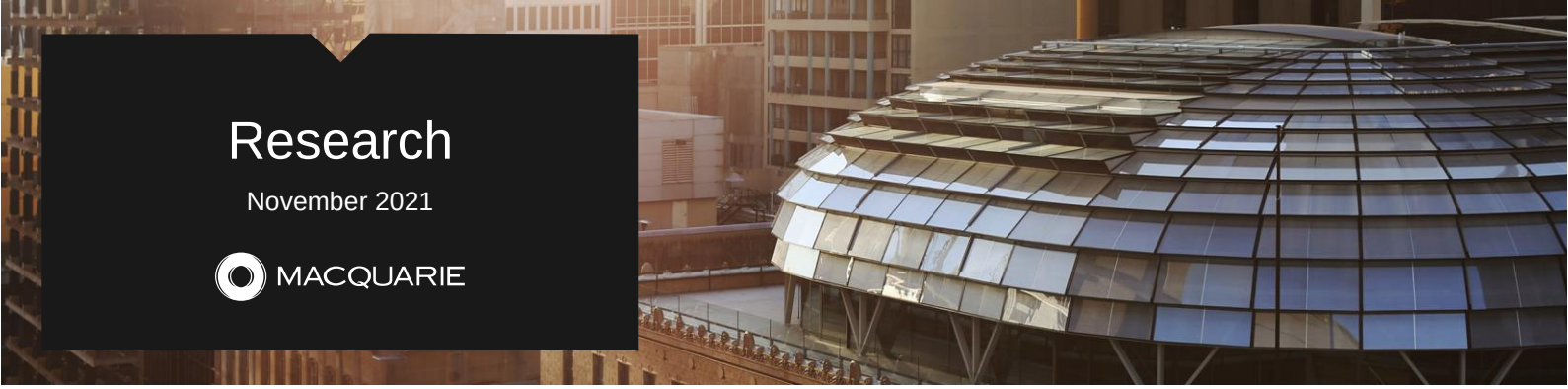


Research

November 2021

MACQUARIE

Conference of Parties (COP) 26th Summit – Time for Action

- The COP26 climate summit concluded in Glasgow with a deal struck at the 11th hour, after two weeks of climate related pledges and intense negotiations. Over 200 nations have committed to the Glasgow Climate Pact which continues to build on the central goal of keeping global temperatures from warming above 1.5 degrees Celsius and explicitly phase down the use of coal.

- There are four key goals which are the focus of the COP26 summit:

  (i) Secure global net zero by 2050 and keep 1.5 degrees within reach through update in emission targets.

  (ii) Adapt to protect communities and natural habitats in response to the already changing climate.

  (iii) Mobilise finance to support necessary adaption and mitigation activities.

  (iv) Working together to ensure there is global coordination to ensure global climate targets are met.

- The key takeaways from the summit are:

  (i) Ramp up in climate commitments from the US, UK and EU. Positively, India, a high emitter of carbon emissions, also committed to achieve net zero emissions by 2070. This included an interim target for 50% clean power by 2030. The US and China have also committed to a climate agreement aimed at limited global temperature rises to 1.5C. Although details are yet to be finalised, the agreement represents a tacit acknowledgement by the world's two biggest CO2 emitters that the climate crisis requires urgent attention and international collaboration.

  (ii) New commitments to phase down coal and public financing of fossil fuels.

  (iii) The launch of a methane pledge which, if implemented as proposed, is expected to prevent the release of 37 million tonnes of methane by 2035.

