proxy Impact, www.proxypreview.org

⁴ Environmental and Social Proposals in the 2017 Proxy Season, Harvard Law School Forum, Oct 2017

outright acquisition of specialized ESG investment shops in select cases, including tie-ups of Eaton Vance with Calvert Investments, Impax with Pax World, and La Française with Inflection Point Capital Management.

Investor ESG quotables - it's not just BlackRock

Below we highlight public anecdotes from large asset managers showing the significance of ESG to their investment approach or growth strategy.

BlackRock: *“Environmental, social, and governance (ESG) factors relevant to a company’s business can provide essential insights into management effectiveness and thus a company’s long-term prospects. We look to see that a company is attuned to the key factors that contribute to long-term growth: sustainability of the business model and its operations, attention to external and environmental factors that could impact the company, and recognition of the company’s role as a member of the communities in which it operates. A global company needs to be local in every single one of its markets.” - Larry Fink, CEO*

Putnam Investments: *“The true value of active management is being able to find compelling, differentiated investment opportunities that are often undiscovered and away from underlying benchmarks – ultimately seeking to add meaningful alpha to clients’ portfolios... Our ESG product developments are part of a larger continuing effort by Putnam to use its evolving product line-up to help clients capitalize on a broad range of market dynamics through an effective mix of innovative traditional and non-traditional investment strategies.” - Robert L. Reynolds, President and CEO*

“There is a growing realization in the marketplace that companies engaged in sustainability often show enhanced fundamental and financial performance” - Aaron Cooper, CIO, Equities (Putnam)

T. Rowe Price: *“Environmental, social and governance factors are important in any comprehensive investment research process.” - Rob Sharps, group Chief Investment Officer and co-head of global equity.*

Japan’s \$1.37 trillion Government Pension Investment Fund (GPIF): *“Asset managers have to adjust their conventional business model. Investors will be more focused on the long-term investment theme, as AI will take over the short-term trading...In other words, investors will shift their focus to the long-term sustainability of their portfolio, and more focus on their investment themes like ESG...I think the long-term thinking and the ESG-like non-numerical, non-quantitative information will continue to require human interpretation. I believe AI will release the human resource to do something else.” - Hiromichi Mizuno, CIO*

GMO: *“Interest in ESG isn’t necessarily because of the rush of blood to being good. It could be just good business. If you’re a producer of consumer goods, and people become worried about the plastics in your product, or botulism in your food, you lose business. There’s quite a lot of work that suggests that people who are early movers on good behavior are demonstrating that they are simply thinking more about the future,*

*how it will look, how it will play out over 10 or 15 years.” - **Jeremy Grantham, Founder and Chief Investment Strategist***

4) Governments and IGO’s pressing ahead

While we continue to believe that the systematic integration of ESG factors will be predominantly driven from the bottom-up by client demand from both retail and institutional investors, we note recent examples of government organizations driving incremental regulation, recommending policy or giving guidance that are adding top-down influence.

- **38 of the top 50 economies have or are developing some sort of government-led ESG disclosure guidelines for corporations** according to PRI. While most of these are voluntary or comply-or-explain they help raise awareness and offer guidance for structuring corporate disclosure on ESG topics.⁵ Most notably the EU has enacted the mandatory Non-Financial Reporting Directive (NFRD) for large companies (500 or more employees) to disclose non-financial information and discuss social and environmental topics in their annual reports starting in 2018.
- **The US DOL provided ESG guidance on ERISA fiduciary duty requirements** that clarified ESG considerations as important in their own right to a fiduciary’s *“primary analysis of the economic merits of competing investment choices.”* The guidance further stated that *“the Department does not believe ERISA prohibits a fiduciary from addressing ETIs or incorporating ESG factors in investment policy statements or integrating ESG-related tools, metrics and analyses to evaluate an investment’s risk or return...”*⁶ This marked a change from previous guidance that raised questions as to the fiduciary suitability of ESG integration.
- **The European Commission took steps to steer capital towards sustainable long-term investments** by establishing the High-Level Expert Group (HLEG) to develop recommendations for key financial system stakeholders including banks, insurance companies, asset managers, pensions, credit raters, consultants and investment banks. The final report and priority actions recommended by the HLEG include *“establishing an EU sustainability taxonomy... clarifying investor duties to extend the time horizons of investment and bring greater focus on environmental, social and governance (ESG) factors into investment decisions, [and] upgrading disclosures to make sustainability opportunities and risks transparent”*⁷ The Commission has already enacted actions plans based on the HLEG’s recommendations, including proposing the inclusion of ESG factors in the mandates of the European Supervisory Authorities (ESA).⁸

