

Capital Markets Strategy

Essential insights for the C-Suite



ESG's Acceleration

20 Transformative Themes to Monitor in 2021

JUN 2021

MUFG's Commitment to Carbon Neutrality

In May 2021, MUFG announced its commitment to achieve net zero emissions in its finance portfolio by 2050 and in its own operations by 2030. As part of its carbon neutrality pledge, MUFG will become the first Japanese bank to join the UN-led Net Zero Banking Alliance.



Net Zero in MUFG's Finance Portfolio by 2050

- First Japanese bank to join UN-led Net Zero Banking Alliance*
- Will set interim milestone for 2030 and annually report on progress
- Portfolio reduction targets for coal-fired power generation (50% reduction by 2030, zero by 2040)
- Targeting ¥35 tn for sustainable finance by 2030
- Support for renewable energy and implementation of innovative technologies
- Expanding scope of sectors subject to TCFD framework analysis
- Will incorporate climate change risk into credit process
- Will set targets to align with Paris Agreement

Net Zero in MUFG's Own Operations by 2030

- 100% renewable energy procurement by the end of FY 2021
- Contribute equivalent of 1% of group operating profit to CSR activities (supporting carbon offsets)
- ¥100 bn phase one investment in renewable energy fund
- First of its kind Japanese program for end to end solution for green power
- MUFG Environmental Policy to be governed by Board of Directors
- Executive compensation to reflect ESG elements

*Ambitious commitment utilizing science based targets to achieve carbon neutrality for scope 1,2,3 emissions

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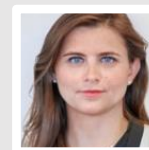
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ESG's Acceleration



1. | ESG's Acceleration Why Now?



Why Now?

After more than 40 years of shareholder supremacy, unsustainable negative externalities and burden shifting have precipitated the rise of stakeholder capitalism, and the transformation of corporate strategy and global finance. While ESG's arrival into the mainstream is unambiguous, what may be less clear to many is "why now?"

ESG's Acceleration

- The rise of stakeholder capitalism
- Transformation of global finance
- Pursuing purposeful corporate strategy
- ESG as new competitive frontier

Unsustainable Negative Externalities

Climate change. Environmental degradation. Fossil fuels. Rising inequality. Insufficient wages. Gender inequities. Race discrimination. Unsafe-unhealthy products. Socially-induced illness. Financial crises. Corporate fraud. Corruption. Human rights.

Unacceptable Burden-Shifting Away from Shareholders

To the environment, taxpayers, governments, customers, employees, & public health. Short term advantaged at longer term expense.

Socio-Political Secular Shifts

Populism. Globalization backlash. Green-sustainable agenda. "Me Too" movement. Black Lives Matter.

Government and regulatory activism. Evolving social values. Generational shifts. Consumer decisions.

Employment choices. Healthcare reform demands. Technology enabled communication & social media.

Private & Public Sector Acceleration

4,000 UN PRI signatories representing \$125 trillion of AUM

Countries globally adopting a whole of government approach. ESG proponents in key seats. Rules directives for every government agency. Disclosure requirements. Carbon taxes. Green technology subsidies & investment.

Impact of COVID-19

Private sector adoption and public policy continue to accelerate. Significant increase in the "S" dimension of ESG. Rapid progress on data collection, measurement, standardization and disclosure requirements.

Climate Risk is Investment Risk

COVID-19 shed light not only on the state of public health, but also on the health and well-being of the planet. Over the last few years, climate-related market, financial and economic damage has risen considerably, including the first major corporate casualty of climate change: the bankruptcy of PG&E.



\$8.7 tn

Amount of rated corporate bonds with direct climate risk



\$7.9 tn

Estimated global economic cost from climate change by 2050



\$2.3 tn

Global cost of climate-related disasters over last two decades



\$450 bn

Amount US Gov't (including FEMA) spent on disaster assistance from 2005 - 2019



\$210 bn

Amount of global climate related assessed damages in 2020



\$81 bn

Global insurance company losses from natural catastrophes in 2020



\$40 bn

Amount of crop loss in the US from extreme weather from 2010-2019



\$30 bn

PG&E's estimated climate-related liabilities prior to filing bankruptcy



22

of climate events > \$1 bn in the US in 2020



7 mn

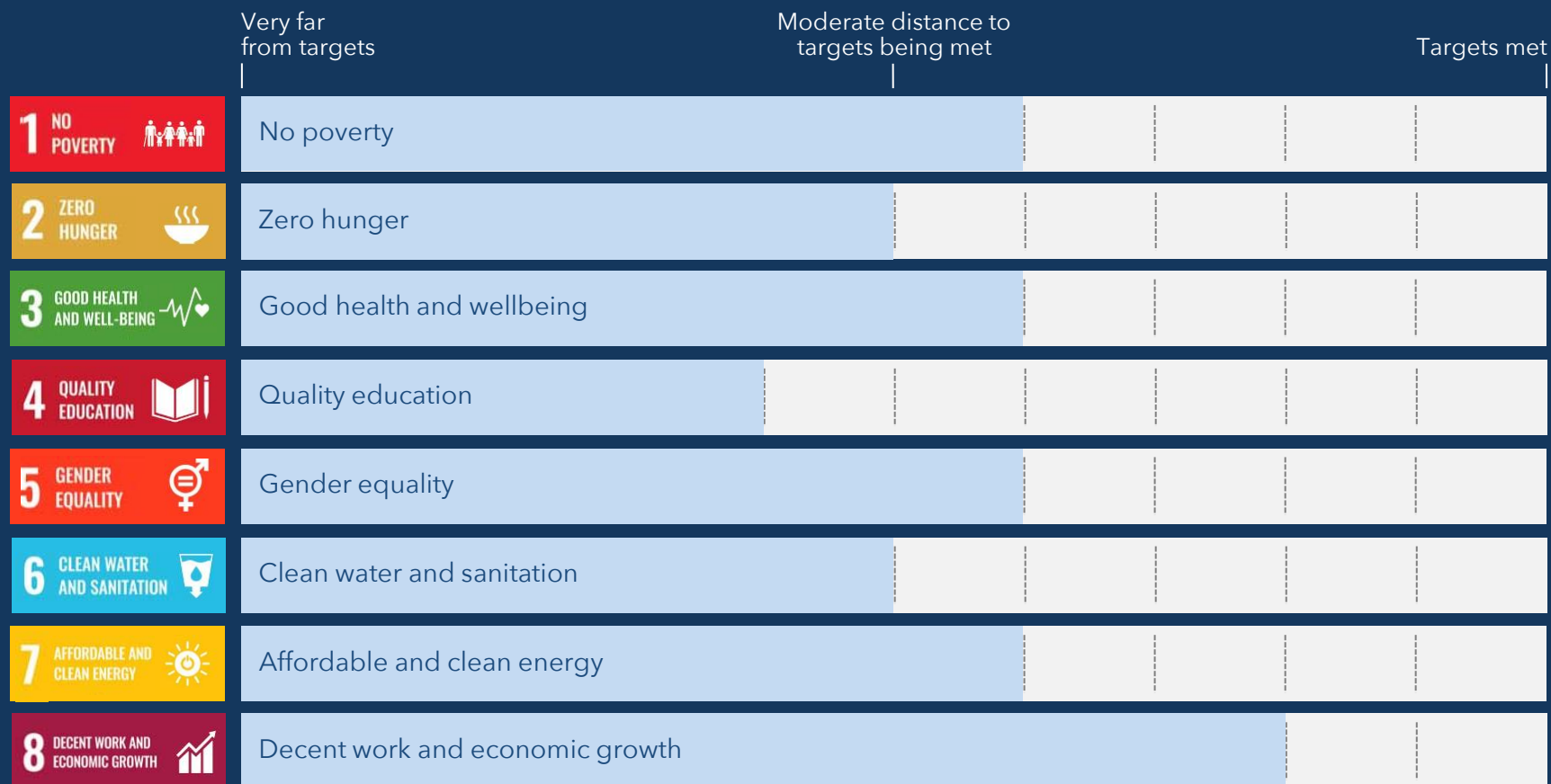
of global premature deaths per year due to air pollution

Source: (1) Moody's. (2-3, 10) UN Foundation. (4, 7) EDF. "Climate Change Fueled Weather Disasters" Datu Research Summer 2020. (5) Munich RE Institute. (6) Swiss RE Institute, "Natural Catastrophes in 2020" (2021) (8) PG&E Company Reports. (9) National Oceanic and Atmospheric Administration.

Global Progress on UN SDGs Significantly Off-Track

In 2015, all member states of the UN adopted the Sustainable Development Goals (SDGs) as part of the 2030 Agenda for Sustainable Development. The 17 goals and 169 targets were meant to be an urgent call for action to support sustainable growth by 2030.

Progress report on UN Sustainable Development Goals

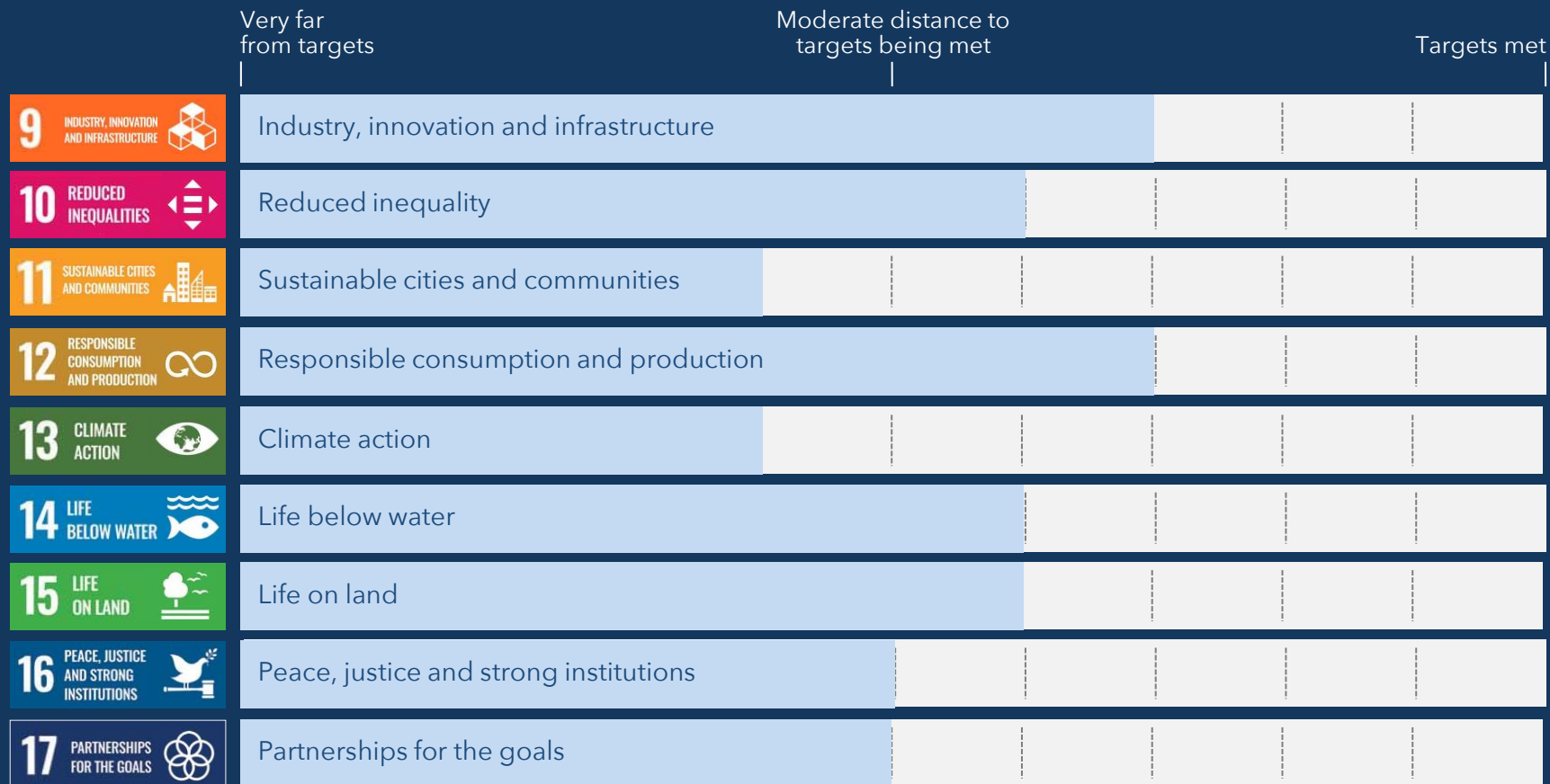


Source: (1) UN. WBCSD "Vision 2050: Time to Transform" March 2021. Progress from SDG's extrapolated from UN DESA SDG Progress Chart 2020.

Global Progress on UN SDGs Significantly Off-Track

While companies, regulators, investors, and innovators have accelerated their commitment to sustainability, global progress on UN SDGs nonetheless remains significantly off-track, with change thus far more incremental than exponential.

Progress report on UN Sustainable Development Goals



Source: (1) UN. WBCSD "Vision 2050: Time to Transform" March 2021. Progress from SDGs extrapolated from UN DESA SDG Progress Chart 2020.

Public Policy & Private Sector Aligning

President Biden's election has opened up a new frontier for ESG, aligning US government policy with powerful pre-existing support for ESG from companies, investors and public opinion.



2. ESG's Acceleration The Transition to Net Negative



**“Climate change is
the greatest market failure
the world has ever seen.”**

Nicholas Stern, Chair of the Grantham Research Institute
on Climate Change and the Environment at the
London School of Economics and Political Science

The world is on track for an approximately 3°C rise in temperatures, relative to pre-industrial levels, well beyond the Paris Climate Accord's goal of limiting global temperature increases to 1.5°C by the end of the century

Temperature increases relative to pre-industrial average



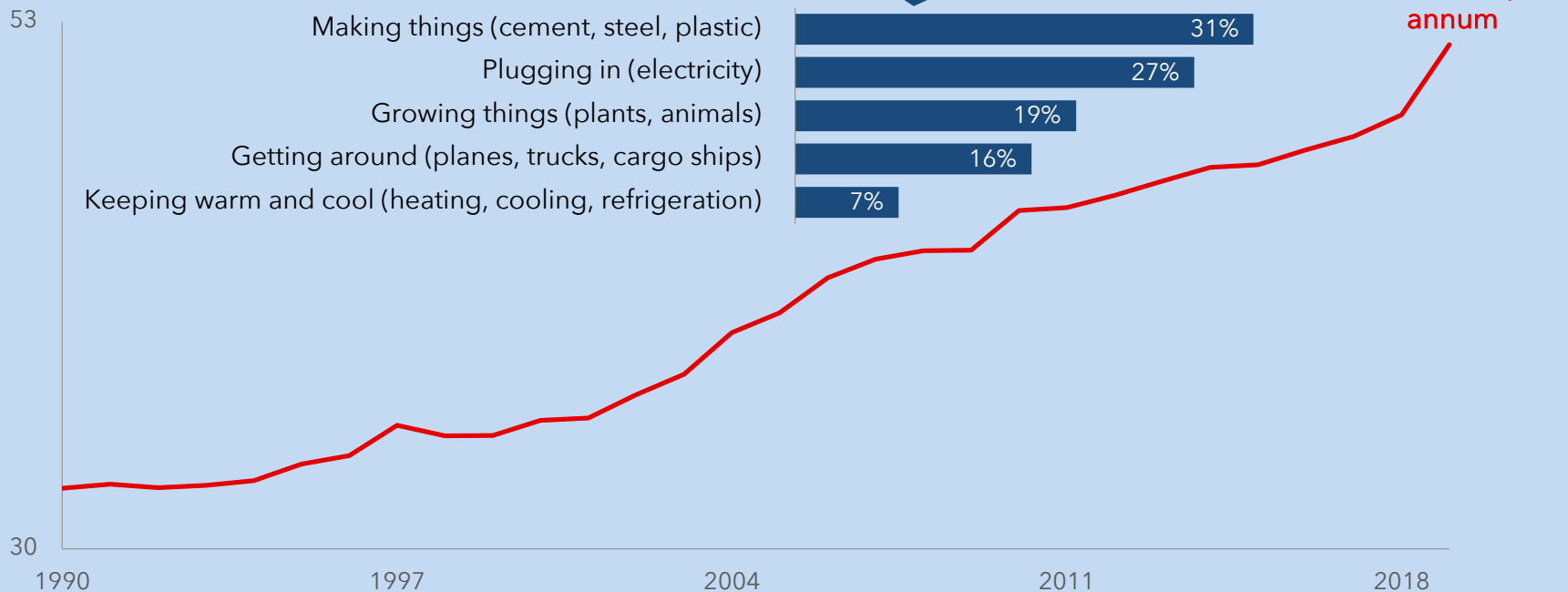
Source: Mark Carney, former Bank of Canada and Bank of England Governor. 2015 Paris Climate Accord. .

CO₂ Reaches Highest Level in 4 Million Years

The world adds approximately fifty-two billion tons of greenhouse gas (GHG) emissions to the atmosphere in a given year. In order to achieve the goals of the Paris Agreement signed in 2015, GHG emissions must be reduced to net zero by 2050. Reducing net carbon emissions to zero or below will require significant technology investment, human behavior changes and a complete structural transformation of the global economy.

Global greenhouse gas emissions, CO₂ equivalents

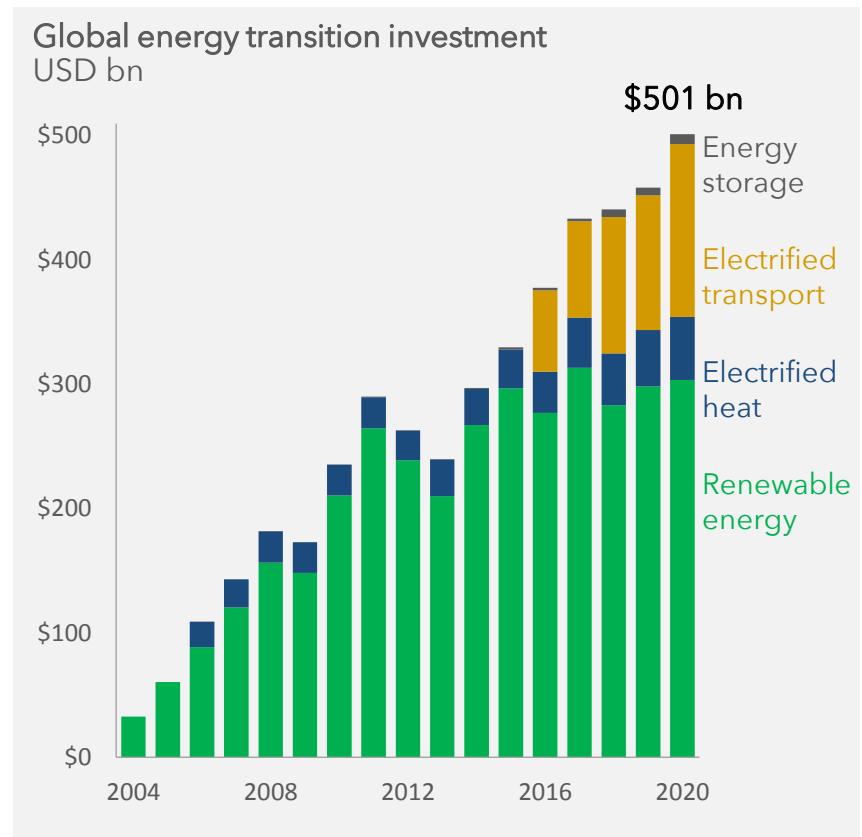
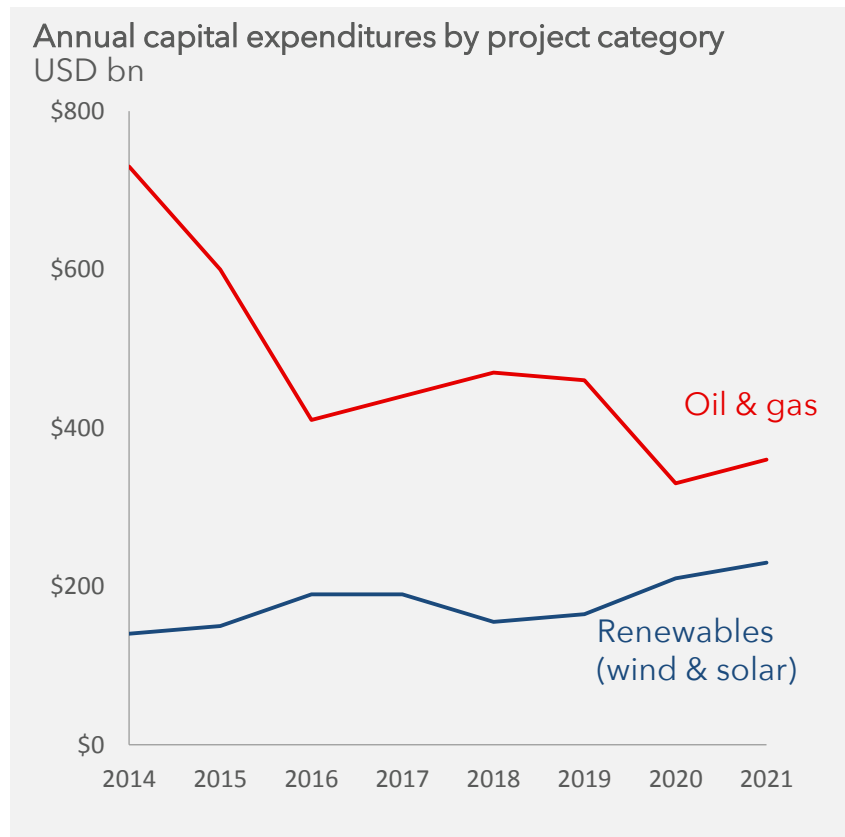
How much greenhouse gas is emitted by the things we do?



Source: (1) CAIT via Climatewatchdata.org. Bloomberg. (2) "How to Avoid a Climate Disaster" (Bill Gates).

The Transition Already Underway

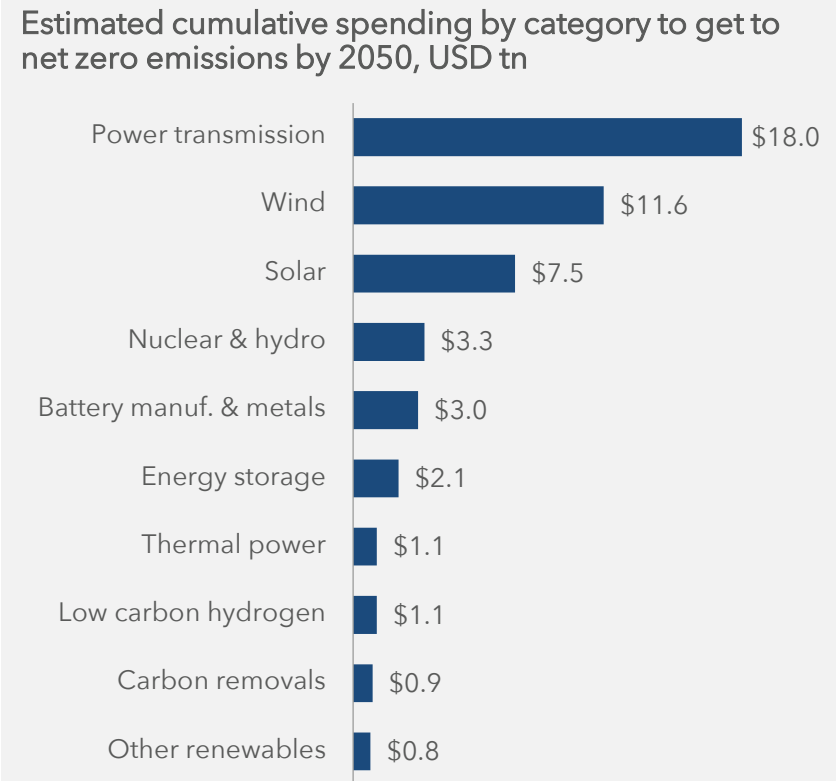
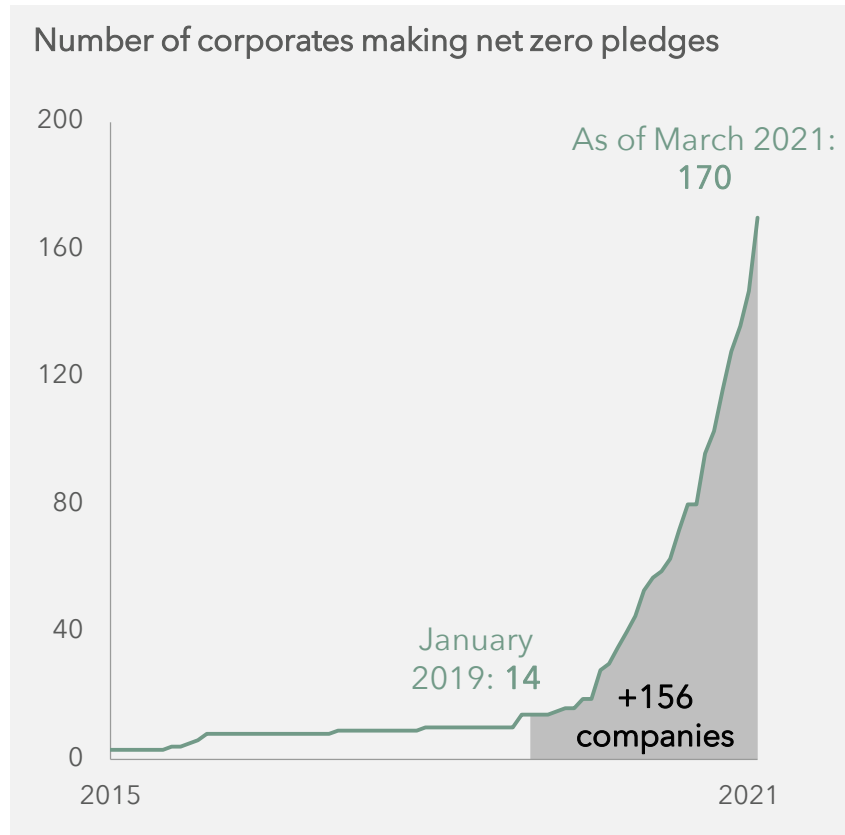
Global expenditure on oil-and-gas extraction today is less than half of the \$735 billion that was spent in 2014. Conversely, spending on wind and solar projects has increased from \$135 billion to nearly \$220 billion over the same time period. Over \$500 billion is now spent annually on energy transition technologies.



Source: (1) WSJ. Rystad Energy. (2) BloombergNEF. Nominal Dollars.

The Path to Net Zero 2050

According to Bloomberg, 170 of the largest 400 companies in the world had announced a net zero emissions target as of March 2021, a critical step in achieving the goals of the Paris Climate Accord. In order to meet those goals, an estimated \$50 trillion in cumulative spending on clean energy technology will be needed by 2050.

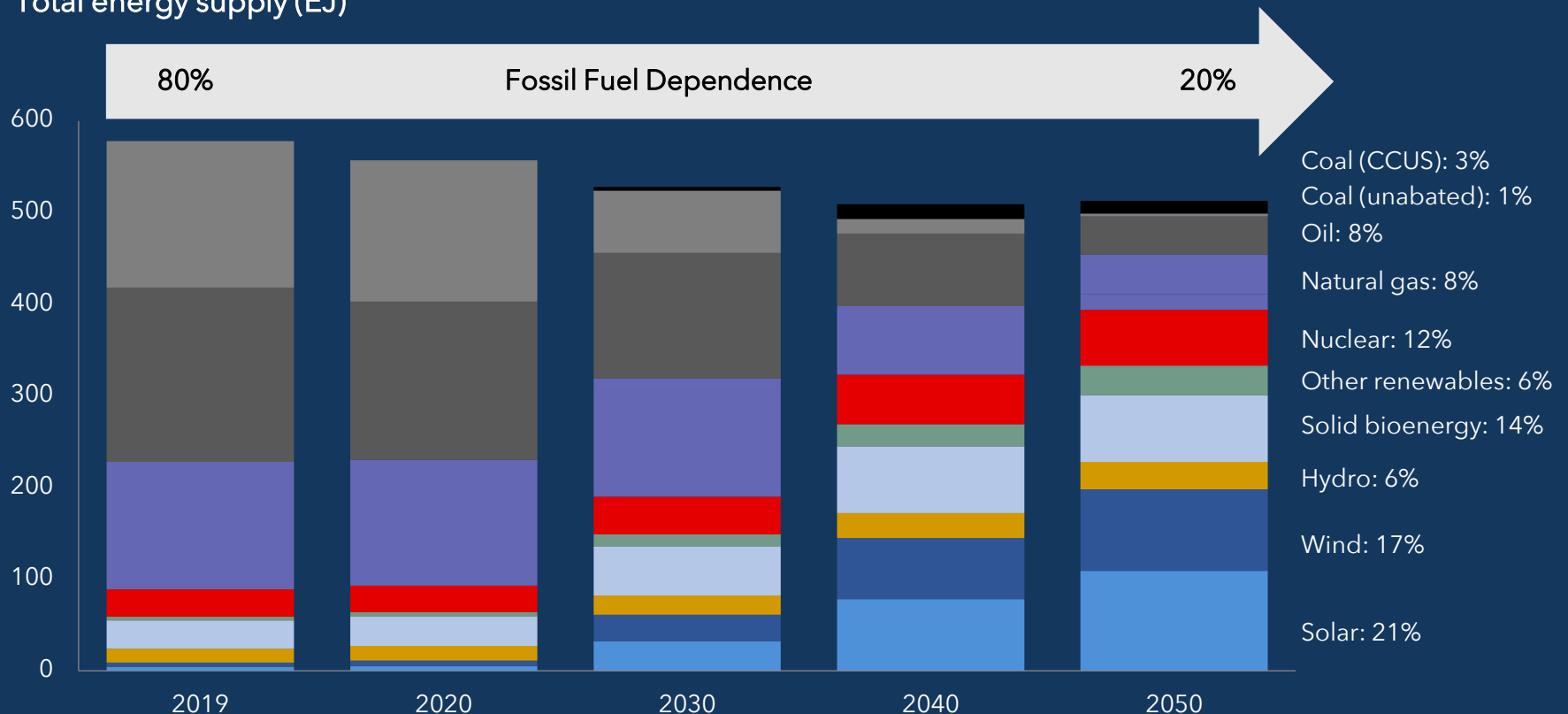


Source: (1) BloombergNEF. "The net zero bug - charting the spread of corporate net zero" (April 14, 2021). (2) WSJ. Wood Mackenzie. net zero emissions by 2050 also based on world limiting global warming to 1.5 degrees Celsius above pre-industrial levels.

Evolving Energy Consumption

Despite an economy projected to be 40% larger than today, the IEA expects total energy consumption to decline marginally by 2050 due to efficiency improvements. In their Net Zero Energy (NZE) scenario, renewable energy sources would provide approximately 2/3 of total energy supply with solar, alone, accounting for 1/5 of energy supply. Energy from fossil fuels would fall from 80% of supply today, to approximately 20% by 2050.

