

## Economic Background – Quarter 4, 2021

### Build a better world<sup>1</sup>

With climate change in the news, we thought it would be useful to see how the move to decarbonise the economy can feed through to investment decisions and to opportunities within infrastructure.

The UN Climate Change Conference (COP26) is to be hosted by the UK in November. It is the follow up to the Paris Agreement (2016) bringing together 195 world leaders with the key goal of securing global net zero emissions by 2050. Net zero refers to the balance between the amount of greenhouse gas (GHG) produced and the amount removed from the atmosphere. Net zero is reached when the amount added is no more than the amount taken away.

The conference has been forewarned by a report from the Intergovernmental Panel on Climate Change (IPCC), described as a ‘code red for humanity’ by UN Secretary General Antonio Guterres. The report, which represents a statement from 234 international scientists highlights that Earth is expected to hit the threshold of 1.5°C warming (from pre-industrial levels) due to climate change within the next 20 years, regardless of how deeply countries cut GHG emissions. In the worst of five scenarios detailing how future global emissions may play out, the world faces a catastrophic 4.4°C average temperature rise by 2100, the IPCC concluded. Under all five scenarios, global warming reaches or exceeds the 1.5°C goal of the 2015 Paris Agreement, in the next two decades.

Targets that were announced in Paris would result in warming above 3°C by 2100 and if temperatures continue to rise, it will bring with it extreme weather conditions, like we have witnessed around the world recently. This year’s floods in China and Germany, the wildfires in Greece and the summers blistering heat wave in North America arrived too late to be included in the analysis.

The conclusions of the Chatham House ‘Climate Risk assessment 2021’ highlight that without action the impact is potentially devastating.

- *If emissions follow the trajectory set by current NDCs [Nationally Determined Contributions], there is a less than 5% chance of keeping*

*temperatures well below 2°C relative to pre-industrial levels, and less than 1% chance of reaching the 1.5°C Paris Agreement target;*

- *If policy ambition, low-carbon technology deployment and investment follow current trends, 2.7°C of warming by the end of this century is likely relative to pre-industrial temperatures;*
- *If emissions do not come down drastically before 2030, then by 2040 some 3.9 billion people are likely to experience major heatwaves, 12 times more than the historic average;*
- *To meet global demand, agriculture will need to produce almost 50% more food by 2050. However, yields could decline by 30% in the absence of dramatic emissions reductions;*
- *By the 2040s, the probability of a 10% yield loss, or greater, within the top four maize producing countries (the US, China, Brazil and Argentina) rises to between 40% and 70%. These countries currently account for 87% of the world’s maize exports;*
- *Globally, on average, wheat and rice together account for 37% of people’s calorific intake. The central 2050 estimate indicates that more than 35% of the global cropland used to grow both these critical crops could be subject to damaging hot spells;*
- *Cascading climate impacts can be expected to cause higher mortality rates, drive political instability and greater national insecurity, and fuel regional and international conflict.*

*“The governments of highly emitting countries have a critical opportunity to accelerate emissions reductions through ambitious revisions of NDCs at COP26, significantly enhancing policy delivery mechanisms, and incentivizing rapid large-scale investment in low-carbon technologies.”*

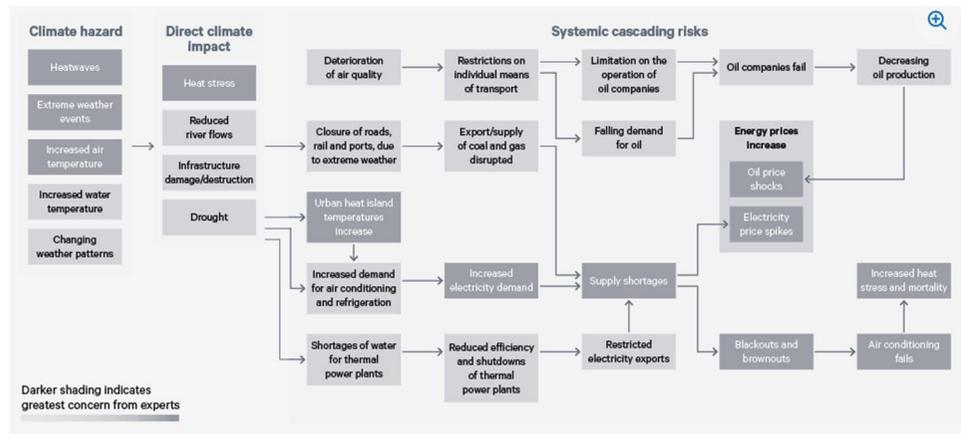
Pressure is on global political leaders and policymakers to accelerate the response and take formative action. The likelihood is that there are to be a number of outcomes and ambitions coming from the summit. A one-size-fits-all global policy to reduce GHG emissions are unlikely to work. Unless developed countries recognize the challenges confronting developing and emerging economies and take appropriate steps to help them achieve net-zero emissions, we will all be worse off. Investors and markets await the implications with risks and opportunities across sectors.

<sup>1</sup> London Electricity feat. Emer Dineen, Building Better Worlds, 2019.

