



Investment
Delivery Forum

Interim Progress Report

February 2024

idforum.org.uk



Contents	Page
Executive summary	<u>3</u>
Context	<u>4</u>
Insurers' role in infrastructure investment	<u>5-7</u>
Energy generation	<u>8-11</u>
Energy networks	<u>12-15</u>
Housing and property	<u>16-19</u>
Challenges for industry, government and project owners	<u>20</u>
Next steps	<u>21</u>



Executive Summary

The insurance and long-term savings industry is a major investor in UK green and good infrastructure, putting billions into wind farms, EV charging stations and urban regeneration projects every year.

Changes to the regulatory framework for insurers are due to be implemented this year. Known as *Solvency UK*, these changes will help unlock £100bn in productive investment over the next 10 years by expanding the range of assets in which the industry can invest. The industry is committed to making these investments as quickly as the regulatory framework will allow, and the Investment Delivery Forum (The Forum) was set up to help accelerate delivery.

These funds are badly needed, with the UK currently facing an investment shortfall of £615 billion, if it's to reach the £1.3 trillion needed for 2030 net zero targets across energy, transport and housing¹.

Helping to get the money flowing means working with partners across the UK. Together we are developing solutions to navigate the obstacles which impede the industry's ability to invest at this scale.

The Forum has focused on three key sectors: Energy Generation, Energy Networks and Housing & Property. Given the unique and complex reasons as to why the required net-zero investment is not yet being made, each area requires different specialist knowledge and bespoke solutions. However, common themes have become apparent, including the need for closer work with government on **risk-sharing, educating project owners** on the industry's role as an investor and the **need for new investment models**.

Some specific recommendations include:

- **Scaled up public/private partnerships** to improve business cases for investment and/or manage risk to make more major infrastructure projects investment grade, with predictable steady returns. This is to match insurer's long-term liabilities, often in annuity books or life cover. We can also work with regulators to test a sandbox approach to tricky investment areas.
- **Use of new investment models.** Project owners - including local authorities or housing associations - need to utilise innovative (often brand new) investment models to unlock private sector investment for important infrastructure projects.
- **Long-term strategies.** Firms invest their customer's money over decades, so need to be as sure as possible of the long-term horizon. Steps include implementing national transition plans, sector strategies (e.g. a UK housing strategy), or empowering executive agencies (such as the National Infrastructure Commission) to have a broader remit and be less at the mercy of short-term political cycles.

All of these ideas, and more, will be further explored in the first half of 2024 with the aim of publishing a more in-depth report with developed recommendations in the summer. We will continue to share updates at idforum.org.uk.

"The OBR and NIC are doing what they can under the rules of the game and limits of their statutory powers. We could take a step forward by empowering one or both of these bodies and giving them a greater level of influence. This would allow them to stay a distance away from the short-termism seen in national politics and instead clearly demonstrate the multiplier effect of good long-term investment in infrastructure."

Lord O'Neill of Gatley, Former Chief Economist to Goldman Sachs and Commercial Secretary to the Treasury between 2015-2016



Why is the Investment Delivery Forum needed?

Insurers and long-term savings providers are major investors as they hold assets on behalf of their savers and also as reserves to balance against risks in their insurance books. The pensions market consists of Defined Contribution pensions (DC), Defined Benefit (DB) pensions and annuity providers (who are paying savers over the long term). The focus of the Investment Delivery Forum is annuity providers.

UK annuity providers currently manage over five million retail annuities and have consolidated £300bn of employer pension liabilities already, guaranteeing full payments for around 1.6 million people and their families¹. This is a growing market, with DB schemes holding an estimated £1.9 trillion assets and is expected to insure half of the remaining liabilities by the end of 2030.

Annuity providers are subject to the Solvency II regime that governs the prudential regulation of insurance firms in the UK and Europe. Following Brexit, the government – via the Prudential Regulation Authority (PRA) – is seeking to introduce changes to Solvency II and will aim to establish a new regulatory framework for insurers in the UK, referred to as Solvency UK.

These reforms will broaden the universe of assets in which insurers can invest (on behalf of annuity policy holders); allowing £100bn of capital to be channelled into productive investment in the UK – money that would previously have been tied up in less productive assets².

Established by the Association of British Insurers (ABI), the Investment Delivery Forum (the Forum) was created to ensure industry readiness to invest at this greater scale.

The Forum is accelerating large-scale infrastructure investment and supporting important industry initiatives

It brings together the major insurance and long-term savings firms with an interest in large-scale infrastructure investment. The Forum acts as an accelerator helping industry, government and key stakeholders avoid delay and move forward together. It does this by convening the right people and organisations to find solutions to the challenges that insurers face when it comes to large-scale infrastructure investment. This can be through the creation of novel initiatives or the adoption of emerging best practice.

The Forum has three sub-groups focused on specific types of ‘green and good’ infrastructure investment

- Energy generation includes conventional, nuclear, geothermal, wind, hydro (inc. tidal), solar, biomass and waste-to-energy
- Energy networks includes smart grids/micro grids, long duration energy storage, heat networks, EV charging, carbon capture, utilisation, and storage (CCUS), gas and electricity transmission and distribution
- Housing and property includes large-scale housing initiatives such as social, affordable and sustainable buildings

This report looks at each of the above in more detail, including analysis of the barriers to investment the industry faces, along with possible solutions.

While there are changes that the industry has agency in enacting – such as ways to explore alternative routes to investment – some elements are out of the hands of firms or they require a collaborative approach with industry, government and other stakeholders working together.

