Compound Interest.

PIC's Quarterly Update

Q3 2023 • Issued 18 October 2023

Introduction.

Thank you for opening this third issue of *Compound Interest*, our series which looks at the feedback loop that exists between the assets that sit within the UK's £6 trillion savings system and the impact this has on the wider economy; how the unintended consequences of public policy and regulation drive these flows; and what this means for government borrowing and the UK's capacity to invest in much-needed infrastructure.

Over the past few years there has been clear political direction for the net zero transition, leading to a changing regulatory environment for financial services companies, and therefore significant implications for investment in the economy. Following Rishi Sunak's announcement on 20 September regarding the Government's revised policy on the transition, which referenced "more accountability from elected representatives and more transparency for the British public", "[easing] the burden on working people", "reducing costs on British families" and "[maintaining] public consent", the Prime Minister told the BBC's Today programme that the government had "absolute belief" that it would still hit its legally binding targets on reducing greenhouse gas emissions by 2050.

But even as these policy shifts were announced, there were warnings that the UK's future targets were at risk. In June, the Climate Change Committee ("CCC") – the government's independent advisers – called progress "worryingly slow" and called for more urgent action: "If we do everything slower, we're just going to make it more difficult to reach that target," said Professor Myles Allen of the University of Oxford.

This is because the amount of carbon the UK can emit is set out in carbon budgets – and additional emissions in one area will necessitate cuts in others, which won't be easy to achieve.

In this edition of *Compound Interest* our specialists offer their personal views as we explore the headwinds and tailwinds to the net zero transition, including exploring the consequences of orderly, disorderly, and delayed / no transition environments. These all contribute to our investment strategy as we seek the secure, long-term cashflows we need to back our policyholders' pensions over future decades. As a long-term investor we need an objective view of the potential ways forward to ensure we maintain a low risk investment portfolio and seek investment opportunities to avoid stranded assets.

Topics in this issue include:

- Where does the UK net zero transition go next?
- What do we mean by a 'just transition'?
- Weighing up defined benefit scheme trustees' priorities on net zero
- Why we think a lot about a disorderly transition
- Why infrastructure investment is pivotal to both future economic growth and the transition.

We'd love to hear from you. If you have any feedback on this edition, or suggestions for future issues, please do get in touch with the team.

Rob Groves
Chief Investment Officer, PIC

Who we are and what we do.

PIC's purpose is to pay the pensions of its current and future policyholders. Our purposeful investment strategy is carefully constructed to provide the cashflows to match all future pension payments over the coming decades.

The best way to do this is by investing in very secure assets like UK government and high-grade corporate bonds, and the infrastructure the UK needs. Our appetite for risk is low and our timeframe for success is measured over decades, not the next four quarters.

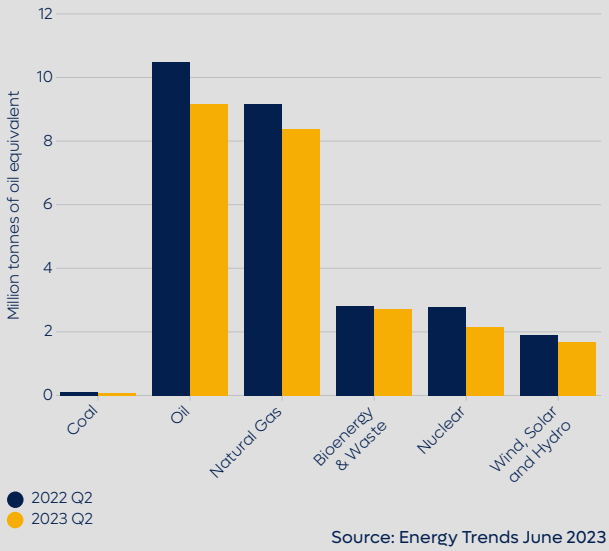
Of a total portfolio of £44.9 billion, PIC has already invested more than £11 billion in UK productive finance assets such as social housing, renewable energy, urban regeneration projects, and the UK's universities. The best way for us to secure future pension cashflows is by investing in assets that have lots of social value, because what makes sense for society also helps us achieve our long-term aims.

There are still more than £1.5 trillion of defined benefit pension scheme pension promises sitting on UK corporate balance sheets. This figure continues to weigh on UK PLC, and those whose retirements could be poorer than expected, should their employer fail.

Q3 charts at a glance.

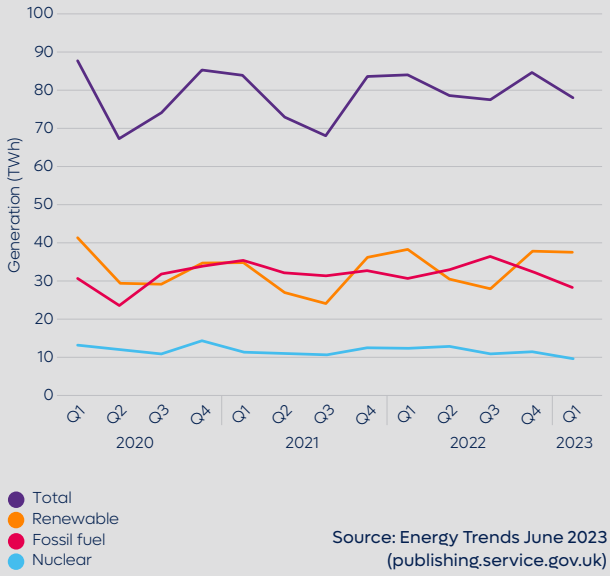
Key data this issue

Chart 1.1 UK Primary energy production (Energy Trends Table 1.1)



