

Investing for a Better Tomorrow

BY [LIAM FARLOW AND JODIE BANNAN](#), 05 MAY 2022

The world economy emits around 50 billion tonnes of CO₂-equivalent greenhouse gases (GHGs) every year, of which 36 billion tonnes is derived from the burning of fossil fuels.^[1] It is now widely accepted the increasing amount of GHGs in the atmosphere is warming our planet and the current level of emissions needs to reduce over the next two to three decades to stop global temperatures from rising to levels that may cause significant disruptive climate change and economic damage. In order to achieve this, the world will need to transition away from fossil fuel-derived energy consumption. While governments and corporations are leading the way on this front, consumers and investors have a role to play too.

Energy transitions are not new

In fact, the world has experienced many over past centuries. In the middle ages, the main sources of energy were firewood, animals and human power. However, these energy sources were limited by the pace at which forests grew, or the amount of force a person or animal could exert. Transitions to new primary energy sources take long periods of time and occur at uneven adoption rates. The shift from using charcoal to coal when making iron commenced in England in the 1700s, but because the US had more abundant timber supplies, its transition to coal did not occur until the late 1800s. However, the use of coal enabled a significant expansion in the amount of iron produced. Similarly, the transition from whale oil to kerosene used for lighting occurred during the 1800s and although oil extraction was rapidly increasing for the next century, the transition from steam trains to diesel electric locomotives did not happen until the mid-1900s. This shift was enabled by advancements in the performance and reliability of diesel engines at the time.

Transitions have often been linked with technological progression and typically optimised for efficiency, leading to significant surpluses of primary energy. This, in turn, allowed for higher consumption and productivity, faster economic growth and better standards of living. This was possible because new sources of primary energy including coal and oil had superior energy density and utility to what it was replacing and advancements were made on how to harness and convert that energy. Efficiency gains in industrial furnaces, turbine generators and internal combustion engines have seen greater energy extraction from already dense stores of energy and these improvements also helped lower the cost of energy.

The current transition is very different

This time, we are prioritising environmental impact over energy surpluses and efficiency gains. In decarbonising the world's energy systems, we are not only looking to replace fossil fuel as an energy source but also the entire energy-conversion platform. This will have wide-reaching impacts on industrial production methods and how we consume energy as a society today.

It is also important to consider that the transition will be a different experience for everyone, as we all have varying starting points, socio-economic priorities and access to resources, which will shape the scope and pace of change. Individuals in America, Europe and Australia consume two-thirds more energy on a per capita basis than the average individual in Africa or India, and they also use energy in different ways. With increasing standards of living and growing economic prosperity, Africa and India will, however, consume increasingly more energy over the next 30 years. This group relies on fossil fuel energy sources for 90% of

increasingly more energy over the next 30 years. This group relies on renewable energy sources for 70% of its needs^[2] and given their lower-than-average incomes, is least able to withstand the displacement pressures and higher costs associated with a shift to non-carbon energy. America, Europe or Australia will thus need to bear most of the responsibility for reducing energy consumption and emissions to accommodate for the energy consumption growth in developing economies. Wealthier nations have previously pledged to help subsidise the energy transitions of less-wealthy nations, however, there are accusations that funding has fallen short of prior commitments.

Costs, disruption and trade-offs will be par for the course

The challenge will be to manage the costs and disruption associated with transitioning energy systems before non-carbon alternatives are commercially viable at the scale required. Wind and solar may achieve lower emissions, but there is no point transitioning to a higher-cost supply of energy which chokes off demand. Nuclear energy can provide carbon-neutral baseload generation, but must overcome public concerns and misperceptions around safety. In addressing the energy transition, societies will have to deal with some trade-offs between the competing objectives of economic growth, a more sustainable energy mix and environmental impacts.

Encouragingly, global energy intensity has already declined by one-third over the 30 years from 1990 to 2021. However, the rate of improvement is slowing.^[3] Given the high correlation between energy demand and economic growth, the world's reliance on energy has not reduced in absolute terms. As an example, America's energy intensity has halved since the 1970s, but it still uses more energy today because GDP has more than doubled.^[4]

Momentum for change is building

It is clear the next phase of the transition will be a monumental undertaking for the world. It will require trillions of dollars of investment each year and there will be substantial engineering challenges to overcome. It will test political commitment and resolve, and require changes to people's behaviour and attitudes. However, the momentum for change is building. A growing awareness of climate change has seen the European Union (EU) along with 50 other countries, representing 70% of global emissions, commit to net-zero carbon targets by 2050. This has made the adoption of renewables power generation a central part of the future energy mix. Targets are a positive step, and climate policy is one aspect, however, the path forward will be far more important. A globally coordinated policy framework will be required to carefully manage the supply of useful energy through the transition, encourage investment in renewable energy replacements, put a price on carbon and subsidise users most vulnerable to higher energy prices.