The Forum is supported by an expert Advisory Panel comprising:

Andrew Bulley (Chair of Amtrust Europe and former Director of Life Insurance Supervision at the PRA)

Gareth Bullock (Chair of the Development Bank of Wales)

Dr David Clubb (Chair of the National Infrastructure Commission for Wales)

John Flint (CEO of the UK Infrastructure Bank (UKIB))

Lord Grimstone of Boscobel (Former Chairman of Standard Life Aberdeen and of Barclays Bank, and Minister for Investment between 2020-2022)

Lord O'Neill of Gatley (Former Chief Economist to Goldman Sachs and Commercial Secretary to the Treasury between 2015-2016)

Catherine McGuinness CBE (NED of the Connected Places Catapult)

Willie Watt (Chair of the Scottish National Investment Bank)

Stephen Welton CBE (Chair of the British Business Bank)

Steven Penketh (Senior Adviser to the CEO of the Green Finance Institute)

How insurers are investing in infrastructure



Energy Networks

£110m for Connected Kerb to create 190,000 on-street electric vehicle chargers by 2030



Energy Generation

£100m invested in Offshore Transmission Owners across the UK



Energy Networks

£200m investment to power GRIDSERVE's electric vehicle charging infrastructure



Housing

£86m funding to help the University of Hull aim for carbon neutrality by 2027



Energy Generation

£42m to create 24 solar energy sites across the UK



Energy Networks

£80m investment made in Nissan's electric-only and hybrid vehicles plant in UK



Housing

Investment close to **£1bn** in five large housing associations, helping drive major growth of social and affordable housing

The insurance and long-term savings industry invests billions in green and good infrastructure. Solvency UK regulatory reforms will allow firms to channel £100bn more into such projects over the next 10 years

Recent research from The Forum highlights the scale of the investment gap in infrastructure

The industry will be crucial in narrowing the investment gap

The Forum commissioned research into green infrastructure investment to understand the scale of investment needed in the UK over the next 25 years¹.

It shows that the nation faces a funding shortfall of £615bn of required investment by 2030. And this gap will widen from £615bn² in 2030 to £1.5tr by 2050.

Housing is where we face the biggest challenge, with retrofit and new property development representing most of the projected shortfall. However, the Forum is looking at recent notable pilot schemes which could represent significant workable solutions to boost investment by the industry.

While we have intelligence around the scale of investment required, and we know that investment via pension providers (on behalf of policy holders) is significant, we are conducting further research into asset allocation of DC and DB pensions. This will give us the macro picture of how much the whole industry is contributing to infrastructure investment.

Infrastructure investment gap

(£billions, 2023 prices)

Investment category	2023-2030	2031-2040	2041-2050	Total 2023-50
Energy generation infrastructure	19.7	105.3	61.6	186.6
EV public charging infrastructure	0.2	0.2	0.1	0.5
Heavy rail electrification	2.7	5.7	4.4	12.8
Hydrogen distribution networks	5.5	30.9	44.9	81.3
Housing – retrofit existing stock	308.2	126.2	52.0	486.4
New housing investment	277.2	254.6	204.0	735.8
Total	613.5	522.9	367.0	1,503.3

Insurers have three clear fiduciary duties they must meet on behalf of their policyholders

1. Give savers a return

Insurers have a responsibility to their policyholders to grow their savings. While insurers want investments to be productive in nature, they must respect the needs of savers first in providing a reasonable return.

2. Invest responsibly

Many projects, whilst being productive in nature, will not be suitable for insurers. They must be investment grade and meet the requirements of the PRA's prudential regime. This approach is rightly in the interests of policyholders - to keep their money safe - but it narrows the funnel of investable projects.

3. Invest for the long-term

When it comes to paying policyholders benefits over long periods (often decades), investments need to be similarly long-term. They also need to have predictable, steady cashflows¹. This makes infrastructure ideal, as these projects typically span decades. But only if the investment takes the form of providing debt (with clear repayment terms) rather than equity, where the returns can vary and come sooner or later. The industry is an ideal investment partner when these conditions are met.



Two ideas being considered to improve regulatory processes:

- 1. A regulatory 'sandbox' on qualifying assets.** This would allow industry and the PRA to actively discuss and test the merits of assets that do not yet meet regime requirements but may do so in the future. Within a PRA-controlled environment - where the PRA can remain within its own risk tolerance - firms would be able to test new risks and features from these assets. Other key stakeholders could also be involved and give useful strategic context or guidance.
- 2. Pre-identification of assets.** Certain types of assets aligned with government objectives and agreed with key stakeholders such as the UK Infrastructure Bank or the Scottish National Investment Bank could be 'pre-identified' as eligible assets that the PRA would approve of under its regime. As the PRA becomes more comfortable with this mechanism, we envisage it could be expanded to include more generic assets in future.

"Recognising the many calls on PRA and HMT resources, it will be important to take forward discussions on a tightly prioritised basis, focusing initially on those sectors and projects offering the most promising and immediate economic benefits."

Andrew Bulley

Chair of Amtrust Europe and former Director of Life Insurance Supervision at the PRA

Energy Generation



The opportunity

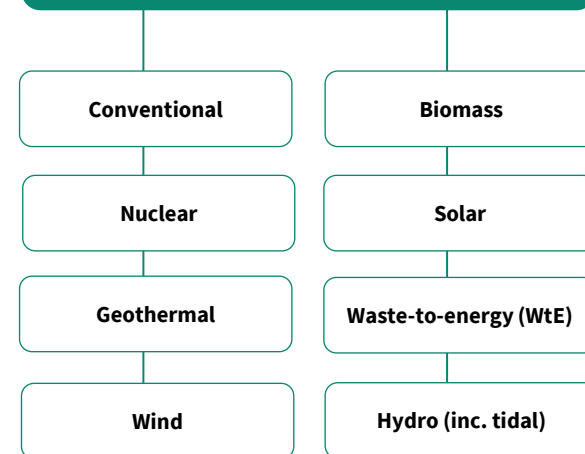
The UK Government is committed to reaching net zero by 2050. The Net Zero Strategy set out that by 2035 the UK will be powered entirely by clean electricity (subject to security of supply) and the Ten Point Plan for a Green Industrial Revolution states that Britain will become a world leader in the Green Industrial Revolution by investing in clean technologies. Nuclear power and offshore wind were included in the Ten Point Plan as areas of focus to accelerate the path to net zero.

Nuclear: The UK government's Energy Security Strategy outlined the goal of 24GW of nuclear capacity by 2050, which is a quarter of all projected electricity demand. Great British Nuclear (GBN) was launched to drive delivery of new nuclear projects and since then the government has invested over £1 billion in Sizewell C for rapid expansion of nuclear energy in the UK.

Future investment opportunities in nuclear include large, small and advanced nuclear projects. For example, private sector investments are needed to meet the government's intention to deploy a First-of-a-Kind Small Modular Reactors (SMRs) by the early 2030s stated in the Ten Point Plan.