⁵ Global Guide to Responsible Investment Regulation, Principles for Responsible Investment, 2016

⁶ Interpretive Bulletin Relating to the Fiduciary Standard Under ERISA in Considering Economically Targeted Investments, Doc # 80 FR 65135, Department of Labor, Oct 25th 2015

⁷ Sustainable finance, EU Commission, https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance_en

⁸ Sustainable finance: Commission’s Action Plan for a greener and cleaner economy, European Commission, March 08, 2018, http://europa.eu/rapid/press-release_IP-18-1404_en.htm

- **193 countries agreed upon the 17 Sustainable Development Goals (SDGs) set forth by the UN** on September 25, 2015. The SDGs provide objectives covering a wide range of environmental, social and economic issues including poverty, hunger, health, education, climate, gender equality, water, energy, sanitation and social justice. Each goal has specific targets, 169 in total, to be achieved by 2030. A range of investors have taken action to make the SDGs investable while select companies have begun addressing relevant goals through their operations and sustainability initiatives.
- **The world's largest pension fund takes a strong stance.** Japan's Government Pension Investment Fund with US\$1.4 tn of assets under management now requires external asset managers to incorporate ESG. GPIF's size and focus on ESG integration is having a material impact on investor stewardship and engagement with ESG, including for passive asset managers. On March 13, 2017, GPIF issued a call for applications from managers of passive Japanese equities that included a review of stewardship activity policies from applicants.

Beyond the earnings call: Disclosure, strategy and activism

Beyond the earnings call, we list below several other domains in which corporates are pushing the ESG conversation forward:

- **ESG data gaps are shrinking.** Disclosure on quantifiable metrics (energy usage, CO2 emissions, employee turnover, injury rates, etc.) incorporated in our E&S scoring framework has increased every year since 2010, rising from 26% of the MSCI ACWI universe in 2010 to 37% in the latest completed reporting cycle ('15-16).
- **Sustainability in communication of long-term strategy.** Through the Strategic Investor Initiative Forum, CEOs from over 20 large public companies including Unilever, Aetna, Medtronic, Johnson & Johnson, IBM, Becton Dickinson, UPS, 3M and Delphi have proactively presented their long-term strategy and ESG initiatives directly to shareholders, a trend that we expect to continue to progress.
- **Growing corporate activism on environmental and social issues.** From Walmart's voluntary wage increases and stricter limits on gun sales, to CVS dropping tobacco and removing chemicals of concerns from hundreds of its products, to Shell disclosing its plan for a 2-degree scenario, the examples of corporates proactively addressing key E&S issues that are core to their operations and long-term strategy are proliferating.

Additional corporate quotes from 2016/2017 earnings

Operational Excellence and Efficiency

*"We are also using less packaging and generating less landfill waste. We have successfully reduced packaging weight and size and increased post-consumer recycled content in our packaging. By reducing packaging weight and size, we have removed almost 100 million pounds of packaging materials from the market in 2015 alone. We have worked to increase the recycling rates of beverage containers among consumers and **we have significantly reduced the amount of solid waste generated by our***

operations at the central landfills, achieving a rate of over 90% solid waste diversion away from landfills in 2015. And we have reduced greenhouse gas emissions by focusing on energy use and renewable energy and by modernizing our fleet with more fuel efficient vehicles, routing and capacity utilization. In fact **compared to 2006, we have improved the energy efficiency of our legacy operations by 18%.** Taken together, our environmental sustainability initiatives have not only had a significant positive impact on our planet but they have also **contributed to our productivity savings.**” - PepsiCo, Indra Nooyi, CEO, Q2 2016

“So as you can see, 2017 was one step forward after another. **It was our busiest year, but it was also our safest year on record.** Our **total recordable incident rate for 2017 was just 0.78, making it the fourth year in a row our rate was below 1.** And this speaks to the caliber of our people and our culture. You may have noticed that culture is getting a lot of attention lately in the business world. Lots of us talk about what it takes to achieve employee engagement and sustainability and other attributes of good corporate citizenship.” - United Rentals, Michael Kneeland, CEO, Q4 2017