Progress is being made in some parts of the world. The US, China and some European countries have invested significantly in renewables capacity to start to decarbonise power sectors. In fact, for the past seven years there has been more renewable power added to the grid than fossil fuels and nuclear combined.^[5] Despite a fall in energy demand through the COVID-19 pandemic (reflecting a reduction in economic output), wind and solar power continued to grow share. This is encouraging, however, renewables (including hydropower) still account for just 10-13% of total energy consumed in the US and China.^[6] Significantly more investment will be required in coming decades, and challenges around geological limitations, renewable intermittency, unfavourable weather patterns and increased requirements for long-distance power transmission will all need to be overcome.

Europe is the most progressed in committing to its energy transition. The goals laid out in the European Commission's European Green Deal to achieve climate neutrality by 2050 were written into law in July 2021, including an intermediate target of reducing GHG emissions by at least 55% by 2030 relative to 1990

levels.

^[7] The 'Fit for 55' package of proposals that followed, included measures to tighten the EU's Emissions Trading System (to put a price on carbon), increase the use of renewables and ensure a faster rollout of lower-emission modes of transport. The EU Taxonomy framework, which lists sustainable economic activities, is also helping to drive higher investment and financing to accelerate implementation.

A number of countries are addressing energy efficiency with renewable heating and cooling policies, and mandatory fuel economy and emission standards for new cars in the transport sector. In some instances, there will be outright bans on fossil fuel-powered vehicles enforced at some date in the future and subsidies to encourage consumers to make the switch to electric vehicles (EVs). Norway is a leading example where a combination of value-added tax (VAT) exemptions and higher taxes on polluting vehicles has seen EVs represent ~80% of new car sales in recent months.^[8] The EU's plastic tax and China's ban on single-use plastics are other important policies that will go a long way in addressing plastic waste derived from fossil fuels. Even developing countries, including Nigeria, Tanzania, India and Indonesia, are driving investment in off-grid renewables or mini-grids, which not only connect rural villages with electricity, but contribute to lower carbon energy consumption over time.

Corporations need to play their part

The role of the world's largest corporations in achieving an overhaul of energy production and consumption cannot be understated and the carbon emissions targets will not be achieved without their involvement. A study conducted by the Climate Accountability Institute, The Carbon Majors Database, determined that since 1998, just 100 companies globally are responsible for producing the products that generate over 70% of global GHG emissions.^[9] In fact, 25 of these companies (including Exxon, Shell, BP, TotalEnergies and BHP, along with state-controlled companies Saudi Aramco and Gazprom) are responsible for half of these emissions. Many of these companies are responding with commitments to achieve net-zero scope 1, 2 and in some cases, scope 3 emissions, but we are yet to see alignment across all major emitters.^[10] Other initiatives include the RE100 group, a global corporate renewable energy initiative comprising hundreds of large businesses, which has member companies including Apple, GM, Microsoft and BMW among many others, committing to match 100% of their energy needs with renewable power by 2050 or earlier.

We all have a role to play

We do not need to wait for governments and corporations to start making changes, there are many ways for us, as individuals, to contribute to the transition today. We can improve energy efficiency by embracing thoughtful home design and appliance selection. Installing rooftop solar panels coupled with a home battery storage option generates clean electricity and draws less energy from the grid. Retrofitting houses with better insulation to narrow temperature ranges reduces reliance on heating and cooling devices that run on electricity. A switch to LED lighting uses around 80% less electricity than incandescent alternatives and smart home automation technology allows for remote monitoring and reductions in electricity consumption. The challenge will be dealing with the substantial base of existing housing stock that remains many generations behind current best practice when it comes to energy efficiency.

We can also focus on reducing our emissions from transport. Replacing our petrol and diesel-guzzling cars with EV alternatives charged at home with solar power will become mainstream. There will be less personal car ownership and more public and shared alternatives. Walking or riding to work and working from home may become more entrenched, and excess air and road travel will be frowned upon and avoided. The challenge in the EV transition is twofold – turning over the number of global vehicles in operation from internal combustion engines to EVs will be slow and can incur higher upfront vehicle costs. Progress was being made with the battery (the highest cost component of EVs) experiencing a decade of

Progress was being made with the battery (the highest cost component of EVs) experiencing a decade of cost decline following advances in cell chemistries and design. However, this has recently ground to a halt and is partially reversing with rapid input price inflation, particularly battery metal raw materials, due to COVID-19 supply-related issues.

Moving towards a regenerative 'circular economy' is another focus for change. This means conserving resources or doing more with less, designing out waste and pollution, and keeping products and materials in use. We can reduce our food waste and purchase goods that use sustainable packaging. 'Fast fashion' will become a thing of the past, as we avoid purchasing clothing made from resource-intensive cotton and plastic polyester fibres. As consumers, we can increasingly choose to vote with our wallets and where possible, purchase from companies that are focused on lowering their product's CO₂ footprint, or providing recycling or re-use solutions to avoid landfill at the end of the product's life.