Offshore wind: The UK is already a world leader in offshore wind, generating more electricity from this source than any other country. As part of the Energy Security Strategy, the UK government's ambition is to deliver up to 50GW of offshore wind by 2030, including up to five GW of innovative floating wind. The world's first two floating offshore windfarms were built in the UK. Government is investing into modern ports and manufacturing infrastructure, strengthening the whole offshore wind ecosystem. By 2030, the sector will need over £20 billion in private investment according to the Net Zero Strategy.

Energy Generation includes¹



At a macro-level the opportunity is compelling. It is making the practicalities work at the level of the individual projects where the challenges are.

Biomass

Biomass refers to the total weight of all the living things in an ecosystem. However, it has come to refer to the amount of plant and crop material that could be produced in an ecosystem for making biofuels and other raw materials used in industry, for example

Conventional

Power provided by traditional means such as coal, wood, gas, etc., as opposed to alternative energy sources such as solar power, tidal power, wind power, etc.

Geothermal

An energy produced by tapping the earth's internal heat e.g. hydrothermal convection systems

Hydro (inc. tidal)

The free, renewable source of energy provided by the flow of water driven through turbines e.g., tidal, hydroelectric power

Nuclear

Energy released by nuclear fission or nuclear fusion

Solar

The energy transmitted from the sun in the form of electromagnetic radiation. The most successful examples of energy extraction from the sun so far are solar cells and solar collectors used to heat water

Waste-to-energy (WtE)

WtE incineration is the process of burning waste in the presence of oxygen at high temperatures to generate heat and energy. The heat can be used to generate electricity, heat water, or power vehicles. WtE incineration can reduce the volume of waste by up to 90% and help to reduce greenhouse gas emissions

Wind

Energy extracted from wind, typically wind turbines

Energy Generation

The Forum has brought together insurers and project sponsors to develop a shared understanding of the investment models that best meet the needs of the insurance industry.

Workable model¹ (to facilitate insurer investment)	Current state (Energy Generation)	Impact/gap (Energy Generation)	Possible solution
1. Project is of investment grade (or equivalent)	Lack of counterparties to share investment risk (offset by presence of the RAB model in Nuclear)	Medium	Scale up and/or broaden the reach of existing public/private vehicles
2. Cashflows generated from the project are predictable/stable	Viability of the business case (e.g. uncertainty & confidence in the long-term forecasts of end-user adoption, especially, of newer technologies)	High	Scale up/broaden the reach of existing public/private vehicles Collaboration to improve business case
3. Cashflows run over a longer-term duration	Projects that are seeking shorter-duration funding don't fit the Insurers needs for investment on behalf of their annuity policyholders	Low	Increased awareness of the Insurers Investment parameters
4. Investment yield is attractive compared to alternative long duration assets	Insurers will seek to maximise the value of the annuities they can provide to their customers with lower yielding projects discounted	Low	Increased awareness of the Insurers Investment parameters
5. Supportive macro investment climate	The recent and current interest rate environment is challenging for long-term financing	Medium	n/a (Economic cycle/timing)
6. Efficient end-to-end planning processes	Inefficiencies/delays in planning can make projects unattractive vs alternative investments that Insurers can make for their policy holders	Medium	Improvements & investment in planning for targeted sectors
7. Capacity in the supply chain	Widespread supply chain bottlenecks make projects unattractive vs alternative investments that Insurers can make for their policy holders	Medium	Increased awareness bottlenecks and targeted action to assist

Interim assessment and may change before the final report. Insurers have greater influence over points 1-4.

Spotlight:

The Forum recommends extending the use of the Regulated Asset Base (RAB) model into other sectors

A long-term energy strategy will give insurers the confidence they require when it comes to assessing investment opportunities. RAB is a good example of an investment model which is attractive to institutional investors.

RAB models have typically been used in the UK to finance large scale infrastructure assets such as water, gas, and electricity networks.

The RAB model provides equitable risk sharing, is based on well-understood precedent such as Thames Tideway Tunnel, and the mechanisms help provide revenue certainty over a long time period given long construction phases. The model allows a company to charge consumers to construct and operate new infrastructure. These highly predictable cashflows enable financing, at scale, by the insurance industry.

Expanding this approach to other sectors of the economy, such as housing and property, could open up more investment by insurers.

"As the custodian of a significant part of the UK's private capital, the insurance sector must play a major role in shaping our future in a very real sense, and the coordination offered by The Forum is essential to that. Key to this is working together with other stakeholders to help develop and evolve funding models that match the complexity of the infrastructure's many phases of development, varying risk and importance to the UK public."

Steven Penketh

Senior Adviser to the CEO of the Green Finance Institute

Energy Generation

Deep dive example 1 Nuclear

In 2022, the UK government outlined the goal of expanding nuclear capacity to 24GW by 2050, up to a quarter of projected power consumed in the UK.

Sizewell C

Although the government has invested over £1 billion in Sizewell C to speed up preparations for its construction, additional investment is needed to fund such a large-scale infrastructure project.

However, the long construction period before the nuclear power plant begins operation and the amount of up-front capital needed places significant risks and uncertainties on developers and equity financiers. One of the biggest challenges being unable to generate predictable cash flow during the construction phase.

Sizewell C benefits from learnings from Hinkley Point C, for example when Hinkley Point C was constructed it was financed by the Contract for Difference (CfD) approach, which placed construction risk with the developer and did not share the cost with consumer until the plant is online. This mechanism did not enable some level of risk-sharing between investors and consumers.

The nuclear Regulated Asset Base (RAB) model based on the RAB model used in the Thames Tideway Tunnel was then developed to support the funding of future nuclear projects, effectively providing predictable cashflows during construction. Sizewell C was taken forward under the nuclear RAB model.

Small Modular Reactors¹ (SMRs)

The government's commitment to develop large, small and advanced nuclear projects was confirmed in the Ten Point Plan for a Green Industrial Revolution and the 2020 Energy White Paper. The policy paper Advanced Nuclear Technologies updated in 2023 indicated the UK government's believe in Small Modular Reactors (SMRs) playing an important role alongside large nuclear as a low-carbon energy source to support a secure, affordable decarbonised energy system¹.



