On the Minds of Investors

October 2020

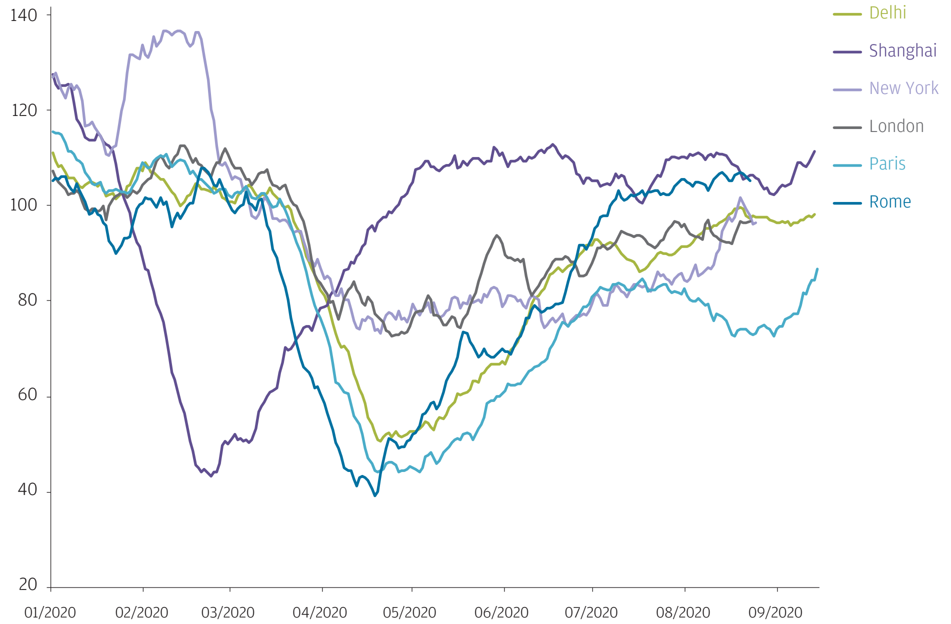
How should investors consider the impact of climate change on their portfolios?

Policymakers in many regions are becoming more vocal about the need to tackle climate change. The evidence is increasingly compelling. Greenhouse gas (GHG) emissions in major global cities have staged a V-shaped recovery from the decline prompted by Covid-19 lockdowns (**Exhibit 1**). And 2020 looks set to be the second-warmest year on record (**Exhibit 2**).

Recent global events, such as wildfires in California and Australia, as well as heatwaves and droughts in Europe, are making the consequences of global warming more apparent and galvanising public support for measures to shift to a lower carbon system.

EXHIBIT 1: NITROGEN DIOXIDE* POLLUTION IN SELECTED CITIES

Index level rebased to 100 at start of lockdown for each city, 30-day moving average



Source: Center for Research on Energy and Clean Air; Tom Tom; The Economist; J.P. Morgan Asset Management. Pollution calculated after adjusting for seasonality and weather conditions. Data as of September 2020.
*Nitrogen dioxide contributes to around 16% of total GHG.

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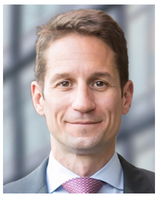

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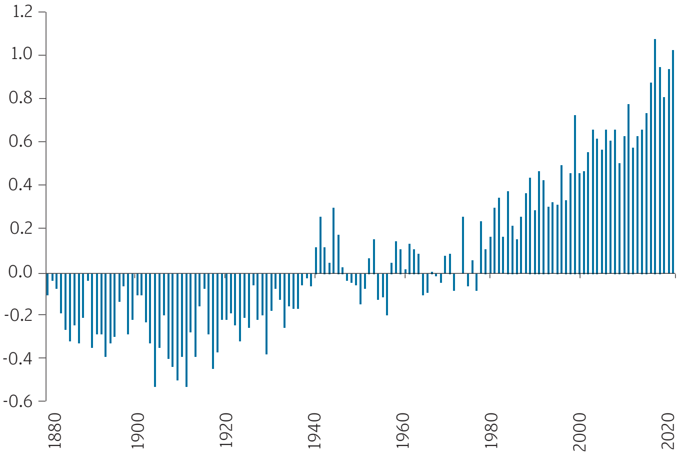
EXHIBIT 2: 2020 COULD BE THE SECOND-WARMEST YEAR ON RECORD

