

PATH > PORTFOLIO ALLOCATION TRENDS & HIGHLIGHTS

Five Sectors That Cannot Escape Climate Change

SOLUTIONS & MULTI-ASSET | GLOBAL BALANCED RISK CONTROL | MACRO INSIGHT | FEBRUARY 2020

As the reality of climate change becomes inescapable, we are seeing governments respond more decisively to climate issues. In our view, one of the biggest risks that investors face is that financial markets are not pricing in the effects of policy responses to climate change fast enough. By seeking to identify areas where changing policies will eventually affect market pricing, investors can start to manage associated risks and tap into opportunities.

A risk that is both significant and likely

As managers of multi-asset risk-controlled portfolios, assessing and managing risk is at the heart of everything we do. We judge the risks posed by climate change as highly significant, and we are not alone: According to the World Economic Forum's latest Global Risk Report, climate action failure is cited as the top risk when measured by "impact," and comes in second when measured by "likelihood" over the next 10 years.¹ For the first time, environmental concerns have topped the survey's list of long-term risks (*Display 1*).

Under the current commitment level, global temperature is on track to increase by 3 degrees Celsius by the end of the century.² That is *twice* what climate experts warn is the limit to avoid severe economic, social and environmental consequences.

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¹ World Economic Forum, The Global Risks Report 2020, Global Risk Perception Survey, 2019-2020.

² New Climate Institute and Climate Analytics, Climate Action Tracker: <https://climateactiontracker.org/>.

Policies are evolving, albeit unevenly

Climate-related disasters have cost \$650 billion to the global economy over the past three years.³ Hurricanes, droughts and wildfires are eliciting regulatory responses, which in turn are pricing in the risks. But regulatory responses vary widely across regions:

• EUROPE IS MOVING FORWARD.

The EU has committed significant spending to support its green regulatory framework. The European Green Deal—dubbed Europe's "man on the moon moment" by European Commission President Ursula von der Leyen—aims to make the Union carbon neutral by 2050. It is accompanied by a €1 trillion⁴ fiscal package as well as two €100 billion⁵ funds for heavily impacted regions and climate innovation. This spending is echoed on the individual-country level, with Germany passing a €54 billion⁶ package aimed at reducing carbon emissions.

• ASIA IS HEADED IN THE RIGHT DIRECTION.

We are seeing a significant strengthening of climate policy across parts of Asia, and expect the Hong Kong Stock Exchange's rising ESG disclosure requirements to have a knock-on effect on dual-listed Chinese companies. And after several years of testing and learning from regional pilot versions, China is launching its much-anticipated national carbon-trading scheme, expected to create the world's biggest carbon market.⁷

• THE UNITED STATES IS BACKSLIDING—FOR NOW.

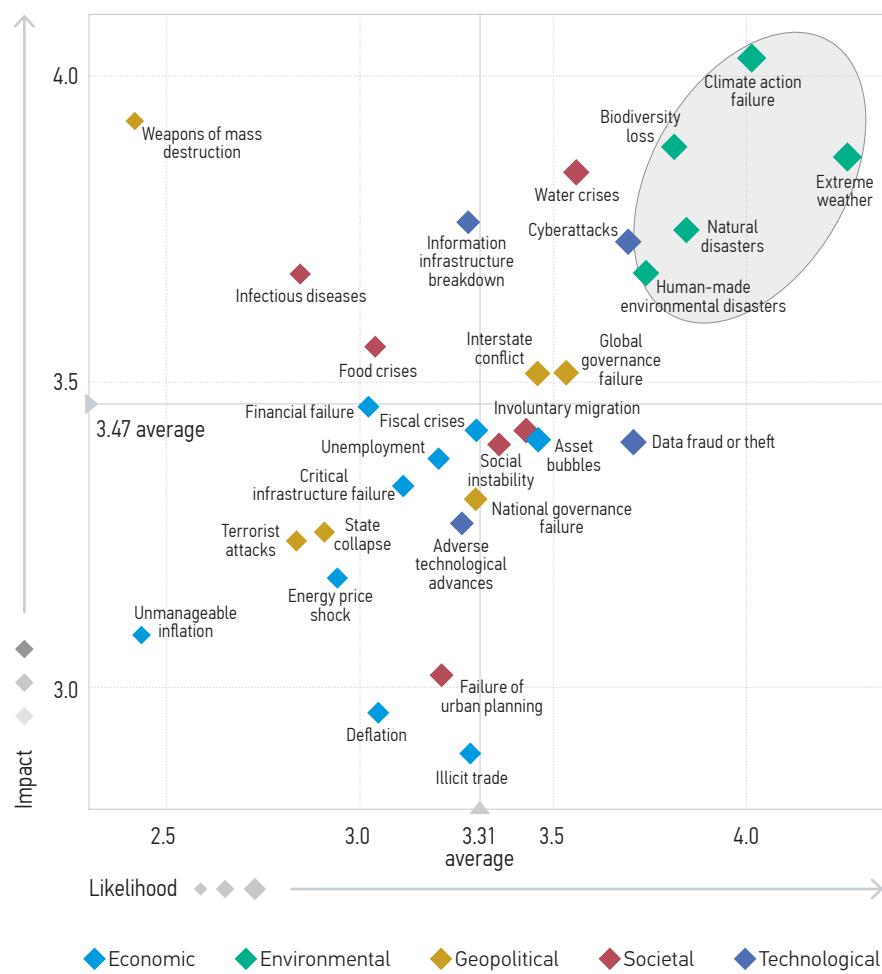
American climate policies are slowly moving backwards, but a Democratic election victory might mean the