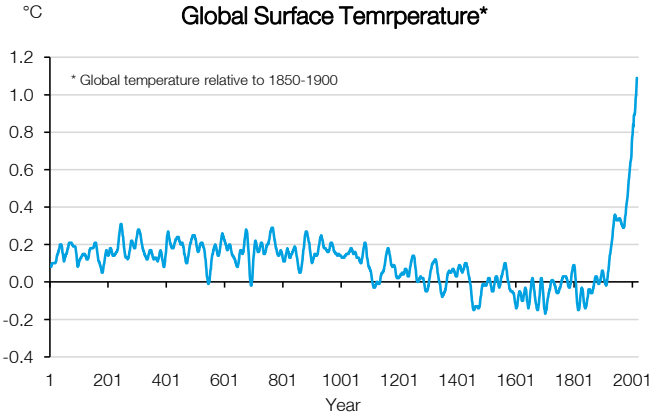
  (iv) Mobilisation of climate finance through both public and private finance to drive the energy transition and to support developing countries in mitigating and adapting to the effects of climate change.

- Australia has only committed to net zero emissions by 2050 with a focus on technology to achieve net zero. The five key technologies as areas of focus include **hydrogen, ultra-low cost solar, battery storage, soil carbon sequestration & low emissions steel and aluminium**.

- Regardless of whether COP26 is deemed a success or failure, it is an influential climate summit that will help coordinate the path to net zero. We expect the beneficiaries of the transition to be **Energy (Renewables; solar, wind, green hydrogen), Technology, Commodities (Green critical minerals; Lithium, Graphite, Cobalt, Nickel) and Green Infrastructure.**

The ongoing threat posed by global warming is driving the push for decarbonisation and subsequent transition to net zero, with the recent Intergovernmental Panel on Climate Change (IPCC) report highlighting that the planet is warming at an unprecedented rate and **global emissions are still on upward trend**. It is forecast that we need a 45% reduction in emissions by 2030 from 2010 levels to remain within the 1.5C target threshold.

The average global temperature has been rising



Source: IPCC, August 2021, MWM Research, July 2021

The COP26 conference began in Glasgow at the end of October with over 100 world leaders in attendance including the United States President Joe Biden, French President Emmanuel Macron and United Kingdom Prime Minister Boris Johnson. China's President Xi Jinping and, Vladimir Putin from Russia did not attend. There has been a flurry of announcements and pledges from the summit, however the difficult task remains for nations to coordinate and agree to put the pledges and announcements into action.

COP26 is expected to be an influential event that coordinates global efforts to transition towards net zero. With major economies aligning behind the key goals, the direction set in Glasgow is expected to underpin industrial policies around the world for coming decades. The subsequent impact to policy and major investments in green infrastructure and carbon pricing initiatives is also expected to incentivise the private sector to ramp up decarbonisation plans and spending. COP26 has also seen business presence far larger than ever before, and far more senior than ever before.

Regardless of any meaningful commitments from state-based negotiations at COP26, the shift has already begun (particularly in private sector) and the direction is clear:

(1) more funds will flow into climate-aligned capital to drive the energy transition required to respond to global warming;

(2) in turn, driving investors to push for more climate ambition from corporates across the board; and

(3) driving demand up / costs down for electric vehicles (EVs) and clean power, with the International Energy Agency (IEA) projecting 86% of passenger cars to be EVs by 2050 compared to 1% today with similar percentages for other vehicles.

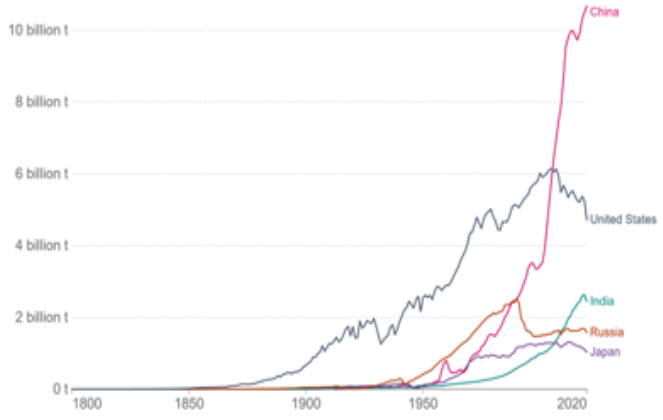
Key thematics arising from COP26

1. Ramp up in climate commitments and mitigation

Prior to COP26, several nations including US, UK and the EU had put forward ambitious 2030 emissions reduction targets in alignment with reaching net zero by 2050. The US has pledged halve net carbon emissions by 2030 (from a 2005 emissions baseline), while the EU plans to reduce its emissions by 55% by 2030 (relative to 1990 emissions levels). The UK has one of the most ambitious targets, aiming to cut emissions by 68% by 2030 (relative to 1990 emissions levels).