Degrees Celsius, deviation of global land and ocean temperatures from its average since 1880 (January - August for each year)



Source: NOAA National Centers for Environmental information, Climate at a Glance: Global Time Series, published September 2020, retrieved on 24 September 2020 from https://www.ncdc.noaa.gov/cag/, J.P. Morgan Asset Management.

At the same time, global policymakers are aware that they are not on track to meet their commitment, set out in the Paris Climate Agreement in 2016, to limit the global temperature rise since pre-industrial times to well below 2° Celsius (C). Experts predict that temperatures will increase by more than 3°C by the end of the century.[1]

Many countries and regions are now accelerating their transition to a carbon-neutral economy. Europe and China have recently announced their aims to be carbon neutral by 2050 and 2060, respectively. Even though these deadlines seem far away, they imply reaching peak carbon emissions within less than a decade, which will require massive interventions in the functioning of the global economy.

What does this mean for investors?

Investors should, at the very least, be aware of how climate-related regulatory and policy initiatives might affect the value of investments in their portfolios. However, this awareness doesn't mean simply being short the fossil fuel energy sector. In our view, actions to tackle climate change will have a broad impact on companies across sectors and countries.

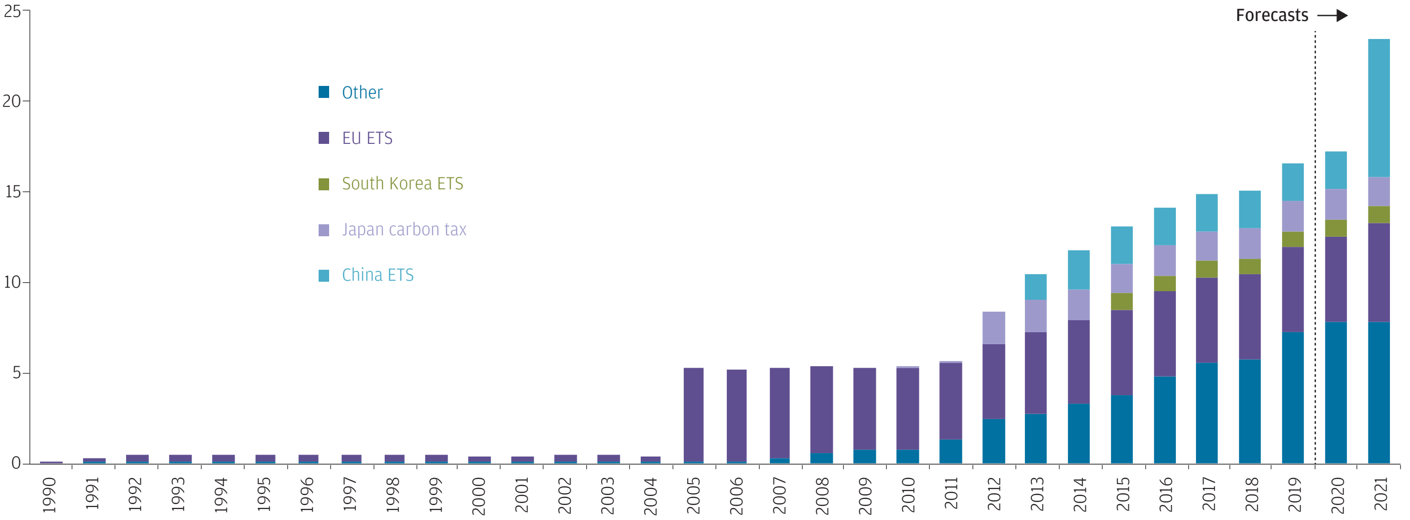
Consider carbon pricing, which is one of the areas of focus in policymaking circles. The goal is to make sure that carbon usage fully reflects the net present value of the future climate and economic damage that it will cause. The result is expected to be greater use of carbon pricing initiatives, such as an Emission Trading Scheme (ETS) and carbon taxes (**Exhibit 3**). At the moment, these different initiatives cover less than 15% of global GHG emissions, while the price per tonne of carbon dioxide (CO_2) is generally much lower than the range of US$50–100/t$CO_2$ that the High-Level Commission on Carbon Pricing estimates will be needed by 2030 to limit the global temperature rise to 2°C.