Investing sensibly for the transition

As investors, we can make a difference as well, by investing in industries that are contributing to lower emissions – and there are many old, new and innovative companies and technologies on offer. Renewable sources of energy, including wind, solar and their supply chain are naturally common areas of focus for investors. Companies including Vestas and Siemens Gamesa have a pipeline of projects in planning, although recently the sector has been struggling due to inflation impacts and logistics challenges. The role of nuclear and gas as near-term sources of dispatchable baseload power could be another area of consideration in the future. Elsewhere, modernising and expanding grid infrastructure will be a critical enabler for integrating large shares of renewable energy into power systems, and companies like Siemens have solutions for this today. Grid storage solutions including batteries or hydrogen will be provided by LG Energy Solutions or industrial gas producers like Linde.

The electrification of transport is maturing quickly. High-profile companies including Tesla may have led the way with EVs but traditional car manufacturers such as BMW, Volkswagen, Mercedes Benz and Toyota, have made significant investments in EV models, which will progressively launch in coming years. Consumers will have a much wider choice than is currently supplied by Tesla. The battery supply chain is expanding rapidly and will offer investment opportunities via LG Energy Solutions, SK Innovation, Samsung SDI, CATL and others. Likewise, the traditional component makers such as Valeo or Aptiv will play a central role in producing electric motors, power electronics and high-voltage connectors for the electric drivetrain. More powerful batteries and faster EV charging will also require the use of power semiconductors provided by Infineon or ST Microelectronics.

Enabling all these initiatives, whether wind, solar, EVs and hydrogen, will require increasing quantities of metals – steel, copper, aluminium, cobalt, lithium, nickel and many others provided by companies such as Glencore, First Quantum Minerals and Freeport-McMoRan. These markets are currently tight, with mining companies earning healthy margins but are being incredibly cautious and disciplined around adding new capacity given poor shareholder outcomes of recent resources cycles.

There may also be opportunities to invest in companies addressing energy efficiency of buildings and homes or companies that will participate in the recycling effort and lower consumption of plastics.

The challenge of investing in some of these newer areas of change is that business models are still evolving and, in some cases, end-market demand is nascent. Government subsidies may be critical to help fund new industries in their infancy or to incentivise consumers to switch to greener alternatives, but there is a risk that funding may be withdrawn before these industries become self-sustaining. Large-scale capital projects require significant upfront investment and returns can be long-dated, which could see newly

formed companies remain loss-making for the foreseeable future. This is likely to drive periods of extreme volatility in certain companies' share prices, however, there are companies with resilient core operations and strong balance sheets that we believe are best suited to navigate the transition and capitalise on higher growth and change. It is with this in mind, that Platinum plans to launch a carbon transition product in the near future (subject to regulatory approval).

[1] Source: IEA.org Global Energy Review: CO2 Emissions in 2021, UNEP-CCC Emissions Gap Report 2021.

[2] Source: BP Statistical Review of World Energy July 2021.

[3] Source: IEA.org <https://www.iea.org/reports/global-energy-review-co2-emissions-in-2021-2>

[4] See previous source.

[5] Source: BP Statistical Review of World Energy July 2021.

[6] See previous source.

[7] Source: European Commission https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en

[8] Source: Norwegian Road Traffic Information Council (OFV).

[9] Source: <https://www.cdp.net/en/articles/media/new-report-shows-just-100-companies-are-source-of-over-70-of-emissions>

[10] Scope 1 covers GHG emissions that a company makes directly, Scope 2 are the emissions a company makes indirectly and Scope 3 includes all GHG emissions that an organisation is indirectly responsible for, up and down its value chain (Source: Deloitte).

DISCLAIMER: This article has been prepared by Platinum Investment Management Limited ABN 25 063 565 006, AFSL 221935, trading as Platinum Asset Management ("Platinum"). This information is general in nature and does not take into account your specific needs or circumstances. You should consider your own financial position, objectives and requirements and seek professional financial advice before making any financial decisions. You should also read the latest product disclosure statement for the Platinum Trust® Funds before making any decision to acquire units in a fund, a copy of which is available at (together with the target market determination) www.platinum.com.au. The commentary reflects Platinum's views and beliefs at the time of preparation, which are subject to change without notice. No representations or warranties are made by Platinum as to their accuracy or reliability. Commentary may also contain forward-looking statements. These forward-looking statements have been made based upon Platinum's expectations and beliefs. No assurance is given that future developments will be in accordance with Platinum's expectations. Actual outcomes could differ materially from those expected by Platinum. To the extent permitted by law, no liability is accepted by Platinum for any loss or damage as a result of any reliance on this information.