“**Finally, building on the culture element of our model, high-quality teams and deep employee engagement are critical to any sustained transformation** and I’m pleased that we continue to excel in these areas. One source of great pride within Ingersoll-Rand is our ability to walk the talk on sustainability. To make the point, we continue to see **benchmark levels for employee engagement; world-class safety performance** for any segment of industry; **energy reduction of 5% on an absolute, not volume adjusted, basis; a 14% reduction in water consumption, also on an absolute basis; and similar reductions of both hazardous and nonhazardous waste.**” - Ingersoll Rand, Mike Lamach, CEO, Q2 2016

“And lastly, we’ll continue to develop sustainable solutions that leave our world, environment and communities better than we found them. **We’re always finding new ways to reduce our resource intensity and waste for ourselves and our customers. Addressing food waste, product damage and our environment are all priorities for us.** By moving sustainability under innovation, it will be at the core of what we do and how we operate. **Accelerating our efforts in sustainability will not only make us more profitable, it’s the right thing to do.** We are committed to creating value for our customers, shareholders and the communities where we live and work.” - Edward Dohney, CEO, Sealed Air Corporation, Q4 2017

Employees and Culture

“No other hotel company offers our comprehensive range of destinations. No other company has loyalty programs of the breadth and depth we do. And none offer the meaningful scale that drives both guest satisfaction and owner returns. But **our most powerful advantage is our culture. It is a deep commitment to people, treating each other with dignity and respect, offering everyone opportunities for learning and growth** and working together as a team.” - Marriott, Arne Sorenson, CEO, 2017 Q4

*“We’ve also created renewed vibrancy and energy across our company and our culture as we work together to execute our business strategy and to accelerate growth. As an example, over the past 2 years, **our employee satisfaction has increased while our turnover has decreased.** Another important element of our culture is our ongoing **commitment to make eBay more diverse and inclusive, which is a competitive advantage in recruiting world-class talent**, and ensuring that our workforce reflects the diversity of our Marketplace.” - eBay, Devin Wenig, CEO, Q2 2017*

*“We continued to improve our Net Promoter Scores and drive market share gains, proof that our strategy is resonating with customers. **We reduced store employee turnover and increased overall employee engagement.** And we made significant progress against key Best Buy 2020 initiatives. For example, last September, we launched our new In-Home Advisor program nationally and significantly expanded our total tech support pilots.” - Best Buy, Hubert Joly, CEO, Q4 2017*

*“As suggested in earlier calls, these goals are focusing more on the drivers of success than only the outcomes. We’re calling this journey our 20/20 Vision. The 20/20 Vision program calls for further improving our brand’s already excellent guest ratings, calls for **raising employee engagement scores and it calls for achieving the sustainability commitments made with the World Wildlife Fund. These drivers should help us achieve double-digit earnings per share by 2020 while further improving our double-digit return on invested capital.** We see 20/20 Vision as our guiding focus for the organization over the coming years.” - Royal Caribbean Cruises, Richard Fain, CEO, Q3 2017*

ESG matters for Customers / Reputation

*“We continue to **develop new naturals offerings to increase the relevance of our brands and products with the naturals consumer and the increasingly environmentally concerned shopper**, whether she’s a millennial or a baby boomer. Meeting consumer needs related to sustainability and naturals is not new at P&G. Take laundry as an example. P&G was the first multinational company to remove phosphates from all laundry detergents without a compromise in cleaning.” - Procter & Gamble, Jon Moeller, CEO, Q4 2017*

*“We do this stuff because it’s good for our customers and we can make money doing it. **Sustainability is a good investment because in the long term, the life cycle cost of operating the building are more favorable to our customers. And eventually, that translates to rent.** So to the extent that Paris or anything else might change those dynamics on the margin, the economics will change and we’ll do less in some areas and more in other areas.” - Prologis, Hamid Modhadam, CEO, Q4, 2017*

*“Along the lines of sustainable long-term value creation, I would also like to highlight the recent announcement that Digital Realty ranks sixth on the U.S. EPA’s top 30 tech and telecom list of the largest consumers of green power and 12th on the national top 100 list of green power users. We are proud of our sustainability initiatives, and **we remain committed to manage our environmental impact and optimizing our use of energy and natural resources because we believe it’s the right thing to do and because it***

matters to our customers. Sourcing renewable energy is also important to many of our customers, including some of the world's largest consumers of data center capacity, and our ability to meet their needs for renewable and highly efficient data center solution sets us apart from our competitors.” - Digital Realty Trust, Arthur Stein, CEO, Q2 2017