Total energy supply (EJ)



Source: (1) IEA "Net Zero by 2050 - A Roadmap for the Global Energy Sector." Table A.1. (May 2021).

3. ESG's Acceleration

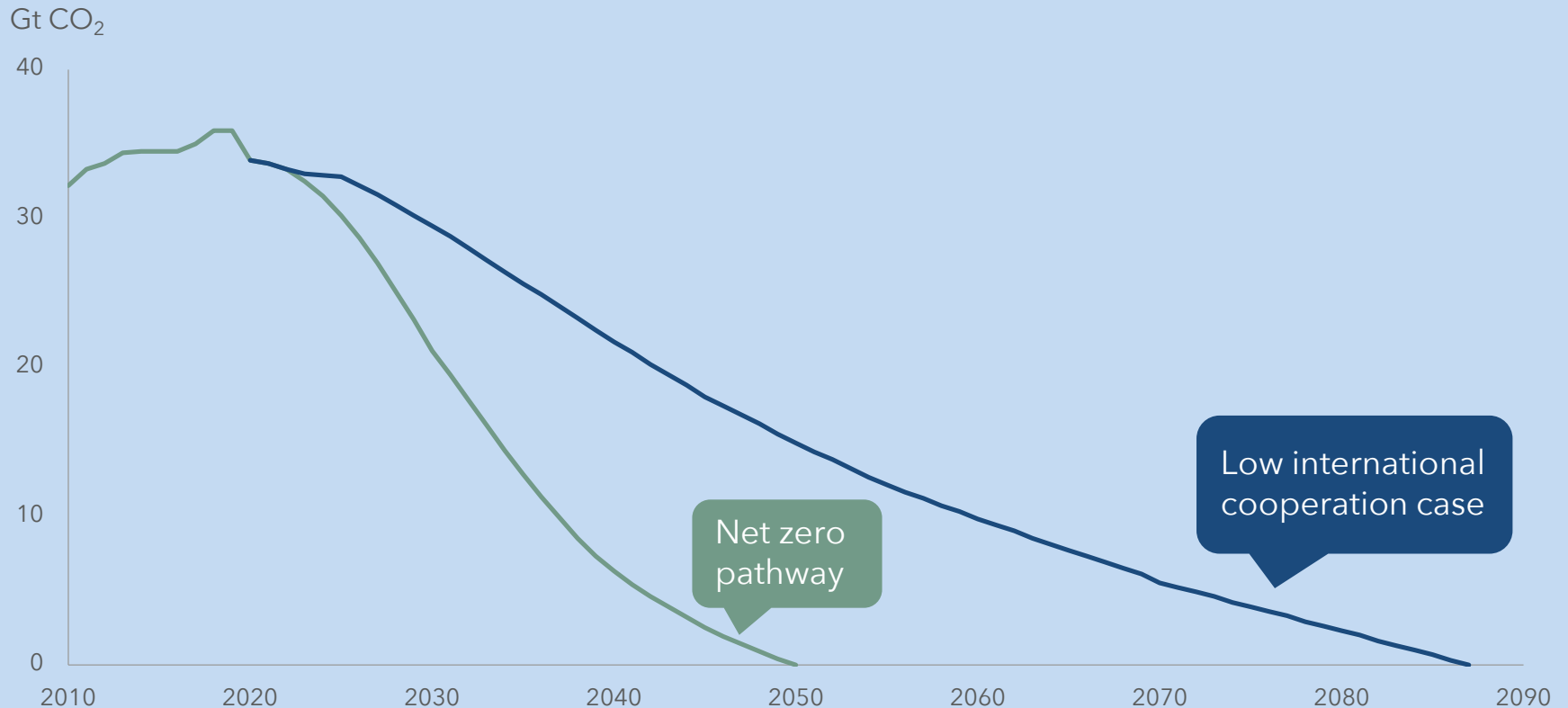
The Global Imperative



The Global Cooperation Imperative

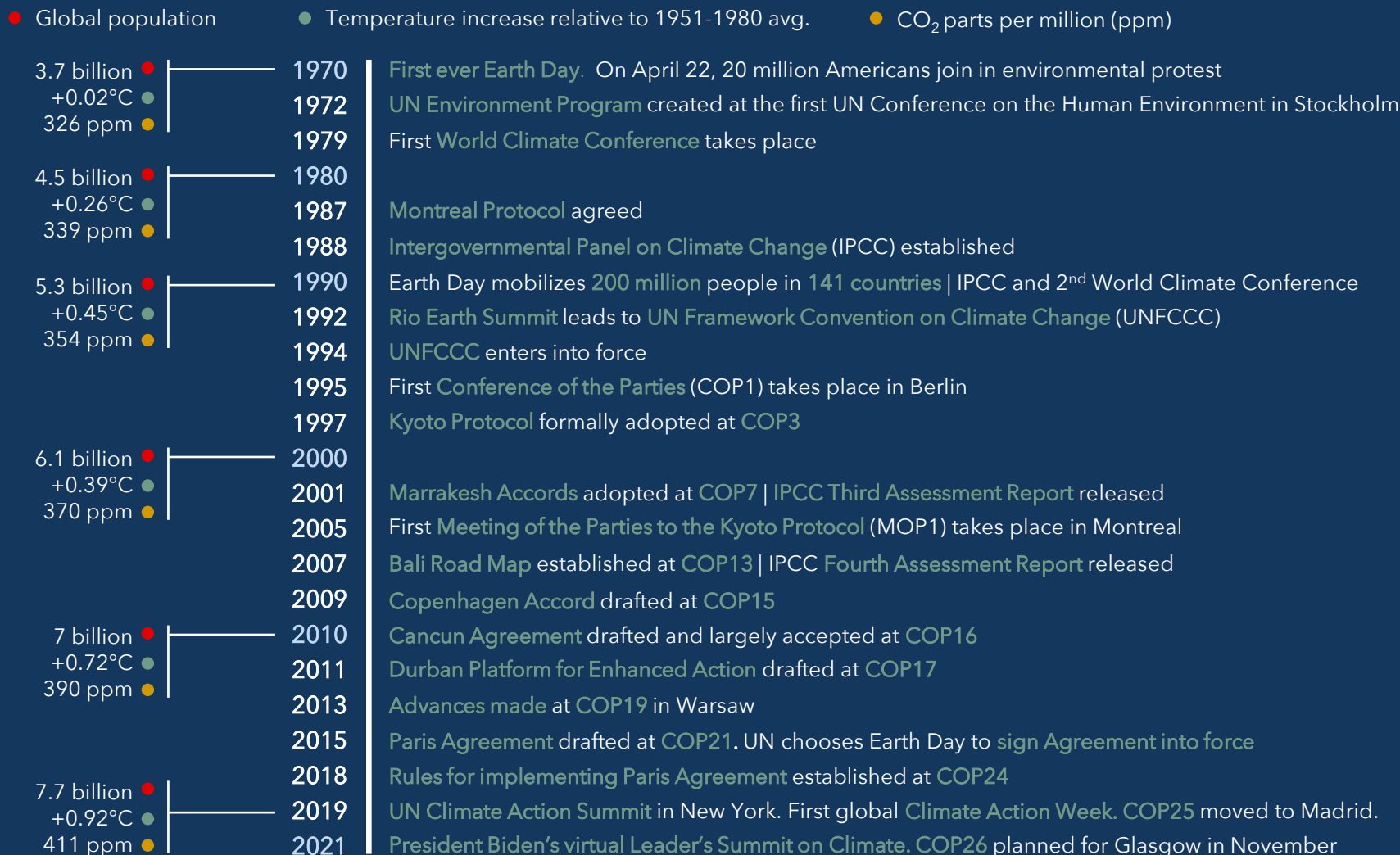
Creating cost-effective net zero roadmaps requires cooperation not only between government and the private sector, but also internationally between governments. The IEA does not expect the global energy sector to reach net zero before 2050 unless countries work together on international standards, accelerating innovation, and scaling clean technology.

Global energy-related CO₂ emissions in the net zero pathway and low international cooperation case



Source: (1) IEA "Net Zero by 2050 - A Roadmap For the Global Energy Sector" (May 17, 2021). GT is gigatonnes.

The 50 Year Road to COP26



Source: Foresight. The CMCC Observatory on Climate Policies and Futures. Worldometer. NASA / GISS. NOAA / ESRL.

COP 26: November 1-12 (Glasgow, Scotland)

The 26th UN Climate Change Conference of the Parties (COP 26), scheduled for November in Glasgow, is one of the most highly anticipated leadership summits of its kind. The event is expected to include over 30,000 participants representing more than 200 countries, businesses, NGOs and other organizations. All parties to the Paris Climate Agreement are expected to attend and submit updated GHG reduction goals.

Stated goals for COP 26

Goal 1

Secure Global Net Zero by Mid-Century and Keep 1.5 Degrees Within Reach

- Detailed plans from each attending country for 2030 emission reduction targets that align with net zero 2050 goals

Goal 2

Adapt to Protect Communities and Natural Habitats

- Develop plans to protect and restore ecosystems & build defenses, warning systems and resilient infrastructure & agriculture to avoid loss of homes, livelihoods and lives

Goal 3

Mobilize Finance

- Mobilize at least \$100 bn in climate finance / year via private and public sector

Goal 4

Work Together to Deliver

- Finalize Paris Rulebook, the detailed rules that make the Paris Agreement operational
- Accelerate action through collaboration between governments, businesses and civil society



**UN CLIMATE
CHANGE
CONFERENCE
UK 2021**

IN PARTNERSHIP WITH ITALY

Source: "What is COP 26." UN Climate Change Conference UK 2021.

Climate Action 100+ Initiative

575 investors representing \$54 trillion of AUM have signed onto the Climate Action 100+ initiative and have committed to engaging 167 companies (representing over 80% of industrial emissions) in: i) implementing strong governance frameworks; ii) enhancing climate-related financial disclosure; and iii) reducing greenhouse gas emissions

North America

Investors: **145** signatories
Companies: **54**
Market cap: **\$3.9tn**

Europe

Investors: **331** signatories
Companies: **56**
Market cap: **\$2.9tn**

Asia

Investors: **31** signatories
Companies: **34**
Market cap: **\$3.2tn**

South America

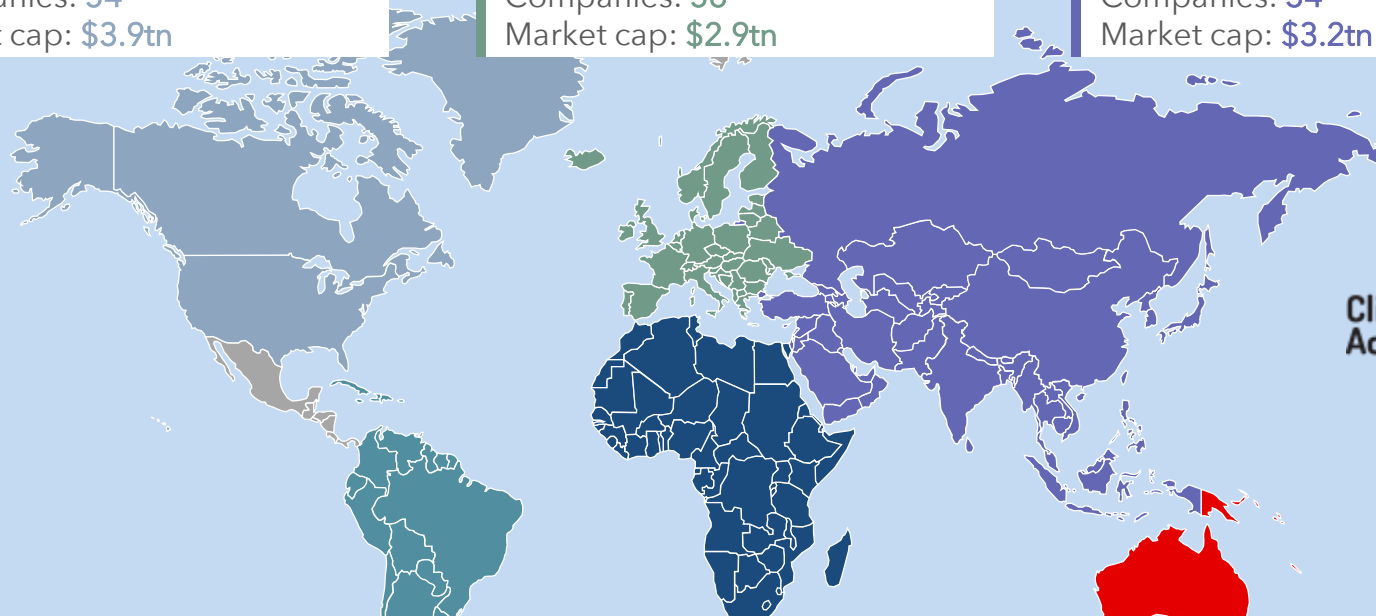
Investors: **2** signatories
Companies: **5**
Market cap: **\$179bn**

Africa

Investors: **2** signatories
Companies: **3**
Market cap: **\$14bn**

Australia

Investors: **42** signatories
Companies: **15**
Market cap: **\$352bn**



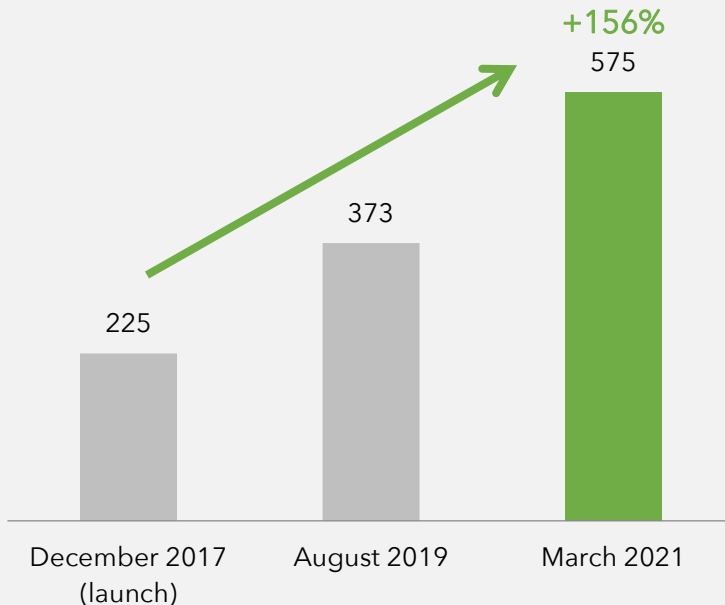
Source: ClimateAction100.org. Market cap is of the focus companies in each region.

Climate Action 100+ Initiative

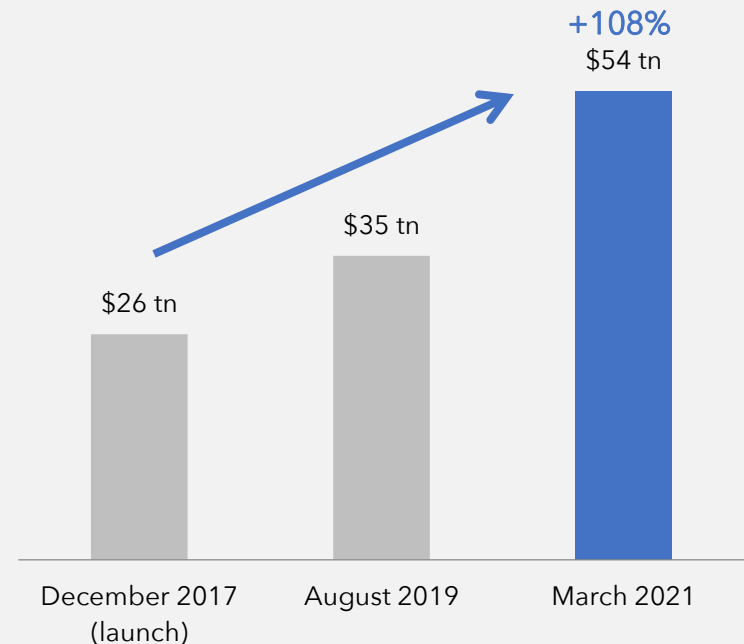
Climate Action 100+ engages with 167 companies, representing nearly \$11 trillion in market cap and 80% of global industrial emissions across 6 continents. Since its launch in December 2017, the number of Climate Action 100+ signatories has increased 156% and the AUM represented has more than doubled



Number of investor signatories



AUM, USD tn



MUFG has been a signatory to the Climate Action 100+ initiative since 2018

Source: (1-2) Climate Action 100+ 2020 Progress Report.

4. ESG's Acceleration

The Transparency Imperative



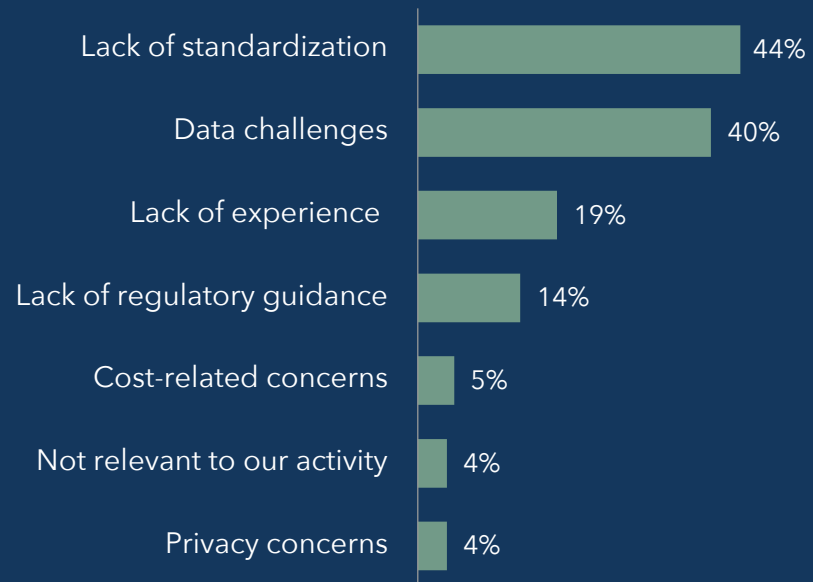
"What gets measured gets managed"

The longtime adage of sustainability movement



According to the IIF, lack of standardization in ESG disclosures is the number one reason some companies choose not to make emissions disclosures

% of responses that do not disclose data on financed emissions



Source: IIF "Global Climate Finance Survey - A look at how financial firms are approaching climate risk analysis, measurement and disclosure" January 2020. EBF Global Climate Finance Survey. With assets of nearly \$40tn, 70 firms participated in the survey including banks, other financial institutions, asset managers, insurers and pension funds headquartered in developed Europe, EM economies and other mature economies.

Moving Toward Mandatory Disclosure

Numerous international organizations have developed standards for financial and non-financial sustainability reporting. Today, an effort is underway to integrate and streamline reporting standards to provide more clear guidance for companies and investors.



Selected International Frameworks and Standard Setters:



- Launched by the Financial Stability Board in 2014, the TCFD framework is widely used by corporates globally. The UK will require mandatory adoption of the TCFD by 2025.
- Metrics are designed to be forward looking and strategic in identifying financial risks and opportunities in the transition to a low-carbon economy. Focus on climate disclosures rather than broad ESG topics.



- In June 2021, SASB and the IIRC merged, launching the Value Reporting Foundation, to provide companies with a more comprehensive ESG reporting framework
- SASB's Materiality Map provides industry specific and decisions useful metrics for ESG standards
- Commonly used by corporates for ESG reporting and often overlaid with TCFD



- Core and expanded metrics provide the most comprehensive set of ESG reporting standards
- Widely utilized by international organizations including the UN Global Compact and thousands of others

Additional Organizations

- Dozens of organizations outlining ESG values (US Sustainable Development Goals) & providing reporting frameworks (Science Based Targets, CDP, Climate Disclosure Standards Board)
- Rapid progress from regulators, particularly in Europe, mandating specific regional disclosure requirements







In 2020, less than 25% of S&P 500 companies' ESG reports were aligned with the SASB reporting framework, only 16% of reports referenced TCFD and only 5% of companies published complete TCFD-aligned reports.

Moving Toward Mandatory Disclosure



Regulators globally are moving rapidly towards mandatory disclosure for many non-financial ESG metrics such as climate risk, gender and racial diversity

Regional Observations:

 White House	<ul style="list-style-type: none">• In May 2021, President Biden issued an executive order instructing Treasury Secretary Janet Yellen to engage with the FSOC to assess climate-related financial risks• US regulators will need to integrate climate-related financial risks into their policies
 US Congress	<ul style="list-style-type: none">• Democrats in the US House of Representatives have introduced HR 1187 – ESG Disclosure Simplification Act of 2021• The bill would require publicly traded companies to disclose information on ESG topics such as climate risks, political spending, tax jurisdiction and executive pay raises
 SEC	<ul style="list-style-type: none">• SEC Chairman, Gary Gensler, expected to release mandatory climate risk disclosure standards which may be based on the TCFD framework; public comment period on ESG disclosure and standards proposal closes on June 13
 Europe	<ul style="list-style-type: none">• Sustainable Finance Disclosure Regulation (SFDR) phase 1 reporting requirements took effect in March 2021• Corporate Sustainability Reporting Directive (CSRD) proposal adopted in April 2021
 UK	<ul style="list-style-type: none">• First country to require TCFD-aligned disclosures across the non-financial and financial sectors• Disclosure requirements expected to take effect economy wide by 2025 with interim requirements by 2023
 Japan	<ul style="list-style-type: none">• Proposed changes from Corporate Governance Council that would require listed companies to increase climate risk and diversity disclosures• Top 100 companies all already publish sustainability data

The TCFD Framework

In December 2014, the Financial Stability Board (FSB) launched the Taskforce on Climate-related Financial Disclosures (TCFD) to formulate guidelines for voluntary & consistent climate-related financial risk disclosures. After consultation with experts in capital allocation, insurance, large non-financial companies, accounting and consulting and credit ratings, the TCFD released their recommended disclosure framework in 2017.

TCFD's recommended disclosures span four categories and are designed to be widely adaptable, solicit forward-looking information and focus on both risks and opportunities in the transition to a net zero economy



Governance

- Board's oversight of climate-related risks & opportunities
- Management's role in assessing and managing risks & opportunities



Strategy

- Identify and describe risks & opportunities over short, medium and long term
- Impact on business, strategy & financial planning
- Strategy's resilience given different climate-related scenarios



Risk Management

- Process for identifying and assessing climate-related risks
- Processes for managing / mitigating risks
- Integration of climate-risk management into organization's risk management function



Metrics & Targets

- Disclose assessment metrics for risks and opportunities
- Disclose Scope 1, 2 and 3 GHG emissions
- Set targets and report progress regularly

Source: Task Force on Climate-related Financial Disclosures Overview Report, March 2021.

Global TCFD Adoption

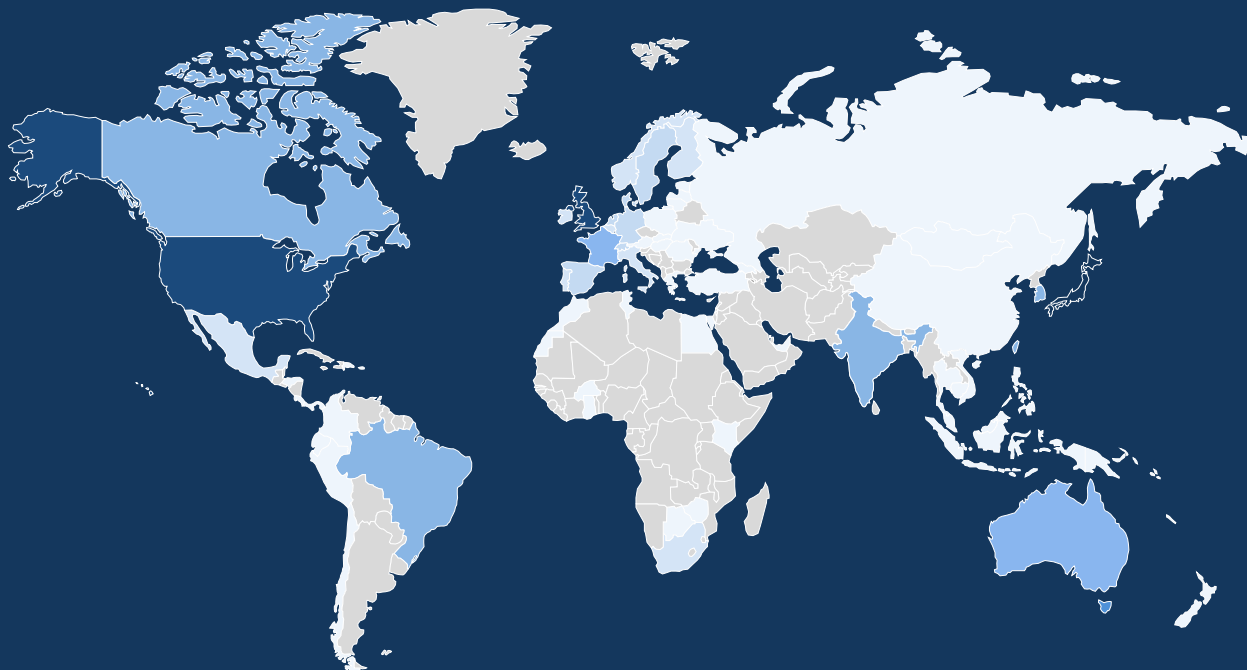
As of March 2021, the TCFD had over 2,000 supporters representing over \$19.8 trillion in market capitalization, including 859 financial firms representing over \$175 trillion in assets. The signatories of the Climate Action 100+ encourage corporates they engage with to implement TCFD recommended disclosures.

Number of TCFD supporters, by region

300+	200-299	100-199	50-99	24-59	10-24	<10
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Top Five Countries by Number of Supporters

Japan	340
United Kingdom	265
United States	251
France	91
Australia	83

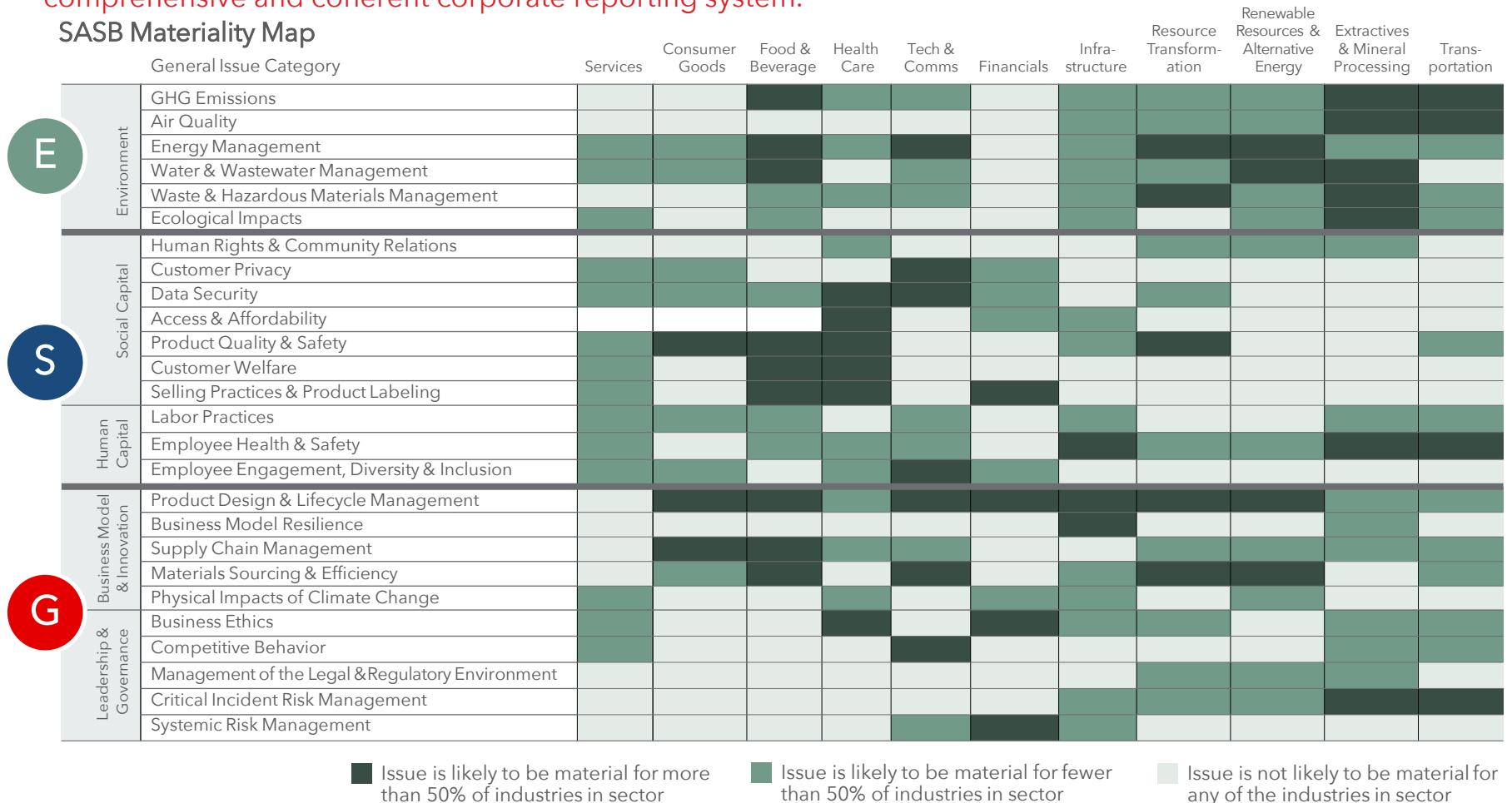


Source: Task Force on Climate-related Financial Disclosures Overview Report, March 2021.

The SASB Materiality Map

In 2018, SASB published a complete set of 77 industry-specific standards that identify the minimal set of financially material sustainability topics and their associated metrics. Today, 228 institutional investors representing \$72 trillion in AUM across 23 countries support or use SASB standards to inform their investment decision making process. In June 2021, SASB and the IIRC merged in a step toward building a more comprehensive and coherent corporate reporting system.

SASB Materiality Map



Gang of 5 Reporting Framework

In September of 2020, five global organizations active in sustainability frameworks, standard setting, and reporting announced a collaboration to create an integrated and standardized system for comprehensive corporate reporting. The organizations will also work with the European Commission, the World Economic Forum's International Business Council and other organizations to develop a "common language and common vision" for sustainability disclosure and corporate reporting.



CDP

Non-profit charity running the global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts.



Climate Disclosure Standards Board (CDSB)

International organization of business and environmental NGOs committed to equating natural capital with financial capital in corporate reporting.



The Global Reporting Initiative (GRI)

International standards organization helping businesses, governments and organizations communicate their impact on ESG issues including climate change, human rights and corruption.



International Integrated Reporting Council (IIRC)

Coalition of regulators, investors, companies and standard setters in the fields of accounting, academia and NGOs, promoting integrated reporting frameworks to connect sustainability disclosure to reporting on financial and other capitals.