introduction of the Green New Deal. This would lead to a commitment for net-zero by 2030 alongside regulations on clean air, biodiversity, infrastructure and 100% renewable

DISPLAY 1

Environmental risks perceived as high in likelihood and impact

Based on Global Risk Perception Survey, 2019-2020



Source: World Economic Forum, The Global Risks Report 2020, Global Risks Perception Survey, 2019-2020. Survey respondents were asked to assess the likelihood of the individual global risk on a scale of 1 to 5, 1 representing a risk that is very unlikely to happen and 5 a risk that is very likely to occur. They also assessed the impact of each global risk on a scale of 1 to 5, 1 representing a minimal impact and 5 a catastrophic impact.

³ Morgan Stanley Research.

⁴ European Parliament, "Europe's one trillion climate finance plan," News European Parliament, 15 January 2020, <https://www.europarl.europa.eu/news/en/headlines/society/20200109STO69927/europe-s-one-trillion-climate-finance-plan>.

⁵ Simon, Frédéric, "EU Commission unveils 'European Green Deal': The key points," EURACTIV, 11 December 2019, <https://www.euractiv.com/section/energy-environment/news/eu-commission-unveils-european-green-deal-the-key-points>.

⁶ Amaro, Silvia, "Germany's \$59 billion climate change package isn't enough, analyst says," CNBC, 23 September 2019, <https://www.cnbc.com/2019/09/23/germany-climate-package-of-54-billion-euros-isnt-enough.html>.

⁷ Timperley, Jocelyn, "Q&A: How will China's new carbon trading scheme work?" CarbonBrief, 29 January 2018, <https://www.carbonbrief.org/qa-how-will-chinas-new-carbon-trading-scheme-work>.

energy. While explicit costs are not stated, estimates run at around \$2.5 trillion.⁸ Less ambitious alternatives such as the CLEAN Future Act could nevertheless represent a significant first step towards a legislative process for a net-zero aim by 2050.

Five sectors with clear winners and losers

Using tools such as the Sustainability Accounting Standard Board's materiality matrix⁹ and the PRI-backed Inevitable Policy Response, we identified five sectors with the largest spread between potential winners and losers from climate-related policies and market disruptions. These are sectors where diligent research can help identify the types of companies that are likely to benefit—or suffer—from shifting policies surrounding climate change.

1. FINANCIAL SERVICES: AT THE HUB OF TRANSITION

Through lending and capital market activities, it is easy to see how the financial industry can either facilitate or hinder the transition to a low-carbon economy. If an unpredictable and catastrophic climate event were to occur—a so-called green swan—it could trigger a financial crisis that would affect the value of virtually every financial asset. But even less-extreme events can have major impacts through a range of physical, transitional and liability risks, including stranded assets, bad loans and lost asset value.

Challenges

One major hurdle facing financial services firms is the quality and comparability of data needed to assess “scope 3” emissions, which include all

indirect emissions that occur in their value chains. For insurers—all of whom cite climate change as a risk factor—only 60% have developed models¹⁰ to monitor its effects on their actuarial assessments.

Leaders versus laggards

Banks are beginning the process of better understanding climate change risks as it relates to lending and exposure, including probabilities of default from brown assets that are at risk of carbon mispricing. And many have shifted lending towards green assets. With the green transition representing \$50 trillion in investment over the next 30 years and \$3-10 trillion in operating earnings, decarbonisation could present a material economic opportunity for those on the front line.¹⁰

Similarly, insurance companies with strong climate-change strategies will be better able to control premium risks while capitalising on the growing need for insurance protection from catastrophes, such as the recent Australian wildfires.