*“For our customers, we strive to provide the highest level of customer service and are committed to developing differentiated and superior products that meet their wants and needs. Some of our accomplishments during 2017 included the following: **First, to meet the demand of our customers, we expanded our recycling processing capabilities through the acquisition of ReCommunity. Our customers have told us recycling is important to them and have demonstrated the willingness to pay. Additionally, to ensure the sustainability of recycling, we have transitioned approximately 85% of our processing volume to a more durable fee-based model.** Second, we continued to refine and optimize our digital platform to improve the online customer buying experience. We saw double-digit growth in online sales and customer satisfaction ratings. Lastly, we completed the transition to our 3 state-of-the-art Customer Resource Centers.” - Republic Service, Donald Slager, CEO, Q4 2017*

ESG commitments

*“We **published our first ever Kraft Heinz corporate risk social responsibility report with sustainability goals and targets to reduce water usage, greenhouse gas emissions, energy usage and waste sent to landfills.** And through our signature micronutrient campaign **we delivered 135 million meals in 2017 to people in need in our fight against global hunger, part of our commitment to deliver 1 billion meals by the year 2021.** To sum it all up, through the end of 2017 the investments we have been making are starting to have the impact in the marketplace that you have been expecting.” - The Kraft Heinz Company, Bernardo Hees, CEO, Q4 2017*

*“We also accelerated progress on our cost containment efforts, delivering more than \$100 million of cost savings in 2017 and more than the \$75 million included on our original 2017 guidance, which brings the cumulative savings to-date to approximately \$300 million. We’re planning another \$80 million of savings in 2018. Importantly, we continue to **make meaningful progress on our 2020 sustainability goals focusing on environmental, safety, labor and social performance.** We have already **reduced our unit fuel consumption by 29%** since initiating the effort. We remain **committed to ongoing reduction in air emissions with,** during 2017, the delivery of AIDAperla, **our second cruise ship to be powered in-port by environmentally friendly liquefied natural gas; and the keeling of AIDAnova, the first of 7 all-LNG ships on order.” - Carnival Corporation, Arnold Donald, CEO, Q3 2017***

Disclosure Appendix

Reg AC

We, Derek R. Bingham, Evan Tylanda, CFA, Hugo Scott-Gall, Christopher Vilburn, CFA and Gabriel Wilson-Otto, CFA, hereby certify that all of the views expressed in this report accurately reflect our personal views about the subject company or companies and its or their securities. We also certify that no part of our compensation was, is or will be, directly or indirectly, related to the specific recommendations or views expressed in this report.

Unless otherwise stated, the individuals listed on the cover page of this report are analysts in Goldman Sachs' Global Investment Research division.

GS Factor Profile

The Goldman Sachs Factor Profile provides investment context for a stock by comparing key attributes to the market (i.e. our coverage universe) and its sector peers. The four key attributes depicted are: Growth, Financial Returns, Multiple (e.g. valuation) and Integrated (a composite of Growth, Financial Returns and Multiple). Growth, Financial Returns and Multiple are calculated by using normalized ranks for specific metrics for each stock. The normalized ranks for the metrics are then averaged and converted into percentiles for the relevant attribute. The precise calculation of each metric may vary depending on the fiscal year, industry and region, but the standard approach is as follows:

Growth is based on a stock's forward-looking sales growth, EBITDA growth and EPS growth (for financial stocks, only EPS and sales growth), with a higher percentile indicating a higher growth company. **Financial Returns** is based on a stock's forward-looking ROE, ROCE and CROCI (for financial stocks, only ROE), with a higher percentile indicating a company with higher financial returns. **Multiple** is based on a stock's forward-looking P/E, P/B, price/dividend (P/D), EV/EBITDA, EV/FCF and EV/Debt Adjusted Cash Flow (DACF) (for financial stocks, only P/E, P/B and P/D), with a higher percentile indicating a stock trading at a higher multiple. The **Integrated** percentile is calculated as the average of the Growth percentile, Financial Returns percentile and (100% - Multiple percentile).

Financial Returns and Multiple use the Goldman Sachs analyst forecasts at the fiscal year-end at least three quarters in the future. Growth uses inputs for the fiscal year at least seven quarters in the future compared with the year at least three quarters in the future (on a per-share basis for all metrics).

For a more detailed description of how we calculate the GS Factor Profile, please contact your GS representative.