However, these three developed nations make up just 25% of global carbon emissions. China, the largest carbon dioxide emitter responsible for over 25% of the world's overall greenhouse emissions, did not attend the summit but has committed to an emissions peak before 2030 and for carbon neutrality to be achieved by 2060. China has also pledged the country will cease building coal-fired power overseas. India, also a high emitter of carbon emissions, committed to achieve net zero emissions by 2070. This includes an interim target for 50% clean power by 2030. While Australia did not announce an updated emissions target for 2030, it has committed to net zero emissions by 2050. Despite no new target for 2030, emissions are projected to be 30-35% below 2005 levels driven by higher renewables uptake.

Annual CO2 emissions of the largest emitting countries



Source: Global Carbon Project, MWM Research, November 2021

2. Large commitment to phase out coal and public financing of fossil fuels

Against the backdrop of the recent global energy crisis, the phasing out of coal in major economies has also been a focal point of discussions at this year's summit. **More than 40 countries have committed to shift away from coal** but notably some of the world's biggest coal-dependent countries, including China and the US, did not sign up.

Separately, 20 countries, including the US, pledged to **end public financing for "unabated" fossil fuel projects abroad by the end of 2022**. The commitments made at COP26 is expected to accelerate the phasing out of coal in major economies, as renewables become increasingly attractive for their lower emissions profile, but the efforts to move to a low-carbon world has exacerbated energy market dynamics.

The recent energy supply/demand challenges highlight that the transition to a low carbon economy will be bumpy. With energy demand increasing, likewise is the structural investment in clean energy that is required for electricity stability, and financing will need to accelerate significantly. For now, in the near term, fossil fuels are expected to continue to play a prominent role in satisfying energy requirements.

3. Methane reduction driving short-term action

While carbon emissions from energy and transportation have generally taken centre stage at climate summits, this year the global methane pledge was in the spotlight, launched by the US and EU. The pledge commits countries to **slash methane emissions by 30% by 2030**, against 2020 levels.

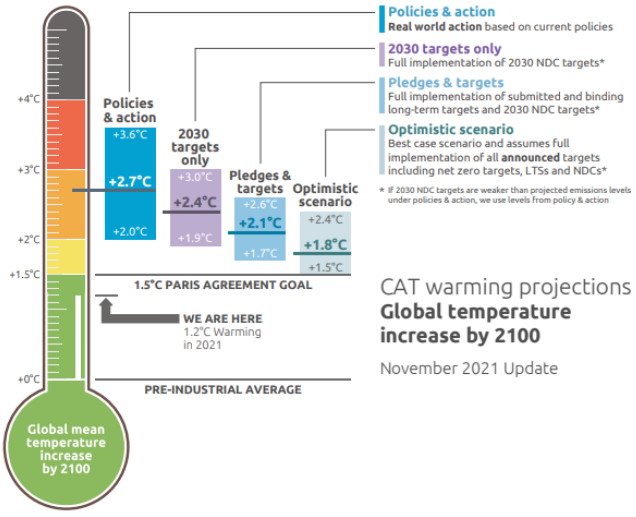
Methane is approximately 84 times more potent than CO2 on a 20-year timeframe and therefore a rapid reduction is required to slow global warming. So far, 100 nations (two-thirds of the global economy) have committed to the pledge. The pledge, if implemented as proposed, is expected to prevent the release of 37 million tonnes of methane by 2035. However, some of the largest emitters including China, Russia, India, and Australia have not committed to the methane pledge.