Sustainability Accounting Standards Board (SASB)

Non-profit organization that has set 77 ESG related industry-specific standards designed to be decision useful for investors and cost effective for companies



The Broad Reach of EU's SFDR

The EU's Sustainable Finance Disclosure Regulation (SFDR) Level 1 went live in March 2021 and requires asset managers and financial advisors based in, operating out of, or marketing into the EU to categorize their products into green classifications. Level 2, effective in January 2022, will require supplementing the categorization with evidence of alignment with the EU Taxonomy. The goal of the SFDR is to eliminate greenwashing by standardizing disclosure of Principle Adverse Impacts (PAIs) that a financial product or decision may have on sustainability.

 SFDR Reporting Requirements & Product Classifications:		Effective dates for SFDR implementation	
SFDR Entity Level Reporting: <ul style="list-style-type: none"> How sustainability risk is integrated into investment decision making process or financial advice Policies on how PAIs are considered Remuneration policy consistent with integration of sustainability risks Pre-contractual disclosures on suitability risk integration 		<ul style="list-style-type: none"> March 10, 2021: SFDR high-level & principle-based requirements 	
SFDR Product Classifications: <ul style="list-style-type: none"> Article 6: products that do not integrate any kind of sustainability objectives into investment process Article 8: products that promote Environmental or Social characteristics provided good governance practices are also in place Article 9: Products with a sustainable investment objective and an index designated as a reference benchmark 		<ul style="list-style-type: none"> June 30, 2021: Large entities must disclose due diligence policies for PAIs January 2022: Article 8&9 periodic reporting and alignment with EU Taxonomy's two climate change mitigation and adaptation objectives 	
Product Level Reporting: <ul style="list-style-type: none"> For firms that do consider PAIs: an explanation of how financial products account for these impacts For Article 8 products: how designated characteristics are met and disclosure on the degree of Taxonomy alignment For Article 9 products: explanation of how objective is achieved and disclosure on alignment with EU Taxonomy Regulation 		<ul style="list-style-type: none"> By Dec 30, 2022: Firms that consider PAIs must disclose how products consider impacts; firms that do not consider PAIs must explain why they do not January 2023: Article 8&9 alignment with EU Taxonomy's remaining four objectives June 30, 2023: Firms must disclose detailed PAI indicators for full year 2022 	

Source: (1) S&P Markit Intelligence "What is the Impact of the Sustainable Finance Disclosure Regulation?" (April 1, 2021). Robeco Sustainable Investing Glossary "Article 6, 8 and 9 funds." ESG Insider New EU sustainable finance rules a "game changer" for private equity. European Union, "Regulation of the European Parliament and of the Council" (November 2019). Large entities refers to entities with more than 500 employees.

5.

ESG's Acceleration

The Rise of Stakeholder Capitalism



“When businesses really look at their heritage, when they go back to their original purpose statements, they often find seeds, the roots of the solution to the problems we face today.”

Dame Vivian Hunt, McKinsey Senior Partner

"Statement on the Purpose of a Corporation"

More than 230 CEO signatories from the following companies:

A. O. Smith Corporation	Cognizant	Johnson Controls	Salesforce
Aflac	Cushman & Wakefield	KPMG LLP	Principal
American Electric Power	Deloitte	Interpublic Group	Raytheon Technologies
Abbott	Comcast Corporation	JPMorgan Chase & Co.	Salesforce
AK Steel Corporation	CVS Health	KPMG LLP	SAP
American Express	Delta Air Lines, Inc.	ITC Holdings Corp.	Silver Lake
Accenture	ConocoPhillips Company	KeyCorp	Stryker
Alliant Energy	CVS Health	L3Harris Technologies, Inc.	Slack Technologies, Inc.
American Tower Corp.	The Walt Disney Company	Jacobs	Suffolk
ADP	Corning Incorporated	KeyCorp	SAS Institute
Altec, Inc.	Day & Zimmermann	Land O'Lakes, Inc.	Southern Company
Ameriprise Financial	Dow	Leidos	Synchrony
AECOM	Corteva Agriscience	Mallinckrodt Pharmaceuticals	Schnitzer Steel Industries, Inc.
Amazon	Deere & Company	Mastercard	Stanley Black & Decker
AmerisourceBergen Corp.	Duke Energy	Lennar Corporation	Target
The AES Corporation	DuPont de Nemours, Inc.	Marathon Oil Corporation	Sempra Energy
American Airlines	Eli Lilly and Company	Mattel, Inc.	State Farm
Anthem, Inc.	Flex	Lockheed Martin Corporation	TC Energy
Greg Case	DXC Technology	Marathon Petroleum Corp.	Siemens Corporation USA
CEO	Exelon Corporation	McDonald's	Steelcase Inc.
Aon	Fluor Corporation	Lockheed Martin Corporation	Telephone & Data Systems, Inc.
Ball Corporation	DXC Technology	McCormick and Company, Inc.	Texas Instruments Incorporated
BlackRock, Inc.	Exxon Mobil Corporation	LyondellBasell Industries	TSYS
Apple	Ford Motor Company	Marriott International, Inc.	UPS
Bank of America	Eastman Chemical Company	McKesson Corporation	Thermo Fisher Scientific
BNY Mellon	EY	Macy's, Inc.	Turner Construction Co.
Aramark	Ford Motor Company	MassMutual	UPS
Baxter International Inc.	EATON	McKinsey & Company	Tishman Speyer
BorgWarner Inc.	FedEx Corporation	Medtronic, Inc.	Union Pacific
Assurant	Fox Corporation	Moody's	Tractor Supply Company
Bayer USA	Edison International	Noble Energy, Inc.	United Airlines
Boston Consulting Group	FIS	Medtronic plc	USAA
AT&T Inc.	Freeport-McMoRan Inc.	Morgan Stanley	The Travelers Companies Inc.
Bechtel Group, Inc.	Gap Inc.	Northrop Grumman	Chief Executive Officer
BP plc	The Guardian Life Insurance	MetLife	United Airlines
AT&T Inc.	Company of America	Motorola Solutions	Vanguard
Best Buy Co., Inc.	Honeywell	Novelis	Truist Financial Corporation
BP	General Dynamics Corp.	Micron Technology	United Technologies Corporation
Bristol Myers Squibb	Hanesbrands Inc.	Nasdaq	Verisk Analytics
Caterpillar, Inc.	HP Inc.	NRG Energy, Inc.	Visa Inc.
Chubb	General Motors Company	Microsoft Corporation	WESCO International, Inc.
C.H. Robinson Worldwide	Hanesbrands Inc.	National Gypsum Company	Workday, Inc.
CBRE Group, Inc.	Humana Inc.	Oracle	Vista Equity Partners
Cigna	The Goldman Sachs Group, Inc.	New York Life Insurance Co.	Western Union
C.V. Starr & Co., Inc.	HARMAN International	Owens Corning	World Fuel Services Corporation
Centene Corporation	Huntington Ingalls Industries	PayPal, Inc.	Vistra Energy
Cisco Systems, Inc.	Grant Thornton LLP	The Procter & Gamble Company	Western & Southern Fin.I Group
Cardinal Health	HEARST Corporation	Raytheon Company	World Wide Technology
CF Industries	IBM Corporation	PepsiCo	Walgreens Boots Alliance
Citigroup, Inc.	Guardian Life Ins. Co. of America	The Progressive Corporation	Whirlpool Corporation
The Carlyle Group	The Home Depot	Rockwell Automation	Xerox Corporation
Chevron Corporation	IBM Corporation	Pfizer Inc.	Walmart, Inc.
Cleveland-Cliffs, Inc.	Infor	PwC	The Williams Companies, Inc.
Carrier Global Corporation	John Deere	Roper Technologies, Inc.	Xylem Inc.
Chipotle Mexican Grill	Kiewit Corporation	Phillips 66	Wells Fargo
CNH Industrial	Intel Corporation	Qualcomm Incorporated	Wipro Limited
The Coca-Cola Company	Johnson & Johnson	S&P Global	Zebra Technologies Corp.
Cummins Inc.	Kimberly-Clark	Pitney Bowes	Zoetis Inc.
Dell Technologies	International Paper Co.	Quanta Services	3M

Americans deserve an economy that allows each person to succeed through hard work and creativity...

Businesses play a vital role in the economy by creating jobs, fostering innovation and providing essential goods and services...

... we share a fundamental commitment to all of our stakeholders. We commit to:

- Delivering value to our customers...
- Investing in our employees...
- Dealing fairly and ethically with our suppliers...
- Supporting the communities in which we work...
- Generating long-term value for shareholders...

Each of our stakeholders is essential. We commit to deliver value to all of them, for the future success of our companies, our communities and our country.



Source: Business Roundtable "State on the Purpose of a Corporation." Released August 19, 2019. Signatories last updated in February 2021.

The Rise of Stakeholder Capitalism



Employees

>70% Say they are more likely to work for a company that has a strong green footprint

Nearly 50% Would accept a smaller salary to work for an environmentally and socially responsible company

46% say they would only work for a company with sustainable business practices

43% of executives say that the driver for sustainability initiatives is to motivate and address employees' sustainability preferences

30% have left a company due to its lack of a corporate sustainability agenda and over 11% have done so more than once



Communities

47% of companies stated their community investment budget increased in 2020 due to COVID-19 response

Of those, **18%** predicted their community investment budgets would increase in 2021



Customers

79% are changing purchase preferences based on the social or environmental impact

57% have paid higher than average price for sustainable products

53% are switching to lesser known brands/organizations that are sustainable

\$150bn Estimated US spend on consumer packaged goods viewed as sustainable by 2021



Shareholders

85% of U.S. individual investors express interest in sustainable investing strategies

54% of global investors consider sustainable investing to be fundamental to investment processes and outcomes

50%+ of US individual investors are adoptees of sustainable investing



Regulators

53% of global respondents cited the poor quality or availability of ESG data and analytics as the biggest barrier to broader implementation of sustainable investing

President Biden's **May 20** executive order on climate related financial risk

91 Central Banks and financial supervisors signed onto NGFS

\$667bn paid to the US government since 2000 in ESG related violations



Suppliers

32% of respondents indicated they are increasing ESG due diligence on suppliers to mitigate disruptions

180 organizations pushing brands to end sourcing of cotton and clothing from Xinjiang in response to human rights abuses

Source: Data based on selection of surveys: Capgemini Research Institute, Swytch, CECP Investing Survey, Blackrock Global Client Sustainability Investing Survey, Allianz Supply Chain Survey.

2

The Transformation of Global Finance



6. | The Transformation of Global Finance

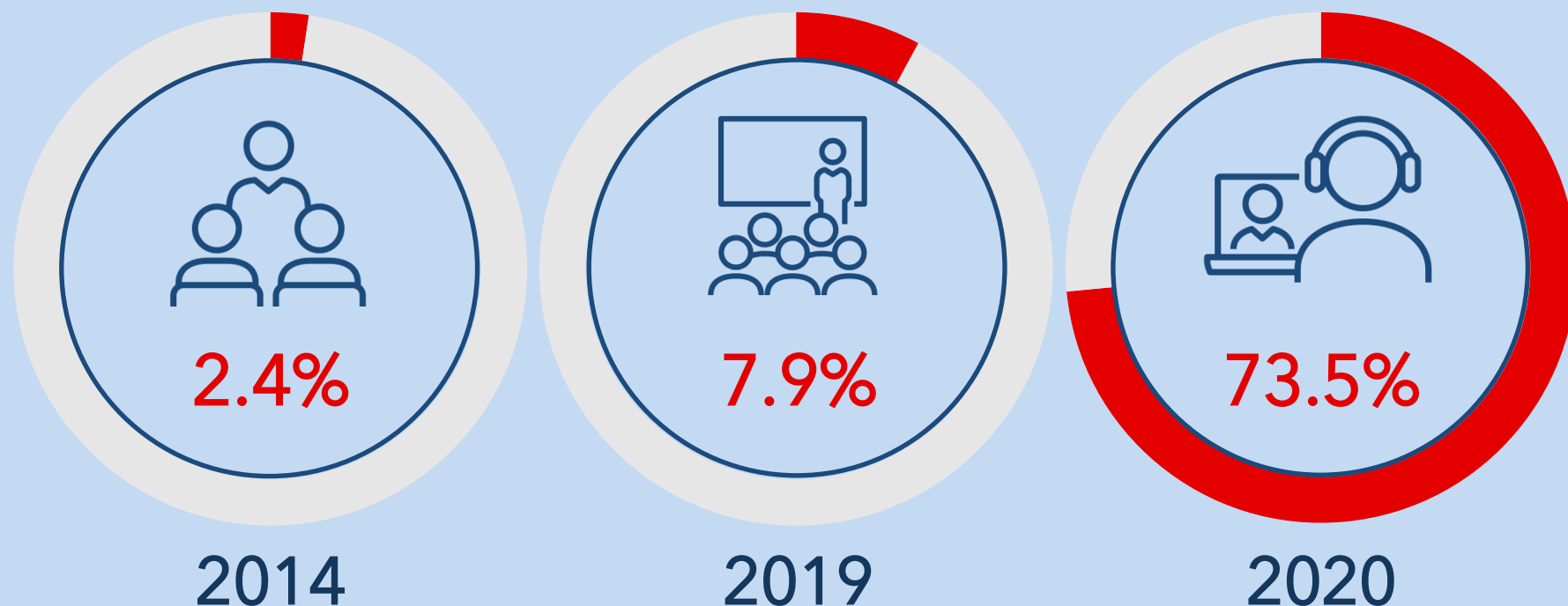
Shareholder Activism



Virtual Shareholder Meetings Become Mainstream

Virtual shareholder meetings had tripled between 2014 and 2019, but surged during the 2020 voting season to levels unimaginable in prior periods. According to proxy disclosures tracked by ESGAUGE, over 73% of Russell 3000 company shareholder meetings in 2020 took place virtually (and over 81% for S&P 500 companies). The SEC and state regulators eased regulations and announced legislative reforms to accommodate the transition.

Russell 3000 companies holding virtual shareholder meetings



Source: Harvard Law School Forum on Corporate Governance, "2021 Proxy Season Preview and Shareholder Voting Trends" (February 2021). Esgauge.

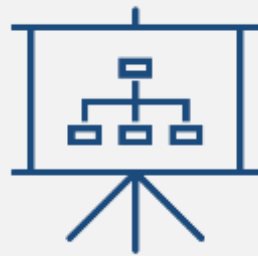
Investor Priorities in 2021 Proxy Voting Season

Investors are increasingly using proxy votes to express their views on company behavior, rather than relying on company disclosure. In particular, climate change and human capital management have risen to the front and center of shareholder voting priorities in the 2021 proxy voting season. Increased demand for transparency, targets, reporting metrics and business impact assessments have all rapidly gained momentum.

Investor priorities in 2021 proxy voting season



Climate risk
and environment
disclosure



Human capital
management
metrics and
reporting



Gender and racial
diversity (board,
management,
workforce)

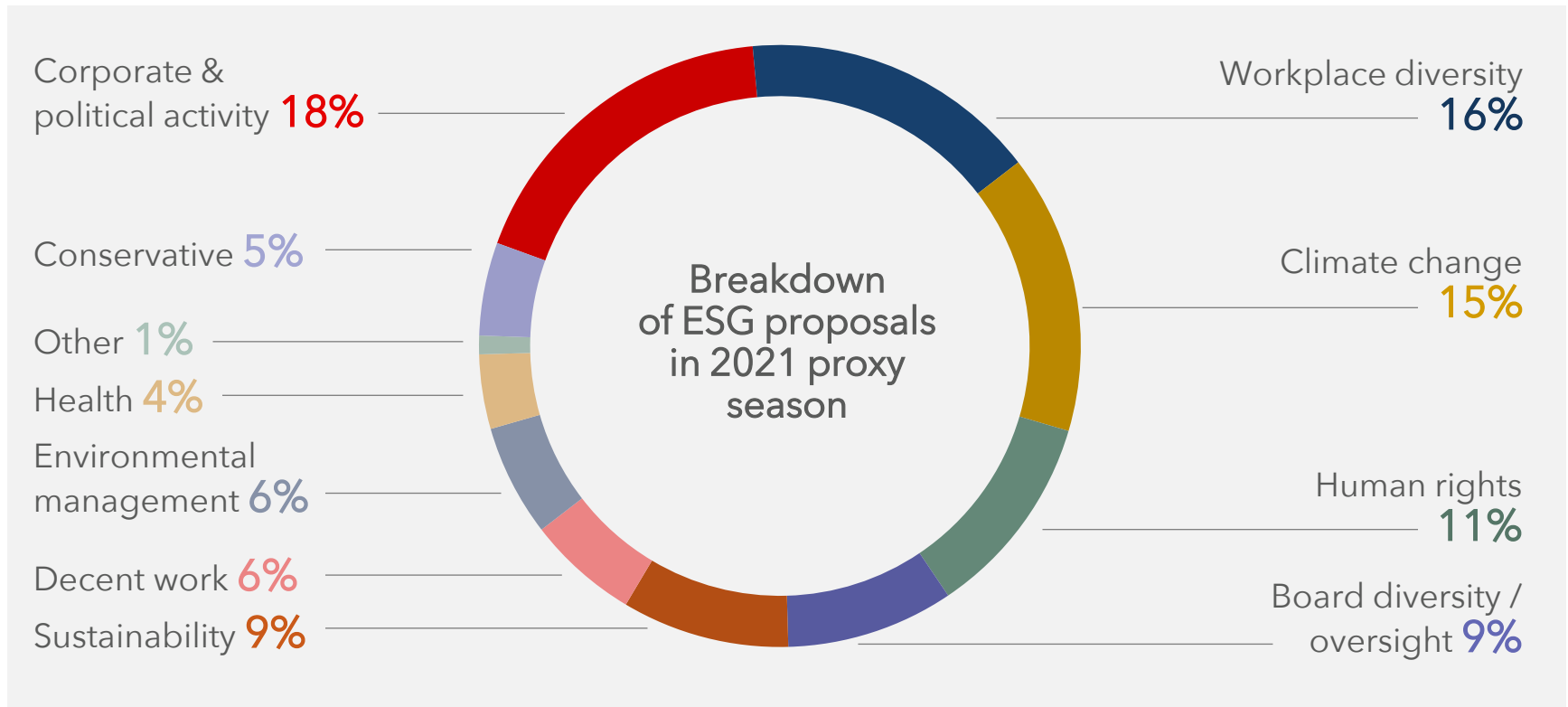


Corporate
political activity
and lobbying

Source: Harvard Law School Forum on Corporate Governance, "2021 Proxy Season Preview and Shareholder Voting Trends" (February 2021). Esgauge.

ESG Proposals in the 2021 Proxy Season

Proponents have filed over 435 shareholder resolutions on ESG issues in the 2021 proxy season. Notably, over 90 proposals have since been withdrawn, many only after corporate concessions around ESG reporting metrics, GHG reduction targets, business impact assessments and sustainability strategies. Throughout the season, new angles and higher rates of success have occurred across a broad range of issues related to climate transition, worker safety and racial / gender equity.



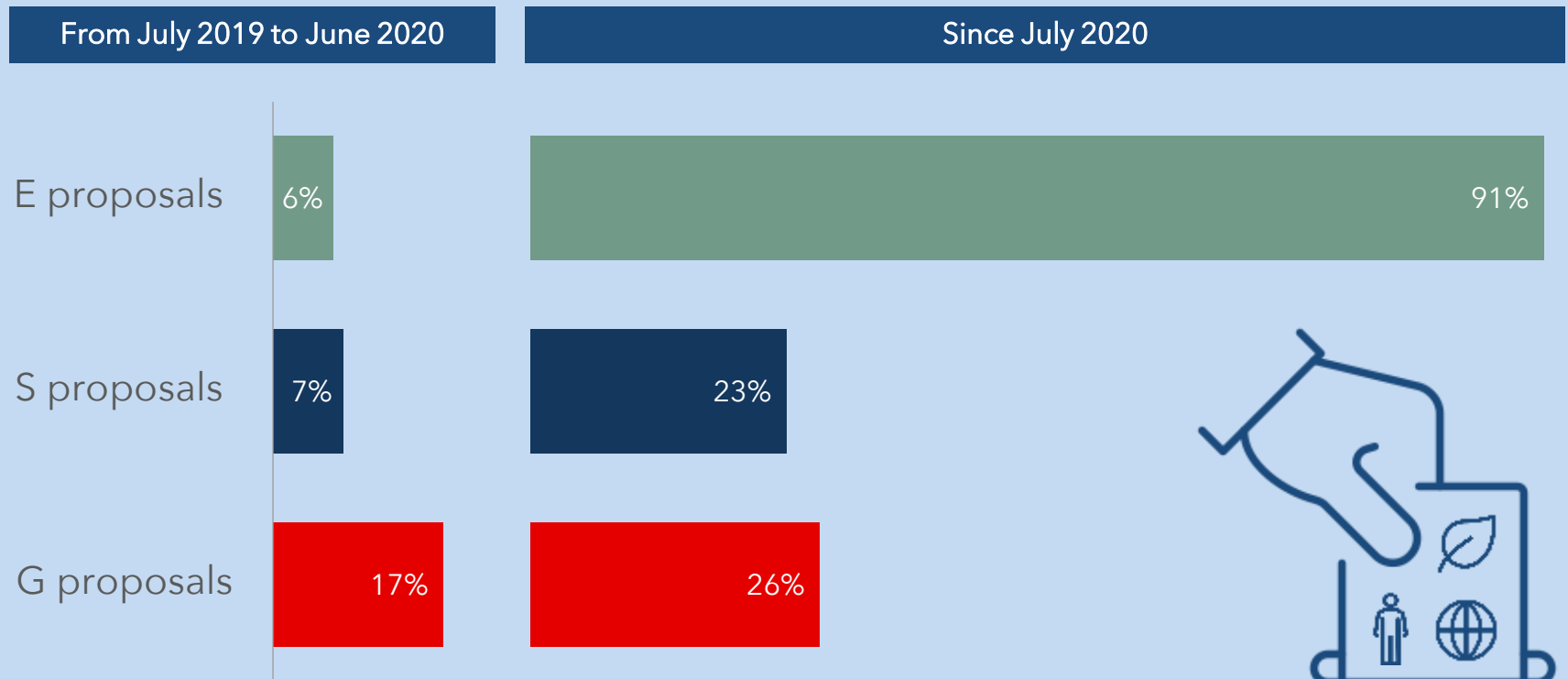
Source: (1) Harvard Law School Forum on Corporate Governance, "Proxy Preview 2021" (May 2021).

Large Shareholders Increasingly Active on ESG

Shareholder support for ESG priorities has increased markedly during the 2021 proxy voting season, most notably among the largest buy side institutions and allocators of capital in the world

Blackrock voting support for ESG proposals

BLACKROCK



Source: (1) Harvard Law School Forum on Corporate Governance: "2021 Proxy Season Issues and Early Voting Trends" (May 20, 2021).
Data since July 2020 based on first half of 2021 proxy season.

Climate Activism

Climate change has solidified itself as the top ESG priority among investors in public companies, with most large institutional investors having moved it to the forefront of their voting policies and stewardship guidelines. While energy and industrial companies have been a primary focus, shareholders are increasingly making carbon footprint related demands to companies across all industry sectors.

Selected examples of climate related investor proposals in 2020-2021 proxy voting season



Proposals requesting disclosure on climate lobbying and forcing large Scope 3 GHG emission reductions.



Proposal requiring publication of an annual ESG report with business performance detail on waste, water and product related environmental impact.



Proposal seeking report on alignment of business strategy with international climate change targets.



Dutch court ruling demanding 45% emission cuts by 2030



Shareholders voted to approve reductions in Scope 3 emissions (in addition to company plans for scope 1 and 2 net zero targets).



Shareholders added three board members despite management opposition to guide company's clean energy transition.



Over 99% of shareholders supported proposal to phase out coal financing by 2040 (with interim milestones and annual progress reports)



Proposal demanding greenhouse gas emission (GHG) targets.



Shareholders approved a Board proposal to issue a progress report on the company's net zero targets.



Proposal requesting reduction in deforestation and forest degradation across the supply chain.



Shareholders requiring Board to report on alignment of lobbying activities with Paris Climate Accord, and plan for mitigating related misalignment risks.

Source: Bloomberg News. CFR. FT. WSJ. Harvard Law School Forum on Corporate Governance, "2021 Proxy Season Preview and Shareholder Voting Trends" (February 2021).

Human Capital Management (HCM) Activism

While average support for HCM-related shareholder proposals remains well below the 50% mark, they have nonetheless dramatically grown in prominence in the 2020 and 2021 proxy voting seasons. In particular, COVID-19 and the death of George Floyd have sharpened investor attention on issues related to workforce welfare and equality. Given the increased focus among regulators and investors, HCM issues are expected to rise in prominence in future AGM seasons.

Selected examples of HCM related investor proposals in 2020-2021 proxy voting season



Shareholder proposal requesting disclosure on health and safety practices in its facilities in light of COVID-19 (subsequently omitted after SEC granted no-action relief).



Shareholders voted in favor of public disclosure of privately filed EEO-1 reports which breakdown workforce by race, ethnicity and gender.



Shareholders voted in support of annual assessment report on diversity and inclusion.



Shareholders voted in support of annual assessment report on diversity and inclusion.



Shareholders approved requirement that Board and CEO candidates include qualified female and ethnically diverse individuals.



Shareholders voted in support of annual disclosure of lobbying activities including policies, spending and memberships in tax-exempt organizations.



Shareholders requiring reporting on the use of contractual provisions that require employees to arbitrate employment-related claims (and numerous related practices).



Shareholders demanding more transparency on diversity and inclusion.



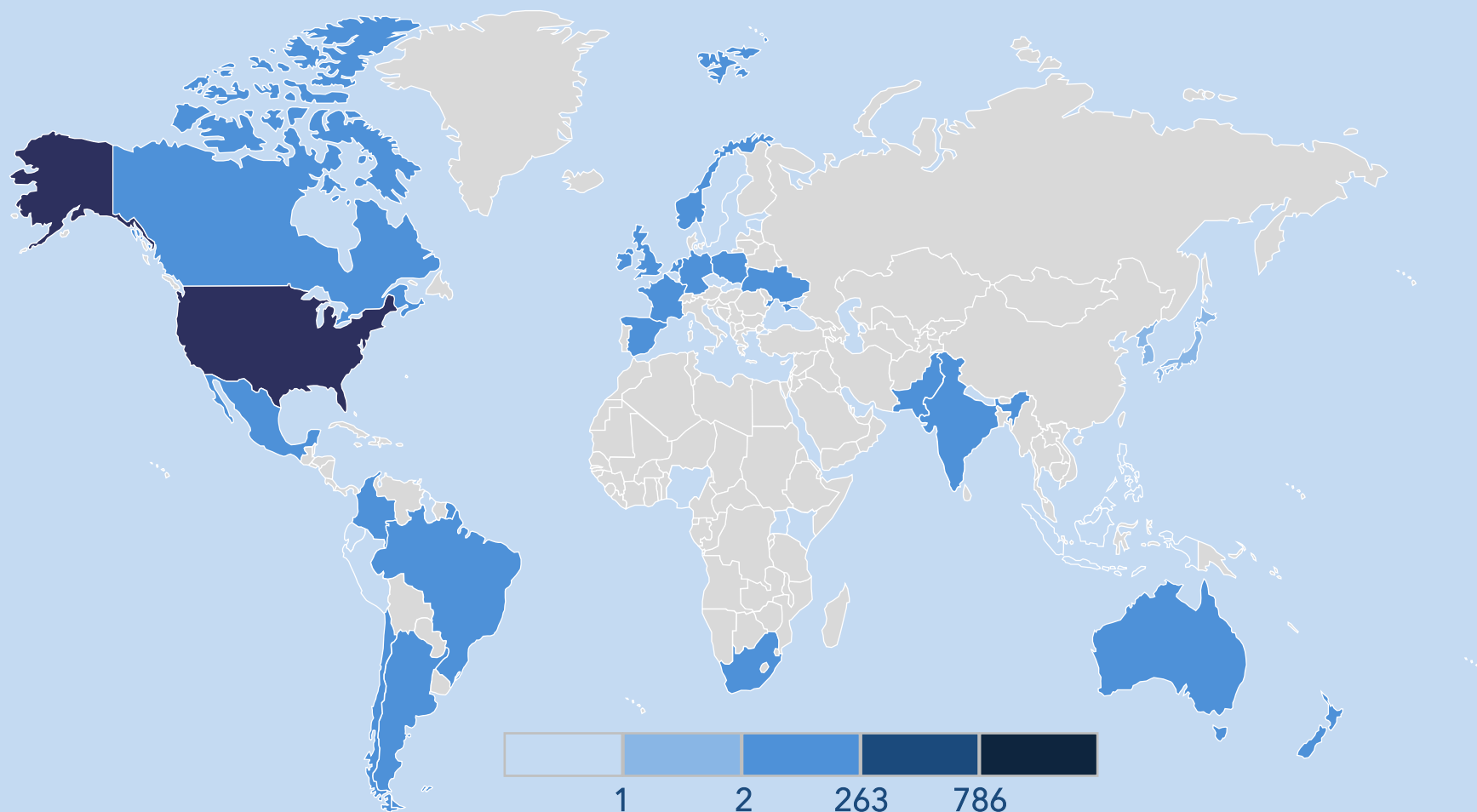
Shareholders requiring a public report detailing concrete steps on Board diversity.



Shareholders voted in support of semiannual disclosure on political spending and contributions.

Source: Bloomberg News. CFR. FT. WSJ. Harvard Law School Forum on Corporate Governance, "2021 Proxy Season Preview and Shareholder Voting Trends" (February 2021).

Climate litigation cases against both governments and private companies for lagging on climate change have accelerated rapidly. Of the over 1,700 cases between 1985 and 2020, over half were filed since the 2015 Paris Agreement.



Source: Bloomberg Green. CCCLW and Sabin Center for Climate Change Laws.