M&A Rank

Across our global coverage, we examine stocks using an M&A framework, considering both qualitative factors and quantitative factors (which may vary across sectors and regions) to incorporate the potential that certain companies could be acquired. We then assign a M&A rank as a means of scoring companies under our rated coverage from 1 to 3, with 1 representing high (30%-50%) probability of the company becoming an acquisition target, 2 representing medium (15%-30%) probability and 3 representing low (0%-15%) probability. For companies ranked 1 or 2, in line with our standard departmental guidelines we incorporate an M&A component into our target price. M&A rank of 3 is considered immaterial and therefore does not factor into our price target, and may or may not be discussed in research.

Quantum

Quantum is Goldman Sachs' proprietary database providing access to detailed financial statement histories, forecasts and ratios. It can be used for in-depth analysis of a single company, or to make comparisons between companies in different sectors and markets.

GS SUSTAIN

GS SUSTAIN is a global investment strategy focused on the generation of long-term alpha through identifying high quality industry leaders. The GS SUSTAIN 50 list includes leaders we believe to be well positioned to deliver long-term outperformance through superior returns on capital, sustainable competitive advantage and effective management of ESG risks vs. global industry peers. Candidates are selected largely on a combination of quantifiable analysis of these three aspects of corporate performance.

Disclosures

Distribution of ratings/investment banking relationships

Goldman Sachs Investment Research global Equity coverage universe

	Rating Distribution			Investment Banking Relationships		
	Buy	Hold	Sell	Buy	Hold	Sell
Global	35%	53%	12%	63%	57%	51%

As of April 1, 2018, Goldman Sachs Global Investment Research had investment ratings on 2,896 equity securities. Goldman Sachs assigns stocks as Buys and Sells on various regional Investment Lists; stocks not so assigned are deemed Neutral. Such assignments equate to Buy, Hold and Sell for the purposes of the above disclosure required by the FINRA Rules. See 'Ratings, Coverage groups and views and related definitions' below. The Investment Banking Relationships chart reflects the percentage of subject companies within each rating category for whom Goldman Sachs has provided investment banking services within the previous twelve months.

Regulatory disclosures

Disclosures required by United States laws and regulations

See company-specific regulatory disclosures above for any of the following disclosures required as to companies referred to in this report: manager or co-manager in a pending transaction; 1% or other ownership; compensation for certain services; types of client relationships; managed/co-managed public offerings in prior periods; directorships; for equity securities, market making and/or specialist role. Goldman Sachs trades or may trade as a principal in debt securities (or in related derivatives) of issuers discussed in this report.

The following are additional required disclosures: **Ownership and material conflicts of interest:** Goldman Sachs policy prohibits its analysts, professionals reporting to analysts and members of their households from owning securities of any company in the analyst's area of coverage. **Analyst compensation:** Analysts are paid in part based on the profitability of Goldman Sachs, which includes investment banking revenues. **Analyst as officer or director:** Goldman Sachs policy generally prohibits its analysts, persons reporting to analysts or members of their households from serving as an officer, director or advisor of any company in the analyst's area of coverage. **Non-U.S. Analysts:** Non-U.S. analysts may not be

associated persons of Goldman Sachs & Co. LLC and therefore may not be subject to FINRA Rule 2241 or FINRA Rule 2242 restrictions on communications with subject company, public appearances and trading securities held by the analysts.

Distribution of ratings: See the distribution of ratings disclosure above. **Price chart:** See the price chart, with changes of ratings and price targets in prior periods, above, or, if electronic format or if with respect to multiple companies which are the subject of this report, on the Goldman Sachs website at <http://www.gs.com/research/hedge.html>.

Additional disclosures required under the laws and regulations of jurisdictions other than the United States

The following disclosures are those required by the jurisdiction indicated, except to the extent already made above pursuant to United States laws and regulations. **Australia:** Goldman Sachs Australia Pty Ltd and its affiliates are not authorised deposit-taking institutions (as that term is defined in the Banking Act 1959 (Cth)) in Australia and do not provide banking services, nor carry on a banking business, in Australia. This research, and any access to it, is intended only for "wholesale clients" within the meaning of the Australian Corporations Act, unless otherwise agreed by Goldman Sachs. In producing research reports, members of the Global Investment Research Division of Goldman Sachs Australia may attend site visits and other meetings hosted by the companies and other entities which are the subject of its research reports. In some instances the costs of such site visits or meetings may be met in part or in whole by the issuers concerned if Goldman Sachs Australia considers it is appropriate and reasonable in the specific circumstances relating to the site visit or meeting. To the extent that the contents of this document contains any financial product advice, it is general advice only and has been prepared by Goldman Sachs without taking into account a client's objectives, financial situation or needs. A client should, before acting on any such advice, consider the appropriateness of the advice having regard to the client's own objectives, financial situation and needs.