With the RAB model in place, Sizewell C has the potential for insurers debt investment² (as it is a project of investment grade, cashflows generated from the project are predictable, cashflows run over a long-term period, and investment return is potentially attractive compared to alternative long duration assets).

For SMRs, although the government is working on key policy and market enablers, a financing framework which provides support from the private finance market is needed to bring SMRs into commercial operation.

A range of potential financial models for small nuclear is being considered by the Expert Finance Working Group (EFWG), including the private sector appetite for investment, barriers to investment and risks.

While at a macro-level the policy support and investment opportunities are robust for the UK nuclear market, we acknowledge the potential reputational concern that firms may have around investments in nuclear, that policyholders of some firms may express opposition to investments into this sector. Both ABI and Forum members are mindful of the ESG considerations in this realm.

Energy Generation

Deep dive example 2 Floating Offshore Wind

In the British Energy Security Strategy and Powering Up Britain, the UK government announced its goal to develop up to 50GW of offshore wind, including up to five GW floating offshore wind (FLOW) capacity by 2030.

Along with nuclear power, offshore wind was included in the Ten Point Plan for a Green Industrial Revolution as one of the areas of focus to accelerate the path to net zero.

The Department for Energy Security and Net Zero (DESNZ) stated in the 2023 Offshore Wind Net Zero Investment Roadmap that the government is supportive to enable infrastructure investment in FLOW.

Areas of support includes strengthening the supply chain capability, attracting new investment and facilitating export opportunities. A notable example is port infrastructure, and RenewableUK estimated £4 billion investment is needed to make ports ready for mass floating wind deployment by the end of this decade.

Other barriers for investing in floating offshore wind include technology challenges and having a workable financing model in place.

There are a number of stakeholders (e.g. investors, port infrastructure constructors and downstream factories) across the floating offshore wind supply chain ecosystem and each has a role to play in addressing the market gap that is creating the barrier to investment.

In the British Energy Security Strategy and Powering Up Britain, the UK government announced its goal to develop up to 50GW of offshore wind.



Energy Networks



The opportunity

Between 180 and 220 GW of grid-connected power generation capacity will be needed to achieve the government's stated aim of decarbonising UK domestic energy supplies by 2035. But a new investment model is needed to align upgrades with new generation connections.

Approximately £100bn of investment is forecasted to be needed according to the British Energy Security Strategy.

The Solvency UK reforms coming into effect in 2024 will dovetail with this timeline and unlock a decade's worth of new investment opportunities. So, while many energy network upgrade projects are needed in the future, we want to plan now to deliver them.

Energy Networks covers a wide array of existing and emerging technologies¹

EV charging

Long duration energy storage (LDES)

Gas and electricity transmission and distribution

Carbon capture, utilisation, and storage (CCUS)

Smart grids/ micro grids

Heat networks

As with Energy Generation, overcoming the practical challenges is critical to increasing the investment flows from insurers

Carbon capture, utilisation, and storage (CCUS)

CCUS involves the capture of CO₂, generally from large point sources like power generation or industrial facilities that use either fossil fuels or biomass as fuel. The captured CO₂ is compressed and transported by pipeline or other means to be used in a range of applications

EV charging

Charging Infrastructure or "EVSE" means the charging infrastructure that enables the transfer of energy (charging or/and discharging) between the electricity grid and the EV

Gas and electricity transmission and distribution

Gas and electricity distribution and transmission is the process of moving gas and electricity from production facilities to end-use customers. It involves transmitting high-pressure gas and electricity over long distances, and then converting it to lower pressures / voltages for consumers

Heat networks

Heat networks (also known as district heating) supply heat from a central source to consumers, via a network of underground pipes carrying hot water

Long duration energy storage (LDES)

Includes storage systems that can provide at least 10 hours of stored energy and storage systems that have enough stored energy to provide firm capacity to the grid

Smart grids / micro grids

Smart grids are electricity networks that use digital and other advanced technologies to monitor and manage the transport of electricity from all generation sources to meet the varying electricity demands of end users (International Energy Agency). Microgrids are local power grids that can be operated independently of the main – and typically bigger – electricity grid in an area

Energy Networks

As with energy generation the below table summarises some of the issues that insurers face around investment and potential solutions.

Workable model¹ (to facilitate insurer Investment)	Current state (Energy Networks)	Impact/gap (Energy Networks)	Possible solution
1. Project is of investment grade (or equivalent)	Lack of counterparties to share investment risk	High	Scale up and/or broaden the reach of existing public/private vehicles
2. Cashflows generated from the project are predictable/stable	Viability of the business case (e.g. uncertainty & confidence in the long-term forecasts of end-user adoption, especially, of newer technologies)	High	Scale up/broaden the reach of existing public/private vehicles Collaboration to improve business case
3. Cashflows run over a longer-term duration	Projects that are seeking shorter-duration funding don't fit the Insurers needs for investment on behalf of their annuity policyholders	Low	Increased awareness of the Insurers Investment parameters
4. Investment yield is attractive compared to alternative long duration assets	Insurers will seek to maximise the value of the annuities they can provide to their customers with lower yielding projects discounted	Low	Increased awareness of the Insurers Investment parameters
5. Supportive macro investment climate	The recent and current interest rate environment is challenging for long-term financing	Medium	n/a (Economic cycle/timing)
6. Efficient end-to-end planning processes	Inefficiencies/delays in planning can make projects unattractive vs alternative investments that Insurers can make for their policy holders	Medium	Improvements & investment in planning for targeted sectors
7. Capacity in the supply chain	Widespread supply chain bottlenecks make projects unattractive vs alternative investments that Insurers can make for their policy holders	Medium/ Low	Increased awareness bottlenecks and targeted action to assist

Interim assessment and may change before the final report. Insurers have greater influence over points 1-4.