Financial services firms that neglect to do the hard work of assessing climate risks cannot hope to manage them. Those that fail to capitalise on the trend towards green investment and the need for protection against “green swans” are at risk of losing market value.

2. METALS AND MINING: A NIMBLE STRATEGY IS CRUCIAL

A distinguishing feature of metals and mining companies is the long lifespan of their facilities and assets. As a result, these companies need to consider environmental risks far into the future, including post-closure.

Challenges

Climate-related concerns have already led to sharp reductions in production and increases in costs. Political pressures continue to disrupt the industry.

Leaders versus laggards

Nonetheless, mining companies can to some degree choose their own futures. As significant users of energy, they have the ability to shift their energy mix or install new renewables capacities.

With the global transition to lower-carbon alternatives, miners can also seek to secure new sources of revenue. For example, the EU's Green Deal will drive a shift towards electric vehicles (EVs) and an overall greater product mix of renewable energy. This is estimated to lead to an increased demand for lithium by 67% and for cobalt by 82%.¹¹

Companies that manage to be nimble in shifting energy sources and acquire a foothold in delivering the required metals in the new low-carbon economy are more likely to survive than those that fail to adapt.

3. OIL AND GAS: ASSETS COULD BECOME STRANDED

To meet the Paris Agreement's goal of limiting global warming to less than 2 degrees Celsius in this century, fossil fuel projects that are already planned will need to be curtailed or abandoned.

Challenges

Despite regulatory pressures, oil demand is estimated to grow by 1 million barrels per day each year until 2025.¹² There is sufficient carbon in known deposits of fossil fuels to breach the 2 degrees Celsius goal. Similarly, current planned projects, if completed, will result in

⁸ Ezrati, Milton, “The Green New Deal And The Cost of Virtue,” *Forbes*, 19 February 2019, <https://www.forbes.com/sites/miltonezrati/2019/02/19/the-green-new-deal-and-the-cost-of-virtue/#17ad32643dec>.

⁹ MSCI ESG Research LLC, Insurance Industry Report, 2018.

¹⁰ Morgan Stanley Research, “Decarbonization: The Race to Zero Emissions,” 25 November 2019, <https://www.morganstanley.com/ideas/investing-in-decarbonization>.

¹¹ Kavanagh, Thomas, “EU green deal could transform metals demand,” Argus, 3 January 2020, <https://www.argusmedia.com/en/news/2044840-eu-green-deal-could-transform-metals-demand>.

¹² IEA, World Energy Outlook 2019: Flagship report—November 2019, www.iea.org/reports/world-energy-outlook-2019/oil#abstract.

global warming that exceeds the 2 degrees Celsius target.¹³ To stay within the 2 degrees Celsius threshold would entail stranding 30-50% of existing oil and gas reserves—a commitment that would require an increase in carbon prices and more stringent regulations on a global level.

Leaders versus laggards

The global reach, technical sophistication and massive balance sheets of many of the large oil and gas companies presents an opportunity to lead the transition to a low-carbon economy. Currently, renewable investments represent less than 1% of their capital expenditures (*Display 2*).¹⁴ Forward-thinking companies could devote more of their capital budgets to developing renewable energy sources.

European oil companies, for example, are diversifying to prepare themselves for the transitioning economy by acquiring startup EV-charging companies and utilities. Companies that fail to diversify their revenue streams may find that their investments in developing oil and gas reserves may eventually end up as stranded, nonproductive assets.