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Accelerating Buy Side Adoption



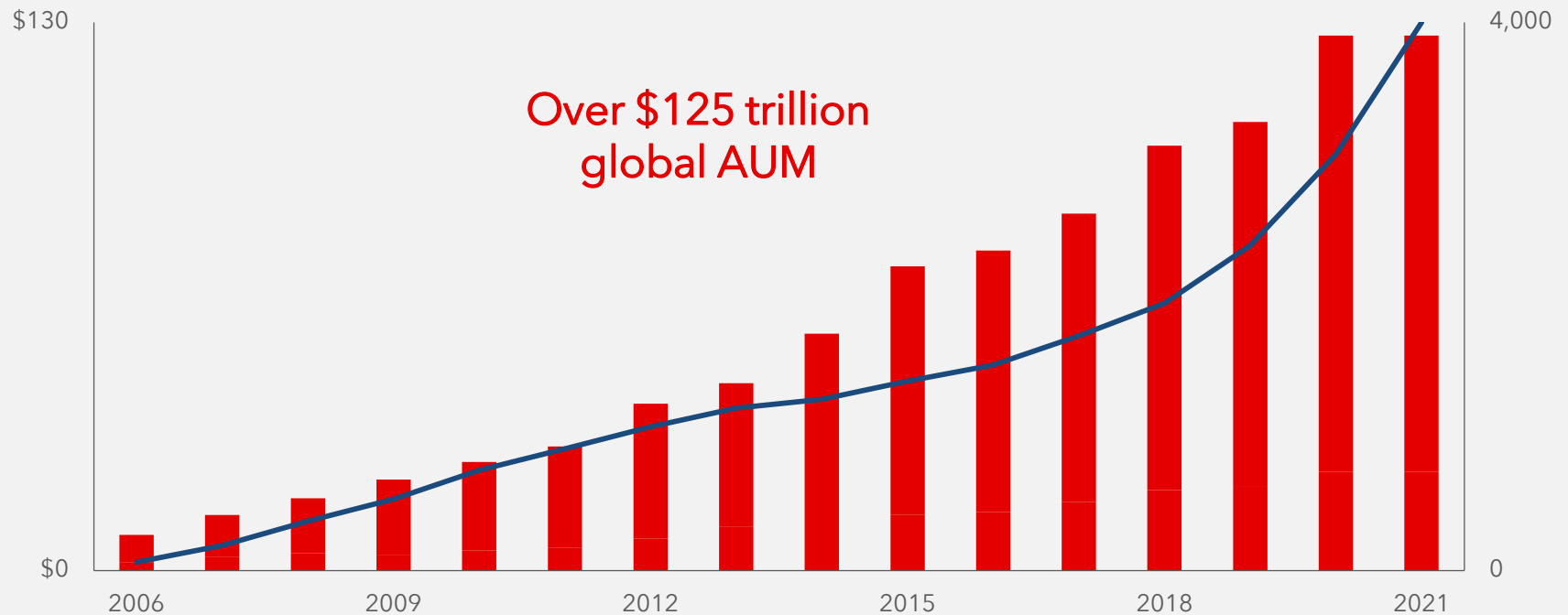
Over \$125 Trillion Committed to ESG

4,000 signatories and asset owners, representing over \$125 trillion in global AUM, have joined the UN Principles for Responsible Investment (PRI) and agreed to incorporate ESG factors into their investment and ownership decisions. Signatories are required to report annually on their responsible investment activities, with those who fail to do so delisted from the initiative.



Number and AUM of UN PRI signatories and asset owners,
USD tn

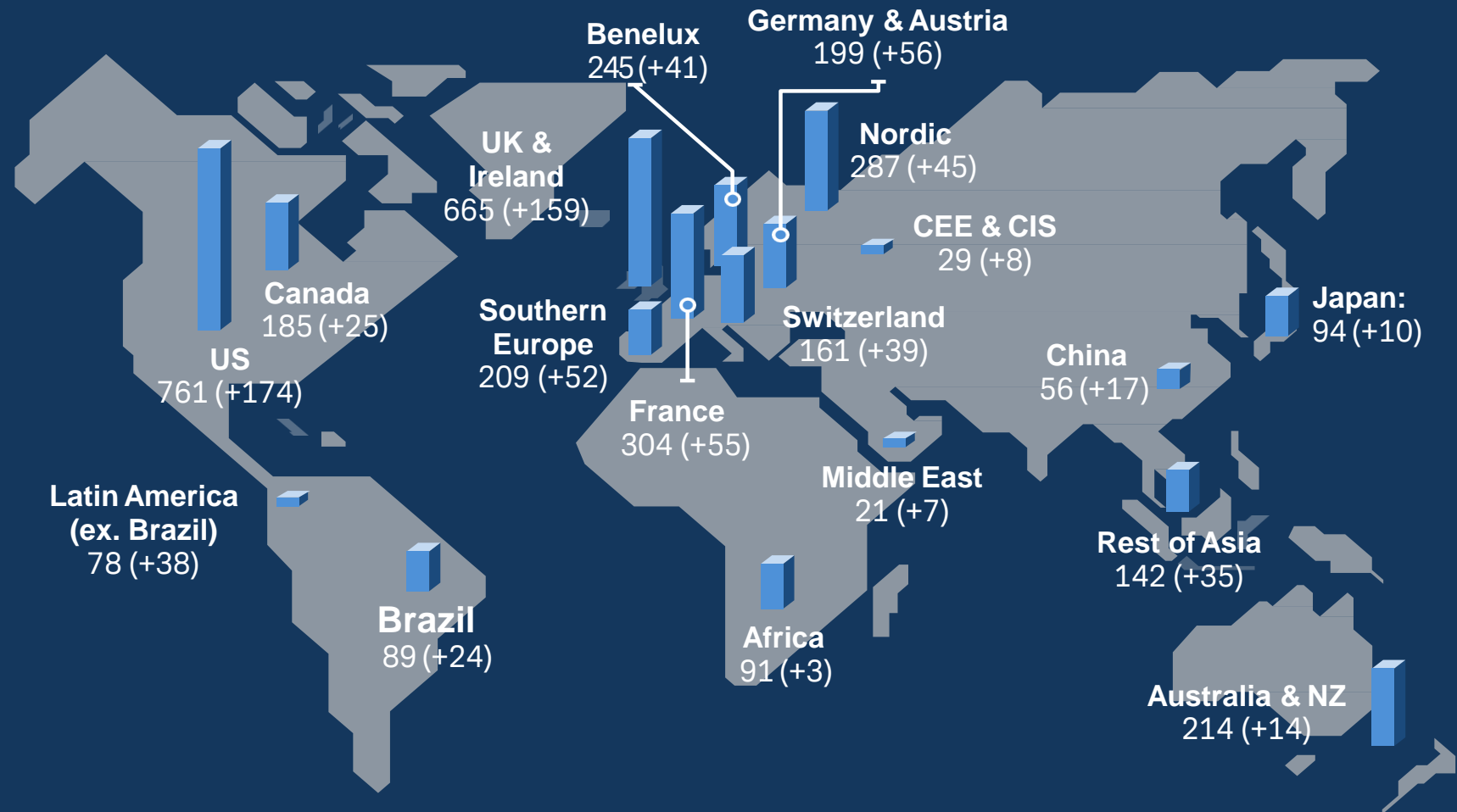
4,000 signatories
> \$125 trillion AUM



Source: (1) UN PRI. Data updated annually as of December 31, 2020. Total Assets under management (AUM) include reported AUM and AUM of new signatories provided in sign-up sheet that signed up by end of March of that year. Total AUM since 2015 excludes double counting resulting from subsidiaries of PRI signatories also reporting, and external assets managed by PRI signatories. AUM for previous years include some element of double counting. Includes AUM and asset owners. AUM data reported annually, signatory data updated as of June 14, 2021.

PRI Signatories by Region

4,000 investors have signed onto the Principles for Responsible Investment



Source: (1) PRI Update - Q2 2021. Regional data as of April 1, 2021. Total number of signatories updated as of June 14, 2021.

Notable ESG Investor Forums & Alliances

Name	Members	Size (tn, AUM)	Founded
 UN PRI	4,000 signatories	\$125	Apr 2006
 UN Principles for Responsible Banking	230 signatories	\$60	Sep 2019
 Climate Action 100+	575 investors	\$54	Dec 2017
 Institutional Investors Group on Climate Change	300 members	\$45	2001
 Net Zero Asset Managers Initiative	87 Asset Managers	\$37	Dec 2020
 One Planet Sovereign Wealth Funds	33 institutional investors	\$30	Dec 2017
 UN Principles for Sustainable Insurance	80+ companies	\$14	Jun 2012
 Asia Investor Group on Climate Change	54 asset owners & managers	\$13	Sep 2016
 Interfaith Center on Corporate Responsibility	336 institutional investors	\$10	1971

In June 2021, a group of 457 investors representing over \$41 tn AUM coordinated by The Investor Agenda released a letter demanding climate action from governments

**Institutional Investors Group on Climate Change is dollar equivalent based on June 9 EUR/USD spot, the organization reports EUR 37 tn AUM represented.*

8. The Transformation of Global Finance

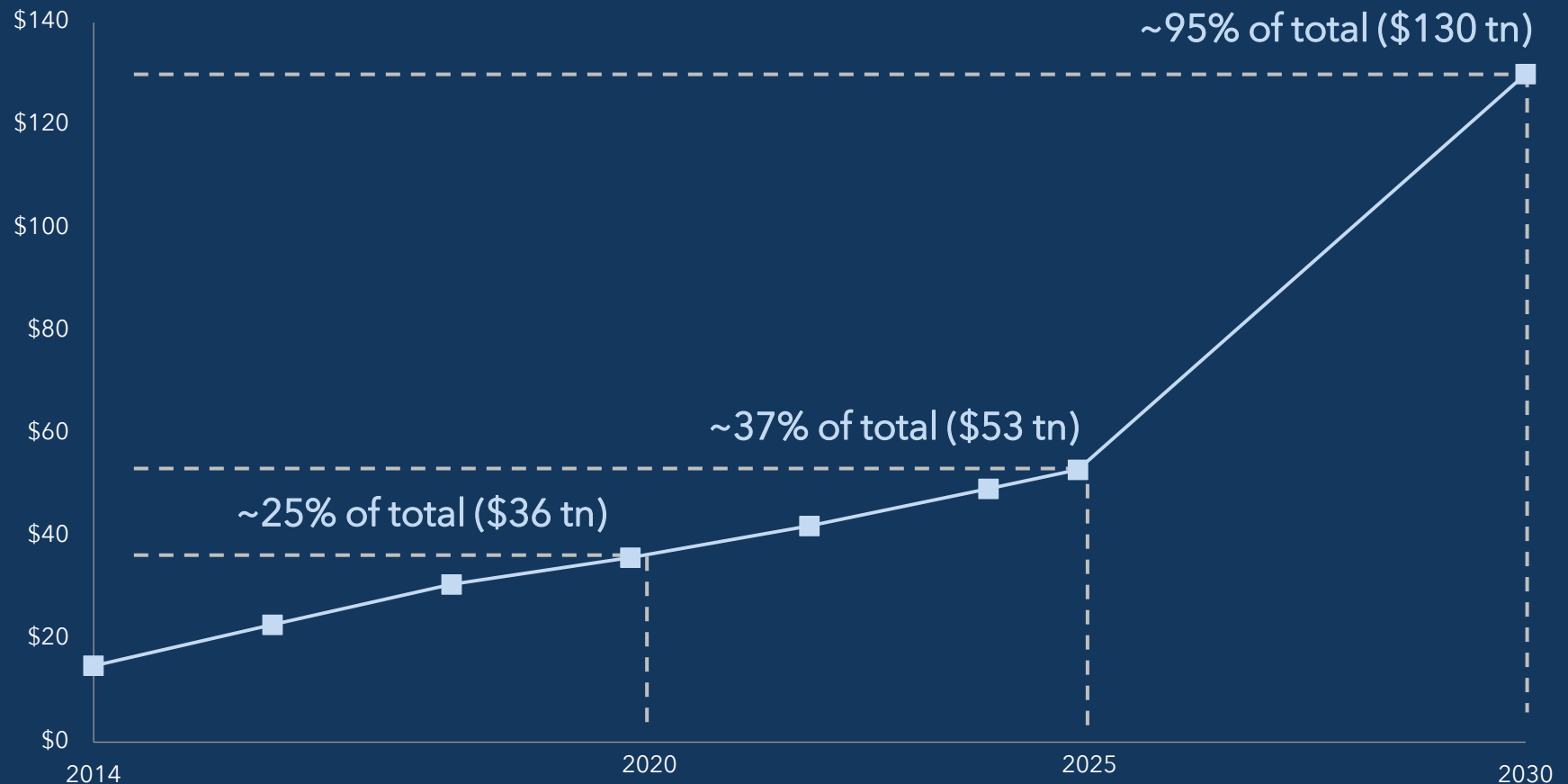
Tectonic Shifts in Capital



Sizing the Global ESG Market

Bloomberg Intelligence estimates that global ESG dedicated assets will exceed \$53 trillion by 2025, or one third of total assets under management. Given current growth trends, up to 95% of global AUM or \$130 trillion could fall under this umbrella by 2030.

 Estimated global assets under management with an explicit or implicit ESG mandate

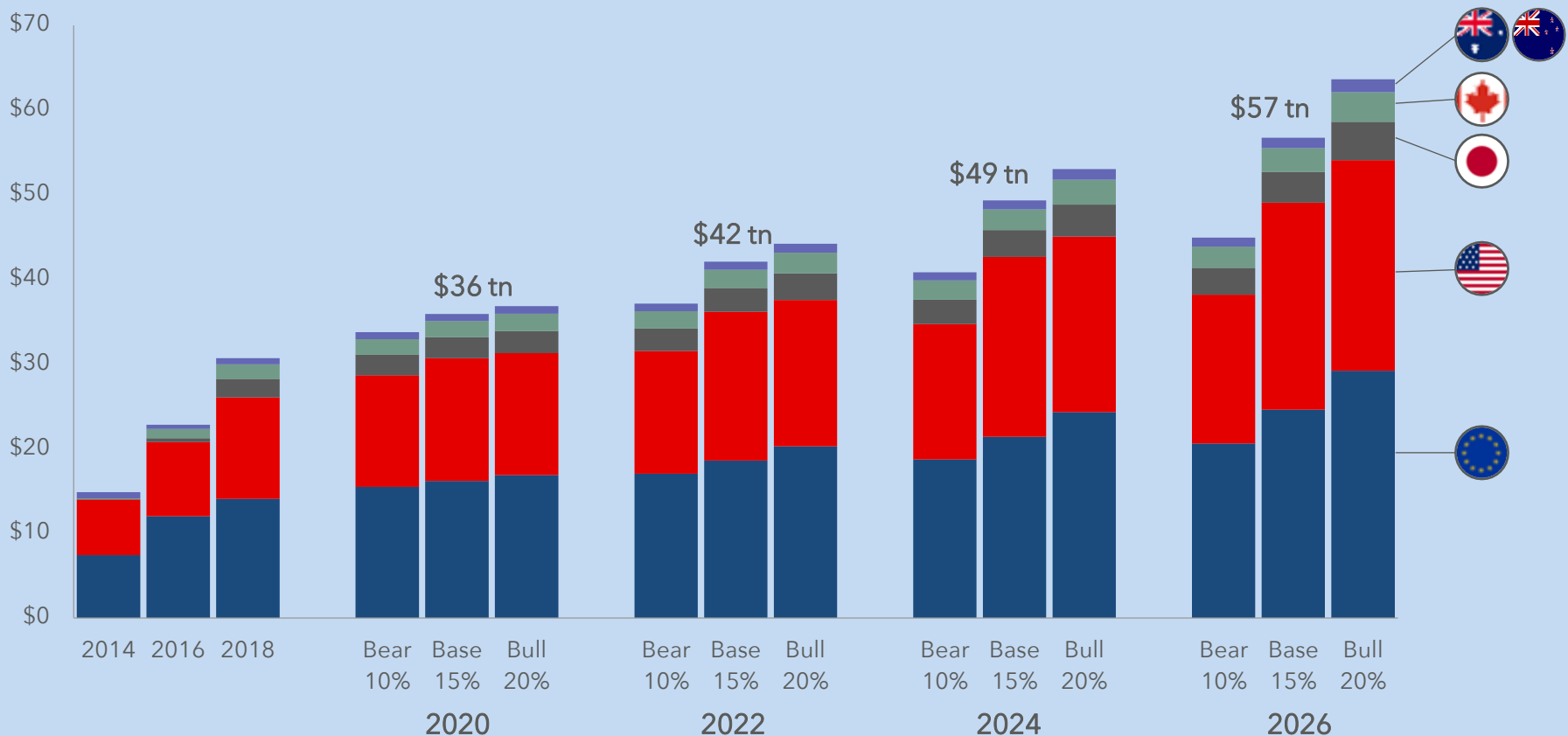


Source: (1) Bloomberg Intelligence. 2020 - 2024 estimates are base case scenario assuming 15% growth. 2014 - 2018 data is from the GSIA.

Regional Breakdown of ESG Market

Bloomberg Intelligence analysis finds that while Europe remains the largest market (50% of ESG dedicated assets), the US is growing rapidly and the gap between markets could close as early as 2022

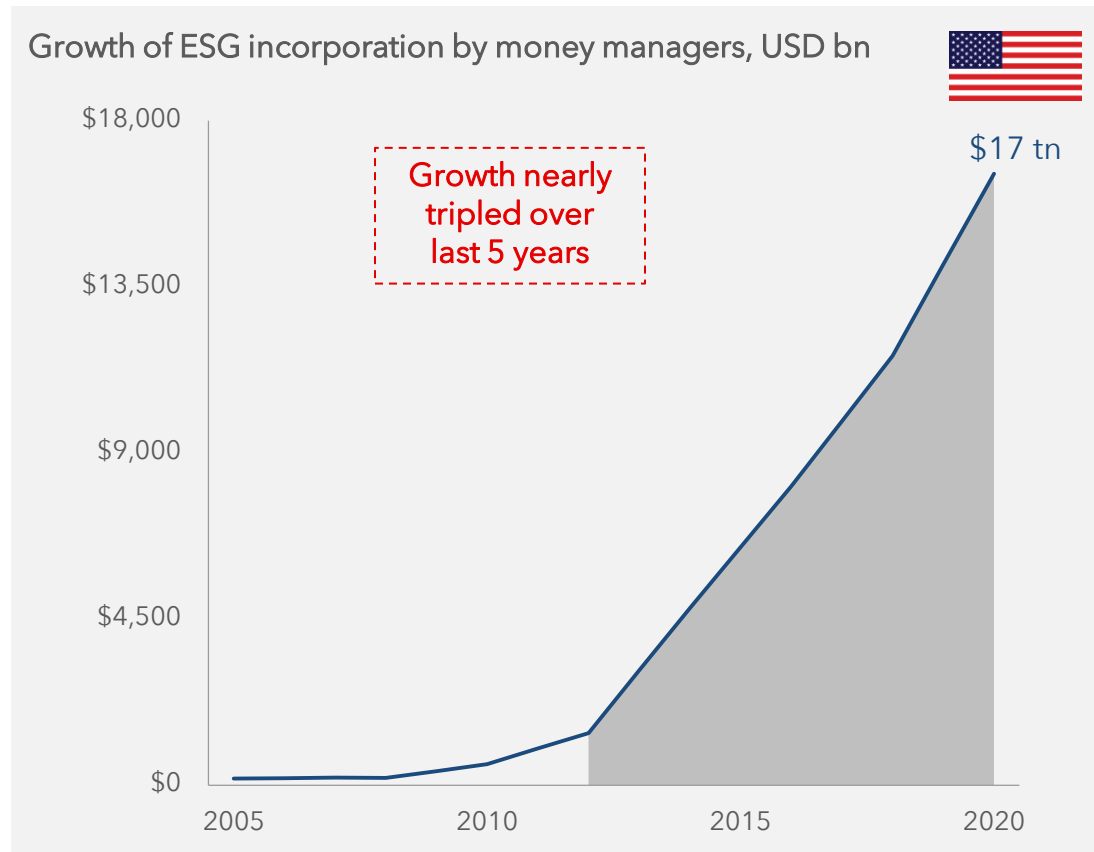
Estimated global assets under management with an explicit or implicit ESG mandate, USD Tn



Source: (1) Bloomberg Intelligence. 2020 - 2024 estimates are base case scenario assuming 15% growth. 2014 - 2018 data is from the GSIA.

Sizing the Actively Managed US ESG Market

A study by the US SIF identified \$17 trillion in professionally managed assets, or approximately 1/3 of total US professionally managed assets, that are incorporating ESG criteria into the investment process. This represents a 25-fold increase since 1995 when only \$639 billion of AUM incorporated ESG criteria.



Leading categories of ESG criteria



Climate change / carbon



Sustainable natural resources / agriculture



Anti-corruption



Executive pay

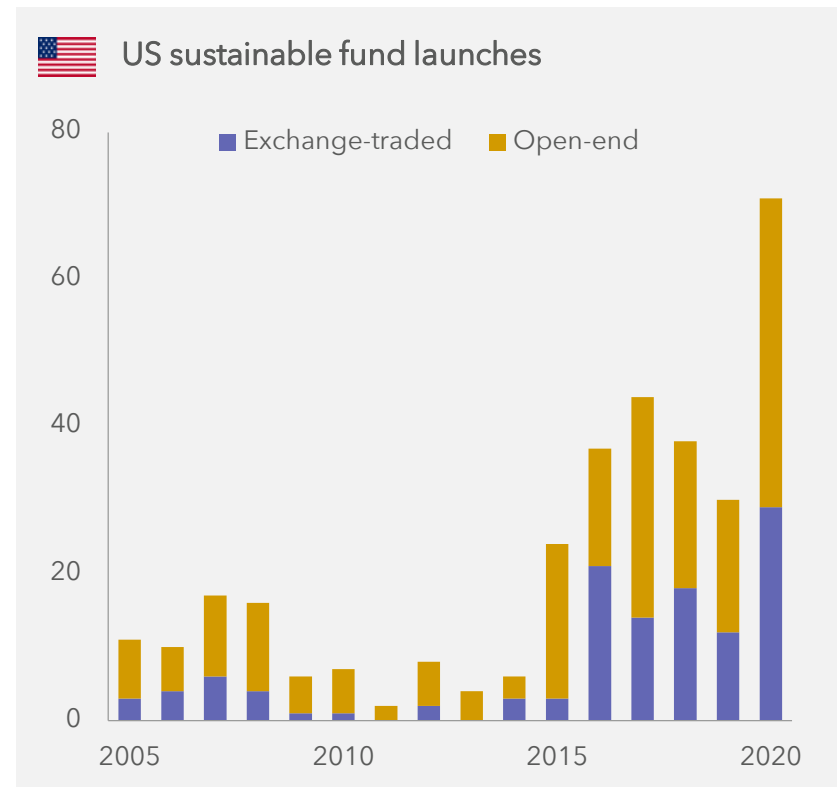
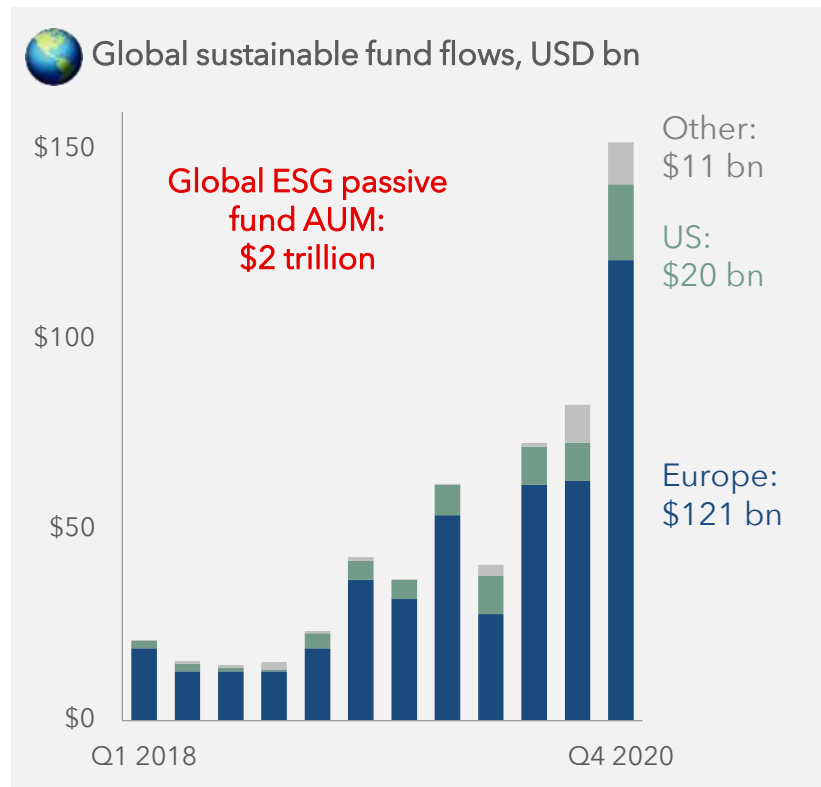


Board issues

Source: (1-2) US SIF. "Report on US Sustainable and Impact Investing Trends" (November 2020).

Global Flows into Passive ESG Funds

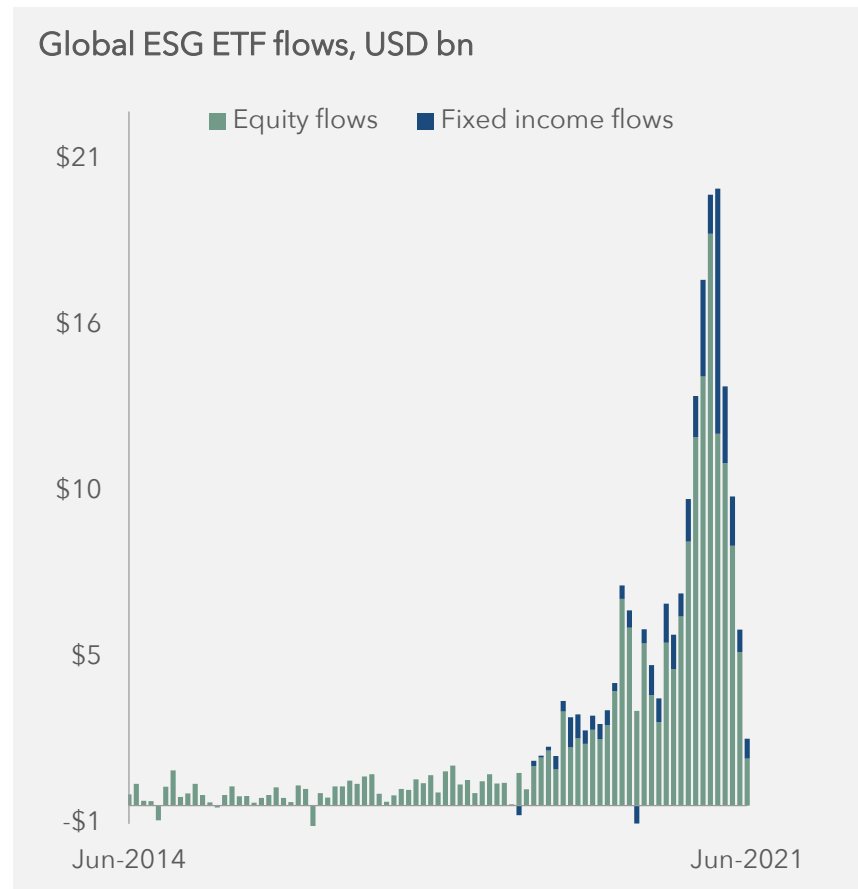
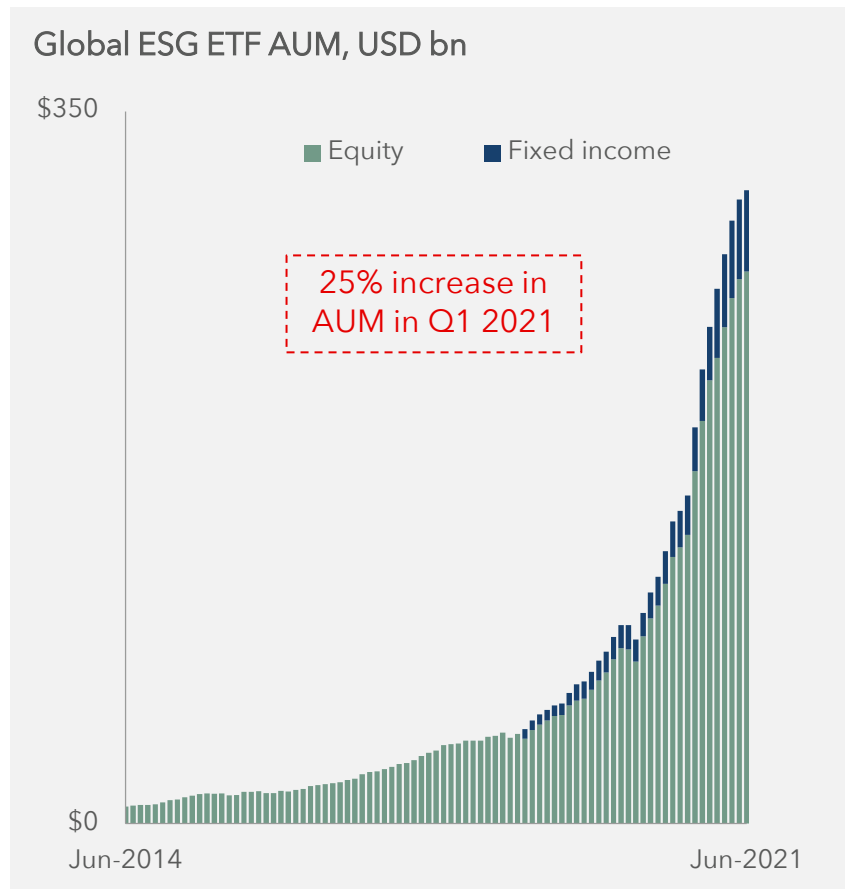
As new ESG products proliferate, more and more money is flowing into sustainable ETFs and open-ended mutual funds. In Q4 2020 alone, a record \$152 billion of global assets flowed into these sustainable funds, an 88% increase from Q3. US funds attracted nearly \$21 billion in Q4 bringing US AUM to over \$230 billion, a 72% increase from 2019. New fund launches in the US are helping close the gap between North America and Europe.



Source: (1-2) Reuters. MorningStar. Data through December 31, 2020. Sustainable funds include global open end and ETF funds that, by prospectus, factsheet, or other available resources, claim to have a sustainability objective and / or use binding ESG criteria for their investment selection. The group does not contain funds that employ only limited exclusionary screens (i.e., controversial weapons, tobacco, thermal coal) or funds that formally integrate ESG considerations in a non-determinative way for investment selection. Money market funds, feeder funds and funds of funds are excluded. Note: 40 open-end funds in the report were launched between 1971 and 2004.

Rapidly Growing ETF Market

The proliferation of ESG investment products has been especially notable in the rapidly growing ETF market. ESG ETF assets increased \$55 billion in the first quarter of 2021, their largest increase on record and as of June 2021, ESG ETFs had over 50 weeks of consecutive net inflows.



Source: (1-2) Bloomberg Intelligence . Data through June 9, 2021.

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Alpha and Outperformance



ESG Index Benchmarking

In May 1990, the KLD 400 Social Index was launched as the first index designed to help “socially conscious” investors incorporate social and environmental factors into the investment process. Today there are well over 1,000 ESG indexes reflecting the rapid growth in investor demand for ESG investment products. ESG indexes have become essential building blocks for asset allocation and are widely used to benchmark ESG investment performance.