Spotlight:

A series of considerations and recommendations to boost the flow of investments into energy networks

- The Powering Up Britain Energy Security and Net Zero strategy shows the overall direction of travel, but for insurers to plan how their investment capacity is deployed, they need to see a more detailed pipeline of when and how institutional investment will be needed.
- Publication of the promised Investment Roadmaps would be helpful for the industry, including considering where bottlenecks (such as national grid upgrades) are holding back investment.
- Policy reforms such as speeding up grid connections for new energy generation facilities and a more consistent/efficient planning system will help more projects align with insurer needs.
- Innovation on investment structures needs to continue to be a focus. For example, credit enhancement products could be provided by third-parties or government to boost the credit profile of projects into investment grade range.
- The regime for financing Offshore Transmission Owners could be improved by eliminating the need for holding spread (or reducing the time period).
- Running a debt competition independently from equity should also be explored.
- Demonstratable support for zero carbon gases would support the net zero pathway.
- Long term plan and learnings from the fibre sector could be employed in relation to issues with small fragmented markets.
- Data and evidence must be made available so that - as custodians of people's pension savings or their annuities – insurers are able to verify that the projects being invested in are suitable. Projects may have admirable 'green' credentials, but they can still come with other risks – technology failures, skills gaps, delays, shortfalls – and the right data is needed to make informed decisions.
- Where changes do happen, it will be vital to ensure these reforms are recognised as reducing risks associated with projects – and therefore ensuring they are rated appropriately by credit rating agencies and the PRA, smoothing the process for insurers to make investments.

Energy Networks

Deep dive example 3

EV charge point infrastructure

The technology for public EV charge points is now well-established – but there is a major logistical challenge to meet the anticipated demand¹ as the car market switches away from Internal Combustion Engines (ICE) vehicles.



The existing delivery model, while successful in kick-starting this market, will need to evolve to reach truly national coverage. In its 2021 market study, the Competition and Markets Authority (CMA) highlighted concerns about significant regional disparities in charge point provision by local authorities – something the UK Government also acknowledged in its response.



Although the majority of EV drivers currently rely on charging their vehicles at home, 90% of them still use public charge points for at least some of their journeys.

The location and capacity of chargers will vary according to local need and the structure of the energy grid – but more consistent investment structures (contract length, balance of equity and debt, revenue structures etc.) will allow institutional investment at scale, rather than each authority needing to develop its own model.

In December 2023, there were c53,900 public charge points across c31,000 locations in the UK. This leaves the UK off course to meet its target of 300,000 public charge points by 2030.

Not all charge points will have the same frequency of users or be as commercially viable (this may depend on leasing arrangements for the sites where charge points are installed), whilst the challenges of connecting some to energy networks and upgrading to newer models/tech will make the up-front investment more costly.

Longer-term and stable investment models can help provide funding for infrastructure in areas where the short-term business case is less compelling and minimise the number of charge points that are solely funded by public spending.



Energy Networks

Deep dive example 4 Carbon Capture, Usage and Storage (CCUS)



The UK government wants CCUS to be a significant source of emissions reduction by 2030, which will require a fivefold growth by 2050. The International Energy Agency (IEA) envisages CCUS being responsible for nearly 15% of all global emissions reduction by 2050 – meaning there are major advantages to UK trade if we can establish ourselves as a world leader.

CCUS requires infrastructure to capture carbon at source (power stations and heavy industry), transportation networks and offshore storage facilities. While all these component parts have been demonstrated, the end-to-end infrastructure has never been delivered at scale anywhere in the world and the supply chain is complex.

Without other market signals (such as a carbon price), the incentives to invest in the source storage technology may not be strong enough, even with the public subsidies being provided to up to nine regional CCUS clusters.

However, the UK has major geographical advantages and has played a leading role in demonstrating the technology.

CCUS has many characteristics that make it an important green asset for investors. The introduction of a structured investor engagement programme by those working in the CCUS sector would help the scaling up necessary to achieve the 2050 goals.

Housing and Property



The opportunity

Retrofit: The National Infrastructure Assessment undertaken by the National Infrastructure Commission said that to tackle climate change and ensure energy security, the UK will need heat pumps and networks to replace gas boilers in homes and businesses over the next 30 years.

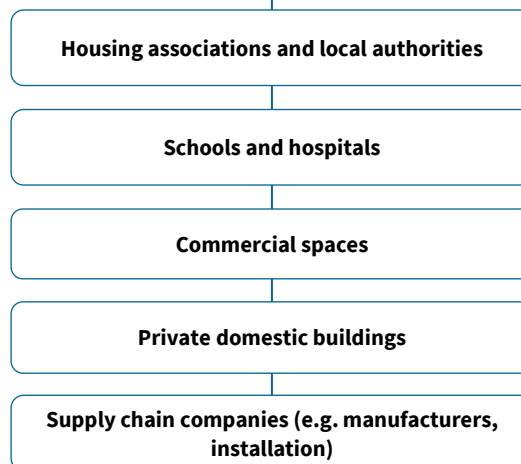
That's around eight million buildings that will need to switch to low carbon heating by 2035, and all buildings by 2050.

Affordable housing: In 2023, the updated National Planning Policy Framework (NPPF) published by the Department for Levelling Up, Housing and Communities (DLUHC) stated that where major development includes the provision of housing, at least 10% of the housing provided should be for affordable home ownership.

Government agency Homes England has placed strategic plan to boost supply of affordable housing. Grant funding provided through the Affordable Homes Programme 2021-26 administered by Homes England can be used to fund new affordable homes.

Built to Rent: The Build to Rent market, defined in the National Planning Framework, continues to be a priority for DLUHC as government looks to alleviate the UK's housing crisis, with the demand for rental properties also intensifying over recent years. BTR projects are usually large-scale developments with multiple individual units. Government guidelines stipulate that 20% of units should be for affordable housing. DLUHC is increasingly active with the private sector to identify and provide new incentives for institutional investment in this sector.

Housing and Property includes the following¹



With the exception of supply chain companies, each of these can be segmented into retrofit and new built

As with Energy Generation, overcoming the practical challenges is critical to increasing the investment flows from insurers.