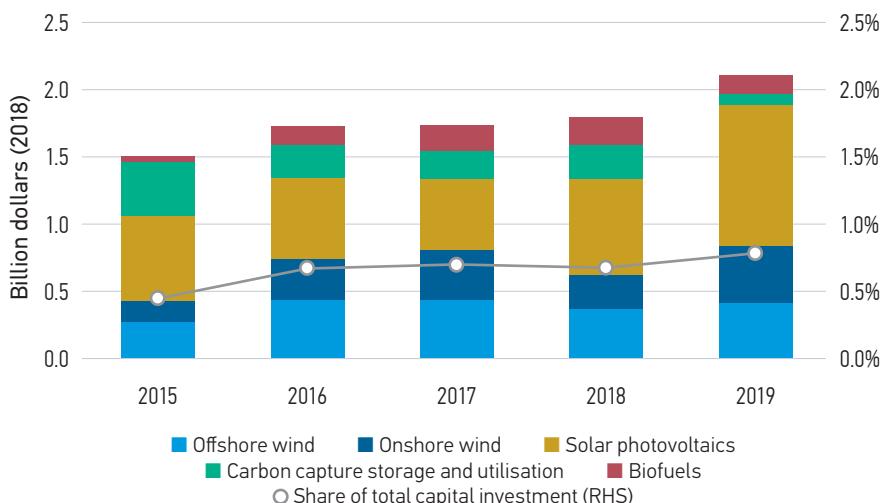
4. UTILITIES: A CARBON ADVANTAGE

Given that global electricity demand is predicted to increase by 1.5% p.a. for the next 20 years,¹⁵ the decarbonisation of electricity generation is central to achieving net-zero emissions. In 2018, energy from low-carbon sources—hydro, nuclear, solar, wind, biomass and other renewables—represented over 25% of global electricity generation.¹⁶ This trend is set to increase to 93% by 2050 as renewables become cheaper than thermal coal and other fossil fuels (*Display 3*).¹⁷

DISPLAY 2

Investment in renewables is low but growing

Capital investment by large oil and gas companies in new projects outside oil and gas supply

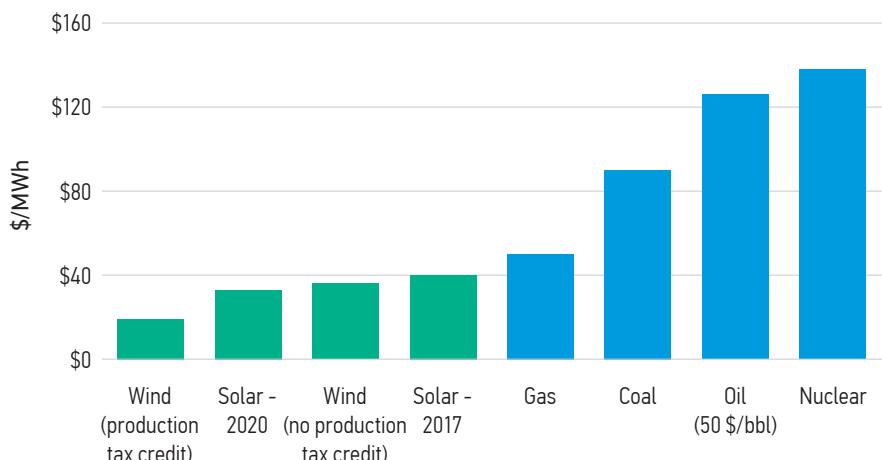


Source: IEA, Capital expenditures on new projects outside of core oil and gas supply by large companies, absolute and as share of total capex, 2015-2019.

DISPLAY 3

Renewables are cheaper

Levelised cost of energy by source



Source: Morgan Stanley Research.

¹³ Carbon Tracker Initiative, "Oil and gas companies approve \$50 billion of major projects that undermine climate targets and risk shareholder returns," 5 September 2019, <https://www.carbontracker.org/oil-and-gas-companies-approve-50-billion-of-major-projects-that-undermine-climate-targets-and-risk-shareholder-returns/>.

¹⁴ Morgan Stanley Research, "Decarbonisation: The Race to Net Zero," 21 October 2019.

¹⁵ IEA Global Energy & CO2 Status Report 2019, Flagship report – March 2019: <https://www.iea.org/reports/global-energy-and-co2-status-report-2019/> emissions#trends-by-technology.

¹⁶ IEA, Global Energy & CO2 Status Report 2019

¹⁷ UN PRI, Inevitable Policy Response, Forecast Policy Scenario: Equity Markets Impacts 2019

Challenges

In Europe, regulations, coal phaseouts and increasing carbon prices could cause billions in potential asset write-downs, while China, India and Southeast Asia are still heavily dependent on coal-powered utilities to meet rising energy demand. Similarly, nuclear is expected to grow in a limited number of markets, such as China, but around 23% of global nuclear power will be decommissioned by 2030, predominantly in Europe and Japan.¹⁸

Leaders versus laggards

Early adopters in renewable power generation will gain a “carbon advantage” that should enable them to gain market share from competitors. Utilities shifting towards a low carbon mix will have greater access to financing through sustainable debt issuance, which is set to exceed \$400 billion across the market in 2020, driven by climate action.¹⁹ Meanwhile, companies with high carbon costs may struggle to secure financing from banks, insurers and investors, which are increasingly rejecting investments in coal.