Notable examples of ESG indexes:

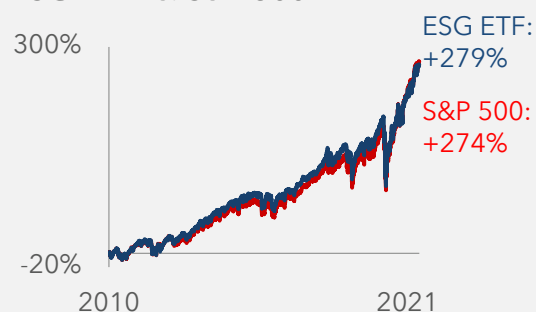
MSCI KLD 400 Social Index	Launched in 1990 as one of the first ESG indexes
Dow Jones Sustainability Index	Launched in 1999 as the first global ESG index
MSCI ESG Select Index	First optimized ESG index aiming to maximize exposure to ESG factors while maintaining risk / return characteristics similar to vanilla index counterpart
Barclays MSCI ESG Fixed Income Indexes	Launched in 2013 as the first group of ESG focused fixed income indexes
S&P 500 ESG Index	Broad-based, market-cap weighted index designed to have similar industry group weights as the S&P 500
Bloomberg SASB Large Cap ESG Select Index	Equity index based off Bloomberg US Large Cap Index with exposure designed to maximize ESG scores based on SASB criteria
FTSE4Good Indexes	Family of global ethical investment stock indexes launched in 2001
Nasdaq CRD Global Sustainability Index	Tracks performance of companies taking a leadership role in voluntarily disclosing ESG data (i.e., carbon footprint, workforce diversity, community investing, etc.)

Source: (1) iShares by BlackRock An Evolution of ESG Indexing. MSCI. S&P Dow Jones. Bloomberg. Nasdaq.

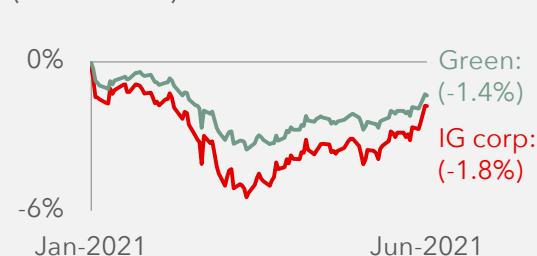
ESG's Outperformance

ESG fund outperformance has sometimes been attributed to the large overlap between high scoring sustainability names and quality growth stocks, often in the technology sector. However, in the early phase of the COVID recovery in Q4 2020, cyclical value and traditional energy stocks rallied after large sell-offs earlier in the pandemic, yet sustainable funds largely performed on par with their traditional peers. The demonstrated outperformance on the upside and resilience on the downside have accelerated ESG's stronghold as a pervasive megatrend driving markets, public policy and business strategy in the years ahead.

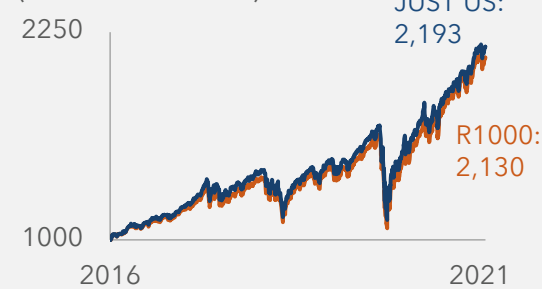
ESG ETF vs. S&P 500



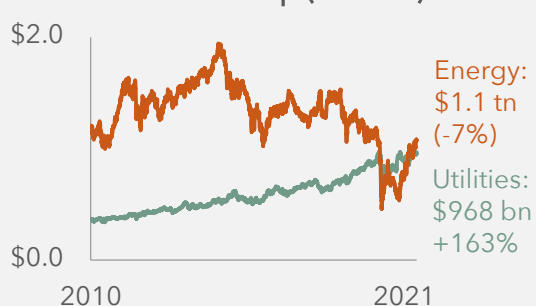
US green corp bond index vs. US IG corp bond index (Total return)



JUST US vs. Russell 1000 (Total return index)



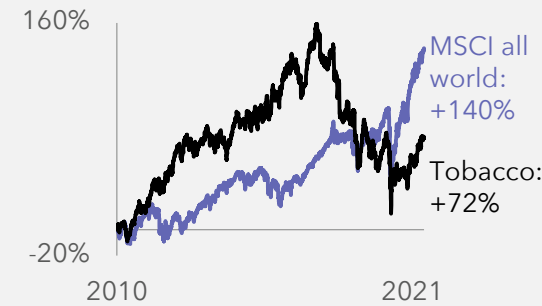
S&P 500 market cap (USD tn)



Clean energy vs. coal



MSCI all world vs. MSCI tobacco



Source: (1-6) Bloomberg. Data as of June 14, 2021. ESG ETF is MSCI USA ESG select. Clean energy is S&P 500 global clean energy index. Coal is Dow Jones coal index. JUST US Large Cap Diversified Index tracks the top 50% of Russell 1,000 companies as ranked by Just Capital. "Sustainable Equity Funds Outperform Traditional Peers in 2020".

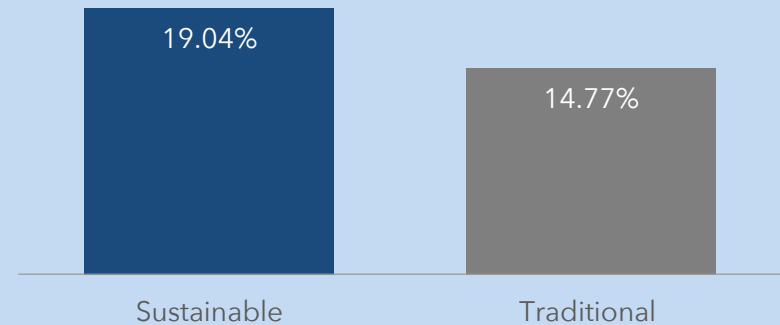
ESG's Resilience

The COVID crisis and recovery clearly demonstrated that ESG is not a bull market phenomena, but rather, a long term secular growth trend with bear market resilience. ESG funds have a long history of providing comparably strong performance (if not outperformance) while providing less volatility on the downside.

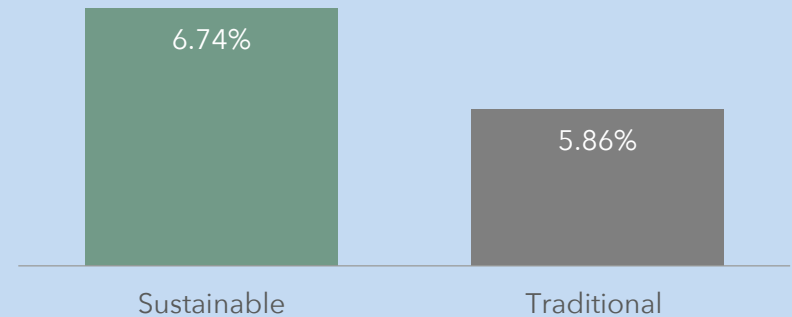
ESG's resilience during COVID-19



Sustainable vs. traditional median total EQUITY returns, 2020



Sustainable vs. traditional median total BOND returns, 2020



Source: (1) Bloomberg. Data as of June 3, 2021. (2-3) Morgan Stanley "Sustainable Funds Outperform Peers in 2020 During Coronavirus" (February 24, 2021). Analysis of over 3,000 US mutual funds and exchange-trade funds.

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ESG Investment Strategies



ESG Asset Manager Initiatives

Among the largest global asset allocators (BlackRock, Vanguard, State Street, PIMCO, etc.) there has been a proliferation of ESG focused investment initiatives that are moving funds toward a fully integrated ESG model

Selected ESG investment initiatives taken by global asset managers:



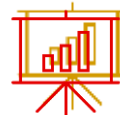
Investment Process

- Hiring ESG experts to incorporate relevant factors into investment decisions
- Building proprietary models for ESG scoring and investment integration
- "Heightened-scrutiny model" for monitoring holdings with significant climate risk in active portfolios
- Potential exit from holdings with significant climate risk in active portfolios



ESG Transparency

- Net zero by 2050 pledges & annual reporting
- Issuing ESG disclosures consistent with TCFD frameworks
- Disclosing AUM aligned to net zero
- Disclosing fund level ESG metrics used for investments
- Publishing "Temperature Alignment Metric" for investment funds



Investment Products

- Expanding universe of products and funds with ESG mandates
- Launching investment products with explicit temperature alignment or Paris Agreement alignment goals
- Dedicated ESG ETF products for passive investment
- Creating and benchmarking to ESG indexes



Company Engagement

- Supporting more ESG proposals at AGMs
- Reconstituting boards
- Voting against management at companies with high ESG risk
- Joining alliances to strengthen company engagement (i.e., Climate Action100+)
- Direct engagement on disclosures (i.e., EEO-1s)
- Reports on material risks associated with climate change (i.e., "Climate Change Risk Oversight Framework for Directors")

Breaking Down ESG Investment Strategies

A 2018 GSIA study provided an estimated breakdown of ESG strategies utilized globally. In recent years, however, investors around the world have added significant resources and more robust analytics to ESG investment, such that the approach today is much more nuanced, and name-specific, with many funds employing multiple strategies concurrently.

Negative / exclusionary screening

Global AUM \$19.8 Tn

ESG integration

\$17.5 Tn

Corporate engagement to influence behavior

\$9.8 Tn

Norms-based screening vs. minimum global standards

\$4.7 Tn

Positive / best-in-class screening

\$1.8 Tn

Sustainability themed investing (i.e., clean energy)

\$1.0 Tn

Impact investing

\$444 Bn

In recent years, investors globally have employed a more integrated and analytically robust approach to ESG investing, with multiple strategies employed concurrently

Source: (1) GSIA "2018 Global Sustainable Investment Review". AUM as of 2018.

Divestment vs. Engagement Strategies

Academic and market studies have been mixed on the merits of a divestment vs. engagement ESG investment approach (with some studies recommending both strategies as compatible). While European investors, college endowments and faith-based funds have been more associated with negative screening strategies historically, most large global investment funds today employ a mix of divestment and engagement strategies concurrently (with many differentiating by performance within sectors, applying thresholds, etc.).

DIVESTMENT

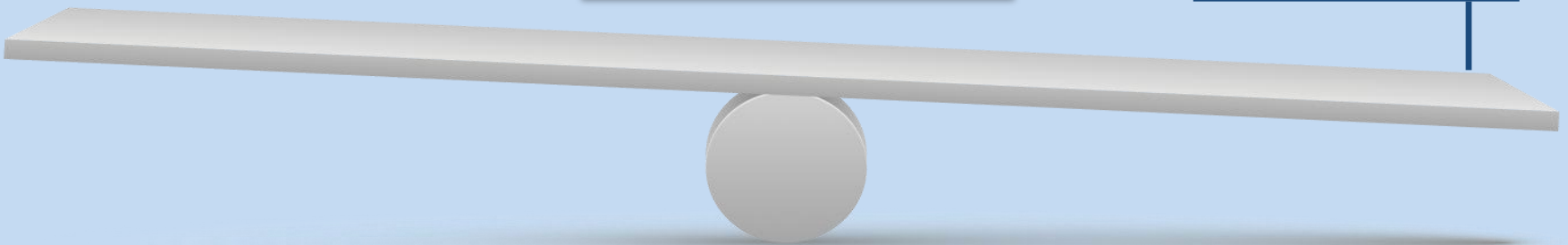
Public pension funds
College endowments
Faith-based organizations
Sovereign wealth funds
Local gov't funds

Sectors at risk

Coal
Fossil Fuels
Tobacco
Private prisons
Arms dealers

ENGAGEMENT

Asset managers
Insurance companies
Private pension funds
Hedge funds







The majority of large investors globally (asset mgrs, pension funds, SWFs, etc.)
employ a mix of divestment and engagement strategies concurrently

Source: (1) GSIA "2018 Global Sustainable Investment Review". AUM as of 2018.

Different Approaches to Divestment

Divestment takes different forms for different investors. While some restrict all investment in a given sector, many investors will adopt a company-by-company approach that permits investment if clear sustainability goals are outlined and interim targets are met.

Selected examples of divestment strategies

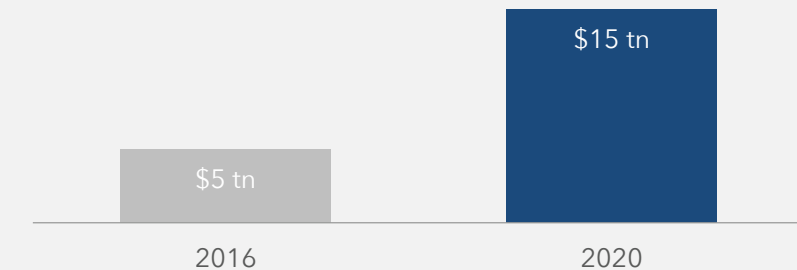
	CalPERS one of the first institutional investors in the world to remove tobacco companies from its holdings in 2000
	Waltham Forest Council, UK local authority, divested its pension funds from oil, gas and coal stocks in 2016
	New York City Employees Retirement System fully divested from fire arms retailers in 2016 and became the first among big cities to divest from private prison companies in 2017
	Norway's Government Pension Fund Global divested from fossil fuels and instated a legal mandate to invest directly in renewable energy projects in June 2019
	AP1 divested investments in nuclear weapons, tobacco, coal and oil sands companies from its portfolio in 2019 then decided to divest from all fossil fuels in 2020
	BNP Paribas Asset Management excludes companies that derive 10% of their revenues from coal production and high carbon emitting power companies as of January 1, 2020
	Blackrock is eliminating any company that generates a quarter of their revenue from thermal coal production from its active investment portfolios as of January 2020
	University of California system's endowment completely divested from fossil fuels as of May 2020
	Nordea Asset Management divested from Brazil's JBS over its ties to farms involved in Amazon deforestation in 2020
	University of Michigan announced in 2021 that it will divest its endowment fund from fossil fuels
	NY State Common Retirement Fund will divest from the riskiest oil and gas companies by 2025 and transition its portfolio to net zero by 2040
	Major global banks have halted financing to private prisons

Source: FT, "The ESG investor's dilemma: to engage or divest?" (January 26, 2021). Various news articles.

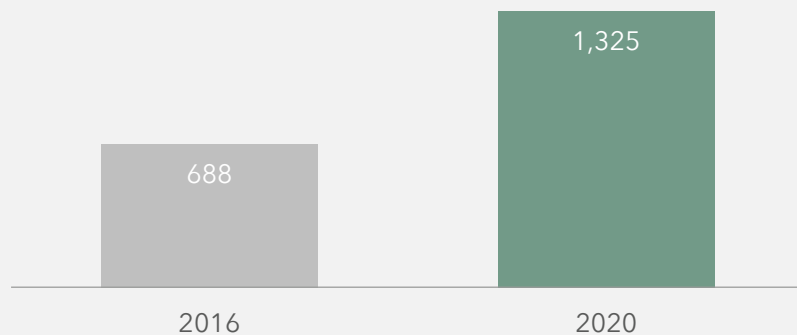
Rising Transition Risk: Stranded Assets

With increased regulatory and investor scrutiny, higher cost of capital and underperformance in the market, traditionally “brown” assets risk becoming “stranded assets” as the world accelerates its transition to a net zero carbon economy. Over 1,300 institutions globally, representing over \$15 trillion in AUM, have already pledged partial or full divestment from the fossil fuel industry.

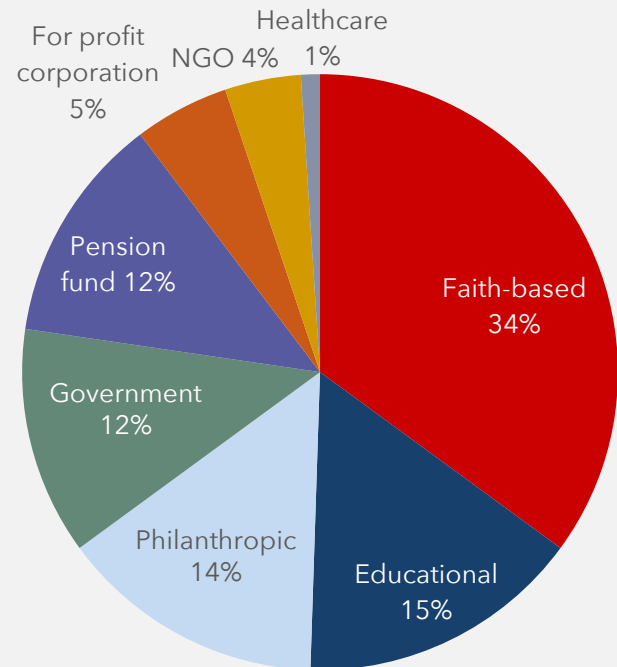
Total assets of institutional investors divesting from fossil fuels



Total number of institutional investors divesting from fossil fuels



Breakdown of 2020 institutional investors divesting from fossil fuels, by type



Source: (1-3) Gofossilfree.org. Global Divestment Report. 350.org. Data as of June 5, 2020. Includes institutions fully or partially divesting.

3

Evolving Sustainable Financing Markets



11.

Evolving Sustainable Financing Markets

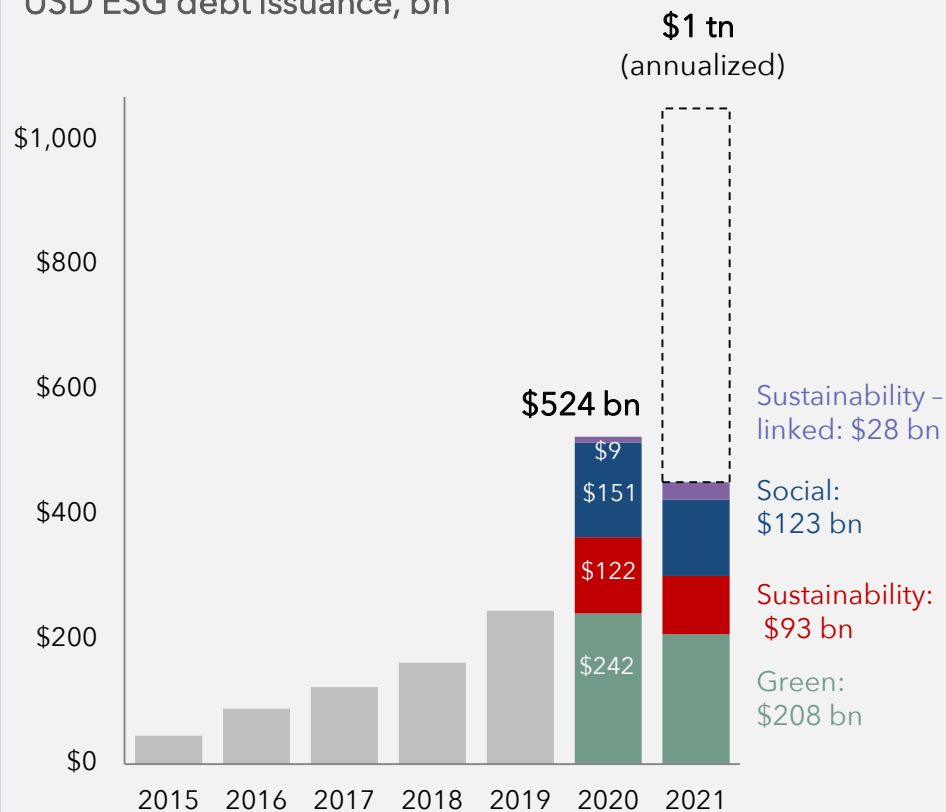
Deep Liquid Financing Markets



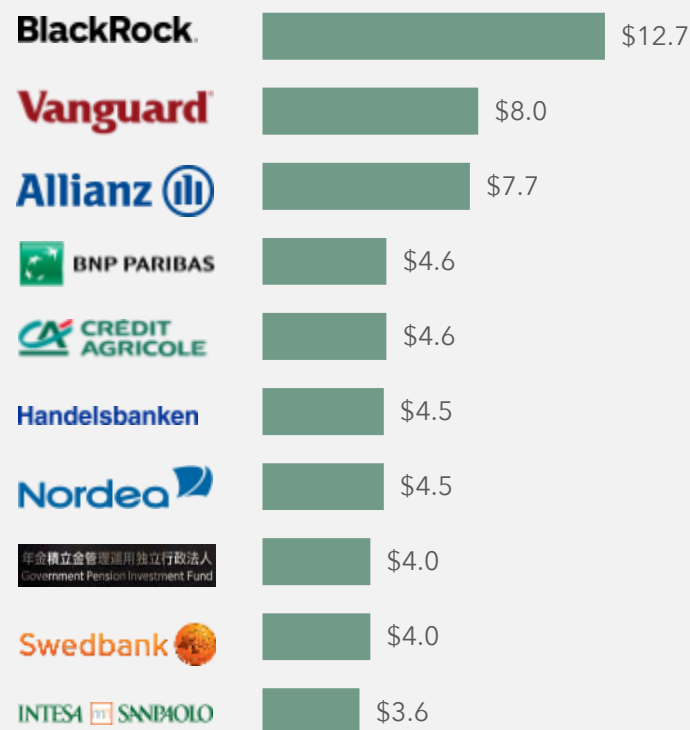
Explosion of ESG Debt Issuance

Global ESG debt issuance from corporates, financial institutions and SSAs has surpassed \$450 bn thus far in 2021 (up 310% y/y at the end of May) and is on pace for over \$1 trillion in issuance this year. While SSA issuers represent 52% of issuance YTD, corporate and financial issuance has accelerated significantly in 2021 with each nearly reaching their full year 2020 issuance total in just the first five months of the year.

USD ESG debt issuance, bn






Largest holders of green bonds, USD bn



Source: (1) MUFG Capital Markets. Sustainable Finance Monthly Update. 2021 data is through June 7. Includes corporate, FIG and SSA volumes and Reg S and 144As. (2) Bloomberg Intelligence, Data as of June 2021.

Broad Spectrum of ESG Financing Alternatives

Rapidly growing and diversifying ESG financing markets offer companies the opportunity to broaden their investor base, lower their cost of capital, communicate the importance of ESG to corporate strategy, and align financing activities with the demands of multiple stakeholders

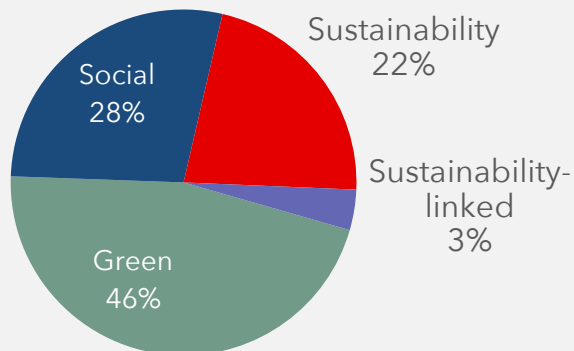
	 Entity-based	 Proceeds-based	 Behavior-based
Bond types	Green pure-play bonds	Green, Social and Sustainability bonds	Sustainability-linked bonds
Loan types	Green pure-play loans	Green project loans , Green credit facilities and Social Loans	Sustainability-linked loans
Issuer/borrower type	Pure play companies	Companies or governments with large transition or green projects	Any company
Use of Proceeds	GCP	Proceeds earmarked for Green, Social or Sustainable projects	GCP
Market size	N/A (includes numerous private and project finance deals)	Green: ~\$1 trillion (bonds) Social: \$305 billion (bonds) Sustainability: \$279 billion (bonds)	\$41 billion (bonds)
Guiding principles	N/A	The Green Bond Principles The Social Bond Principles The Sustainability Bond Guidelines Green Loan Principles Social Loan Principles	The Sustainability-Linked Bond Principles The Sustainability-Linked Loan Principles
Guideline creator	N/A	International Capital Market Association (ICMA), LMA, APLMA, LSTA	

Source: (1) Market size is global outstanding bonds in USD as of June 7, 2021.

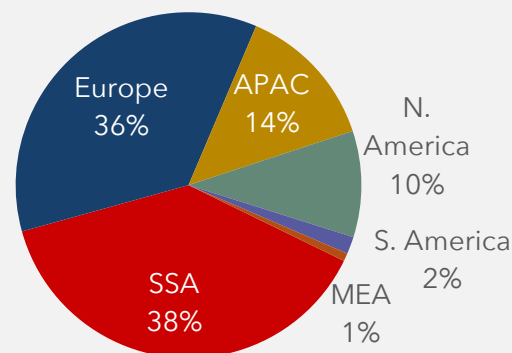
Breakdown of the Global ESG Bond Market

The ESG bond market is still dominated by Green issuance, however, 2020 and 2021 have seen significant growth in both Sustainability and Sustainability-linked bonds. Similarly, while Europe is still the largest market for ESG bonds, the US is growing rapidly.

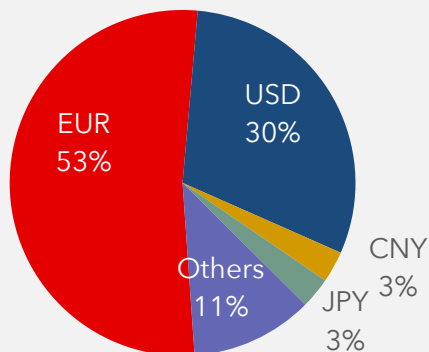
Issuance type (2020 & 2021)



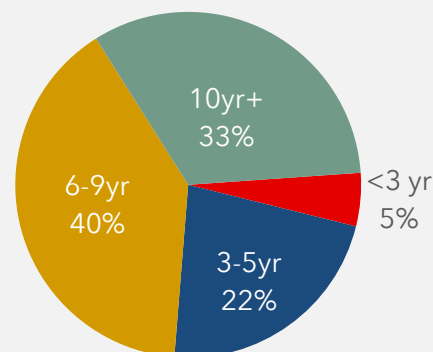
Region (2020 & 2021)



Currency (2020 & 2021)



Tenor (2020 & 2021)



Source: (1-4) MUFG Capital Markets. Sustainable Finance Monthly Update. 2021 data through June 7, 2021. Data includes IG and HY bonds.

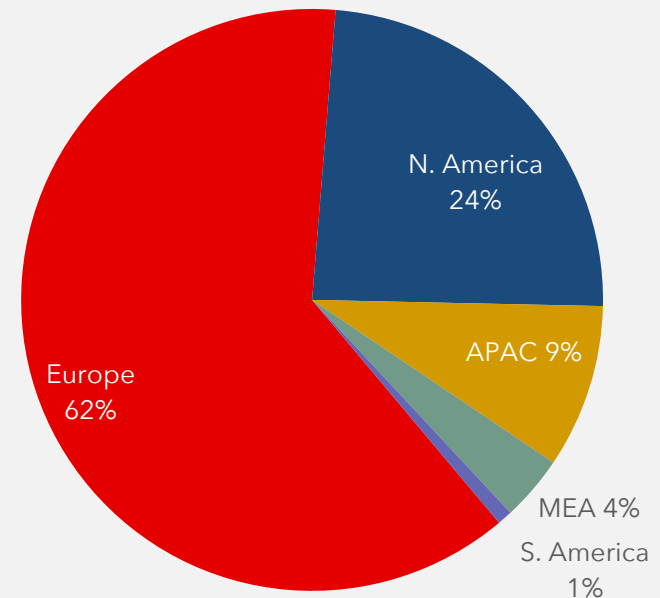
Green, Social & Sustainability Loan Market

Though still relatively small in absolute size, the ESG loan market has more than tripled in size since 2018. Green loans, similar to a green bond, are used exclusively to finance eligible green projects while Sustainability-Linked Loans (SLLs) do not have a specified use of proceeds. SLL pricing is tied to pre-set Sustainability Performance Targets.

Green & sustainability linked loan issuance (USD bn)



Regional breakdown of green and sustainability linked loan issuance (2020 -2021)



Source: (1-2) MUFG Capital Markets. Sustainable Finance Monthly Update. 2021 data through May 31, 2021.

12. | Evolving Sustainable Financing Markets

Cost of Capital Considerations

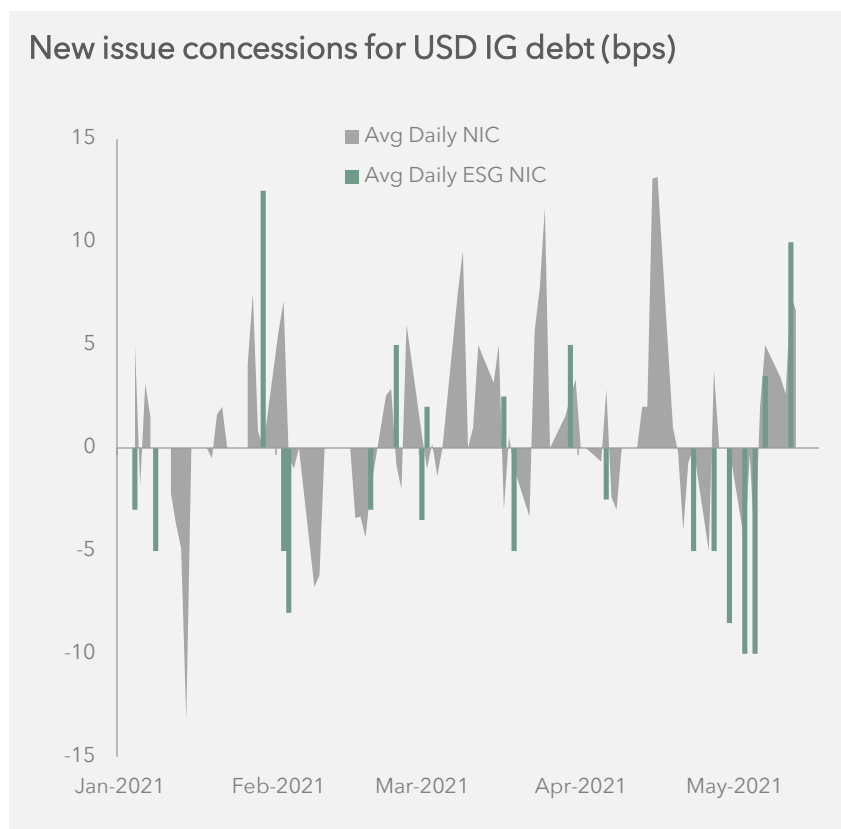
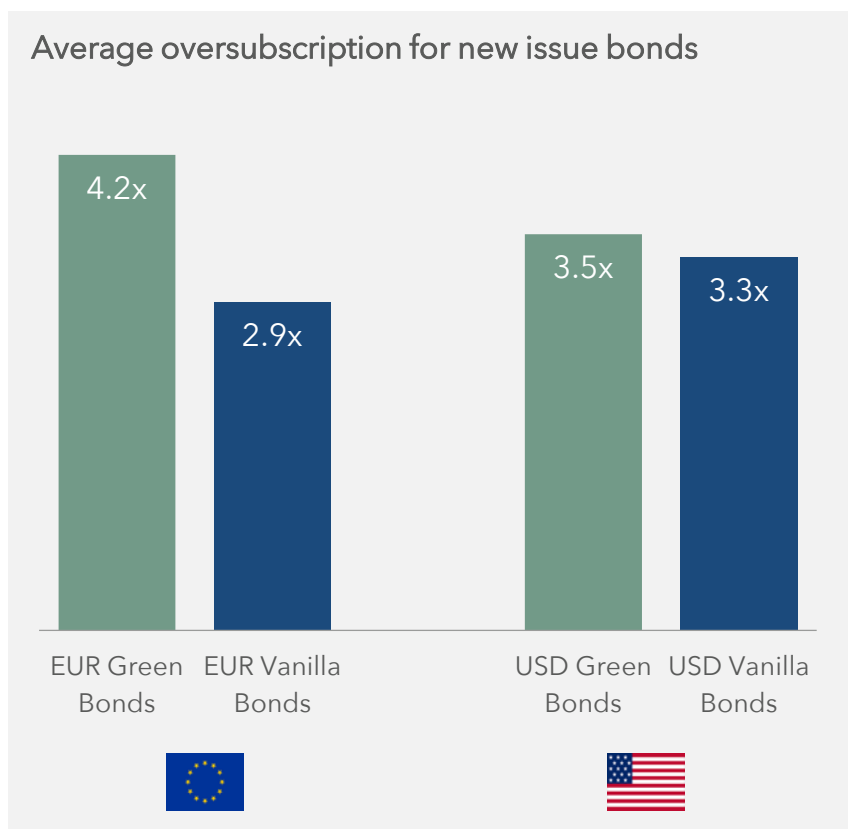


“Over time, companies and countries that do not respond to stakeholders and address sustainability risks will encounter growing skepticism from the markets, and in turn, a higher cost of capital. Companies and countries that champion transparency and demonstrate their responsiveness to stakeholders, by contrast, will attract investment more effectively, including higher-quality, more patient capital.”