Commercial spaces

Buildings that house for-profit businesses, but can also refer to land used to generate a profit, as well as large rental properties (e.g. offices, malls)

Housing associations and local authorities

Set up by not-for-profit organisations such as housing associations and housing charities to provide affordable homes and support local communities. They don't make profits for shareholders. Instead, they invest all the income they make into delivering on their social purpose. It is typically affordable to low-income households, and can include both rental properties and home ownership

Private domestic buildings

Owner-occupied dwellings and buildings that are rented privately, including those that are provided with a job or business

Schools and hospitals

Owned and operated by the government (e.g. offices and other buildings for health, education, cultural use) or not-for-profit organisations, registered as charities, Community Interest Companies or public companies limited by guarantee

Supply chain companies

Businesses that are part of the network of raw materials, components, and goods involved in moving a product or service from suppliers to customers (e.g. manufacturers, distributors, and material suppliers) that has an environmental or social benefit (e.g. providing solar PV panels)

Housing and Property

Investing in Housing and Property is more challenging than either Energy Networks or Energy Generation, but as shown earlier in the report, the potential scale is greater.

Workable model¹ (to facilitate insurer investment)	Current state (Housing and Property)	Impact/gap (Housing and Property)	Possible solution
1. Project is of investment grade (or equivalent)	Lack of counterparties to share investment risk	High	Scale up and/or broaden the reach of existing public/private vehicles
2. Cashflows generated from the project are predictable/stable	Viability of the business case (e.g. uncertainty & confidence in the long-term forecasts of end-user adoption, especially, of newer technologies)	High	Scale up/broaden the reach of existing public/private vehicles Collaboration to improve business case
3. Cashflows run over a longer-term duration	Projects that are seeking shorter-duration funding don't fit the Insurers needs for investment on behalf of their annuity policyholders	Medium	Increased awareness of the Insurers Investment parameters
4. Investment yield is attractive compared to alternative long duration assets	Insurers will seek to maximise the value of the annuities they can provide to their customers with lower yielding projects discounted	Medium	Increased awareness of the Insurers Investment parameters
5. Supportive macro investment climate	The recent and current interest rate environment is challenging for long-term financing	High	n/a (Economic cycle/timing)
6. Efficient end-to-end planning processes	Inefficiencies/delays in planning can make projects unattractive vs alternative investments that Insurers can make for their policy holders	Medium	Improvements & investment in planning for targeted sectors
7. Capacity in the supply chain	Widespread supply chain bottlenecks and skills shortages make projects unattractive vs alternative investments that Insurers can make for their policy holders	Medium/ Low	Increased awareness bottlenecks, skills shortages and targeted action to assist

Interim assessment and may change before the final report. Insurers have greater influence over points 1-4.

Spotlight:

Boosting insurer investments into the Housing and Property sector

There is a clear need and desire among all levels of government, local authorities and social housing associations to address the shortage of affordable and social housing while maintaining high housing standards. However, challenges persist in generating a sufficient pipeline of opportunities.

The sophistication of the local authority approach to private finance varies hugely, and so does the awareness of investment parameters of annuity providers. The complex planning and public procurement process also pose challenges in establishing pipeline of opportunities.

In more sparsely populated regions, challenges frequently centre on achieving scalability for potential projects.

The commitment to achieve net zero implies the necessity for retrofitting properties, however establishing a fair and predictable return is a challenge for encouraging annuity providers to invest in retrofit projects.

Various possible economic models have been examined, whilst each will require some level of government funding to make them viable.

Another challenge is setting the right incentives for completing the retrofit work. For owner occupied properties, the payback period extends beyond 20 years. For rented accommodation, especially for social housing, despite having reduced energy bills as a result, raising the cost of ground rents to cover the upfront investment will stretch tenants who already struggle with the cost of living. These, amongst other considerations (including finding sufficient manpower with the right skills to conduct the work, and the changing government position on new energy efficiency rules for landlords) are beyond the control of investors.

Data is needed via pilots to make an investable business case in the retrofit space.

Housing and Property

Deep dive example 5 Retrofit

Gas boilers that currently heat around 88 per cent of English buildings need to be phased out and replaced by highly efficient heat pumps (or low carbon alternatives) for the UK to tackle climate change and ensure energy security. Around eight million additional buildings will need to switch to low carbon heating by 2035, and all buildings by 2050.

The National Infrastructure Assessment estimates that £1.5 to £4.5 billion per year is needed to improve energy efficiency and install heat pumps across the public sector estate and social housing.

However, local authorities are unlikely to be able to finance the decarbonisation of homes and buildings with devolved budgets alone, and the budgets of housing associations are equally pressured. Collaboration with private sector capital is needed to tackle the retrofit challenge. Whilst hugely complex, there is major opportunity for Private Sector Investors assuming a workable financing model can be constructed.

Several financing models tackling retrofit have been examined. For insurer investment, the challenge in developing a workable model is how to calculate a predictable return from this investment.

Even in the scenario of a sizeable landlord, such as a local authority or a housing association, the energy efficiencies of retrofitting homes is to the benefit of the occupant in terms of lower bills. Is it appropriate for an investment return to come from an increase in service charges (for example) when the occupants are already struggling with the cost of living? Could the utility providers add a charge to energy bills which is then passed on to the end investor?

All of the possibilities come with challenges, and insurer investment is only one part of this broad community looking to solve this. It is clear the Forum will not solve this alone but it recognises it has a part to play in finding a solution and is why we will continue to work with partners on this over the remaining months.



Around eight million additional buildings will need to switch to low carbon heating by 2035, and all buildings by 2050.

Housing and Property

Deep dive example 6

Affordable housing

The need for affordable housing has long been recognised.

The updated National Planning Policy Framework (NPPF) published by the Department for Levelling Up, Housing and Communities (DLUHC) in 2023 stated that where major development includes the provision of housing, at least 10% of the housing provided should be for affordable home ownership.

Government agency Homes England administers grant funding through the Affordable Homes Programme 2021-26, which can be used to fund new affordable homes, and broader support in making investment into projects viable.

The affordable housing ecosystem is complex, involving a wide range of stakeholders such as local authorities, housing associations and housebuilders. Within this there is considerable variation of experience, resource and meaningful/professional understanding of how to develop a viable business case.

To meet the demand for affordable housing, close collaboration between the public and private sectors is required. Currently there is limited local authority awareness of the opportunities for insurers investment and a lack of pipeline projects with workable models, that fit the basic criteria needed for insurer investment, across second-tier cities in the UK.