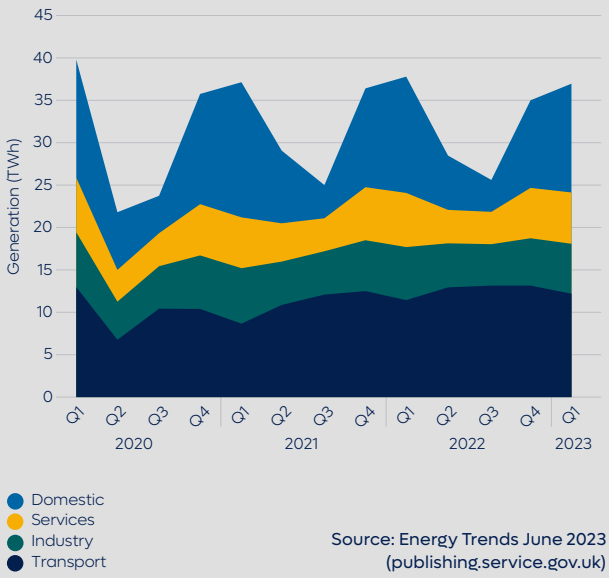
Source: Energy Trends June 2023 (publishing.service.gov.uk)

Chart 5.2 Electricity generated, by fuel type (Energy Trends Table 5.1)



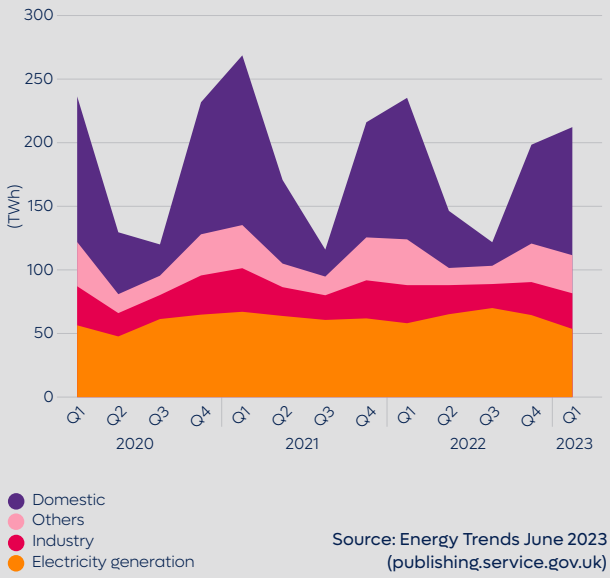
Source: Energy Trends June 2023 (publishing.service.gov.uk)

Chart 1.3 Final energy consumption by user (Energy Trends Table 1.3)



Source: Energy Trends June 2023 (publishing.service.gov.uk)

Chart 4.1 UK demand for natural gas (Energy Trends Table 4.1)



Source: Energy Trends June 2023 (publishing.service.gov.uk)

Read on to find out where does the UK net zero transition go next, by Charles Beard, Responsible Investing Manager – Climate Lead

Where does the UK net zero transition go next?

By Charles Beard, Responsible Investing Manager – Climate Lead

Investors are always trying to determine what the future holds. Given PIC's long-term obligations to pay the pensions of our policyholders, our horizon stretches longer than most as we invest to fulfil our purpose over future decades.

Such a timescale introduces significant uncertainties – we only need to look back over the past 15 years since the Global Financial Crisis to see how much policy and the economy could change over that time, and we therefore invest with these cycles in mind.

However, one area of particular uncertainty at the moment is the energy sector, as the global economy seemingly embarks on the transition to net zero. This article considers how this transition may develop in coming years and what the potential headwinds and tailwinds are. One of the considerations we make when focusing on investment landscape is the impact of the transition on individuals, as well as society more generally. Whilst there are expected to be many societal benefits from a net zero transition, it is increasingly clear that many countries that are in the process of transitioning face social challenges, in particular the increased cost to individuals and the loss of jobs in certain industries. This article aims to focus on what I believe is likely to happen next.