Larry Fink, CEO of BlackRock

New Issue Execution Benefits

A limited number of “like for like” bond issuances makes calculating the true “Greenium”, or price benefit of green vs. conventional bonds, challenging. However, green bonds in both the EUR and USD markets show a higher level of average oversubscription than their vanilla counterparts, though the trends is far more pronounced in the European market. Similarly, new issue concessions for USD ESG debt have tended to be lower than the broader market.

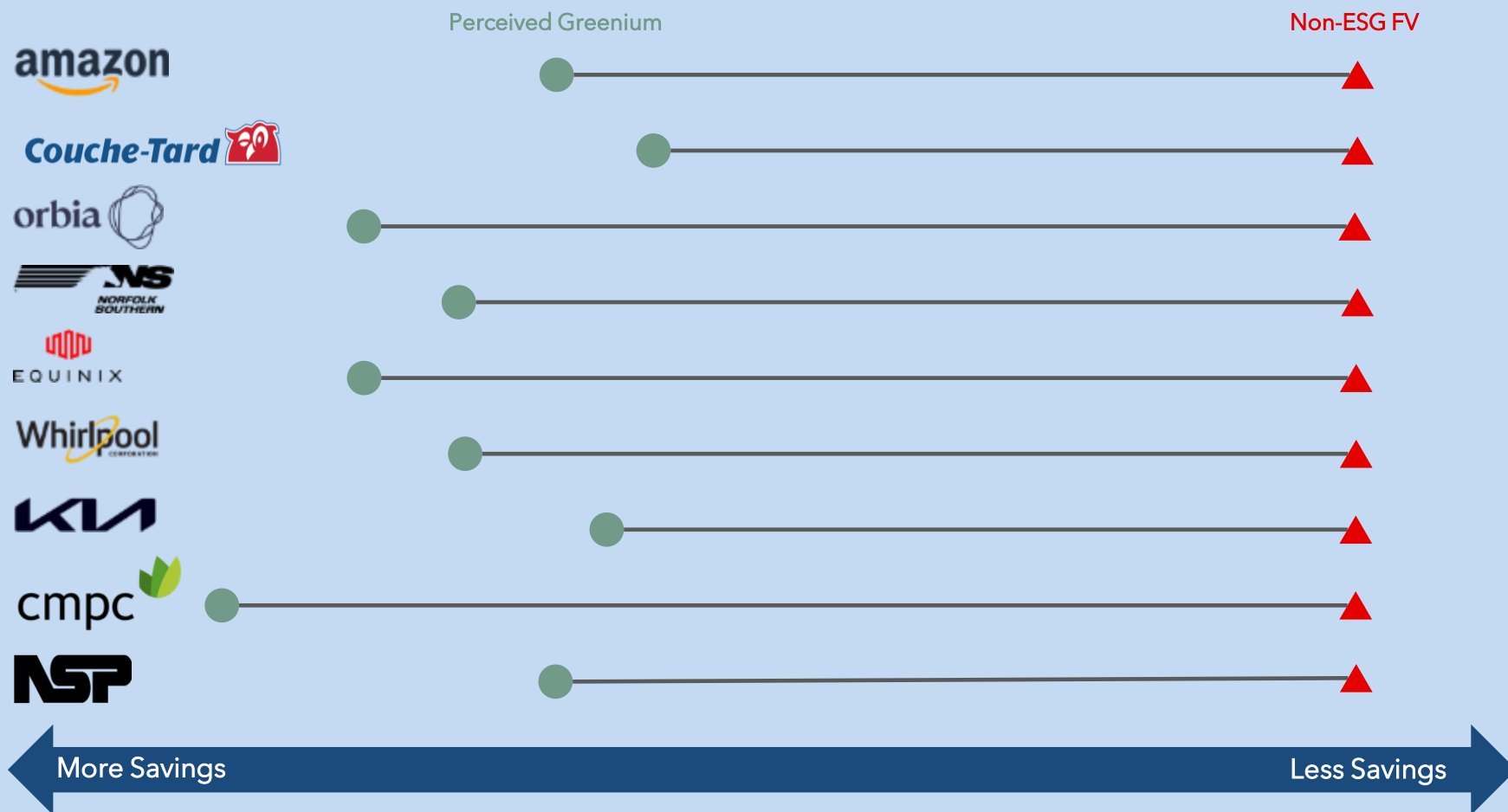


Source: (1) Climate Bond Initiative. “Green Bond Pricing in the Primary Market” (July - December 2020). CBI methodology includes bonds issued in the last six months of 2020 and represents the most liquid portion of the green bond market and is limited to USD and EUR bonds with a minimum original issue size of USD500m. DM, EM and Supranational are included.

Pricing Through Fair Value

The confluence of lower new issue concessions, larger order books, and a growing amount of dedicated ESG money has allowed some issuers to price through perceived non-ESG fair value.

New issue pricing for ESG bond relative to perceived non-ESG fair value

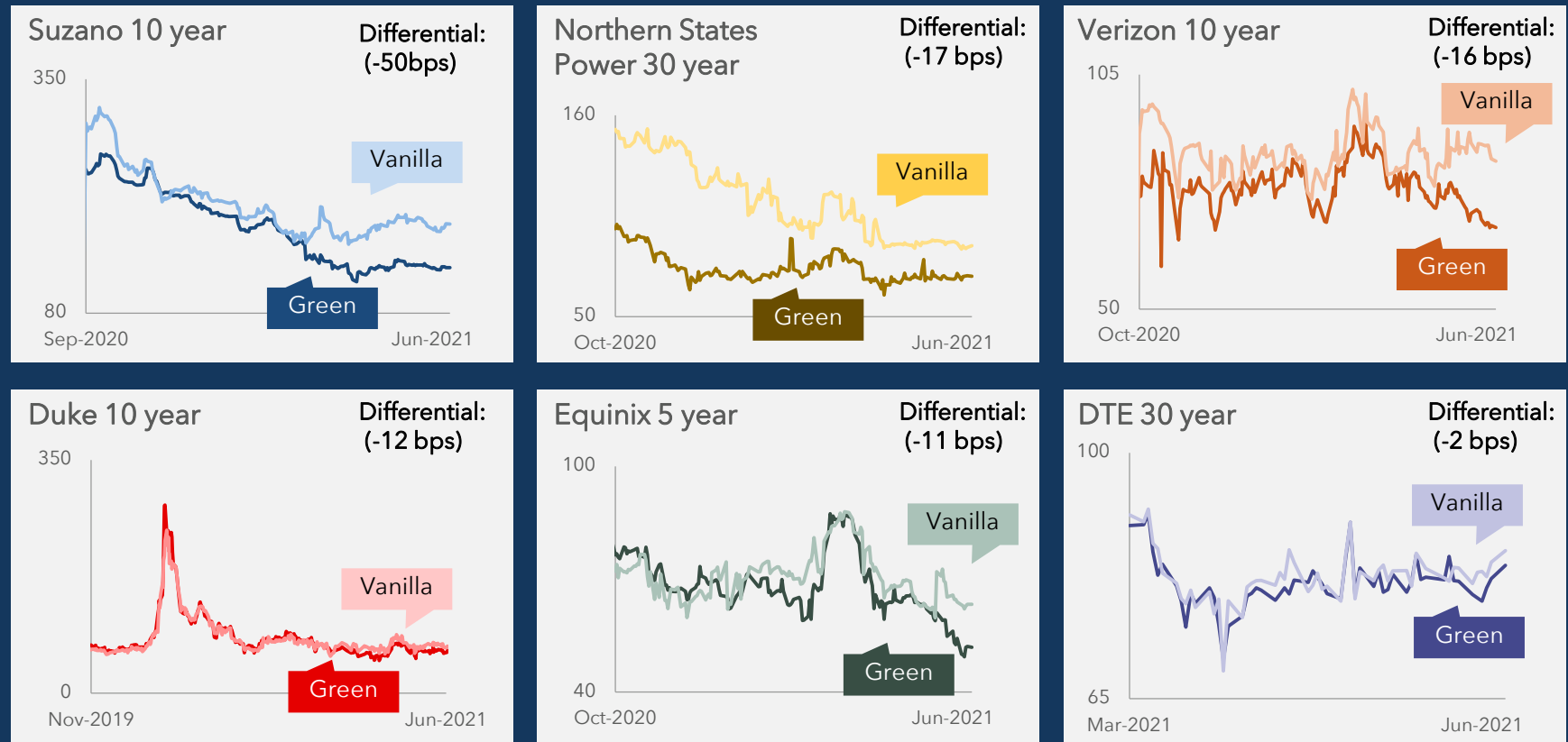


Source: (1) MUFG "ESG Bond Pitch Book April 2021" (Amanda Kavanaugh).

Secondary Market Outperformance

While liquidity constraints make direct comparisons challenging, there is evidence that green issuances outperform their vanilla counterparts in the secondary market. However, the magnitude of outperformance is influenced by myriad factors including: i) issuance specific details (size, tenor, use of proceeds, etc.); ii) issuer rating; iii) history with ESG issuance; and iv) sector, among others.

Spreads on comparable duration Green and Vanilla issuances



Source: (1-6) Bloomberg. Data as of June 14, 2021. Bloomberg bid G-Spread.

13. | Evolving Sustainable Financing Markets

Best Practices for Issuance



The Transparency Imperative

A recent PWC analysis highlights 5 tangible steps that companies can take now to meet stakeholder expectations as disclosure standards evolve (TCFD, SASB, IIRC, GRI etc.)



Engage the board

- Transparency must be a board-level issue
- Report on how you create sustainable value
- Ensure reported metrics are used to set targets and improve performance



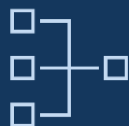
Know your strategy

- Develop unique reporting approach that includes comprehensive baseline and metrics specific to the sector / business (i.e., SASB, World Economic Forum IBC)
- Choose metrics and disclosures with significance to stakeholders and set challenging targets



Go digital

- Provide data in digital formats that third parties can process and use
- Move from static PDF documents to more engaging formats for data and storytelling
- Expect data consumers to use apps and algorithms to draw data from your non-financial reporting



Systems, not just standards

- Make sure company has ability to gather and report non-financial data effectively
- Invest in systems, controls and skills to make sure you have the right data



Same rigor you apply to financial data

- Think of non-financial metrics as equally important to financial metrics in reporting
- Strive for the same standard of accuracy, transparency and clarity in your data



Source: PWC "Learning to Love Transparency."

Corporate Best Practices Checklist

The Green Bond Principles Framework has several required, recommended and optional best practices for issuance of green, social and sustainability bonds

Framework Best Practices

● Required / Recommended ● Optional

1

Use of Proceeds

- Identify which ICMA Green Bond Principle / Social Bond Principle Project categories are targeted
- Identify which UN Sustainable Development Goals are targeted with the use of proceeds
- Define a lookback period
- Estimate the share of financing vs. re-financing

2

Process for Project Evaluation and Selection

- Clearly communicate environmental sustainability objectives
- Define the process for project evaluation
- Define the related eligibility criteria and exclusion criteria (if relevant)

3

Management of Proceeds

- Track proceeds in an appropriate manner
- Identify the intended types of temporary placement for the balance of the unallocated net proceeds
- Appoint an auditor to verify the internal tracking method and the allocation of funds

Source: (1) ICMA. Green Bond Principles. MUFG DCM.

Corporate Best Practices Checklist

In addition to the framework best practices, companies should also consider increased transparency with dedicated ESG resources on their website and in company presentations

Framework Best Practices Continued

● Required / Recommended ● Optional

4

Reporting

- Commit to allocation reporting
- Commit to annual impact reporting
- Identify potential impact measurement key performance indicators

5

External Review

- Appoint a Second Party Opinion (SPO) provider
- Other verifications / certifications (e.g. CBI)
- Commit to publishing external review(s)

Other Best Practices

6

Green / Sustainability Bond Website

- Establish an easily accessible dedicated section on the company website
- Publish the Green / Sustainability Bond Framework
- Publish the Second Party Opinion
- Commit to publishing impact report

7

Company ESG Policy

- Establish and publish a company ESG policy
- Include an ESG specific slide(s) in all company presentations (incl. results presentations)

Source: (1) ICMA. Green Bond Principles. MUFG DCM.

Post – Issuance Reporting

While annual post-issuance reporting is a part of the Green Bond Framework, the quality and consistency of reports varies significantly. More work needs to be done to consolidate reporting standards across various groups and frameworks (i.e., ICMA Harmonized Framework, EU Taxonomy for Sustainable Activities, EU Green Bond Standard, Green Assets Wallet). However, the Climate Bonds Initiative (CBI) analyzed post-issuance reporting for 694 bonds to develop a list of post-issuance best practices. The study included bonds in the Climate Bonds Green Bond Database from 408 issuers worth \$212 bn issued between November 2017 and March 2019.

Best practices for post-issuance reporting:

- Report on both Use of Proceeds and Impact
- Clarity and ease of access to information are key
- Create dedicated websites for green / sustainability initiatives
- Dedicated green bond reports

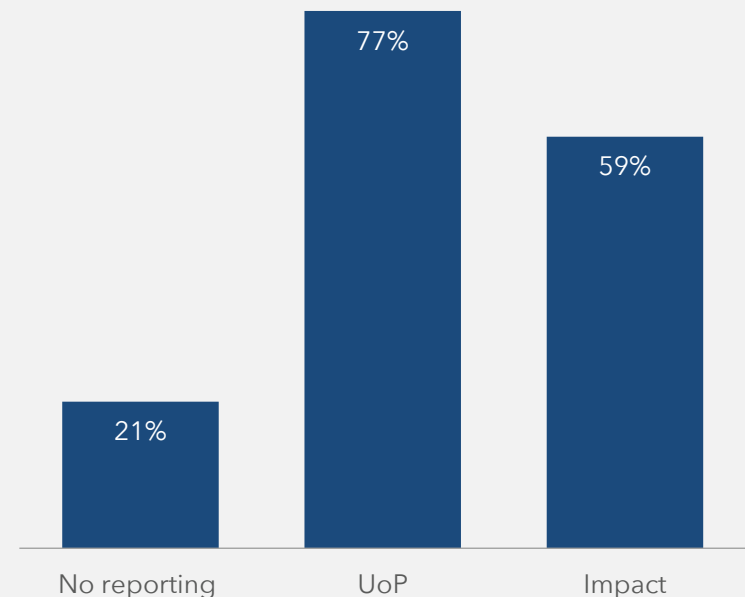
Use of Proceeds Reporting:

- Communicate commitment at issuance and report in-line with stated commitments
- External reviews at issuance with post-issuance auditing
- More granular reporting preferred
 - Project level rather than portfolio level
 - Individual bond vs. program reporting

Impact Reporting:

- Insights into environmental outcomes from green bond financings
- Use absolute rather than relative metrics (i.e., absolute emissions rather than vs. baseline)
- Provide entity level assessments
- Report as long as projects are operational and impacts are ongoing

Number of issuers reporting, share of total



Note: numerous issuers conduct UoP and impact reporting so numbers will not sum to 100%

Source: (1) Climate Bonds Initiative "Post-issuance reporting in the green bond market" 2021.

14.

Evolving Sustainable Financing Markets

New Lens for Credit Facilities



Global Banking Support for Net Zero 2050

The global banking system is moving closer to a universal commitment to achieving net zero emissions in their financing portfolios by 2050. In addition to 2050 net zero pledges, some banks have announced interim targets or goals based off of the comprehensive Science Based Targets and pledged annual reporting on progress toward those goals. Outside of net zero commitments, banks are also making direct investments in green and social initiatives, hiring ESG expertise and incorporating ESG risk frameworks in financing decisions.

Selected banks committing to net zero financed emissions by 2050:



Source: Based on public announcements as well as members of the UN-led Net Zero Banking Alliance.

The Regulatory Impetus

The ECB is undergoing a strategic review of operations and is expected to present the 91 members of the Network of Central Banks and Supervisors for Greening the Financial System (NGFS) a series of options and recommendations for policies regulators can adopt that would impact climate risk and mitigation strategies

Climate risk mitigation options for central banks



Credit Operations

- Adjust interest rate on lending operations to reflect banks' climate-related credit provision
- Adjust interest rate on lending operations to reflect the composition of pledged collateral
- Make access to lending facilities dependent on certain climate disclosures



Collateral

- Adjust haircuts to better account for climate risks
- Negative screening to exclude otherwise eligible assets based on climate risks
- Positive screening to incentivize support of environmentally friendly activities
- Align composition of collateral pool with climate-related objective



Asset Purchases

- Tilt purchases according to climate-related risks
- Negative screening to exclude some assets or issuers

Source: Networking for Greening the Financial System. Bloomberg Green "Central Bankers Weigh Using Monetary Policy in Climate Fight".

Bank Actions on the Path to Net Zero

In order to align with the goals of the Paris Climate Agreement, banks are taking steps toward net zero in their own operations, but more significantly, they are engaging with companies in their lending portfolio to achieve net zero financing by 2050



Deploying Capital

- Direct investments in green initiatives / climate solutions
- Dedicated banking groups to support green companies
- UN SDG aligned funding for low-carbon solutions



Partnering Across the Industry

- UN Net Zero Banking Alliance (setting goals and benchmarking for net zero 2050)
- Glasgow Financial Alliance for Net Zero (financial institutions mobilizing capital behind net zero transition)
- Partnership for Carbon Accounting Financials (monitoring funded emissions)
- Collective Commitments to Climate Action (bank sector initiative supporting transition to net zero economy)



Cutting Own Emissions

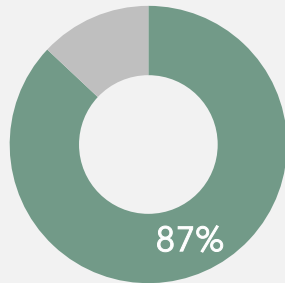
- Net Zero GHG emissions by 2050 (or sooner) in own operations
- Interim targets to reach carbon neutrality
- Commitments to purchase 100% renewable energy

Bank Sector Commitments to Net Zero 2050

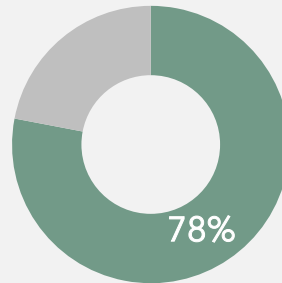
An analysis by the World Resources Institute shows that a growing number of global banks are rapidly expanding their commitment to sustainability

% of banks with sustainable finance specificity commitments:

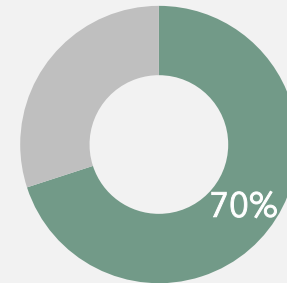
Defines sustainability criteria



Identifies financial services included

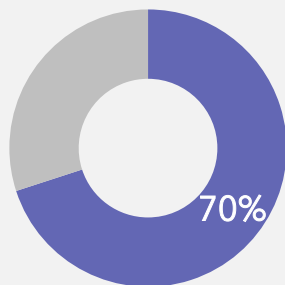


Provides specific timeline

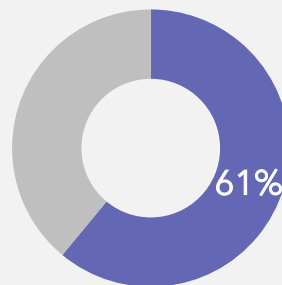


% of banks with sustainable finance accountability commitments:

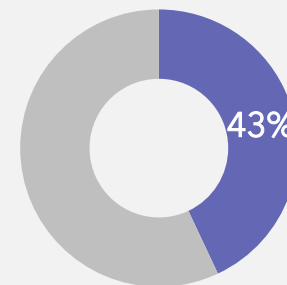
Includes plan for reporting



Endorsed by CEO / board chair



Discloses accounting method



Source: (1-6) World Resources Institute "Green Targets: A tool to Compare Private Sector Bank's Sustainable Finance Commitments". Analysis based on the 23 of 50 largest private sector banks who had made sustainable finance commitments as of July 23, 2019.

15. | Evolving Sustainable Financing Markets

PE's Value Creation Opportunity

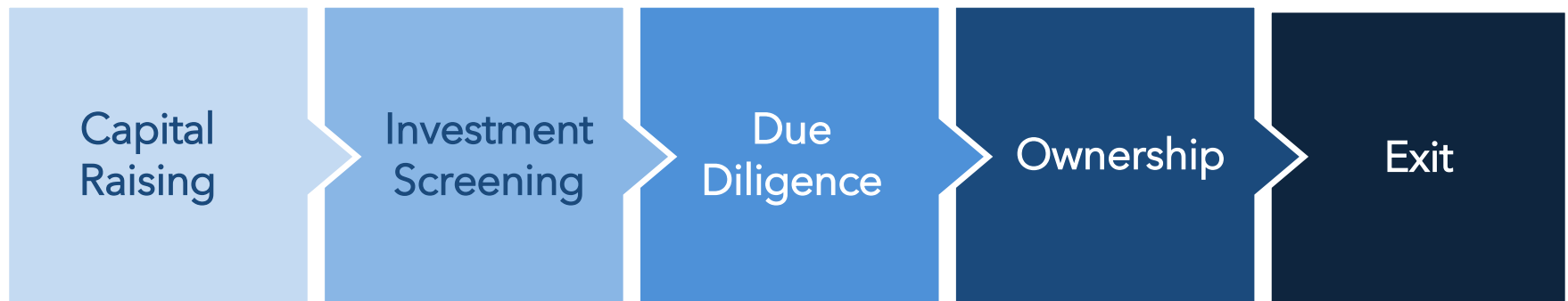


The PE Value Creation Opportunity

Across the global Private Equity landscape, ESG is increasingly viewed as a core competency that is fundamental to risk mitigation, value creation and market share

Important ESG takeaways for Private Equity

- Increasingly important to capital providers (SWFs, Universities, Pension Funds)
- Decarbonizing and cleaning portfolio assets
- Integral to risk mitigation strategies
- Rising importance to regulatory relationships (Europe's SFDR Framework)
- Fundamental to value creation strategies
- Successful fund launches with specific ESG, impact, or climate mandates



Limited Partners, Bankers & Regulators

LPs, banks and regulators are all implementing ESG frameworks in their own businesses. These frameworks mean more fundraising opportunities and potential for lower cost of capital among PE firms implementing ESG objectives across their portfolios.



Limited Partners

- 88% of LPs globally use ESG performance indicators in investment decisions
- SWFs, universities and pension plans increasingly demanding ESG factors in RFPs
- ESG incorporation required in due diligence and ownership



Bankers

- Global banks committing trillions to sustainable finance
- ESG factors playing role in financing decisions with PE companies
- Lower cost of capital for ESG transactions



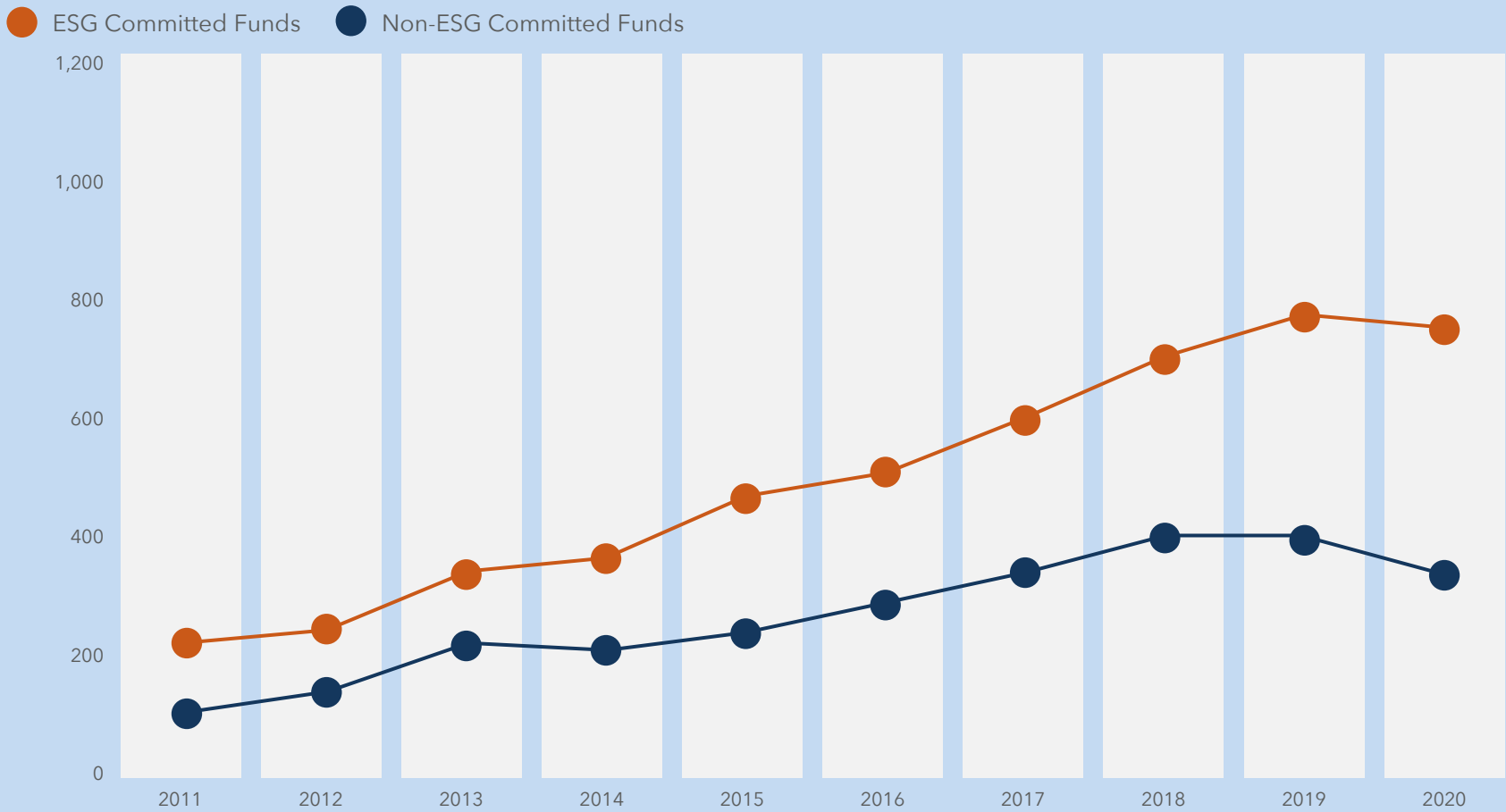
Regulators

- EU taxonomy to take effect in December 2021 (required disclosures for PE firms already in place)

ESG's Impact on Capital Raising

Of the estimated 8,800 private equity firms globally, just over 700 are signatories of the PRI. According to financial analytical provider Preqin, more than \$3 trillion in combined assets has been raised by private equity capital funds that integrate ESG principles since 2011.

Aggregate capital raised by ESG-committed vs. Non-ESG-Committed CPs, USD bn

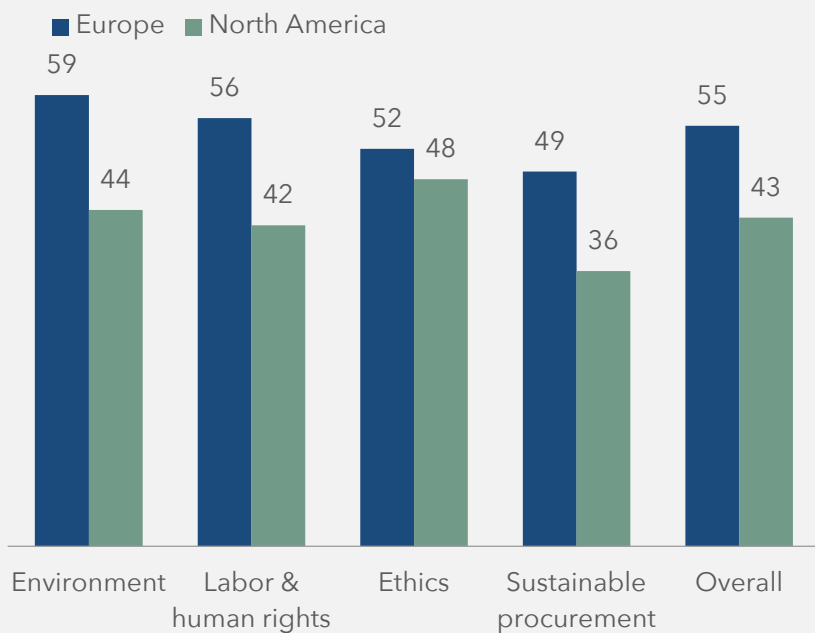


Source: Ceres ERM Sustainability Institute, "The Changing Climate for Private Equity" (June 2021). Preqin Impact Report, "The Rise of ESG in Alternative Assets" (November 2020 - updated May 2021).

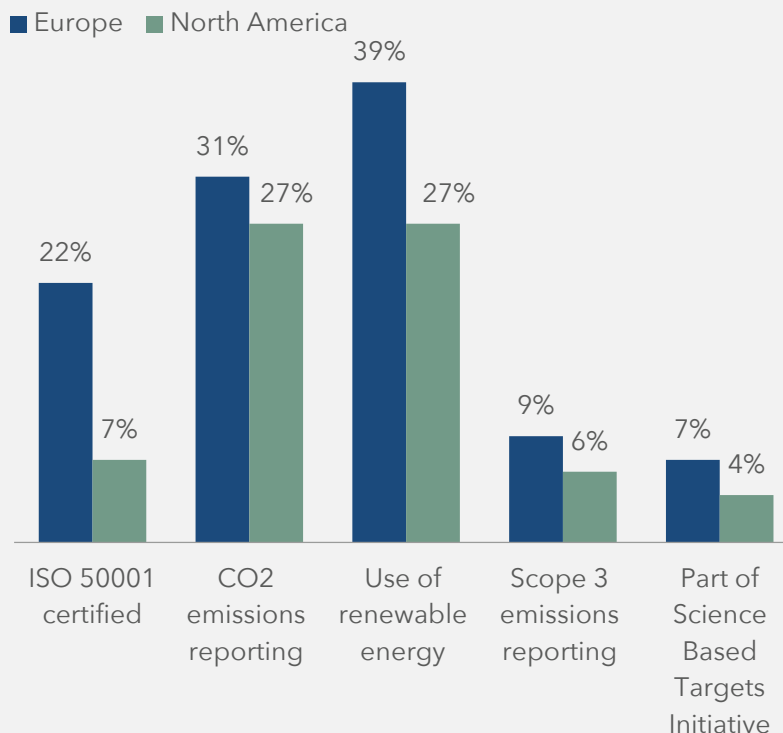
Regional Differentiation

European PE portfolio companies tend to have higher ESG scores than their North American counterparts, though the gap is narrowing and companies in both regions have room to grow in taking action on environmental measures

EcoVadis scores by ESG-related categories



Share of portfolio companies taking environmental measures



Source: (1-2) Bain & Company. Global Private Equity Report 2021. Data from 2017-H1 2020 of large companies. EcoVadis. Dealogic.