Brazil: Disclosure information in relation to CVM Instruction 483 is available at <http://www.gs.com/worldwide/brazil/area/gir/index.html>. Where applicable, the Brazil-registered analyst primarily responsible for the content of this research report, as defined in Article 16 of CVM Instruction 483, is the first author named at the beginning of this report, unless indicated otherwise at the end of the text. **Canada:** Goldman Sachs Canada Inc. is an affiliate of The Goldman Sachs Group Inc. and therefore is included in the company specific disclosures relating to Goldman Sachs (as defined above). Goldman Sachs Canada Inc. has approved of, and agreed to take responsibility for, this research report in Canada if and to the extent that Goldman Sachs Canada Inc. disseminates this research report to its clients. **Hong Kong:** Further information on the securities of covered companies referred to in this research may be obtained on request from Goldman Sachs (Asia) L.L.C. **India:** Further information on the subject company or companies referred to in this research may be obtained from Goldman Sachs (India) Securities Private Limited, Research Analyst - SEBI Registration Number INH000001493, 951-A, Rational House, Appasaheb Marathe Marg, Prabhadevi, Mumbai 400 025, India, Corporate Identity Number U74140MH2006FTC160634, Phone +91 22 6616 9000, Fax +91 22 6616 9000. Goldman Sachs may beneficially own 1% or more of the securities (as such term is defined in clause 2 (h) the Indian Securities Contracts (Regulation) Act, 1956) of the subject company or companies referred to in this research report. **Japan:** See below. **Korea:** Further information on the subject company or companies referred to in this research may be obtained from Goldman Sachs (Asia) L.L.C., Seoul Branch. **New Zealand:** Goldman Sachs New Zealand Limited and its affiliates are neither "registered banks" nor "deposit takers" (as defined in the Reserve Bank of New Zealand Act 1989) in New Zealand. This research, and any access to it, is intended for "wholesale clients" (as defined in the Financial Advisers Act 2008) unless otherwise agreed by Goldman Sachs. **Russia:** Research reports distributed in the Russian Federation are not advertising as defined in the Russian legislation, but are information and analysis not having product promotion as their main purpose and do not provide appraisal within the meaning of the Russian legislation on appraisal activity. **Singapore:** Further information on the covered companies referred to in this research may be obtained from Goldman Sachs (Singapore) Pte. (Company Number: 198602165W). **Taiwan:** This material is for reference only and must not be reprinted without permission. Investors should carefully consider their own investment risk. Investment results are the responsibility of the individual investor. **United Kingdom:** Persons who would be categorized as retail clients in the United Kingdom, as such term is defined in the rules of the Financial Conduct Authority, should read this research in conjunction with prior Goldman Sachs research on the covered companies referred to herein and should refer to the risk warnings that have been sent to them by Goldman Sachs International. A copy of these risks warnings, and a glossary of certain financial terms used in this report, are available from Goldman Sachs International on request.

European Union: Disclosure information in relation to Article 4 (1) (d) and Article 6 (2) of the European Commission Directive 2003/125/EC is available at <http://www.gs.com/disclosures/europeanpolicy.html> which states the European Policy for Managing Conflicts of Interest in Connection with Investment Research.

Japan: Goldman Sachs Japan Co., Ltd. is a Financial Instrument Dealer registered with the Kanto Financial Bureau under registration number Kinsho 69, and a member of Japan Securities Dealers Association, Financial Futures Association of Japan and Type II Financial Instruments Firms Association. Sales and purchase of equities are subject to commission pre-determined with clients plus consumption tax. See company-specific disclosures as to any applicable disclosures required by Japanese stock exchanges, the Japanese Securities Dealers Association or the Japanese Securities Finance Company.