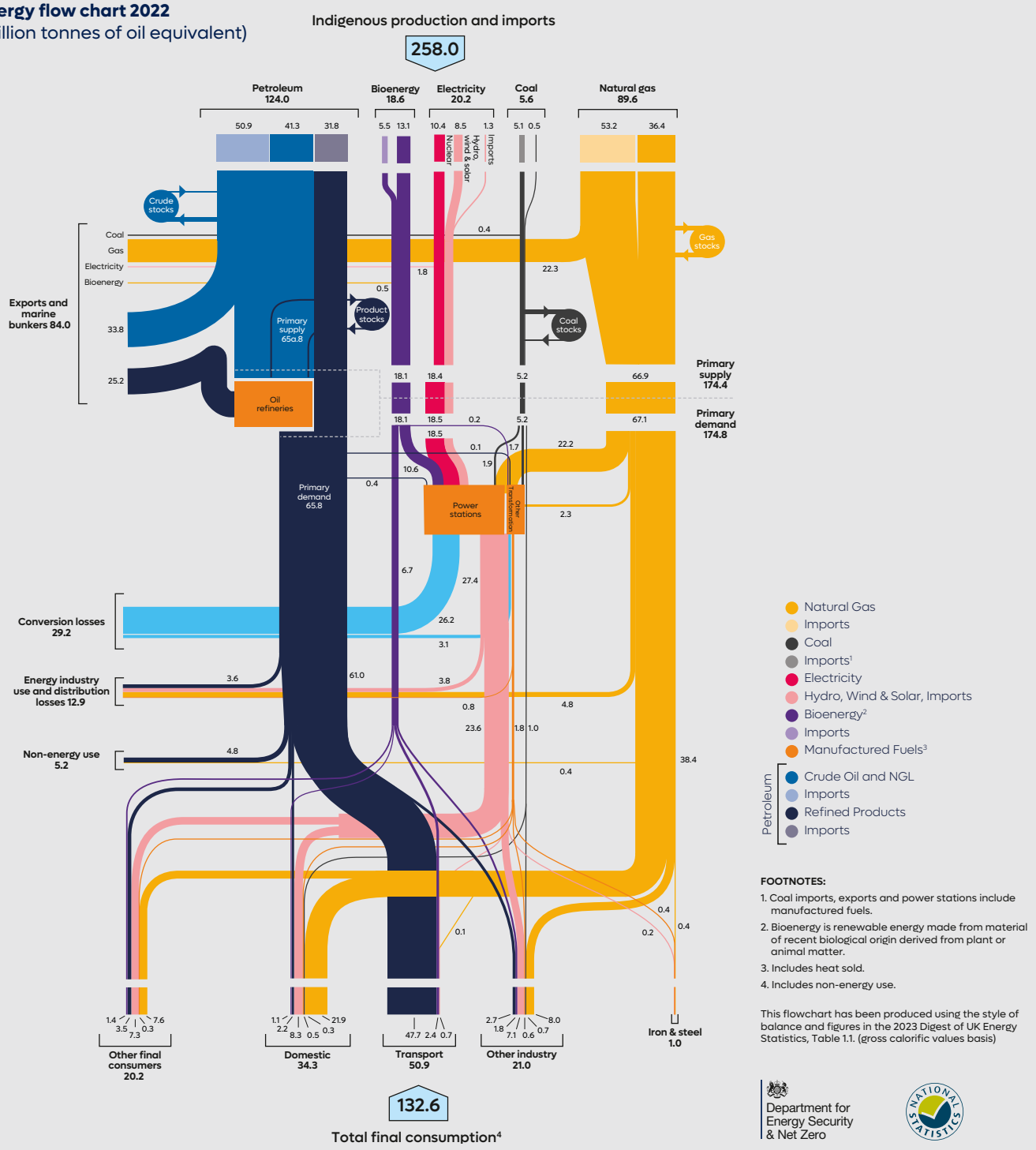
Where are we now? And how did we get here?

Before thinking about what might happen in the energy sector over the next 30 years, it is helpful to get a clear picture of what the sector looks like now, and how that has changed in recent years. In 2015, 196 countries signed up to the Paris Agreement, aiming to hold "the increase in the global average temperature to well below 2°C above pre-industrial levels" and pursue efforts "to limit the temperature increase to 1.5°C above pre-industrial levels". This kicked off the global transition in earnest, with each country committing to release their Nationally Determined Contributions ("NDCs") to meeting the 1.5°C target.

However, since 2015, there have been some significant changes to the geopolitical landscape, which in turn impact the outlook for how we would expect the energy transition to develop. First, relations between the West and China have worsened, calling into question the extent to which the West can rely on China to support its own transition. For example, China opted out of the final commitment to phase out of coal at COP26 in 2021. Further, within the West itself, there has been a breakdown in the political consensus that transitioning to net zero should be prioritised, as concerns about the impact of the transition on individuals, particularly given the cost of living crisis, have risen to the top of the political in-box.

This breakdown in consensus led to the material changes in UK Government policy, with the Government reversing a series of policies aimed at leading the transition.

Energy flow chart 2022
(million tonnes of oil equivalent)



FOOTNOTES:

1. Coal imports, exports and power stations include manufactured fuels.
2. Bioenergy is renewable energy made from material of recent biological origin derived from plant or animal matter.
3. Includes heat sold.
4. Includes non-energy use.

This flowchart has been produced using the style of balance and figures in the 2023 Digest of UK Energy Statistics, Table 1.1. (gross calorific values basis)

Department for Energy Security & Net Zero

This graph shows the current energy use in the UK, with the following main trends since the Paris Agreement was signed in 2015:

- Overall energy consumption has fallen by c9%, driven by energy efficiency improvements in end-use sectors, as well as the increased cost of energy. For example, cars do more miles to the gallon
- Conversion losses – wasted energy in the electricity production process - have fallen by c30%, as processes to make electricity have improved their efficiency to reduce the amount of energy that is lost
- Coal use has fallen by c75% as the UK has actively reduced the use of coal in electricity generation to reduce carbon emissions

However, despite this apparent progress, the UK does not appear to be on track to meet its legally binding climate targets. In March 2023, well before the September announcement, the UK Government released the Carbon Budget Delivery Plan ('CBDP'), setting out the existing policies aimed at meeting climate targets up to 2037. As part of this plan, the government quantified emissions savings to deliver 92% of the emissions reduction required to meet 2030 targets. The CEO of the Climate Change Committee, an independent statutory body established to advise the UK Government on emissions targets and report to Parliament on progress, responded to this CBDP, "our confidence in the UK meeting its legal goals from 2030 onwards has actually dropped – it has fallen from the assessment that we made 12 months [ago]".

Whilst there has not been sufficient time to quantify the impact of the recent changes in UK Government policy announced by the prime minister on 20 September, the CCC released a statement stating that "today's announcement is likely to take the UK further away from being able to meet its legal commitments". Whilst the Government has stated that it remains committed to the legally binding 2030 targets, one consequence of the net zero announcement could be legal challenges to the new strategy, similar in nature to the legal challenges to the Government's net zero strategy in 2022. In turn, this might lead the Government to clarify the position through the more dramatic step of changing the law to remove the targets. At the same time, the Labour Party, has pledged to reverse a number of these changes. This all adds to the overall policy uncertainty.