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**Risks, Goals & Expectations**

There are a multitude of direct risks that could occur as a result of climate change, from productivity and health declines to food and water scarcity. There are also indirect risks concerning national and international security, trade, migration, and energy security. Below are an experts’ assessments of systemic cascading climate risks that are likely to lead to energy insecurity.



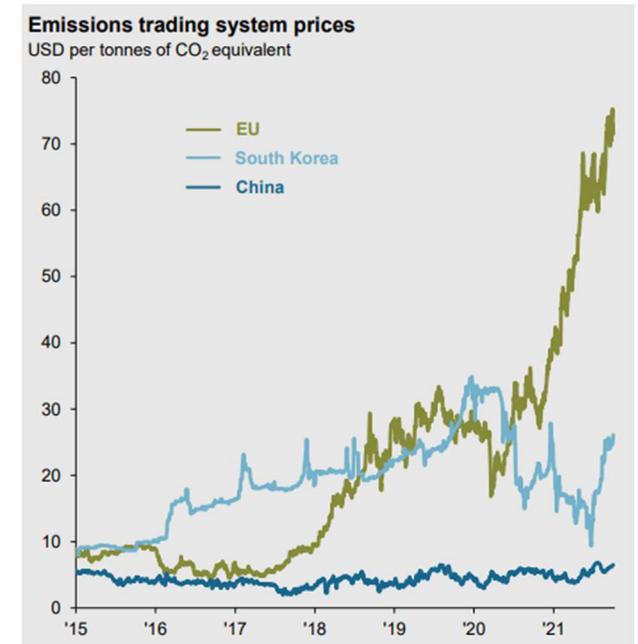
Source: IEA

A recent example has been the c30% fall in new cars being produced. The semiconductor shortage has multiple causes including power outages during an abnormally cold spell in Texas earlier this year, a fire which destroyed a chip maker in Japan and disruption to production in Vietnam and Malaysia due to restrictions to control the Delta coronavirus variant.

Another example is of the current rise in fossil fuel prices. UK and European gas prices have risen to all-time highs in October. Brent Crude is above \$80 per barrel and thermal coal prices have risen by more than 250% in 2021. The supply of fossil fuel has been declining for several years, in part due to the efforts to reduce carbon emissions with governments, shareholders and activists discouraging new energy projects generally. Geopolitics, and the dependence on central European states on Russian gas also plays a part. The increase in energy prices will have an impact on inflation, which in turn will affect bond yields and wider market prices.

The four goals of COP26 are to 1) speed emissions reductions, 2) protect communities and natural habits, 3) mobilize climate finance and 4) build public-private-civil partnerships.

One of the most challenging issues on the agenda of COP26 will be reaching agreement on a global carbon pricing system. Companies will remain incentivised to outsource production to other regions with lower carbon costs until a global solution is reached. Without a global solution, regions that decide to go it alone also risk imposing a competitive disadvantage on the profit margins of their domestic corporations. The risk of disagreements on carbon pricing spilling over into broader international relations is clear, with Europe perhaps needing to introduce a carbon border tax if other countries decide not to adopt a carbon pricing system.



Source: JP Morgan

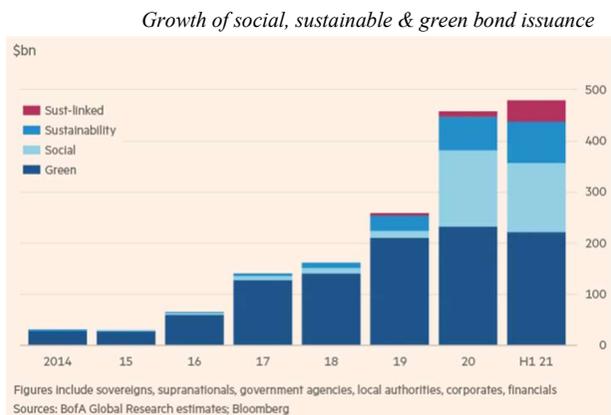
Another expectation (a more deliverable one) from the summit will be for developed countries to deliver on their promise at least US\$100 billion in finance per year to support developing countries in their climate goals. OECD data suggests that so far around US\$80 billion was allocated in 2018. Commitments to increase this support will perhaps encourage some of the important developing nations to step up their carbon-reduction initiatives.

So, we may see ‘carrots’ in the form of investment acceleration, finance and infrastructure plans and the ‘stick’ of a more coherent carbon market, with border adjustment charges (EU) and other government policies.

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**Opportunity**

Financing green projects through public markets has already begun. Alongside ‘social’, ‘sustainable’ labelled bonds ‘green’ bonds have been in demand. The money raised from ‘green’ bonds must be spent on projects outlined in the green financing framework, like flood defences, renewable energy, or carbon capture and storage. In the first 6 months of this year more than \$200bn green bonds had been issued globally.