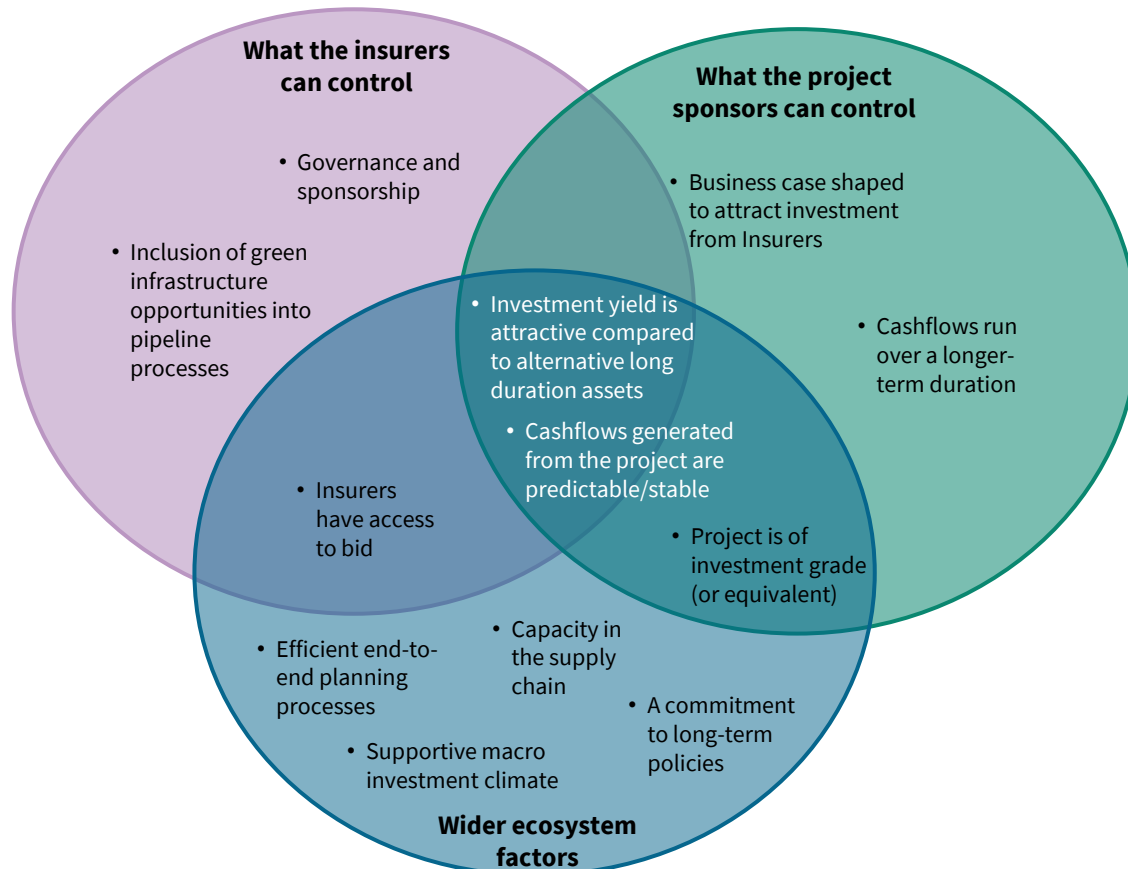
The Forum will continue to raise the profile of the role of insurers as investors in productive assets and support an increased understanding of insurers investment requirements in housing projects.

The current economic conditions make it difficult to deliver housing development due to increasing costs and more expensive borrowing. High interest rates also mean the investment returns offered from housing projects are competing with gilt yields which are a safer long-term investment and are the highest level they have been for c.15 years.



Across the sectors there are common challenges for industry, government and project owners

Common challenges across the sectors grouped by what insurers can control, what project sponsors can control and other factors that sit in the wider ecosystem



Specific recommendations to address the challenges include:

- **Scaled up public/private partnerships** to improve business cases for investment and/or manage risk to make more major infrastructure projects investment grade, with predictable steady returns. This is to match insurer's long-term liabilities, often in annuity books or life cover. We can also work with regulators to test a sandbox approach to tricky investment areas.
- **Use of new investment models.** Project owners - including local authorities or housing associations – need to utilise innovative (often brand new) investment models to unlock private sector investment for important infrastructure projects.
- **Long-term strategies.** Firms invest their customer's money over decades, so need to be as sure as possible of the long-term horizon. Steps include implementing national transition plans, sector strategies (e.g. a UK housing strategy), or empowering executive agencies (such as the National Infrastructure Commission) to have a broader remit and be less at the mercy of short-term political cycles.

"This report is a significant contribution to the challenging question of how to unlock further investment for green infrastructure. Scaling up public/private partnerships will be particularly important and it's good to see the focus on advancing dialogue planned for the next phase."

Catherine McGuinness CBE
NED of the Connected Places Catapult

Next steps

1

Identifying specific projects within each working group to develop new funding mechanisms, pilots or project pipelines to invest in, and working with key stakeholders to transform these into investable propositions for insurers. For instance, identifying investment opportunities in nuclear energy, offshore floating wind, expanding the UK's electricity network, CCUS, heat networks and retrofitting of housing. Different sectors will require bespoke solutions. Investment pilots will be able to test these, and the Forum acknowledges that there will be value not just in returns, but in learnings from the process. If successful, these can then be replicated nationwide, at greater scale.

2

Raising the insurance industry's profile as investors in UK productive assets, helping project sponsors such as local authorities and housing associations to understand insurers' investment requirements and their ability to design project financing models with these needs in mind across projects' lifecycles. This will be through continuing bilateral engagement, organising roundtables or participating at conferences and summits across the UK, and explore the value of creating a guide on securing insurer investment in infrastructure projects/housing.

3

Engaging with regulators and Government to expand insurers' range of investable assets. As part of our ongoing engagement with HMT and the PRA as the Solvency UK reforms are implemented, and in particular on reforms to the Matching Adjustment (MA), The Forum will pursue discussions with the PRA, HMT and others on exploring the feasibility of ways to advance MA application best practice across the industry, the pre-identification of MA eligible assets and a regulatory sandbox – as outlined in our response to the PRA's recent consultation paper (CP19/23) on Matching Adjustment reforms.