4. But, even given commitments, will 1.5C remain unattainable?

Despite commitment progress, it is expected that should current COP26 pledges be met in full and on time, global temperatures will rise to 2.4 degree Celsius by the end of the century, far exceeding the 1.5 degree Celsius Paris agreement goal (Climate Action Tracker, November 2021).

Although this may feel like not much has been achieved in the summit, it still represents meaningful progress given prior collective commitments by nations would have resulted in a rise in temperature of 2.7 degree Celsius. There is much yet to be done by governments, but the direction set in Glasgow will undoubtedly underpin future industrial policies driven by national policies and targets committed to at COP26.

Current climate pledges to result in the rise in global temperatures by 2.4 degrees Celsius by 2100



Source: Climate Action Tracker, MWM Research, November 2021

5. Global carbon market important for climate transition

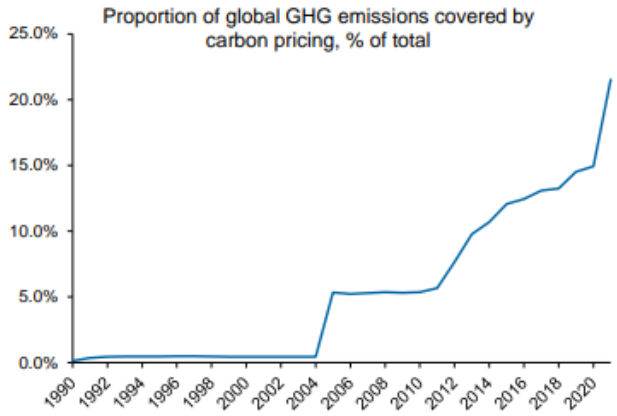
The main way which governments can change corporate emissions is by putting a price on carbon. Currently there are two popular approaches: emissions trading systems (ETS) and carbon taxes.

Currently only 45 countries and 35 regions have placed a price on carbon, and these initiatives only represent 22% of global emissions (World Bank, November 2021). Finalising carbon market rules will be crucial to hitting climate goals however it is a complicated discussion with the key issue facing the implementation of a global carbon trading scheme being how to avoid double counting (once at a private level and

again at the national target level) traded emission reductions.

Throughout the conference there has not been tangible progress on finalising the global carbon market, and it is expected that if carbon market rules are not finalised, nations will go alone and apply alternative trade measures such as the EU carbon border adjustment mechanism.

Only 22% of the world's carbon emissions are covered by carbon pricing



Source: World Bank, Macquarie Research, November 2021

6. Mobilising climate finance for developing countries

In 2009, developed economies pledged to provide US$100bn a year by 2020 for climate funding to support developing countries in climate mitigation and adaption. However, to date, this target is likely not to be met until 2023, which has significant implications for meeting the commitments of the Paris Agreement.

For many developing economies, climate finance plays a critical role in tackling climate change and adapting to its impacts. And importantly, many of the developing nations' climate commitments are conditional on receiving funding from developed countries to help pay for emissions reduction measures.

Promisingly at COP26, a new wave of money is starting to head towards climate related projects from organizations in the financial sector having pledged to move US$130 trillion of funds under their management into investments where the recipient is committed to net-zero emissions by 2050. Climate finance is expected to accelerate, particularly into climate focused funds which will be imperative to drive the energy transition.