What is slowing down the UK transition?

Despite the UK's legislative commitment to net zero, I see a number of factors that could continue to make the transition challenging for the UK:

- **Technology** – in many areas of the economy, we have made progress to the technological solutions required to effect the net zero transition, even where the cost for the end user has increased. For example, according to the CEO of the Climate Change Committee, a decarbonised power system is "eminently achievable" with wind, solar, nuclear, and a small remaining amount of gas or hydrogen generation, and the scale up of existing electricity storage solutions. However, there are some 'hard to abate' sectors for which technology remains in the early stages of development. Transport in particular, with the well rehearsed problems for the automotive sector. However, shipping and aviation are two other sectors where a low-carbon alternative is not currently imminent. There is clearly a lot of work going on in all sectors to develop financially viable low-carbon solutions, but as low-risk investors we are cautious about relying on early stage technologies becoming viable.
- **Supply chain uncertainty** – like many manufacturing supply chains, the goods required to accelerate the net zero transition are heavily reliant on Chinese supply. As an example, China accounts for c80% of global manufacturing of solar panels, which is more than double their share of demand. Clearly there are significant challenges in relations between the US, Europe, and China, and any worsening of these relations may make it more difficult for the UK to source the goods required to transition. Further, if the global economy does transition to rely more heavily on electricity, the demand for critical minerals such as copper, nickel, cobalt, lithium, and rare metals is expected to increase dramatically. There is uncertainty over whether there is sufficient supply of these metals to meet this demand. As with solar panels, the supply of these metals is also highly concentrated, meaning supply chains could be disrupted by geopolitical forces. There is also increasing recognition of the social issues in these supply chains, in particular with reference to cobalt mining in the Democratic Republic of Congo and polysilicon coming from China. Finally, the availability of construction workers to retrofit properties in the UK is also limited, which could impact the ability of UK citizens to improve the energy efficiency of their homes.
- **Political and regulatory environment** – even though the Government has pulled back some transition targets, the political and regulatory environment is currently supportive of the transition in the UK. The UK is not the first country to see political volatility to transition policies. For example, the reversal of the gas boiler ban in Germany, the French President ruling out a ban on gas boilers, as well as threat to the transition deriving from the electoral success of the Farmer-Citizen Movement in Holland. It should be noted that this political volatility is perhaps a consequence of the regulatory-driven approach to the net zero transition taken in the UK and Europe. An alternative approach would be the one taken by the US, where the Inflation Reduction Act represents unprecedented government spending to accelerate the transition, helping protect ordinary people from the immediate costs.

In their latest progress report, the CCC highlighted that the Government's strategy has "delivery risks due to over-reliance on specific technological solutions, some of which have not yet been deployed at scale". However, it is also important to recognise that in typical net zero scenarios, such as those put out by the CCC and the UK Government itself, hard-to-abate sectors such as shipping and aviation are expected to reduce emissions later in the transition, nearer to 2050, giving more time for technologies to develop. The short-term focus is on sectors such as electricity generation and land transport, where the technologies are available and effective.

Heat pumps – a technology that works?

As noted above, there are areas of the economy where technological solutions to the decarbonisation challenge already exist. However, that does not necessarily mean the roll out of these technologies is straightforward. One such example is heat pumps.

According to the UK Government, "heat pumps have a key role to play in decarbonising heating across the UK – irrespective of the role of hydrogen or other technologies". Heat pumps have two significant advantages from a decarbonisation perspective: they are highly energy efficient, typically more than three times as efficient as a gas boiler, and they use electricity, which can be produced using renewables with minimal carbon emissions. To capitalise on these benefits, the Government aims to increase the number of heat pump installations to 600,000 a year by 2028, which will require around 150,000 installers. However, just 72,000 heat pumps were installed in 2022, meaning a 42% year on year increase is required.

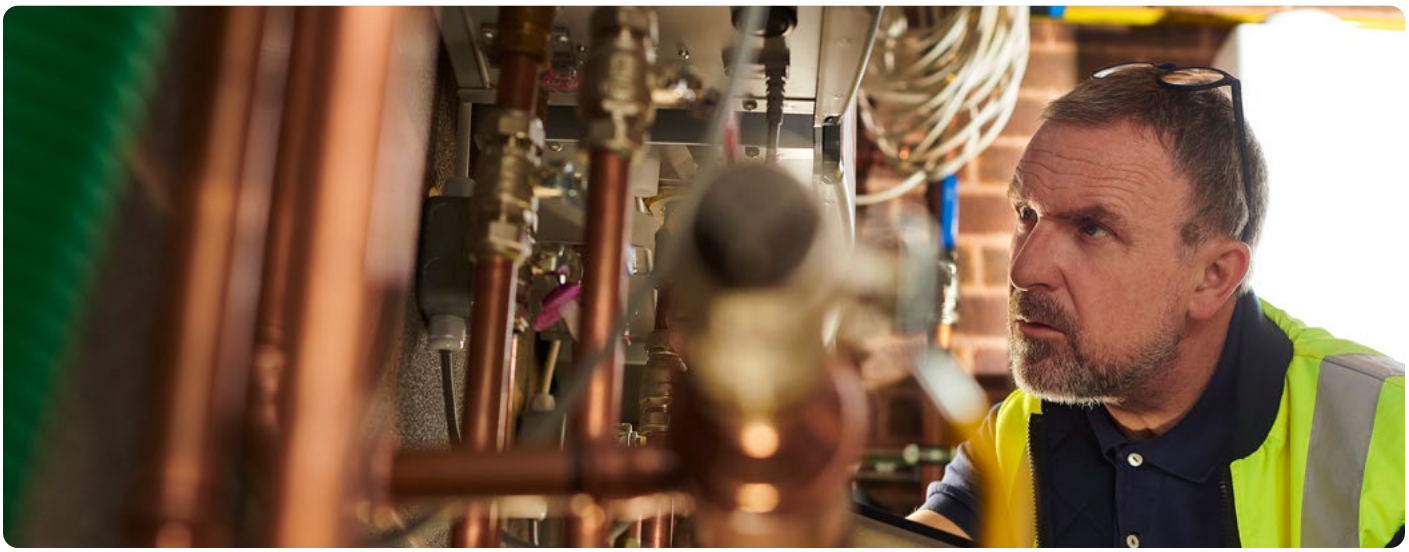
The target for heat pump installations were not changed in the recent UK Government announcement. However, the Government did announce that exemptions would be available from the ban on installing new gas boilers to c20% of households, focussed on households that cannot afford to install a heat pump, or where heat pumps would be poorly suited to heat the property. It is not clear how the Government intends to fund the maintenance of gas infrastructure in the UK if c20% of households are expected to retain gas boilers indefinitely.