The situation could change rapidly, however. China is expected to have the world's biggest ETS in 2021, while the European Union (EU), which currently has the biggest ETS, aims to develop its scheme further. US presidential candidate Joe Biden has also made climate change a key part of his election campaign, including a discussion of carbon pricing.

[1] Emissions Gap Report 2019, United Nations Environment Programme, 26 November 2019.

EXHIBIT 3: CARBON PRICING INITIATIVES

% Share of global emissions* covered by carbon-pricing initiatives**



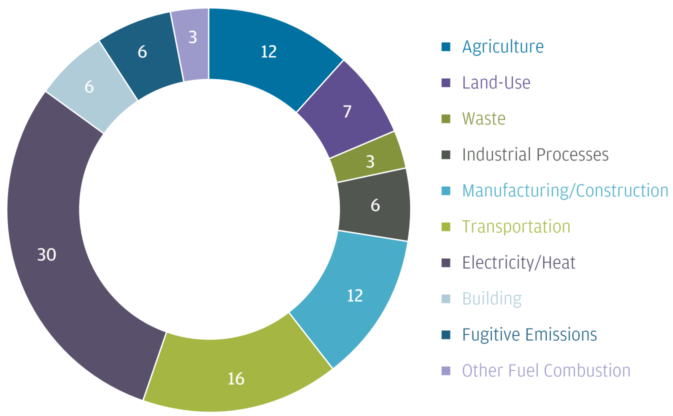
Source: World Bank, J.P. Morgan Asset Management. Data as of September 2020.

*2012 level; **Regional, national and sub-national.

Against this rapidly changing policy backdrop, it would seem advisable that investors are aware of the overall carbon intensity of their portfolio, since an increase in carbon pricing could serve to depress the value of their assets. **Exhibit 4** shows the percentage share of GHG emissions by economic sector.

EXHIBIT 4: GLOBAL GHG EMISSIONS BY SECTOR

% share of total in 2016



Source: CAIT Climate Data Explorer, World Resources Institute, J.P. Morgan Asset Management. Data as of September 2020.

At a country level, investors should also consider looking beyond the headline level of GHG emissions so that they can take underlying dynamics into account. China is a good example: even though it is the world's biggest GHG emitter, the Chinese government has signed the Paris climate agreement and has recently committed to be carbon neutral by 2060. In addition, according to **The Economist**, *"Chinese firms produce 72% of the world's solar modules, 69% of its lithium-ion batteries and 45% of its wind turbines"*. So, China clearly offers opportunities for climate-conscious investors.

In our view, investors should—at a minimum—be assessing the inherent risks in their portfolios as policymakers and consumers move towards a low carbon world. While there is much debate about the impact on returns, it is worth noting that since the signing of the Paris Climate Agreement, the MSCI World Climate Change Index has outperformed the MSCI World Index. This outperformance was also evident well before the collapse in oil prices this year.