Ratings, coverage groups and views and related definitions

Buy (B), Neutral (N), Sell (S) -Analysts recommend stocks as Buys or Sells for inclusion on various regional Investment Lists. Being assigned a Buy or Sell on an Investment List is determined by a stock's total return potential relative to its coverage. Any stock not assigned as a Buy or a Sell on an Investment List with an active rating (i.e., a stock that is not Rating Suspended, Not Rated, Coverage Suspended or Not Covered), is deemed Neutral. Each regional Investment Review Committee manages various regional Investment Lists to a global guideline of 25%-35% of stocks as Buy and 10%-15% of stocks as Sell; however, the distribution of Buys and Sells in any particular analyst's coverage group may vary as determined by the regional Investment Review Committee. Additionally, each Investment Review Committee manages Regional Conviction lists, which represent investment recommendations focused on the size of the total return potential and/or the likelihood of the realization of the return across their respective areas of coverage. The addition or removal of stocks from such Conviction lists do not represent a change in the analysts' investment rating for such stocks.

Total return potential represents the upside or downside differential between the current share price and the price target, including all paid or anticipated dividends, expected during the time horizon associated with the price target. Price targets are required for all covered stocks. The total return potential, price target and associated time horizon are stated in each report adding or reiterating an Investment List membership.

Coverage groups and views: A list of all stocks in each coverage group is available by primary analyst, stock and coverage group at <http://www.gs.com/research/hedge.html>. The analyst assigns one of the following coverage views which represents the analyst's investment outlook on the coverage group relative to the group's historical fundamentals and/or valuation. **Attractive (A).** The investment outlook over the following 12 months is favorable relative to the coverage group's historical fundamentals and/or valuation. **Neutral (N).** The investment outlook over the following 12 months is neutral relative to the coverage group's historical fundamentals and/or valuation. **Cautious (C).** The investment outlook over the following 12 months is unfavorable relative to the coverage group's historical fundamentals and/or valuation.

Not Rated (NR). The investment rating and target price have been removed pursuant to Goldman Sachs policy when Goldman Sachs is acting in an advisory capacity in a merger or strategic transaction involving this company and in certain other circumstances. **Rating Suspended (RS).** Goldman Sachs Research has suspended the investment rating and price target for this stock, because there is not a sufficient fundamental basis for determining, or there are legal, regulatory or policy constraints around publishing, an investment rating or target. The previous investment rating and price target, if any, are no longer in effect for this stock and should not be relied upon. **Coverage Suspended (CS).** Goldman Sachs has suspended

coverage of this company. **Not Covered (NC)**. Goldman Sachs does not cover this company. **Not Available or Not Applicable (NA)**. The information is not available for display or is not applicable. **Not Meaningful (NM)**. The information is not meaningful and is therefore excluded.

Global product; distributing entities

The Global Investment Research Division of Goldman Sachs produces and distributes research products for clients of Goldman Sachs on a global basis. Analysts based in Goldman Sachs offices around the world produce equity research on industries and companies, and research on macroeconomics, currencies, commodities and portfolio strategy. This research is disseminated in Australia by Goldman Sachs Australia Pty Ltd (ABN 21 006 797 897); in Brazil by Goldman Sachs do Brasil Corretora de Títulos e Valores Mobiliários S.A.; Ombudsman Goldman Sachs Brasil: 0800 727 5764 and / or ouvidoriagoldmansachs@gs.com. Available Weekdays (except holidays), from 9am to 6pm. Ouvidoria Goldman Sachs Brasil: 0800 727 5764 e/ou ouvidoriagoldmansachs@gs.com. Horário de funcionamento: segunda-feira à sexta-feira (exceto feriados), das 9h às 18h; in Canada by either Goldman Sachs Canada Inc. or Goldman Sachs & Co. LLC; in Hong Kong by Goldman Sachs (Asia) L.L.C.; in India by Goldman Sachs (India) Securities Private Ltd.; in Japan by Goldman Sachs Japan Co., Ltd.; in the Republic of Korea by Goldman Sachs (Asia) L.L.C., Seoul Branch; in New Zealand by Goldman Sachs New Zealand Limited; in Russia by OOO Goldman Sachs; in Singapore by Goldman Sachs (Singapore) Pte. (Company Number: 198602165W); and in the United States of America by Goldman Sachs & Co. LLC. Goldman Sachs International has approved this research in connection with its distribution in the United Kingdom and European Union.

European Union: Goldman Sachs International authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority, has approved this research in connection with its distribution in the European Union and United Kingdom; Goldman Sachs AG and Goldman Sachs International Zweigniederlassung Frankfurt, regulated by the Bundesanstalt für Finanzdienstleistungsaufsicht, may also distribute research in Germany.