4

Government & Regulatory Activism



16. | Government & Regulatory Activism

EEO-1 Disclosures



Investor Activism on EEO-1 Disclosures

SF 100 - Page 2

Section D-EMPLOYMENT DATA
Employment at this establishment - Report all permanent full- and part-time employees including apprentices and on-the-job trainees unless specifically excluded as set forth in the instructions. Enter the appropriate figures on all lines and in all columns. Blank spaces will be considered as zeros.

Number of Employees
(Report employees in only one category)

Job Categories	Race/Ethnicity													Total Col A - N			
	Hispanic or Latino		Not-Hispanic or Latino							Female							
			Male														
	Male	Female	White	Black or African American	Native Hawaiian or Other Pacific Islander	Asian	American Indian or Alaska Native	Two or more races	White	Black or African American	Native Hawaiian or Other Pacific Islander	Asian	American Indian or Alaska Native		Two or more races		
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O		
Executive/Senior Level Officials and Managers	1.1																
First/Mid-Level Officials and Managers	1.2																
Professionals	2																
Technicians	3																
Sales Workers	4																
Administrative Support Workers	5																
Craft Workers	6																
Operatives	7																
Laborers and Helpers	8																
Service Workers	9																
TOTAL	10																
PREVIOUS YEAR TOTAL	11																

1. Date(s) of payroll period used: _____ (Omit on the Consolidated Report.)

Section E - ESTABLISHMENT INFORMATION (Omit on the Consolidated Report.)

1. What is the major activity of this establishment? (Be specific, i.e., manufacturing steel castings, retail grocer, wholesaler, etc.)
Include the specific type of product or type of service provided, as well as the principal business or industrial activity.

Section F - REMARKS

Use this item to give any identification data appearing on the last EEO-1 report which differs from that given above, explain pertinent information.

Section G - CERTIFICATION

Check one ☐ All reports are accurate and were prepared in accordance with the instructions. (Check on Consolidated Report.)
☐ This report is accurate and was prepared in accordance with the instructions.

Name of Certifying Official _____ Title _____
 Name of person to contact regarding this report _____ Title _____
 City and State _____ Zip Code _____ Telephone No. (including Area Code and Extension) _____

All reports and information obtained from individual reports will be kept confidential as required by law. WILLFULLY FALSE STATEMENTS ON THIS REPORT ARE PUNISHABLE BY LAW, U.S. CODE, TITLE 18, SECTION 1001.

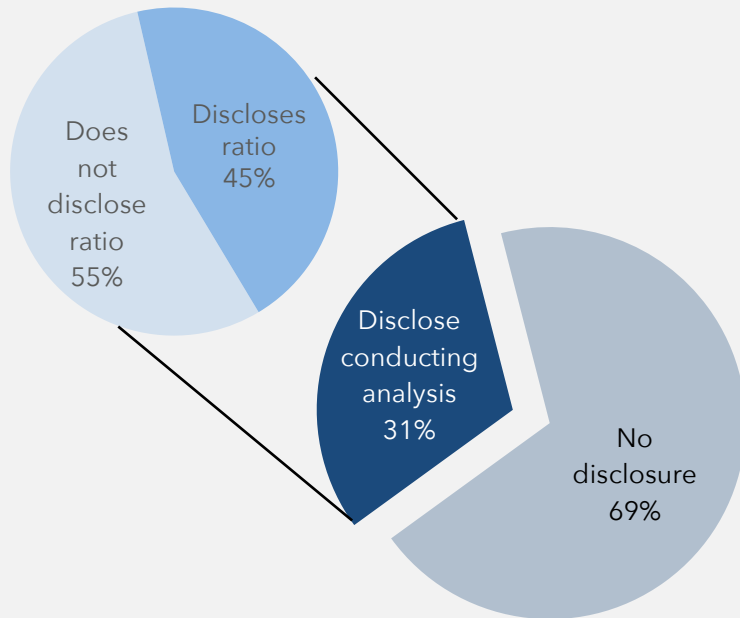


As mandated by the US Equal Employment Opportunity Commission, as part of the Department of Labor, US companies with more than 100 employees and federal contractors with more than 50 employees, must privately file an annual EEO-1 disclosure report with demographic workforce data by race, ethnicity, sex and job category / pay band. Investors expect more than 40 shareholder resolutions in the 2021 proxy season related to EEO-1 disclosures, nearly double the 22 resolutions filed last year (only 8 of which were voted on). Recently proposed NASDAQ listing rules and California corporate board diversity legislation have been cited as contributing factors. Companies ought to prepare for the possibility that public disclosure will become a regulatory mandate.

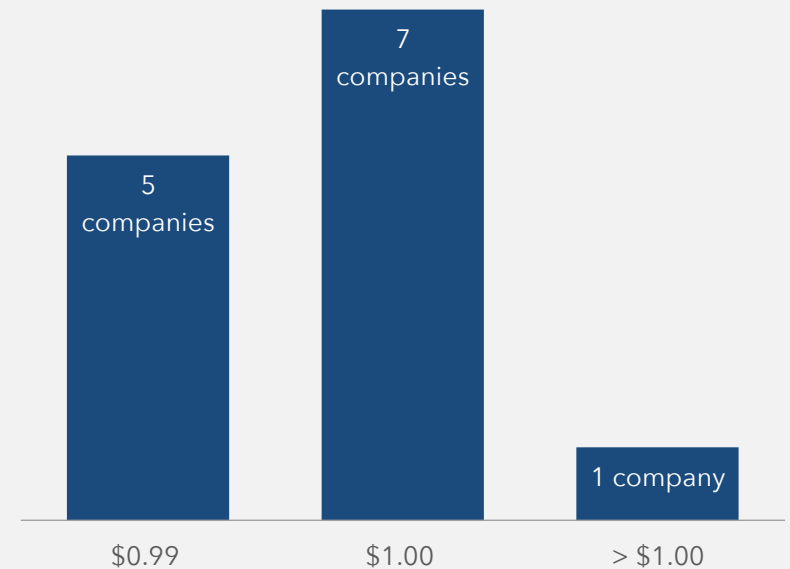
Pay Equity Analysis

According to a study by JUST Capital, only 31% of the Russell 1,000's largest 100 companies report conducting a race and ethnicity pay equity analysis, and less than half of those disclose their pay ratio. Those that do publicly report, tend to be at or near parity already. However, investor and regulatory pressure is mounting for broader pay transparency. A recent poll conducted by JUST Capital and The Harris Poll found that 85% of Americans believe it is important for companies to conduct annual pay analyses.

Very few of the US's largest employers conduct pay equity analysis



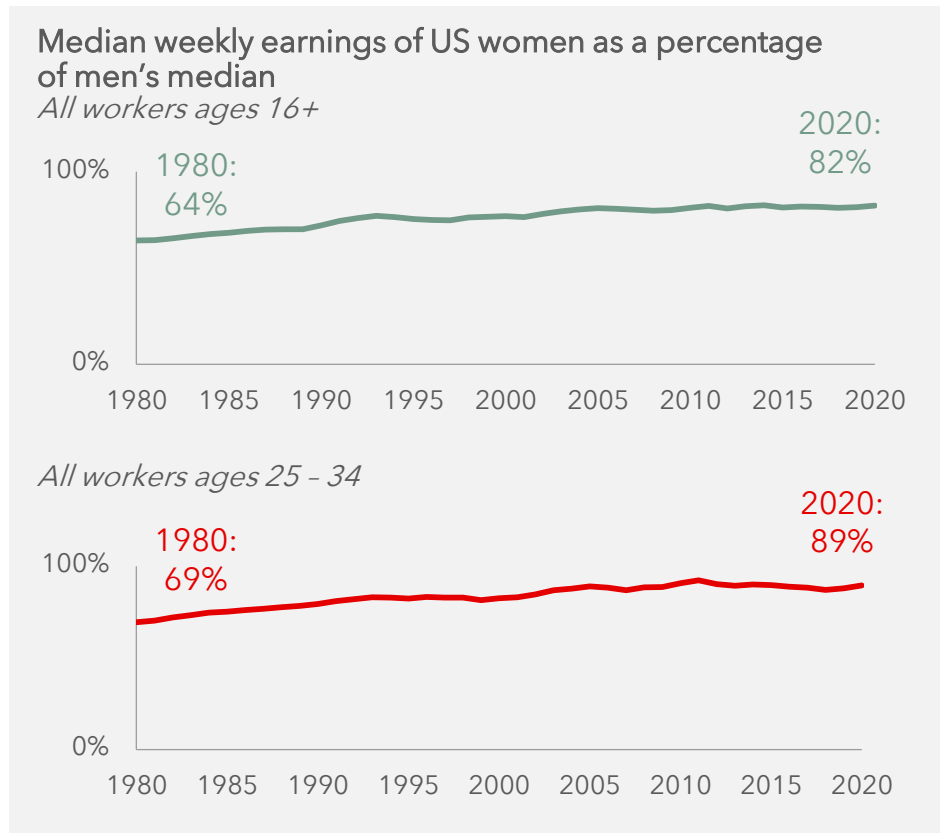
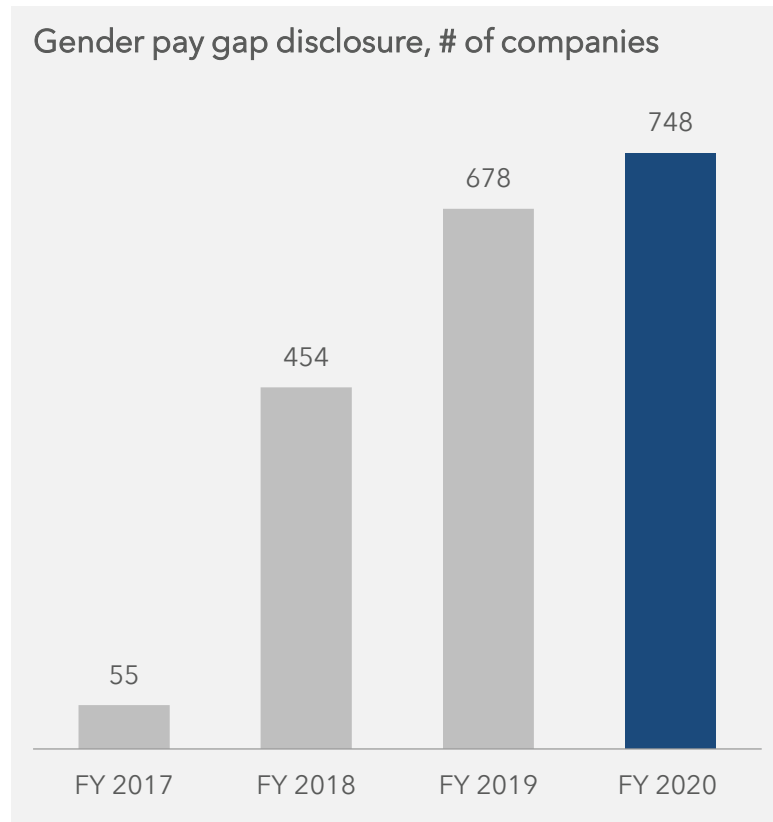
Those that already report results are close to parity
Ratio of non-white-to-white pay



Source: (1-2) JUST Capital's pay equity analysis dataset. Data collected between December 2020 and March 2021. Analysis is based on public disclosure of conducting race and ethnicity pay equity or pay gap analyses among the top 100 companies from the 928 total companies evaluated as part of JUST Capital's 2021 rankings.

The Gender Pay Gap

In 2020, women in the US earned 82% of what men did, though the gender pay gap has remained relatively stable for the past 15 years. An analysis by Refinitiv of their ESG database shows a dramatic rise in the number of companies reporting on gender pay gaps over the past four years. While the UK has made it mandatory, pressure from investors and customers is also driving increased reporting in the US and around the world.

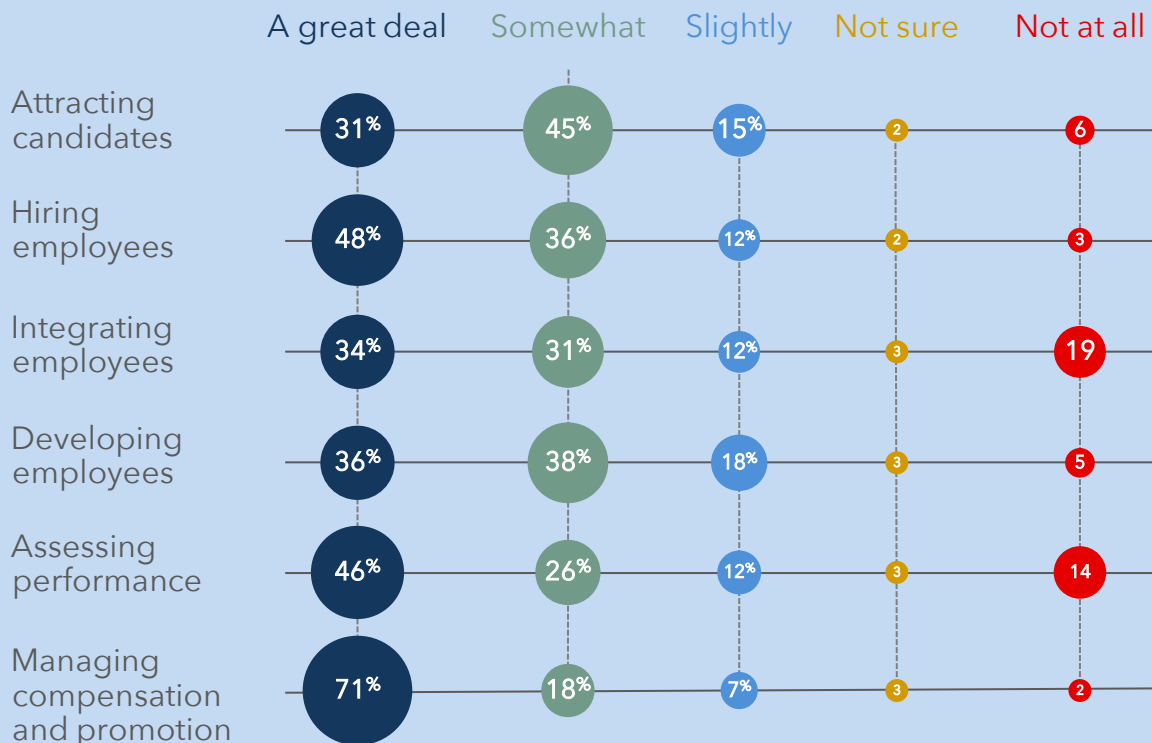


Source: (1) Refinitiv "The Gender Pay Gap & Your Investment Strategies" March 2021. (2-3) FRED. Median usual weekly real earnings. Workers aged 25-34 is second quartile. Data as of May 26, 2021.

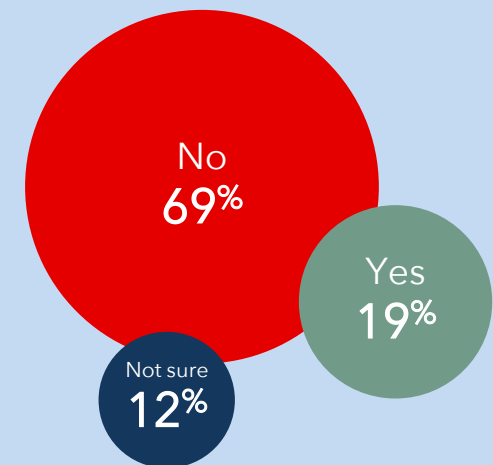
Gender Equity Considerations

A recent Harvard Business Review global survey of female executives has found broad agreement that women face bias and discriminatory practices in key areas of talent management

Perceptions of barriers for working women



"Do companies in your field/industry do enough to engage and retain their women employees?"

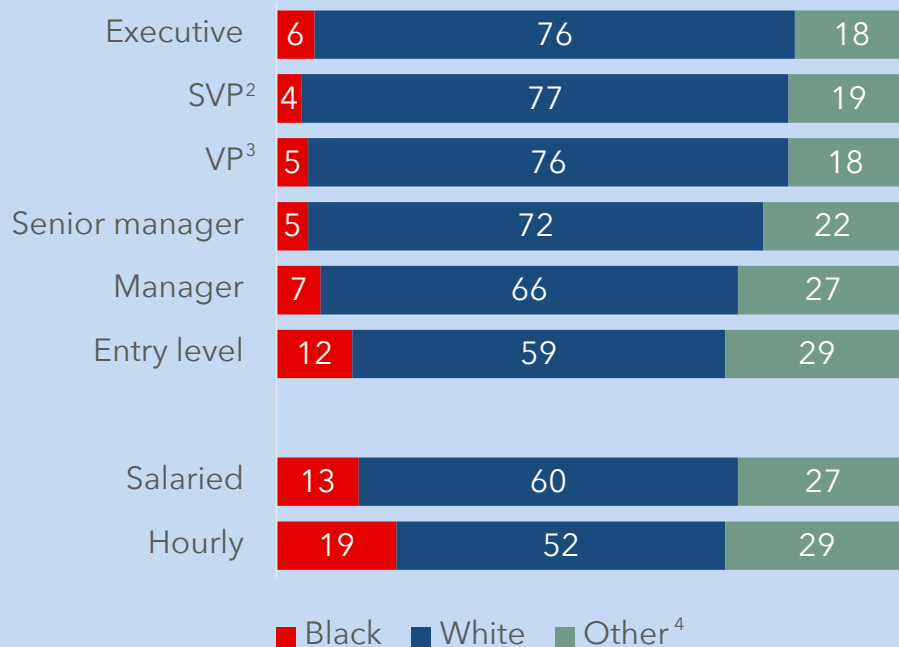


Source: Harvard Business Review. "How to close the gender gap" (May - June 2021 magazine edition). 2018-2019 survey of more than 150 female executives in North and South America, Europe, Asia, Africa, Australia, and New Zealand.

Racial Equity Considerations

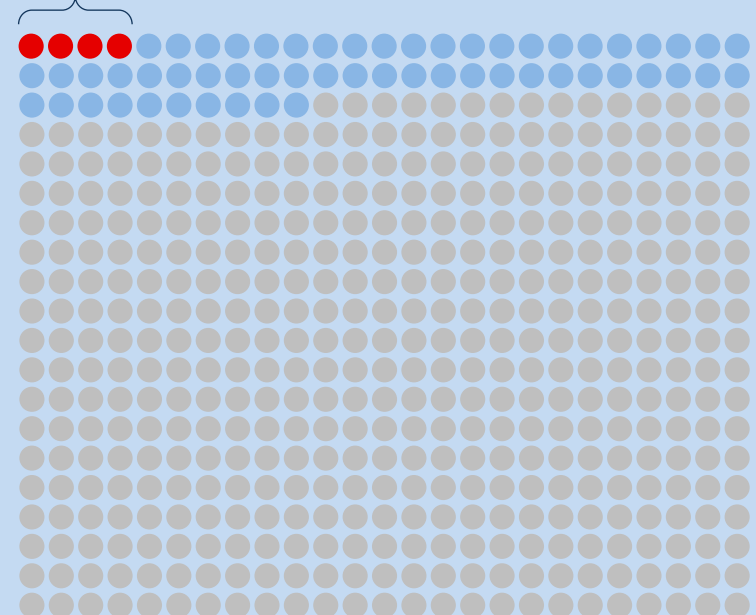
According to a recent McKinsey study of 24 companies representing 3.7 million US employees, Black employees are overrepresented in frontline jobs and underrepresented in management positions

Representation by level, by race¹, % of employees



The same study found that there are four Black CEOs in Fortune 500 companies. If the number was inline with the Black US population, more than 60 CEOs would be represented (~12% of US population).

4: Current number of Black CEOs¹



¹ June 2020 snapshot, aggregated data across 23 companies. ² Senior Vice President ³ Vice President ⁴ June 2020 snapshot, aggregated data across 23 companies. other includes other employees of color, Asian employees and Hispanic / Latino employees. ⁴ Current Black CEOs in Fortune 500 are Roz Brewer, Thasunda Brown Duckett, Marvin Ellison, and René Jones. This does not include Roger Ferguson Jr. and Ken Frazier, who announced that they were stepping down in 2021; TIAA named Brown Duckett to succeed Ferguson in February 2021.

Source: McKinsey, The Black Experience at work in charts, April 2021, 2021 Race in the Workplace Survey (n = 24,842 employees); "Where are the Black CEOs?," Fortune, February 4, 2021, fortune.com; McKinsey analysis based on representative sample of US employees across all demographics at companies participating in survey

“While there is nobody in the world who will share your point of view on everything, there are people who will share your most important values and the ways in which you choose to live them out. Make sure you end up with those people.”

Ray Dalio, CEO of Bridgewater Associates

17. | Government & Regulatory Activism

Financial Stability Focus



Central Banks Coordinating on Climate

At its establishment in 2017, the Network for Greening the Financial System (NGFS) consisted of 8 members from the international Central Bank and Regulatory community. Today, there are 91 members, including the Federal Reserve, which joined in December of 2020. NGFS members aim to develop environmental and climate risk management policies for the financial sector and move finance toward supporting the transition to a sustainable economy.

Assessment of selected generic central bank operating framework options to promote climate risk management policies:

	Credit Operations			Collateral				Asset Purchases	
	(1) Adjusting pricing to lending benchmark	(2) Adjusting pricing to collateral	(3) Adjusting counter-parties' eligibility	(4) Haircut adjustment	(5) Negative screening	(6) Positive screening	(7) Aligning collateral pools	(8) Tilting	(9) Negative screening
Consequences for monetary policy effectiveness	Minimal	Negative	Strongly Negative	Minimal	Negative	Positive	Minimal	Minimal	Negative
Contribution to mitigating climate change	Strongly Positive	Positive	Positive	Positive	Positive	Strongly Positive	Strongly Positive	Strongly Positive	Positive
Effectiveness as risk protection measure	Minimal	Minimal	Positive	Positive	Positive	Negative	Positive	Positive	Positive
Operational feasibility	Negative	Negative	Minimal	Negative	Minimal	Minimal	Negative	Negative	Minimal

Note: The assessment is based on qualitative expert judgement, and more formal quantitative analysis may be needed. It aims to guide the reader through the report and should not be interpreted as recommending any measure. Color-coding is used to avoid any "netting" across criteria. The table utilizes a limited number of colors for simplicity.
Source: Networking for Greening the Financial System. Bloomberg Green "Central Bankers Weigh Using Monetary Policy in Climate Fight".

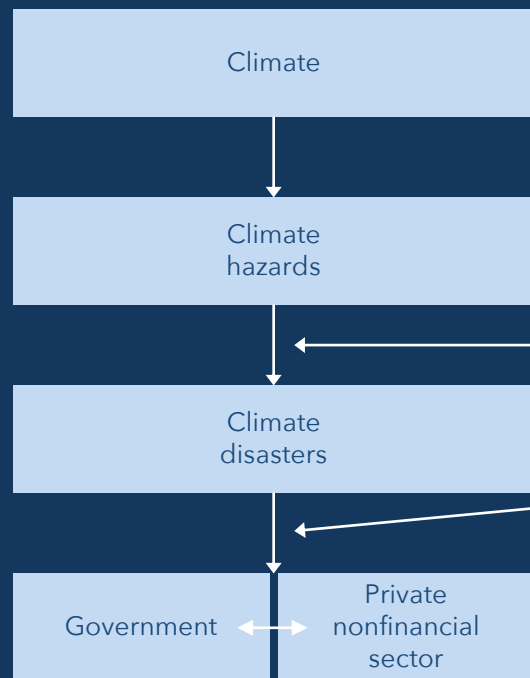
**“If you have a financial stability
mandate and you are not looking at
climate, then you are not fulfilling your
mandate properly.”**

Morgan Després, head of the secretariat of the Network for Greening the
Financial System at the Bank of France in Paris

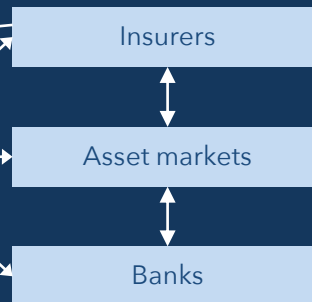
Climate Risk Impact on Bank Capital Requirements

The financial sector is exposed to climate disasters through two channels. First, current climate disasters affect credit, underwriting, market, operational, and liquidity risks. Second, the shifts in expectations and attention about future climate disasters can affect asset values today. The materiality of climate risk is being incorporated by a working group into the Basel 3 framework that will result in increased risk weightings and capital requirements for banks.

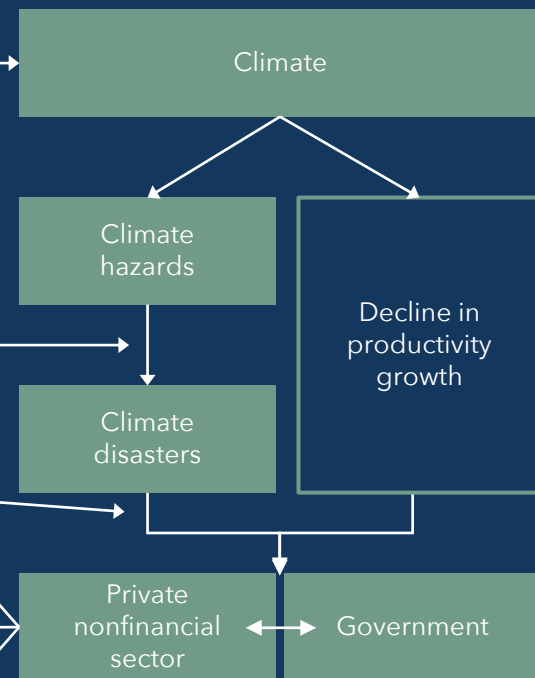
Channel 1: Current Climate Disasters



Exposure / vulnerability



Channel 2: Future Climate Disasters



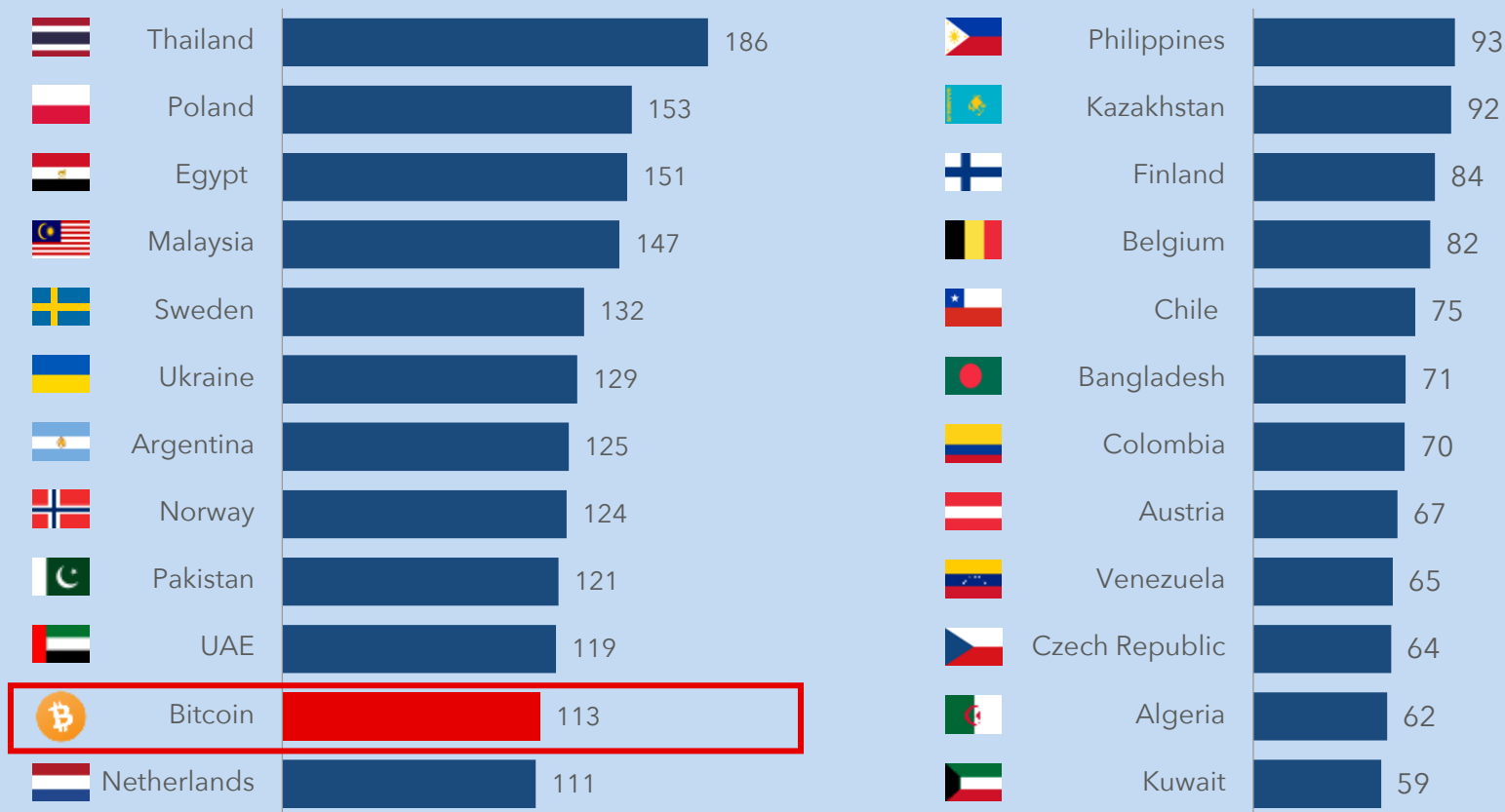
Current investor beliefs and attention

Source: IMF Global Financial Stability Report. Chapter 5 "Physical Risk & Equity Prices" (April 2020).

Energy Consumption for Mining Bitcoin

The amount of energy required to mine bitcoin, which exceeds the total electricity consumption of numerous large economies on an annual basis, has begun to attract the attention of federal, state and local regulators.

Annualized consumption of electricity, TWh



Source: (1) Cambridge Bitcoin Electricity Consumption Index. Country data from 2019 or most recent year, Bitcoin data as of May 19, 2021

18. | Government & Regulatory Activism

Biden's Whole of Government Approach



The Players

In Washington, the true priorities of the administration can be determined by who is “on the team”. President Biden’s picks for key roles in numerous branches of the government have a strong climate background demonstrating his administrations dedication to the “pervasive green agenda”.