The technology also has several drawbacks from the user's perspective, contributing to the slow rollout of heat pumps in the UK. These include:

- **Installation costs** – in order to achieve maximum efficiency from a heat pump, it is necessary to retrofit a home to improve the energy efficiency before installing the heat pump. This leads to significant upfront costs when installing a heat pump. "Fitting an air source heat pump usually costs between £7,000 and £15,000, while a ground source heat pump installation typically costs £17,000 to £35,000."
- **Suitability** – The Energy Utilities Alliance (EUA), a not-for-profit trade association, estimates that "between 7 and 10 million properties face no external challenges when fitting a heat pump. Three to four million require minor improvements and between 8 and 12 million are not suitable for an economic fitting of a heat pump."
- **Running costs** – despite heat pumps being more energy efficient than gas boilers, only well installed heat pumps have comparable running costs to gas boilers. This is primarily driven by policy costs that are levied on electricity bills in the UK. Based on the energy price cap from 1 July 2023, environmental and social levies make up 12% of the price of electricity bills, compared to 3.4% for gas bills.

Points to consider

- The looming UK election is adding to the political and regulatory uncertainty, with the Conservative Party's policies contrasting markedly with those of the other major parties. Indeed, the Labour Party has announced that they would reinstate the previous ban on the sale of new petrol and diesel cars by 2030, should they win the next election, focusing on the cost to the consumer as a driver of this policy position because "[electric vehicles] have cheaper lifetime costs than petrol cars".
- The Conservatives take a different view on the cost to the consumer. What is not in doubt is that end user costs will decide the outcome of the policy battle, alongside the need for fiscal stability. Labour may well also face pressure from the unions in areas like maintaining jobs in the north sea oil and gas industry.



So what makes us think we will transition?

Despite these barriers, we remain of the view that transitioning to net zero is more likely than not. Whilst the above challenges are significant, we also see a number of tailwinds that increase the likelihood of the UK transitioning.

- **Cost of energy** – for the first time in history, renewables are the cheapest way to generate electricity in the UK, taking into account lifetime costs of the electricity generation projects. Whilst the challenges with supply chains and infrastructure development highlighted above remain significant, I believe the economic fundamentals will likely mean private and public investment shift towards renewable generation as a default. Given the ongoing attempt to reduce reliance on Russian gas and the continuing fall in the cost of renewable technologies, it is likely that this cost dynamic remains true for some time.
- **Energy security** – since the Russian invasion of Ukraine, there has also been significant political and media commentary about energy security, including the Government re-announcing that 100 new oil and gas licences would be granted for drilling in the North Sea. Despite the political framing, my view is that the focus on energy security points towards the transition to net zero, not away from it. The oil and gas in the North Sea is drilled by private companies and sold on global markets, so the fact that it comes from UK waters does not affect the price at which UK citizens can access it. There is also the type of oil that is typically drilled, which is less useful for the UK. Further, given the declining nature of the North Sea basin, the overall increase in global supply will be fairly small, meaning the impact of increased supply on global prices will be limited, although the UK Exchequer will benefit from the tax receipts, and the local economy will benefit from the jobs maintained or created. By reducing the UK's reliance on fossil fuels altogether and electrifying energy use, the UK would be less exposed to fluctuations in the global oil and gas prices. As noted above, this goes somewhat against the political framing of the current UK Government and is hugely dependant on the development of the electricity grid as well as battery storage capacity, however, the fundamental driver of the need for energy security is hard to ignore.

When making long term projections, there are always factors pointing in opposite directions, and this is true with the energy transition. One final thought that suggests the transition is possible is to look West and East, to the US and China. China is expected to reach 1,200 GW of installed renewable power capacity by 2025, five years before its 2030 target, in a remarkable roll out of solar and wind power. Although it must be noted that they simultaneously permitted two new coal power stations per week in 2022 and their CO_2 emissions are now above their record level set in 2021, rapid scaling of renewable power is possible with significant government support. Similarly, since the Inflation Reduction Act, the US has seen c$278bn in new clean energy investments, just 12 months on from the passage of the bill. I view both of these developments as a "proof of concept", showing that with government support and investment, perhaps in contrast to the regulatory approach, the steps required to deliver the technological foundations of a net zero economy are possible.

A disorderly transition

At this stage, it appears unlikely that the UK will meet 2030 decarbonisation targets, especially given the recent changes in policy. However, given the targets are currently legally binding, it is possible that a future government will be required to take more aggressive actions to meet these targets. This could lead to a disorderly transition, as the UK attempts to catch up with other developed countries in terms of capital investment in the technology required to transition. This in turn could lead to additional costs falling on consumers, as the disorderly nature of the transition makes it more challenging to attract supportive private investment.