Investment outcomes from COP26

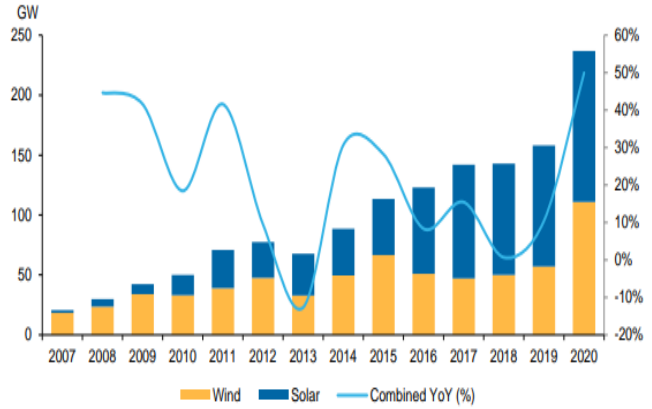
Climate change and the transition to net zero is one of the most pressing challenges of our generation and there will be a significant acceleration towards a low carbon economy in coming years. Topics such as renewable energy, sustainable food solutions, technology and green infrastructure have all been center stage at the summit, and present opportunities as they form a key part of the global investment push towards green technology.

Below we highlight the sectors we expect to benefit from the transition and focus on net zero include:

1. **Energy -** Leading beneficiaries will be those looking to transform themselves through both goal setting and action. For example, some of the more aggressive corporate agendas include depleting, divesting and avoiding hydrocarbon investments, while also investing heavily in the energy transition across renewables.

   With ESG-integrated investment processes likely to become the mainstream rather than the outcast within institutional capital over time, capital allocation to traditional energy (such as oil and gas) versus energy transition investments will also be a significant source of influence for the direction and future of energy companies.

Renewable energy installations continue grow

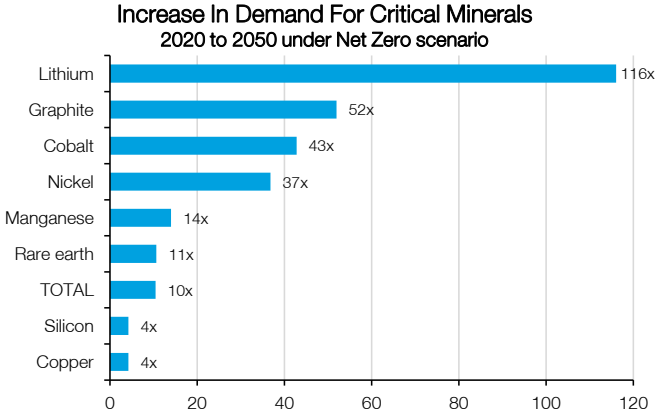


Source: IRENA, Macquarie Research, November 2021

2. **Technology** – In Australia, the focus to achieve net zero is centred on five key technologies including **hydrogen, ultra-low cost solar, battery storage, soil carbon sequestration & low emissions steel and aluminium** to be a key driver of progress. Companies involved in these technologies are expected to benefit from further government policy and funding support. To date the Government has indicated spend of $20bn in low emissions technology has already been flagged through to 2030 with hopes to catalyse $60- $100bn in private sector investment. Within corporate Australia we have already seen corporates ramping up decarbonisation plans and spend.

3. **Commodities** – The transition to a low carbon economy will also provide a boost to a number of commodities as clean energy deployment is scaled up. This will mean a significant increase in demand for 'green' connected minerals (Lithium, Graphite, Cobalt, Nickel) given clean energy is more mineral-intensive. Putting emissions on a trajectory consistent with 'Net Zero' will mean an almost seven-fold increase in demand for these green connected minerals.

Big increase in demand for 'green' connected minerals



Source: IEA, MWM Research, July 2021

4. **Green infrastructure** – We expect the facilitation of the green energy transition to provide a wide variety of investment opportunities in the green infrastructure space. Focus within this sector has also been accelerated by the pandemic with recent increase in investor interest in green infrastructure seeing

renewable energy asset prices rise globally, particularly in more mature OECD markets. Consideration of carbon pricing schemes will be another potential accelerant.

We expect sectors (e.g., utilities) to continue to spend on green infrastructure as they shift further away from traditional fossil fuels. However, supply of investments has thus far not grown as quickly as demand given the length of new development cycles, which could weigh on returns in the shorter term.