Over the last month the UK and EU have attracted strong demand from investors for their inaugural green bonds. The UK Treasury’s £10bn “green gilt”, offered a yield of 0.87% for 12-year government debt, a price premium (“greenium”) to a conventional gilt yield, saving the UK Treasury £28 million. The EU meanwhile aim to become the world’s largest issuer of sustainable debt. Their offering of €12bn 15-year debt attracted more than €135bn of orders and marked the largest ever green bond deal. The 0.43% yield of the bond also represented a yield premium to conventional equivalent bonds. The EU’s green bonds will be based on the bloc’s sustainable finance rules known as the taxonomy, although this has yet to be finalised as governments are split over whether to include gas and nuclear as green activity. The European Commission will screen national spending plans in a bid to ensure the cash is used to fund genuine environmental projects, while aiming to avoid ‘greenwashing’. Given the current inflation data (UK 3.2%, EU 2.5%) the real yields on these bonds are negative, therefore whilst it is attractive for companies and governments to raise capital at these levels the investor lose money in real terms.

The International Energy Agency (IEA) has said that investment in clean energy projects will need to triple over the next decade. The IEA believe the annual global energy investment is set to rise to \$1.9 trillion this year, including \$370bn on new renewable power generation. \$15-\$20 trillion is going to be needed to be invested in electricity supply and efficiency, then another \$8 trillion on networks and storage. These stunning estimates for

capital investment combine to equal the current total market cap of global equities or approximately half of current global GDP.

*“It’s turning an existential risk into one of the greatest commercial opportunities of our time.” – Mark Carney*

Valuations are a risk for investors within much of the climate focussed complex. The recent public awareness and investor interest has seen pricing of climate focussed companies reach eye watering levels. However, there are long term opportunities particularly within infrastructure.

Over the last few decades, infrastructure has become a standalone asset class for investors seeking long term potential returns with a different profile to the broad equity market. Renewable energy, the future of transportation, connectivity, water and waste management, social and demographic shifts are just some of the secular themes that are likely to drive the spending in global infrastructure assets over the coming decades. Within developed markets there are continual drivers of improvements, maintenance, increasing capacity, and sustainability and for emerging markets population growth and urbanisation. Infrastructure assets provide services and facilities necessary for every economy in the world to function effectively.



Historically it was only large institutional investors, that had the ability to invest in large private long term infrastructure deals. More recently the ability to invest a wide range of assets within public markets has broadened and includes opportunities in health care and education to transportation, energy exploration, digitisation, and technology across regulated and unregulated sectors.

Regulated assets are owned by companies whose return on assets/equity is based upon regulation and long-term contracts within a country, typically with revenues linked to

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inflation and an agreed regulatory cost base. These companies are typically defensive assets (gas pipelines or electricity grids) with high levels of income and a low exposure to GDP growth. Unregulated assets are typically companies with concession-based contracts – toll roads, railways, ports and airports. These are more growth orientated assets, with higher risk and rewards which are more correlated to GDP growth.

Infrastructure companies have a key role to play in the move toward decarbonisation and the pursuit of net zero sustainability. The development of new renewable energy sources, reducing inefficiencies in networks and moving towards cleaner fuel sources all require multi-year investments. Energy network investments are typically built around multi-annual regulatory reviews or rate cases, so the achieved return and cash flow profile is relatively predictable. One caveat is around customer affordability, specifically if the increase in capital expenditure is reflected in the final bill, as gas and electricity regulators (such as Ofgem in the U.K.) come to terms with the difficult task of balancing social pressure and customer needs against allowing decent returns for system operators. As we saw this winter in Texas, the key challenge for utilities amid a large buildout of renewables is maintaining a stable grid while baseload generation is replaced with intermittent resources. The UK's coastline and tidal range offers the potential to generate significant levels of tidal power, but so far governments have failed to grasp the opportunity. Alan Torevell's work on Morecambe Bay was a little ahead of its time. The main challenges for energy infrastructure companies will be balancing the disruption to the traditional oil and gas businesses and the new technologies and investments in clean energy. The majority of cash flows will be sourced from traditional means over the next decade and the execution risk will be their inability to commercialize new businesses or fail to compete effectively with new players.

While moving toward net zero will be difficult, infrastructure has a key role to play, and substantial investment will be needed. Infrastructure companies and asset owners have historically been reducing carbon emissions from their assets, and this trend is set to accelerate as global policy support and social pressures grow and as equipment costs fall.

Over the past 18 months central banks and governments have aggressively stimulated their economies. The likely result of this aggressive stimulus is rising inflation with the hope that accompanies accelerating global growth. Whilst the supply chain issues that have caused some recent inflationary pressure should subside in time, increased wage pressures and the large fiscal injections into the global economy to manage the energy transition are medium term inflationary. As investors we need to prepare for a world of rising inflation and bond yields after a long period of structural decline.

This infrastructure opportunity is unlikely be uniform; there will be peaks and troughs across the asset class, although it does have the added advantage of some inbuilt inflation protection.

Alongside rising inflation, valuation dispersion across the market remains wide, growth data is falling due to China and a there is a rise of Covid cases. The combination of factors points to a more volatile environment as markets price in the broad array of possible outcomes. We continue to favour a balanced portfolio approach combining companies which can capture the cyclical upswings in the market, alongside those with intangible property and pricing power.

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