Points to consider

- In late 2021, wind speeds in the UK were the lowest for 60 years, reducing windfarm output to about 2% of UK power output, down 16% on the same period a year earlier.
- The Intergovernmental Panel on Climate Change (IPCC) expects global wind speed to drop by 10% by the end of this century and there are concerns about a global stilling.
- Renewable electricity will, however, have to be generated from somewhere, and to provide it from intermittently reliable renewable sources we will have to have much more battery capacity than we currently do, and quickly in order to meet our legally binding net zero targets.
- The UK currently has total installed energy storage capacity of 4.7 GW and in recent Capacity Market auctions contracts were won for 2.3 GW of capacity for delivery in 2023/24 and 5 GW in 2026/27. The CCC estimates that between 10 and 19 GW of storage capacity are need to deliver a robust, reliable decarbonised electricity system, with other flexible generation such as gas with carbon capture and storage, hydrogen, and unabated gas being used to manage variable supply and demand.
- Short of a major breakthrough in battery capacity, the UK will still need to have fossil fuel backup to wind and solar as we demand ever more electricity, for example in our transport network, which will likely maintain exposure to global price fluctuations and other supply risks.

What happens next?

- The UK government is braced for legal challenges aimed at reversing its revised net zero policies, with the first of these reportedly due to come from Chris Packham, who has threatened Judicial Review unless the Government reverses its recent policy changes.
- The forthcoming UK election brings with it the added political uncertainty on what the next Government will do on net zero.
- In the next issue of *Compound Interest* we will be focusing on the social impact of net zero and how the transition impacts people, as well as the planet.

Read on to understand 'The just transition', by Jeremy Apfel, Managing Director - Corporate Affairs

The just transition.

By Jeremy Apfel, Managing Director – Corporate Affairs

The political definition of a just transition is central to the successful achievement of the Government's (legally binding) net zero goals.

The concept is straightforward enough: bringing the whole of society along in the journey to net-zero. This entails a comprehensive approach that safeguards jobs in industries affected by the shift to a low-carbon economy, protects the economic well-being of individuals and families, as well as thinking more comprehensively about the impact on communities. The just transition concept seeks to embody the principle that environmental sustainability and social justice are interconnected, with societal consent at the heart of it. It's absolutely vital in functioning democracies, but even in autocracies like China, there can't be full transition without the consent of the people.

As the language around net zero has escalated over recent years with phrases such as "climate catastrophe" and "climate disaster" becoming part of the vernacular, the political imperative has moved away from consent, and the longer-time frame to transition this implies, to becoming more driven by regulation to meet sharper goals. This is best exemplified by proposed bans on the sale of internal combustion engine cars and gas boilers in the UK.

The issue is that these top-down mandates make the transition seem anything but "just" to hard-pressed families struggling with a cost of living crisis. Whilst technology is rapidly developing, the fact remains that people are being asked to adopt technologies that can be more expensive to buy and work less well than those they already have (for example electric vehicles and heat pumps). These trade-offs are the source of quiet discontent and consequently, we are behind schedule on our net zero targets. Take-up of both heat pumps and electric vehicles is well behind expectations (and goals). Even though polls show a majority of people support the overall net zero goal, when confronted with making real choices the 'revealed preferences' of the public may be different. The impact of the extension of the Ultra Low Emission Zone on the Uxbridge by-election shows that policies that seek to improve the environment are resisted when they don't share strong public consent.

What this likely means is that the concept of the just transition is going to have to adapt from one which has become process-driven and enforced by regulators, which has a direct outcome of costing people more, to one which takes into account how much people are prepared to pay, and how jobs and livelihoods are affected, especially in politically contested constituencies. For example, Aberdeen, which is a key beneficiary of north sea oil and gas exploration, has seen MPs from all three major parties over the past 10 years.

The Prime Minister took the first steps on this road in his September speech on the Government's revised policy on the transition, stressing that there needs to be "more accountability from elected representatives and more transparency for the British public", "[an easing of] the burden on working people", "reducing costs on British families" and "[maintaining] public consent".

Short of a breakthrough in some cost efficient net zero friendly technology, the politicians will very likely continue to gravitate back to the original just transition concept, with the longer timeframe this implies.

Read on to find out about weighing up trustees' priorities on net zero, by Mitul Magudia, Deputy Chief Origination Officer

Weighing up trustees' priorities on net zero.

By Mitul Magudia, Deputy Chief Origination Officer

Sustainability issues, net zero, and Environmental, Social and Governance ("ESG") factors have become increasingly prominent in trustees' governance procedures, with requirements for Scheme's over £1bn to report on Taskforce for Climate and Financial Disclosures and setting targets on the level of emissions in portfolios.

These requirements have become noticeable in the bulk annuity market as ESG questions are now routine in any Request for Quotation, pitch meeting, or survey by industry consultants.

This raises the question of an insurer's stance on sustainability when trustees are selecting a bulk annuity provider. Unsurprisingly, the predominant factor driving trustees' decisions are still overall price and a preferred ESG outlook is unlikely to make up for a 2-3% swing in premium - £20-£30 million on a £1 billion deal – as trustees seek to secure members' benefit.

Deal specific factors on complex cases such as dealing with illiquid assets or price lock structures can give an insurer an edge. Administration capabilities, member experience and member option factors also remain a crucial factor to decision making when quotations are tightly grouped and it's at this point we would expect an insurer's ESG process to come into consideration.

However, the weighting given to sustainability will of course depend on the trustees' priorities and scheme background.