4

Developing a mechanism for tracking and monitoring the £100bn investment pledge with an aim to have this finalised by the time the Solvency reforms are in place (H2 2024).

5

Publishing a Final Report that builds on what we have learned to date

"Without investable projects, there can be no investment. Our work clearly demonstrates the vital role insurers can play. Unlocking our huge financial capacity is greatly helped if project initiators and promoter involve us from inception."

Lord Grimstone of Boscobel

Former Chairman of Standard Life Aberdeen and of Barclays Bank and Minister for Investment between 2020-2022



Footnotes

Page	Footnote	
3	1	Research commissioned by the Association of British Insurers' (ABI) Investment Delivery Forum and conducted by Development Economics
4	1	https://www.abi.org.uk/globalassets/files/publications/public/lts/2023/abi-pension-investment-report.pdf
	2	The current Solvency II regime only allows as eligible for inclusion in matching adjustment portfolios assets with cash flows that are fixed in amount and timing. Reforms to allow assets with highly predictable and not only fixed cashflows to be included in matching adjustment portfolios will boost insurers investments in productive assets as a number of asset classes within this category tend to have cash flows that are more highly predictable than fixed
5	Sources	Publicly available information from firm websites
6	1	Research commissioned by the Association of British Insurers' (ABI) Investment Delivery Forum and conducted by Development Economics
	2	£615bn shortfall: c.£265bn shortfall in public funding and c.£350bn shortfall in private investment to meet required levels. This is equivalent of a £75bn shortfall a year until 2030. The annualised shortfall in private funding to 2030 is over £40bn
7	1	While annuity providers will invest mostly in (bond like) debt instruments, they will also hold some equities. They may also hold a small proportion of sub investment grade assets
8	1	Definitions from United Nations Environment Programme
	Sources	British Energy Security Strategy/HMG, Powering Up Britain/HMG, Net Zero Strategy/HMG, The Ten Point Plan for a Green Industrial Revolution/HMG, New steps will speed up Sizewell C preparations/DESNZ and GBN
9	1	Using 'workable model' to denote in general terms the requirements / conditions for insurers to invest in a project (any investment would be subject to specific diligence against a firms own individual requirements)
	Sources	Future funding for nuclear plants/Department for Business, Energy & Industrial Strategy, Development costs and the nuclear Regulated Asset Base (RAB) model/Department for Energy Security and Net Zero and Department for Business, Energy & Industrial Strategy
10	1	Small Modular Reactors (SMRs) are reactors smaller in size and could use modular, offsite manufacturing for flexible deployment
	2	Insurer case by case basis
	Sources	British Energy Security Strategy/HMG, Powering Up Britain/HMG, Net Zero Strategy/HMG, The Ten Point Plan for a Green Industrial Revolution/HMG, New steps will speed up Sizewell C preparations/DESNZ and GBN, Advanced Nuclear Technologies/DESNZ, Department for Business, Energy & Industrial Strategy, Future funding for nuclear plants/Department for Business, Energy & Industrial Strategy
11	Sources	British Energy Security Strategy/HMG, Powering Up Britain/HMG, Offshore Wind Net Zero Investment Roadmap/DESNZ, Upgrading our ports is essential to kickstart UK floating offshore wind industry/RenewableUK
12	1	Definitions: World Economic Forum, National Renewable Energy Laboratory, Department for Business, Energy & Industrial Strategy, International Energy Agency, Energy UK
	Sources	British Energy Security Strategy/HMG, Powering Up Britain/HMG, Net Zero Strategy/HMG, The Ten Point Plan for a Green Industrial Revolution/HMG
13	1	Using 'workable model' to denote in general terms the requirements / conditions for insurers to invest in a project (any investment would be subject to specific diligence against a firms own individual requirements)
14	1	In 2023, registrations of fully electric battery-powered vehicles increased by over 19% and they now have an overall market share of 13.1% (petrol and diesel cars, excluding hybrids, now make up only 49% of the total market). Although the most recent registrations suggest a decline in new registrations by private car drivers, we still see an overall increase in demand driven by the vehicle fleet market. In time, this will create a secondary market that is expected to increase demand further and make EVs more affordable to a wider range of consumers
15	Sources	CCUS Net Zero Investment Roadmap/HMG, Carbon capture, usage and storage net zero investment roadmap/DESNZ, UKRI awards £171m in UK decarbonisation to nine projects/UK Research and Innovation, CCUS in the transition to net zero emissions/IEA, CCUS in Clean Energy Transitions/IEA, the Forum project team
16	1	Definitions developed by the Forum project team
	Sources	The Second National Infrastructure Assessment/National Infrastructure Commission, National Planning Policy Framework/Department for Levelling Up, Housing and Communities (DLUHC), Annual Report and Financial Statements 2022/23/Homes England
17	1	Using 'workable model' to denote in general terms the requirements / conditions for insurers to invest in a project (any investment would be subject to specific diligence against a firms own individual requirements)
18	Sources	The Second National Infrastructure Assessment/National Infrastructure Commission
19	Sources	National Planning Policy Framework/Department for Levelling Up, Housing and Communities (DLUHC), July 2023 update on government's work to improve the quality of social housing/DLUHC, Long term plan for housing/DLUHC, Annual Report and Financial Statements 2022/23/Homes England, What is affordable housing?/UK Parliament



Investment Delivery Forum

We are grateful for the engagement and input from the following organisations and government departments:



Cities
Commission
For Climate
Investment

ASSURED
GUARANTY

British
Business
Bank

Climate
Change
Committee

Cartrefi
Cymunedol
Cymru

Community
Housing
Cymru

CATAPULT
Connected Places

Department for
Business & Trade

Department for Levelling Up,
Housing & Communities

Banc

ena
energy networks
association

Green Finance
Institute

Homes
England

nationalgrid

NATIONAL
HOUSING
FEDERATION

Ni fHA

NI
Nuclear Industry Association

sfha
Scottish Federation of
Housing Associations

The Scottish National Investment Bank

Sustainability
for Housing

INFRASTRUCTURE
BANK

Contact us

idf@abi.org.uk

idforum.org.uk

We welcome readers of this report to contact us to discuss our findings and ideas