5. AUTOS: SHIFTING PRODUCT MIX

In September, we examined the trends shaping the auto industry in our article, *Peak Car—or Just Bumps in the Road?* Since then, excluding the near-term impact of the coronavirus, we have started to see a stabilisation in car sales in China and Europe (Display 4). Nevertheless, automakers’ product mix is going through a major shift.

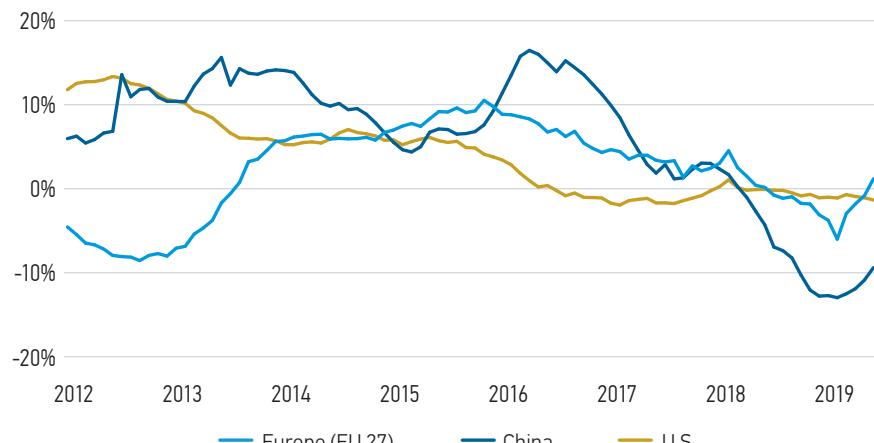
Challenges

From 1 January 2020, EU passenger cars face a new emission target of 95g CO₂/km,²⁰ with steep fines for exceeding this level. In 2018, fleet

DISPLAY 4

Auto sales are stabilising

New passenger car registrations (rolling 12 months year-over-year)



Source: Bloomberg, Morgan Stanley Wealth Management, 22 January 2019.

emissions among EU manufacturers averaged 121g CO₂/km,²¹ so reaching the new target is only possible through a large-scale rollout of EVs. It seems unlikely automakers will be able to reach a sufficiently high EV penetration to avoid penalties.

Leaders versus laggards

The global surge in demand for EVs benefits EV battery manufacturers, particularly those in Korea, where they have strong links with automakers, and Japan, where manufacturers are developing solid-state battery technologies that are seen as the next big breakthrough. Auto manufacturers unable to achieve scale in electric vehicle production are likely to struggle. Original-equipment manufacturers that are not meeting CO₂ emission targets will also see a decrease in profitability in their traditional business lines, such as the internal combustion engine.

Summary: The advantage of looking ahead

Climate change is a present risk we deem both significant and threatening. The adoption of climate policies across the globe are affecting the viability and profitability of many sectors. Five in particular—financial services, mining, oil and gas, utilities and autos—are experiencing the bulk of the disruption.

In our view, market pricing for many companies in these sectors has not kept pace with the rapid advance of policy changes. For our clients, this issue presents a window during which we can position their portfolios in advance of a potential market re-pricing. It could mean removing coal producers from our portfolios or overweighting areas where we see promising climate-related investment trends. In making these decisions, we continually look ahead to anticipate which types of companies stand to gain or lose from evolving climate policies.

¹⁸ Morgan Stanley Research: Does Nuclear Have a Role to Play in Decarbonisation 2018

¹⁹ Moody's Investors Service, "Sustainable Finance—Global: Green, Social And Sustainability Bond Issuance To Hit Record \$400 Billion In 2020," 3 February 2020, https://www.moodys.com/research/Moodys-Green-social-and-sustainability-bond-issuance-to-jump-24--PBC_1212910.

²⁰ Official Journal of the European Union, "REGULATION (EU) 2019/631 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 April 2019 setting CO₂ emission performance standards for new passenger cars and for new light commercial vehicles, and repealing Regulation (EC) No 443/2009 and (EU) No 510/2011," 17 April 2019, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019R0631&from=EN>.

²¹ Morgan Stanley Research, "EV Battery Blueprint for Europe's CO₂ Emission Regulation," 16 January 2020, <https://ny.matrix.ms.com/eqr/article/webapp/1294aa90-60a5-11e9-9957-e2cf76cc1fa?ch=rprint&sch=sr&sr=3>.

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