As an example, charities typically give more focus to it and it would not be unusual for them to go into a deeper dive on sustainability requirements than a typical scheme. Schemes in surplus, which are able to secure full level of benefits without recourse to the sponsor, will also have more flexibility to choose based on sustainability requirements, albeit the trade-off of doing so could come against discretionary increases to members or a return of surplus to the sponsor.

In a busy market it is important that consultants and insurers work together to provide up to date ESG information to trustees.

Feedback loop

All insurers have an ESG strategy and differentiating between them can be a time consuming and complex task. However, in recent years investment consultants have grown their expertise in this area and it is likely that trustee understanding of the different approaches will continue to increase, raising awareness of the benefits of insuring with one insurer over the other. This also provides the opportunity for a feedback loop for insurers to understand where their approach may differ from market standard.

What happens next?

- We do not expect that a weighting to ESG will ever take over the importance of a lower premium.
- We welcome the growing scrutiny of insurers' stance to sustainability issues, ESG, and net zero as this provides us the ability to be open and transparent to trustees with regards to our purposeful strategy which creates social value and our target of net zero carbon emissions.

Read on to find out why we think a lot about a disorderly transition, by Hartej Singh, Head of Public Credit

Why we think a lot about a disorderly transition.

By Hartej Singh, Head of Public Credit

How we think about transition.

PIC's portfolio is built to pay out secure cash flows to our c.350,000 pensioners. This is a time horizon that spans many decades. In *Compound Interest's* Q1 2023 edition we discussed that over that timeline, multiple recessions are not only possible, but inevitable. Transitions are too, and the transition to a lower carbon future is one of many transitions.

Other significant examples are:

1. How do we prepare for an ageing population of longer lifespans and fewer children?
2. What are the geopolitical and resource impacts of the rise of China and India?
3. How will developed markets deal with their burgeoning debt loads?

No transition occurs in a predictable fashion. At the start, they tend to be ignored or at least it seems progress is slow, and then there is a tipping point after which things seem to happen rapidly. A recent example was the need to work from home during the Covid crisis. The technology had already been developed, and there was willingness from both employers and employees to make it happen, but necessity to 'stay at home, and isolate,' meant that it happened rapidly. And the technology proved that it broadly worked, as it should, and proved cost effective. It has had both positive and negative aspects with respect to productivity and that tension means that a mix is likely to persist.

All our borrowers have energy requirements, with some being highly energy intensive. The energy transition is likely to have significant, potentially transformational impacts over long periods. To analyse this, we cannot think in terms of an expected path – there are a wide ranges of outcomes that could play out. Besides, forecasts for 30 years simply cannot be relied upon, there is too much uncertainty. Instead, we consider a range of outcomes with varying levels of transition or none at all.

What would happen to our portfolio in a disorderly transition?

There is currently tension between the long term plans to decarbonise and the required investment given the state of public finances. The recent changes have led to weakening the national commitments to net zero. In our opinion this makes a disorderly transition more likely, as delays to an orderly transition might result in more drastic action later. A disorderly transition is one in which the transition accelerates unexpectedly. This could be in response to cheap and scalable technological advance, insufficient or expensive supply of fossil fuels, unacceptable adverse climate changes or the transition becoming a political priority. One or a combination of these factors might cause a tipping point, beyond which the direction changes markedly.

The transition is an input into our overall credit decision. We do not screen out companies in "bad" sectors, we consider many factors of which three examples are given below:

1. Could this company be disrupted in a transition?
   a. Is the company's activity carbon intensive?
   b. Does the company have a credible transition plan?
   c. Is the company's activity seen as non-essential?
2. What would the financial profile of this company look like in a disorderly transition?
3. Over what time frame do we feel this company's risks can play out?

The companies that operate in energy intensive businesses whether in the supply chain of power generation and distribution, agriculture and materials are most likely to need to articulate their plans and build credibility to execute them.

Companies with credible plans and financial flexibility are likely to fare best in a disorderly transition. As an investor we need to be protected, by good planning and action, or compensated to take energy transition risk on an issuer. This aspect of the credit profile will feed in to our overall investment decision, which is geared to providing secure decades long cash flows to meet the pensions of our policyholders.

We and our representatives speak with companies to encourage them to think through their energy transition risk profile. We see engagement like this as a mutually beneficial interaction, it highlights the longevity of our capital and interest for it to be deployed beneficially on both financial and sustainability metrics.

Strategically positioning portfolios

A disorderly climate transition, though not guaranteed, is a scenario that warrants serious consideration by investment teams. By strategically positioning portfolios, embracing nuance in decision-making, and actively engaging in the broader sustainability conversation, investors can not only safeguard their assets but also contribute meaningfully to the global push towards a sustainable future.

What happens next?

- PIC will continue to make investment decisions with transition risk as a factor in our decision-making.
- We expect companies to be rewarded for articulating and acting upon transition plans. The reward will be wider and more cost-effective access to the capital markets and less catch-up investment down the line.

Read on to find out about Infrastructure Investment is pivotal to the transition, by Florence Carasse, Head of Infrastructure Debt, PIC Capital

Infrastructure investment is pivotal to the transition.

By Florence Carasse, Head of Infrastructure Debt, PIC Capital

The UK is one of the first countries to have pledged, in legislation, to reach net zero by 2050. And yet Oxford Economics researchers have found that under the current policies it is unlikely to achieve its climate goals and would need private investments to increase by two-thirds. When the US and the EU are each coming up with comprehensive green deals to attract private investments, the UK is being urged to step up.