General disclosures

This research is for our clients only. Other than disclosures relating to Goldman Sachs, this research is based on current public information that we consider reliable, but we do not represent it is accurate or complete, and it should not be relied on as such. The information, opinions, estimates and forecasts contained herein are as of the date hereof and are subject to change without prior notification. We seek to update our research as appropriate, but various regulations may prevent us from doing so. Other than certain industry reports published on a periodic basis, the large majority of reports are published at irregular intervals as appropriate in the analyst's judgment.

Goldman Sachs conducts a global full-service, integrated investment banking, investment management, and brokerage business. We have investment banking and other business relationships with a substantial percentage of the companies covered by our Global Investment Research Division. Goldman Sachs & Co. LLC, the United States broker dealer, is a member of SIPC (<http://www.sipc.org>).

Our salespeople, traders, and other professionals may provide oral or written market commentary or trading strategies to our clients and principal trading desks that reflect opinions that are contrary to the opinions expressed in this research. Our asset management area, principal trading desks and investing businesses may make investment decisions that are inconsistent with the recommendations or views expressed in this research.

The analysts named in this report may have from time to time discussed with our clients, including Goldman Sachs salespersons and traders, or may discuss in this report, trading strategies that reference catalysts or events that may have a near-term impact on the market price of the equity securities discussed in this report, which impact may be directionally counter to the analyst's published price target expectations for such stocks. Any such trading strategies are distinct from and do not affect the analyst's fundamental equity rating for such stocks, which rating reflects a stock's return potential relative to its coverage group as described herein.

We and our affiliates, officers, directors, and employees, excluding equity and credit analysts, will from time to time have long or short positions in, act as principal in, and buy or sell, the securities or derivatives, if any, referred to in this research.

The views attributed to third party presenters at Goldman Sachs arranged conferences, including individuals from other parts of Goldman Sachs, do not necessarily reflect those of Global Investment Research and are not an official view of Goldman Sachs.

Any third party referenced herein, including any salespeople, traders and other professionals or members of their household, may have positions in the products mentioned that are inconsistent with the views expressed by analysts named in this report.

This research is not an offer to sell or the solicitation of an offer to buy any security in any jurisdiction where such an offer or solicitation would be illegal. It does not constitute a personal recommendation or take into account the particular investment objectives, financial situations, or needs of individual clients. Clients should consider whether any advice or recommendation in this research is suitable for their particular circumstances and, if appropriate, seek professional advice, including tax advice. The price and value of investments referred to in this research and the income from them may fluctuate. Past performance is not a guide to future performance, future returns are not guaranteed, and a loss of original capital may occur. Fluctuations in exchange rates could have adverse effects on the value or price of, or income derived from, certain investments.

Certain transactions, including those involving futures, options, and other derivatives, give rise to substantial risk and are not suitable for all investors. Investors should review current options disclosure documents which are available from Goldman Sachs sales representatives or at <http://www.theocc.com/about/publications/character-risks.jsp>. Transaction costs may be significant in option strategies calling for multiple purchase and sales of options such as spreads. Supporting documentation will be supplied upon request.

Differing Levels of Service provided by Global Investment Research: The level and types of services provided to you by the Global Investment Research division of GS may vary as compared to that provided to internal and other external clients of GS, depending on various factors including your individual preferences as to the frequency and manner of receiving communication, your risk profile and investment focus and perspective (e.g., marketwide, sector specific, long term, short term), the size and scope of your overall client relationship with GS, and legal and regulatory constraints. As an example, certain clients may request to receive notifications when research on specific securities is published, and certain clients may request that specific data underlying analysts' fundamental analysis available on our internal client websites be delivered to them electronically through data feeds or otherwise. No change to an analyst's fundamental research views (e.g., ratings, price targets, or material changes to earnings estimates for equity securities), will be communicated to any client prior to inclusion of such information in a research report broadly disseminated through electronic publication to our internal client websites or through other means, as necessary, to all clients who are entitled to receive such reports.

All research reports are disseminated and available to all clients simultaneously through electronic publication to our internal client websites. Not all research content is redistributed to our clients or available to third-party aggregators, nor is Goldman Sachs responsible for the redistribution of our research by third party aggregators. For research, models or other data related to one or more securities, markets or asset classes (including related services) that may be available to you, please contact your GS representative or go to <http://360.gs.com>.

Disclosure information is also available at <http://www.gs.com/research/hedge.html> or from Research Compliance, 200 West Street, New York, NY 10282.

© 2018 Goldman Sachs.

No part of this material may be (i) copied, photocopied or duplicated in any form by any means or (ii) redistributed without the prior written consent of The Goldman Sachs Group, Inc.