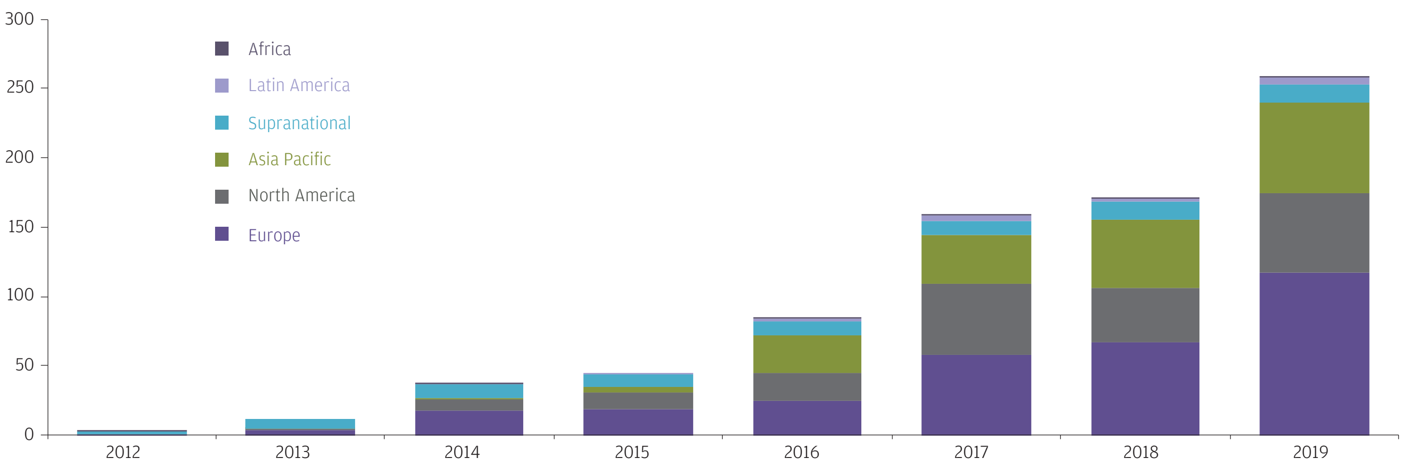
Some investors may wish to take a more maximalist approach. Generating better performance is not necessarily the sole ambition of many investors, who may wish (or will be obliged by regulations) to invest in instruments that are designed to specifically address climate change.

Green bonds are a good example. These instruments are intended to fund projects that have positive environmental and/or climate benefits. The green bond market is relatively young—the first green bond was issued in 2007 by the European Investment Bank—and it is growing rapidly, with issuance of USD 258 billion last year (**Exhibit 5**). The European Commission has announced that 30% of the European Union's EUR 750 billion Covid-19 recovery fund will be raised through green bonds. Other institutions are following suit. J.P. Morgan, for example, issued its first USD 1 billion green bond in September 2020.

Demand for green bonds is likely to remain supported by regulatory levers, which are encouraging long-term investors to increase the environmental, social and governance (ESG) score of their portfolios. Central banks are also discussing the role of green bonds in their broad monetary policy operations. For example, the European Central Bank recently decided that sustainability-linked bonds could be used by commercial banks as collateral for their reserve management. Since most green bonds are rated investment grade, they are in theory eligible for purchase under most quantitative easing and refinancing programmes.

EXHIBIT 5: GREEN BONDS, A SMALL BUT FAST-GROWING MARKET

USD billions



Source: Climate Bonds Initiative, J.P. Morgan Asset Management. Past performance is not a reliable indicator of current and future results. Guide to the Markets - UK & EU. Data as of 30 September 2020.

Conclusion

Confronted with increasing evidence of climate change and its economic and social effects, policymakers in many jurisdictions are speeding up their transition to a low-carbon or zero-carbon economy. Investors will need to actively manage the carbon intensity of their portfolios if they are to reduce the direct and indirect impact of this transition on their investments.

However, being prepared for carbon transition means more than just being climate aware. An active approach to carbon transition can help investors capture the relative value opportunities that are being driven by climate change and/or the policies being put in place to help slow the rise in global temperatures. Instruments designed to address climate change, such as green bonds and thematic equity funds, are also increasingly available to investors.

By going well beyond simply shorting those countries and sectors that are major GHG emitters, and by focusing their capital on those companies and governments that are driving the solution, investors have a unique opportunity to enact real change.

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