My previous article in *Compound Interest* touched on how the Government could and is helping by providing subsidies to new technologies, including carbon capture, usage and storage (CCUS), or tail risk guarantees for large scale investments like nuclear. In this article, I focus on the role infrastructure investors have to play.

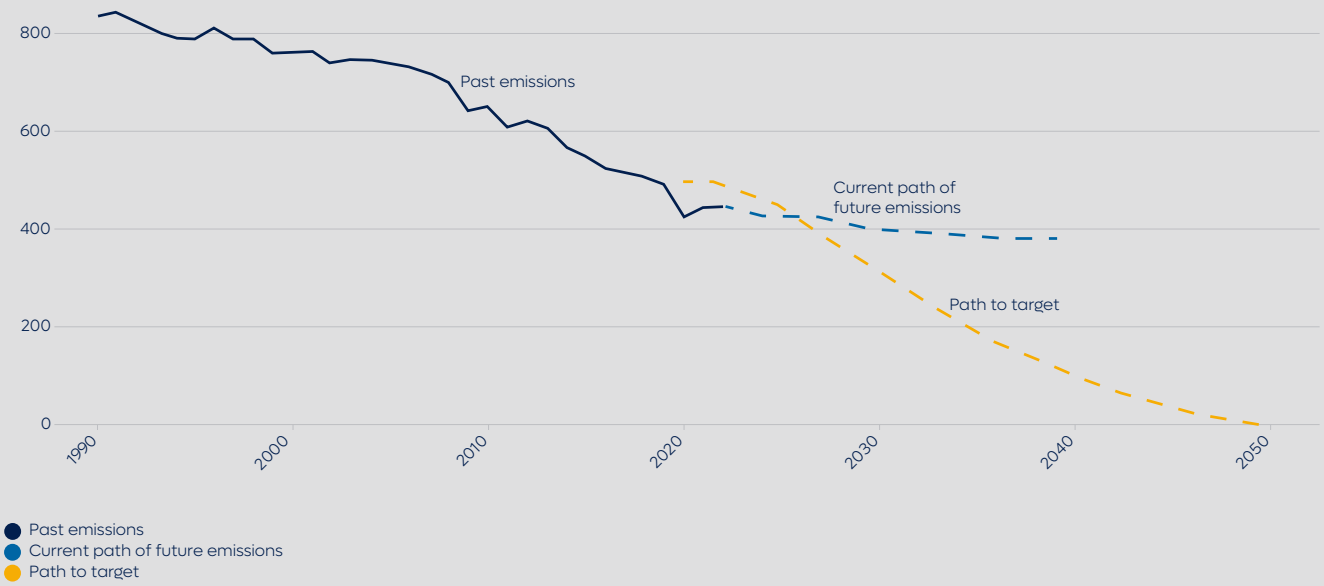
A shift in mindset

Infrastructure investors, especially ones with buy and hold mandates like PIC, have fully integrated the transition to net zero into their decision making. It is a mindset shift which has been accelerated by Covid. We now systematically ask ourselves how every asset sits within the transition to net zero.

Not only is this key for us to provide debt purposefully, but it has become a key credit consideration to ensure we don't end up with stranded assets in 10 or 20 years from now. We also make sure we get the right information on carbon emissions of those assets throughout the length of our debt in order to better monitor their contribution to net zero.

UK will miss targets without stronger action

Megatonnes of CO_2-equivalent greenhouse gas emissions per year



Emissions data for 2022 is provisional. Future emissions could be higher or lower. Past and future emissions from UK gov, target path from Climate Change Committee. Includes international aviation and shipping bunkers.

Source: Department for Energy Security and Net Zero, CCC

Here are two varied examples of how PIC has supported UK's infrastructure upgrade in the past year.

£50 million investment in Portsmouth Water to finance the construction of the UK's first reservoir since 1991.

Upgrading water and wastewater treatment facilities can improve water quality, reduce pollution, and promote water conservation. The construction of the Havant Thicket Reservoir, in southern Hampshire, will enable the supply of up to 21 million litres of water per day to Southern Water in periods of drought, reducing abstraction from the neighbouring River Itchen and the River Test, and protect the biodiversity of these unique environments. This project was done under the new Direct Procurement for Customers (DPC) introduced by Ofwat as a model to enable large scale infrastructure projects in the water sector and bring third-party investment into the industry. PIC is keen to provide funding to more of those.

Source: Havant Thicket reservoir, Hampshire

Source: 3-Car Class 730 Electric Multiple Unit from the Corelink fleet

£102 million of debt financing to support the delivery of new rolling stock to Corelink Rail Infrastructure Limited.

Transportation is a critical area of infrastructure that needs upgrading and decarbonising. Financing new trains that relieve overcrowding promotes public transportation while reducing CO_2 emissions. A double win. Our debt financing to Corelink is a good example of how we can take part in these improvements. The investment included two new electric fleets to be built by Alstom and covering London commuter services, long distance routes connecting Birmingham to other major centres and regional services in the West Midlands.

Transactions in this sector have generally been slower this year due to increasing costs in the industry at a time when government stakeholders are looking to decrease costs.

What happens next?

- More clarity on Government support to nuclear, carbon capture or EV infrastructure is key for us to continue our investment in the UK's path to net zero.
- PIC has invested in many other infrastructure projects across the UK. We are committed to the sector and are ready to play our part.
- Like all the long-term investors in our sector we share the need for greater long-term policy certainty on the path to net zero in order to be able to deploy our investments in the most secure way for the benefit of our pensioners, now and for the duration of their policies.

Do you have a question for our experts?

We'd be delighted to hear from you. Whether you have a specific query raised in this issue of *Compound Interest*, or whether you've a question you'd like us to answer in the next issue.

Further information.

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