On the other hand, sectors and businesses we expect to face headwinds from the transition to net zero include those that do not commit or plan to shift towards a greener economy. Traditional energy, commodity and resource sectors will likely face dual headwinds from decreasing demand as consumer and investor preferences shift and increasing production and extraction costs. The fossil fuel sector will likely face declining demand and a rising cost of capital with the IEA forecasting that between 2020 and 2050, demand for coal will fall by 90%, oil by 75%, and natural gas by 55%.

Macquarie WM Investment Strategy Team

Preferred stocks, funds and ETFs

Investment type	Investment choice	Rationale
Direct equities	Independence Group (IGO)	• Preferred lithium miner.
	Pilbara Minerals (PLS)	• Preferred lithium miner.
	Syrah Resources	• Preferred graphite miner.
	Sunrise Energy Minerals (SRL)	• Preferred cobalt miner.
	Western Areas (WSA)	• Preferred nickel miner.
	Lynas Rare Earths Limited (LYC)	• Preferred rare earths miner.
	OZ Minerals (OZL)	• Preferred copper miner.
	AGL Energy (AGL)	• Restructuring into two separate energy businesses – Accel Energy and AGL Australia – with Accel to be Australia's largest operator of wind energy
	Contact Energy (CEN)	• ASX-listed NZ energy generator and retailer. • New Zealand's leading generator of renewable geothermal electricity.
	Infratil Energy (IFT)	• ASX-listed NZ energy company. • Owner and operator of businesses in the energy (mainly renewable), airport and public transport sectors.
	Mercury NZ Limited (MCY)	• ASX-listed NZ energy company. • Generates about 17% of New Zealand's electricity, more than 90% of which is produced from renewable sources.
	Meridien Energy (MEL)	• ASX-listed NZ energy company. • New Zealand's largest electricity company and generates electricity from 100% renewable sources (wind and water).
Managed funds	Impax Sustainable Leaders Fund (APIR: ETL8171AU)	• Invests in companies with at least 20% of revenue, profits or capital employed in environmental markets. • Impax is of sufficient scale, particularly as a sector specialist, to generate deep-dive sector research, perform internal ESG research and engage with companies on ESG matters.
ETFs (domestic)	BetaShares Global Sustainability Leaders ETF (ASX: ETHI)	• Invests in a a way that is consistent with sustainability. • Tracks the performance of the Nasdaq Future Global Sustainability Leaders index, which avoids exposure to the fossil fuel industry and climate change risk.
	VanEck Global Clean Energy ETF (ASX: CLNE)	• Invests in clean energy. • Tracks the S&P Global Clean Energy Index, which measures the performance of 30 of the largest and most liquid companies related to global clean energy production, technology and equipment, from both developed and emerging markets.
	Betashares Climate Change Innovation ETF (ASX: ERTH)	• Invests in companies that tackle climate change, from clean energy providers to companies tackling green transport, waste management, sustainable product development, & improved energy efficiency and storage. • Tracks the 'Solactive Climate Change and Environmental Opportunities' index.
ETFs (offshore)	First Trust Global Wind Energy ETF (NYSE: FAN)	• Invests in companies involved in the wind energy industry. • Tracks the ISE Clean Edge Global Wind Energy Index, which comprises companies involved in some aspect of the wind energy industry such as the development or management of a wind farm; the production or distribution of electricity generated by wind power; or involvement in the design, manufacture or distribution of machinery or materials designed specifically for the industry.
	Invesco Solar ETF (NYSE: TAN)	• Invests in solar energy companies. • Tracks the MAC Global Solar Energy Index, comprised of companies in the solar energy industry including all solar technologies (crystalline and thin-film photovoltaic solar and solar thermal), the entire value chain (raw materials, manufacturing, installers, solar plant operations, financing, etc) & related solar equipment such as power inverters, encapsulates, etc.

Source: MWM Research, August 2021

The report was finalised on 11 November 2021.

Recommendation definitions (Macquarie Australia/New Zealand)

Outperform – return >3% in excess of benchmark return

Neutral – return within 3% of benchmark return

Underperform – return >3% below benchmark return

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