JOHN KERRY

Special Presidential Envoy for Climate
Former Secretary of State, helped negotiate the Paris Agreement on climate change



KEVIN STIROH

Chair FRB Supervision Climate Committee
Former head of Federal Reserve’s Supervision Group



GINA MCCARTHY

National Climate Advisor
Former head of the EPA



SATYAM KHANNA

Senior Policy Advisor for Climate and ESG at the SEC
Previously served as staff of the Financial Stability Oversight Council



BRIAN DEESE

Director of National Economic Council
Former head of sustainable investing at BlackRock



JAHI WISE

Senior Advisor for Climate and Finance Reform, National Economic Council
Former policy director at the Coalition for Green Cap.



JANET YELLEN

Secretary of the Treasury
Prev. served on Climate Leadership Council, focused on financial and economic risks of climate change



MAGGIE THOMAS

Chief of Staff, Office of Dom. Climate Policy
Deputy climate director for Washington Gov. Jay Inslee’s presidential campaign



BHARAT RAMAMURTI

Sustainability Portfolio, National Economic Council
Previously led Roosevelt Institute’s Corporate Power program



DIDEM NISANCI










Chief of Staff, Treasury
Former Bloomberg representative to TCFD

Source: MUFG Washington D.C. Government Affairs Office. “Overview: Biden Administration Climate / ESG Priorities” (Hollingsworth)

Climate Related Risks & the Financial System

President Biden issued an Executive Order directing his administration to design a strategy to measure and mitigate the risks climate change poses to public and private financial assets. The order impacts several government agencies including the Financial Stability Oversight Council (FSOC), which is a part of the Treasury department and has 15 members representing financial regulators, insurance experts and state regulators, and is tasked with identifying risks and responding to emerging threats to financial stability.





Selected components of President Biden's May 20 Executive Order on Climate Related Financial Risk:

Department	Point Person	Order
FSOC / Treasury  	Janet Yellen, Treasury Secretary	Engage with FSOC members to: <ul style="list-style-type: none"> Assess climate-related financial risks (physical and transition risks) to the financial stability of the Federal Government and the stability of the US financial system Facilitate sharing of climate-related financial risk data among other government agencies Issue a report to the President on efforts by FSOC member agencies to integrate consideration of climate-related financial risk in their policies, including: <ul style="list-style-type: none"> Enhancing climate related disclosures by regulated entities Current approaches to incorporating climate-related financial risk into regulatory & supervisory activities Recommended processes to identify climate-related financial risk Recommendations on identifying and mitigating climate-related financial risk
National Economic Council / Treasury / OMB   	Brian Deese, Director, National Economic Council / Gina McCarthy, National Climate Advisor / Janet Yellen, Treasury Secretary / Director Office of Management and Budget	Develop Government-wide strategy for: <ul style="list-style-type: none"> Measurement, assessment, mitigation & disclosure of climate-related financial risk to Federal Government programs, assets and liabilities Financing needs associated with achieving net zero for the US economy by 2050 Identifying opportunities for public / private investments to meet financing needs while advancing economic opportunities, particularly in disadvantaged communities and communities of color
OMB / Treasury / Council of Economic Advisors / National Economic Council    	Brian Deese / Gina McCarthy / OMB / Janet Yellen	<ul style="list-style-type: none"> Incorporate climate-related financial risk into economic assumptions in the long-term budget projections Develop and publish annually an assessment of Federal Government's climate risk exposure

Source: World Economic Forum "Measuring Stakeholder Capitalism: Towards Common Metrics and Consistent Reporting of Sustainable Value Creation" September 2020.

Climate Related Risks & the Financial System

Selected components of President Biden's May 20 Executive Order on Climate Related Financial Risk:

Department	Point Person	Order
US Treasury / Federal Ins. Office 	Janet Yellen, Treasury Secretary	<ul style="list-style-type: none"> • Instruct the Federal Insurance office to assess climate-related issues in supervision and regulation of insurers • Assess potential for major disruptions of private insurance coverage in regions particularly vulnerable to climate change impacts
Department of Labor 	Martin Walsh, Secretary of Labor	<ul style="list-style-type: none"> • Identify actions that can be taken to protect life savings and pensions of US workers from the threats of climate-related financial risk • By September, publish a proposed rule to suspend, revise, or rescind "Financial Factors in Selecting Plan Investments" and "Fiduciary Duties Regarding Proxy Voting and Shareholder Rights" • Assess how the Federal Retirement Thrift Investment Board has taken ESG factors into account
OMB / NEC  	Brian Deese, Director, National Economic Council	<ul style="list-style-type: none"> • Develop recommendations for the National Climate Task Force on integrating climate-related financial risk into Federal financial management and financial reporting, particularly as it relates to Federal lending programs • Enhance accounting standards for Federal financial reporting • Revise Federal Acquisition Regulation to require suppliers to publicly disclose GHG emissions and set reduction targets, ensure Federal agency procurements minimize climate risk, and require Secretaries of Agriculture, HUD and VA to consider integrating climate-related financial risk into underwriting standards • Require Heads of agencies to submit plans to integrate climate-related financial risk into their agency's procurement processes • Reinstate the Federal Flood Risk Management Standard

Source: World Economic Forum "Measuring Stakeholder Capitalism: Towards Common Metrics and Consistent Reporting of Sustainable Value Creation" September 2020.

First 100 Days' Green Agenda

In his first 100 days in office, President Biden executed a litany of personnel, regulatory, multi-lateral and research related initiatives that have been transformative in the US Government's approach to climate change



Domestic Green Policy Initiatives

Targets

- ☐ Cut US emissions by 50-52% of 2005 levels by 2030
- ☐ 100% carbon pollution-free electricity by 2035
- ☐ Transportation sector emission reduction (reduce tailpipe emissions; boost car / truck efficiency; EV charging infrastructure; battery R&D; etc.)
- ☐ Support carbon capture
- ☐ Enhance job creation in clean energy sectors

Approach

- ☐ "Whole-of-Government" approach (cabinet / advisor selection; department mandates; National Climate Task Force; climate risk incorporation in intelligence agencies' country risk assessments)
- ☐ Numerous executive orders including one directing the Financial Stability Oversight Council to report on ways climate change poses risks to public and private financial assets
- ☐ Congressional Review Act to overturn Trump era regulations
- ☐ Declare climate a national emergency on White House website
- ☐ Nearly \$300 mm in energy and transportation sector grant opportunities
- ☐ Green infrastructure spending and tax provisions in American Jobs and American Families plans

First 100 Days' Green Agenda

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International Green Policy Initiatives

- ❑ Rejoined Paris Climate Accord
- ❑ Hosted April 22 Climate Leaders Summit
- ❑ Climate focused calls between President Biden and world leaders (Macron, Johnson, Trudeau, Merkel, Suga, Xi)
- ❑ Climate Envoy, John Kerry, global tour / meetings with global leaders
- ❑ Released US International Climate Finance Plan
 - Increase international climate finance
 - Double annual public financing in developing countries by 2024
 - Triple adaptation finance by 2024
 - Mobilize private sector finance
 - Move toward ending US government investment & financing of international carbon-intensive fossil-fuel based energy projects
 - Transition US International Development Finance Corp to a net zero portfolio by 2040
 - Support capital flows into low-emission, climate-resilient projects
 - Define, measure and report on US public finance

19. | Government & Regulatory Activism

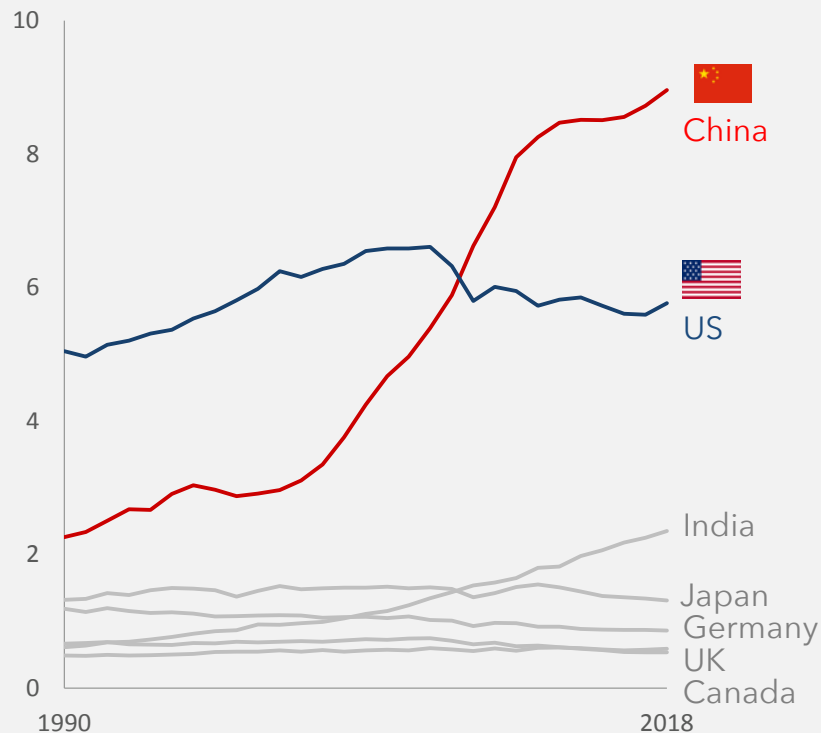
The US – China Opportunity



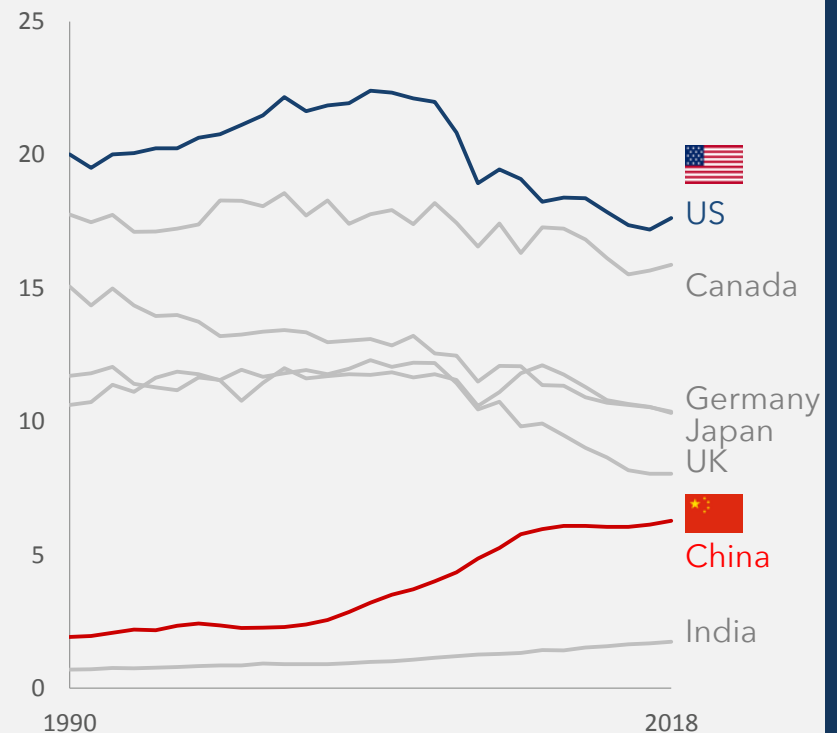
World's Largest Carbon Emitters

While China is the world's largest emitter of GHG emissions in aggregate, the US is still the largest emitter on a per capita basis. In order to achieve the goals of the Paris Agreement and reach net zero by 2050, it will be critical for the world's two largest countries to work in concert with one another. Against the current backdrop of US-China decoupling and structural rivalry, climate policy may be an attractive arena for international cooperation.

Annual trade-adjusted CO₂ emissions, bn tons



Per capita trade-adjusted CO₂ emissions, tons



Source: (1-2) Ourworldindata.com. Global Carbon Project. Data as of May 20, 2021. Emissions is on consumption basis.

John Kerry, President Biden's Special Envoy for Climate, met with China's Special Envoy for Climate Change, Xie Zhenhua, in Shanghai in late March. As evident in their joint statement, climate change offers a unique opportunity for the world's first and second largest economies to coordinate more closely on global policy.

Selected excerpts from US-China joint statement on the climate crisis:

"The United States and China are firmly committed to working together and with other Parties to strengthen implementation of the Paris Agreement."

"Both countries intend to take appropriate actions to maximize international investment and finance in support of the transition from carbon-intensive fossil fuel based energy to green, low-carbon and renewable energy in developing countries"

"The United States and China will continue to discuss, both on the road to COP 26 and beyond, concrete actions in the 2020s to reduce emissions aimed at keeping the Paris Agreement-aligned temperature limit within reach"



"The carbon neutral and emission-peaking goals are solemn promises China has made to the world. They will bring about broad and profound economic and social reforms and they will not be achieved easily."

Xi Jinping, President of the People's Republic of China
at a study session of the Communist Party's Politburo

20. | Government & Regulatory Activism

Europe's Expansive ESG Architecture



Europe's Expansive ESG Architecture



Since 1990, the EU has cut net CO₂ emissions by 20%, compared to a global increase of 60% over the same period. The EU's comprehensive approach to climate integration into every facet of legal, regulatory, fiscal and monetary policy could help it achieve its goal of being the first climate neutral continent by 2050. Post-Brexit, the UK has adopted similar measures to align climate action with government policy and will release its own UK Green Taxonomy.

The European Green Deal

- Ambitious policy review to make EU first zero emission continent by 2050

EU Action Plan on Sustainable Finance

- EU Taxonomy to identify economic activities' environmental impact

EU fiduciary duties

- As part of April 2021 comprehensive package, financial firms' fiduciary duties amended to include sustainability in investment procedures and advice

Monetary Policy

- ECB strategic review to incorporate climate change into models, forecasting, methods and risk assessment
- ECB a leader in NGFS and incorporating climate risk into bank supervision
- ECB Green bonds part of asset purchase program
- BoE to incorporate environmental factors into future asset purchases in their Corporate Bond Purchase Scheme (but won't divest from existing portfolio)

EU disclosure requirements

- Sustainable Finance Disclosure Requirements (SFDR) – phase 1 reporting effective from March 2021
- Corporate Sustainability Reporting Directive (CSRD) – proposal adopted in April 2021 to extend existing Non-Financial Reporting Directive (NFRD), could impact as many as 50,000 companies
- Mandatory Human Rights, Environmental and Governance Due Diligence – proposal expected in 2021

UK disclosure requirements

- First country to mandate TCFD-aligned disclosures (by 2025)

UK Green Taxonomy

- Will build off of scientific metrics in the EU Taxonomy

EU Emissions Trading System (ETS)

- Established in 2005, the first international system of its kind and still the largest

EU carbon import taxes

- Tariffs on imports of carbon intensive goods

COVID Recovery Fund

- €750 bn recovery fund (Next-Generation EU) mandated to spend 37% of budget on green projects

UK Net Zero 2050

- Hosting COP26 in Glasgow
- Expected to issue its first Sov. Green Bond in 2021

The European Green Deal



At the center of the EU's climate ambitions is the European Green Deal, an overarching framework to transform the economy and make a legal commitment for the EU to achieve climate neutrality by 2050. Released in 2019, the Deal started an unprecedented regulatory and policy review as the EU formalizes laws around stricter emissions standards, clean energy and cleaner farming practices. The Deal also includes a roadmap of near-term actions necessary to achieve its climate goals.

Selected key initiatives in the European Green Deal:

Climate Ambition	<ul style="list-style-type: none">• Climate law to commit EU to net zero greenhouse gas emissions by 2050• Interim 2030 target to cut emissions by at least 55% relative to 1990 levels• Comprehensive review of every EU law and regulation to align with new climate goals
Circular Economy	<ul style="list-style-type: none">• Policies on sustainable production to reduce waste and encourage reuse and recycling of materials• Research into "cleaner" production of carbon-intensive industries (steel, cement, textiles)• Clean energy policies
Building & Renovation	<ul style="list-style-type: none">• Renovate & redesign buildings to reduce energy usage
Ecosystems & Biodiversity	<ul style="list-style-type: none">• Forestry strategy and research into soil and water pollution that reduce biodiversity• Measures to protect fragile ecosystems
"Farm to Fork"	<ul style="list-style-type: none">• Ensure more sustainable food systems• Reduce the use of chemical pesticides, fertilizers and antibiotics in farming practices
Transportation	<ul style="list-style-type: none">• Stricter emission standards for cars• Improved "clean" public transportation options
R&D	<ul style="list-style-type: none">• €96 bn dedicated to Horizon Europe for environmental and climate-friendly technology research
"Just Transition Mechanism"	<ul style="list-style-type: none">• Mobilize at least €100 bn between 2021-2027 to help fossil fuel dependent economies meet the net zero 2050 goal

Source: (1) European Commission. Politico "Europe's Green Deal plan unveiled".

EU Taxonomy

The EU Taxonomy is designed to direct investment toward sustainable projects, a necessary step to achieving the goals of the European Green Deal. The Taxonomy provides a clear definition of what is “environmentally sustainable” by identifying six environmental objectives and technical screening criteria for activities that meet these objectives. To comply with the Taxonomy, an activity must meet all the criteria, including contributing substantially to climate change mitigation or adaptation while “doing no significant harm” to the other objectives.

Six environmental objectives of the EU Taxonomy

1	Climate change mitigation	4	Transition to a circular economy
2	Climate change adaptation	5	Pollution prevention and control
3	Sustainable use and protection of water and marine resources	6	Protection and restoration of biodiversity and ecosystems

How investors would use the taxonomy in five steps

1	Identify activities conducted by a company, issuer or covered by the financial product (e.g., projects, use of proceeds) that could be aligned and identify for which objective(s)
2	For each activity, assess whether the company or issuer meets the relevant criteria for a substantial contribution (e.g., electricity generation < 100g CO ₂ e/kWh)
3	Verify that the “do no significant harm” criteria are met by the issuer
4	Conduct due-diligence to avoid any violation to the social minimum safeguards stipulated in the Taxonomy regulation (Article 18)
5	Calculate alignment of investments with the Taxonomy and prepare disclosures at the investment product level

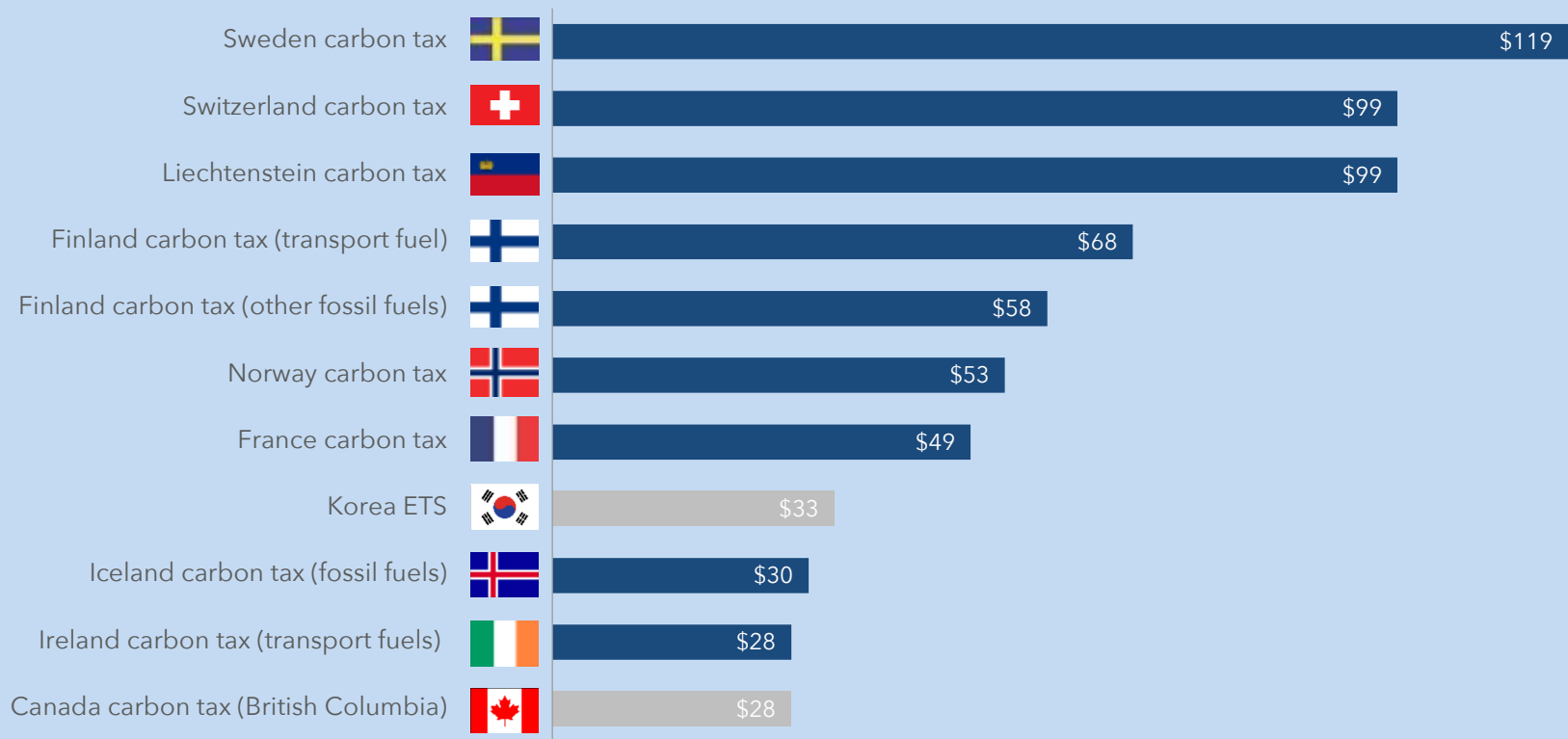
Source: (1) EU Technical Expert Group on Sustainable Finance “Taxonomy: Final report of the Technical Expert Group on Sustainable Finance”. March 2020. “EU Taxonomy for Sustainable Activities. EU, “Regulation of the European Parliament and of the Council” (June 18, 2020).

Europe's Leadership on Use of Carbon Taxes

In 1990, Finland became the first country to introduce a carbon tax. Today, numerous countries have legal, tax and regulatory structures that tax fossil fuels and other high carbon emitting industries. The EU is in the process of designing a carbon border adjustment mechanism that would effectively put tariffs on imports of carbon intensive goods.

World's most expensive existing carbon pricing instruments

USD per metric ton of CO2 equivalent



Source: (1) Statista. World Bank; Navigant Consulting; International Carbon Action Partnership. Data as of April 2020. Implemented and scheduled carbon pricing instruments.



Appendix:

Corporate Action Items for Sustainability (Vision 2050)

Action Areas for Business (Energy)

2020-2030



01

Phase out all coal power generation by 2040. Reduce share of coal in electricity generation to < 10% by 2030.

02

Advocate policies that support low and zero carbon solutions (i.e., carbon pricing, removing fossil fuel subsidies).

03

Source net zero carbon energy for all operations. Encourage customers and supply chains to do the same.

04

Collaborate with competitors, cities and governments on common net zero ambitions.

05

Accelerate investment and innovation toward green energy solutions (power storage, solar, wind, etc.).

06

Transition to circular designs and business models to reduce energy usage across entire value chain.

07

Electrify and utilize sustainable energy wherever possible, including buildings and transportation.

08

Support information-sharing and education initiatives to impact behavior and awareness around sustainable energy.

09

Support nature-based solutions to remove emissions from the atmosphere (i.e., carbon capture) and enhance bio-diversity.

10

Mobilize coalitions with policy makers and stakeholders to support human rights and facilitate a just and fair energy transition period ahead.

Action Areas for Business (Transportation)

2020-2030



01

Develop and adopt ambitious sustainable corporate mobility practices (teleworking, sustainable fleets, vehicle sharing and emissions standards).

02

Continued investment in development of innovative electric charging and storage technologies.

03

Collaborate with competitors, cities and governments on the deployment of a connected and interoperable charging infrastructure.

04

Scale the use of low-carbon fuels for long range and heavy-duty transportation.

05

Work with local and national organizations on transportation data sharing initiatives that create public and private value.

06

Engage policy makers, operators and labor unions on employment impact of energy transition.

07

Support UN guiding principles on human rights across transportation and mobility value chains.

08

Develop, test and scale economically viable business models for mobility-as-a-service, connected urban logistics and vehicle-to-city connectivity.

09

Develop, test and scale circularity across your entire transport and mobility system.

10

Develop and adopt guidelines and standards for rolling out sustainable transportation strategies, infrastructure and ecosystems

Action Areas for Business (Living Spaces)

2020-2030



01

Implement short and long term science-based targets to reduce carbon footprint in existing buildings, new construction and renovation projects.

02

Contribute to national and sector decarbonization roadmaps needed for a sustainable built environment, engaging with relevant authorities at local, regional and national levels.

03

Unlock the potential of digitization, data recording and transfer to promote more holistic urban planning.

04

Create ways for occupants to play a role in minimizing environment impact of living and work spaces.

05

Develop circular business models to maintain the value of materials and resources throughout building life-cycles.

06

Future-proof buildings to withstand environmental, social and health related shocks.

07

Integrate nature based-solutions and science-based targets into design and construction efforts.

08

Innovate and collaborate to ensure the delivery of quality affordable housing that promotes health and well being.

09

Conduct due diligence in line with UN guiding principles toward respecting human rights and decent working conditions throughout the construction value chain.

10

Develop comprehensive strategies to support a just transition for workers affected by new construction methods and materials.

Action Areas for Business (Products & Materials)

2020-2030



01

Develop new business models to extend product life cycles.

02

Integrate circularity and next-life use into all aspects of business strategy and product life cycle (design, marketing, distribution, end-of-life collection).

03

Invest in the adoption of sustainable and circular biological products that store carbon and substitute sustainable energy.

04

Account for the true value of products and materials by factoring in natural, social and human capital costs.

05

Develop a common set of definitions and metrics to enhance decision-making and disclosure of circular performance and linear risk.

06

Employ a people-centric approach to innovation, investing in the re-training of workers in the face of emerging business models and technologies.

07

Engage in positive advocacy with policy makers to create a playing field that favors secondary materials.

08

Develop and improve internal policies across the entire value chain aligned with the UN's guiding principles on human rights.

09

Support collaborative efforts around local capacity and infrastructure for the collection and process of materials necessary to support circular business models.

10

Collaborate on campaigns to drive global consumer behavior change toward durability, serviceability and recycled products.

Action Areas for Business (Financial Products & Services)



2020-2030

01

Advocate for a sustainable finance policy environment that supports transparency, fiduciary duty and strategic approaches to value externalities.

02

Incorporate ESG related risks and opportunities into accounting practices and valuation assumptions.

03

Build clear and consistent ESG requirements and performance metrics into instructions given to investment consultants and managers.

04

Support and utilize a broad range of sustainable financing and investment vehicles that utilize ESG factors.

05

Work closely with investors and regulators on the development of guidance and standards around climate risk, sustainability and ESG disclosures.

06

Identify and address incentives which reward short term financial performance over sustainable development.

07

Incorporation of ESG factors into credit rating agency analysis and ratings.

08

Support standards and codes of ethics that foster sustainable finance capabilities and behaviors.

09

Develop investment transparency standards so that pension funds, retail investors and other constituents can clearly evaluate the impact and sustainability-related metrics of their investments.

10

Facilitate accessibility of financial products and services to support financial equity, literacy and inclusion globally.

Action Areas for Business (Connectivity)

2020-2030



01

Collaborate with governments and industry to deliver infrastructure and service offerings to improve internet connectivity for all.

02

Collaborate with governments on broader initiatives to expand digital literacy and skills.

03

Collaborate with industry to build infrastructure for monitoring the state of the natural world.

04

Utilize digital technology to advance supply chain transparency and traceability mechanisms.

05

Shape best practices to protect data and privacy across the value chain.

06

Convert all data centers to 100% net zero energy.

07

Enhance efforts to protect human rights across entire connectivity value chain in accordance with UN guiding principles.

08

Embrace circular economy principles to mitigate growth in e-waste and depletion of natural resources.

09

Engage and equip workers with skills in the design and adoption of emerging digital technologies.

10

Adopt stringent policies and practices to stem the spread of disinformation.

Action Areas for Business (Health)

2020-2030



01

Innovate and re-balance product portfolios toward healthy diets and lifestyles.

02

Influence consumer behavior toward more healthy lifestyles via marketing activities, information campaigns and education platforms.

03

Scale business models to address air pollution, especially in highly industrialized and densely populated urban environments.

04

Implement programs to support the highest standards of health and safety throughout global operations and value chains.

05

Support efforts to safeguard biodiversity and wildlife habitats to prevent the spread of zoonotic diseases.

06

Collaborate with governments and NGOs to invest in systems that strengthen international health resilience and pandemic response.

07

Collaborate with policy makers to establish standards and guidelines to uphold data privacy in an evolving digital healthcare system.

08

Develop new technologies that enhance capacity to prevent, diagnose and treat disease.

09

Collaborate with governments on the development and dissemination of antibiotic treatments.

10

Fundamentally reshape perceptions on the boundaries of the healthcare system, and the promotion of healthy lifestyles and health-related externalities.

Action Areas for Business (Water & Sanitation)

2020-2030



01

Establish appropriate water targets, informed by science, at the corporate level.

02

Strengthen corporate disclosure of water-related dependencies and impact.

03

Implement water stewardship approaches that drive environmentally sustainable and economically productive water use.

04

Increase water recycling, reduce pollution and eliminate release of hazardous chemicals and materials.

05

Innovate or adopt products that help reduce water use in daily activity.

06

Advance water-smart agriculture solutions to support production amidst growing water scarcity.

07

Ensure access to safe drinking water and adequate sanitation throughout company operations and supply chains.

08

Collaborate with governments to support and build water-related infrastructure, particularly in underserved regions.

09

Work with peers and stakeholders to enhance water and sanitation-related data availability.

10

Invest and participate in efforts to clean, restore and monitor water-related ecosystems.

Action Areas for Business (Food)

2020-2030



01

Adopt and disseminate agriculture practices that are resilient, regenerative, circular and that produce higher, more nutritious yields.

02

Evolve and invest in redesigned food product portfolios to improve health and reduce adverse environmental externalities.

03

Shift consumer and employee behavior through marketing and education campaigns toward more healthy and sustainable food choices.

04

Join global coalitions and establish policies to support deforestation and land conversion-free food supply chains.

05

Develop targets and practices to minimize food waste across the supply chain. Reduce packaging.

06

Utilize science-based targets to reduce emissions from agricultural production in line with Paris Climate Accord targets (1.5 °C).

07

Engage policy makers to align subsidies and regulations with sustainable food practices.

08

Improve policies and systems to ensure the protection of human rights across the entire food value chain globally in accordance with UN guiding principles.

09

Collaborate to advance the transparency, traceability and true value of food across the value chain by factoring in natural, social and human capital costs.

10

Ensure that value is shared equitably throughout the global food value chain.

Sources

1. Academy Securities "Academy ESG" (January 2021)
2. Activist Insight, "The Activist Investing Annual Review" (2021)
3. Alliance Bernstein "The Green Transition - Implications of the European Recovery Plan" (February 2021)
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