

# Boosting Low Carbon Investment in the UK: A Policy Roadmap

---

Nick Molho, Head of Climate Policy

Westminster Energy Forum, 26 September 2024



# What is the Roadmap?

## Why?



We play a **key role in Aviva's overall ambition to be net zero** by 2040.

The **UK's net zero target presents an additional £50-60bn annual investment opportunity** from the late 2020s.<sup>2</sup>

The election year, and subsequent change in government, brings **fresh opportunities to engage with policymakers** on how to unlock the level of investment required.

## How?



The *Low Carbon Investment Policy Roadmap* puts forward an **evidence-based and solutions-focused private investor's perspective** on the key public policy priorities to boost low carbon investment over the next five years.

The recommendations aim to **improve market conditions to unlock low carbon investment opportunities for private investors**, like us, while also delivering an affordable cost of finance to project developers and society.

2. HM Government (March 2023), '*Mobilising Green Investment: 2023 Green Finance Strategy*'

# How did we develop the Roadmap?

---

**Collaborating with our investment colleagues** to review low carbon investment opportunities and challenges across a range of different economic sectors, infrastructure type and asset classes.

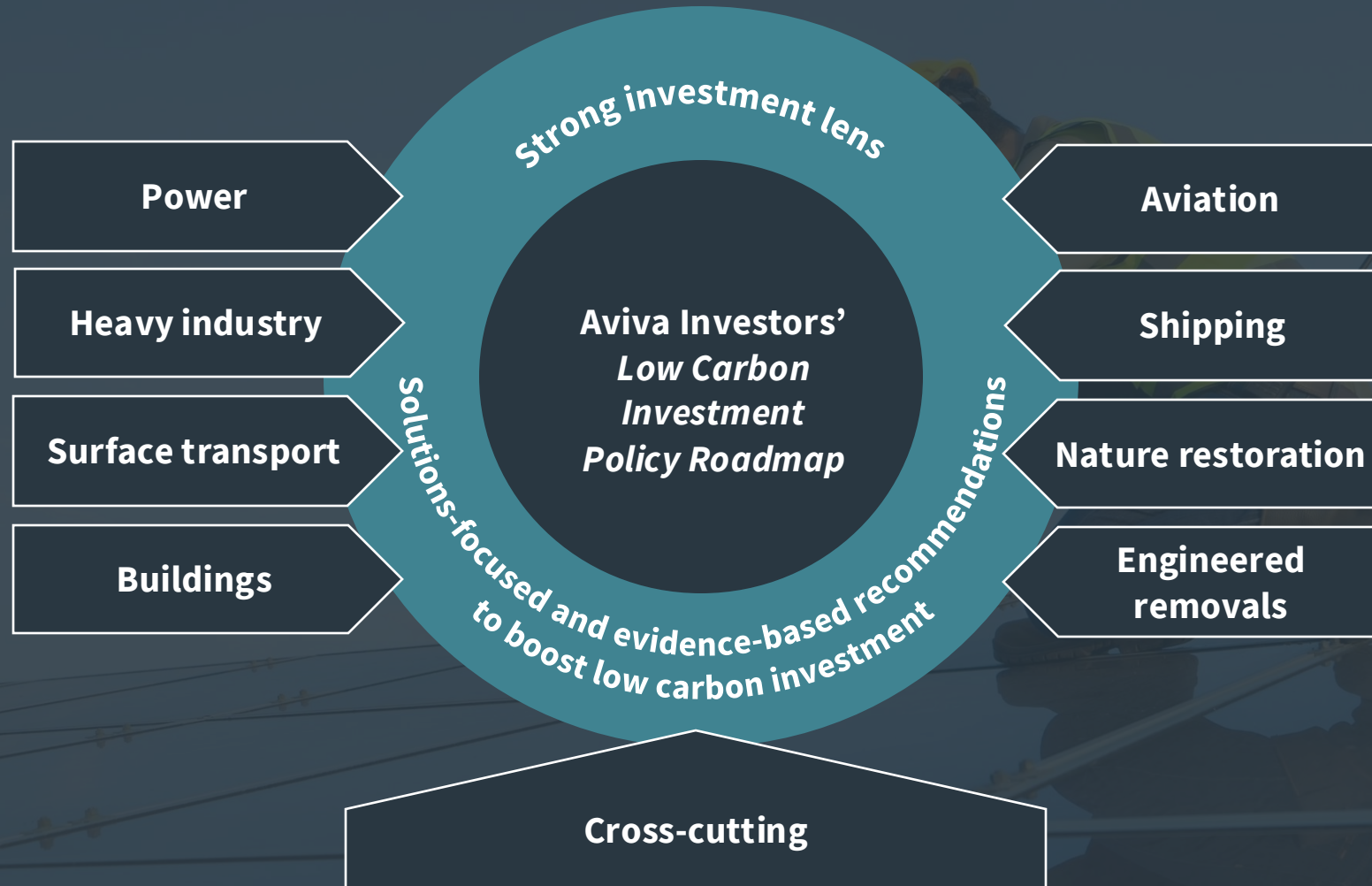
**Engaging businesses and external experts on investment barriers and policy solutions**, by attending numerous industry events and running two detailed consultations on the draft report with real economy businesses and public bodies.

**Reviewing external literature**, including publications from businesses, trade groups, public bodies (e.g., National Infrastructure Commission), government strategies, and policy papers from think tanks / civil society.

**A pragmatic approach, working with the grain of government policy:** by building on recent policy strategies and identifying (i) where action needs to be continued, (ii) where it needs to be accelerated, and (iii) where policy gaps need to be filled.

# What does the Roadmap cover?

---





# Theme 1: Overcoming systemic hurdles to investment

Government policy needs to overcome a number of systemic issues, which are currently slowing or preventing private investment across a number of sectors. This includes:



## Delivering a net zero-aligned planning system

Requires **embedding the net zero target in the updates to the National Planning Policy Framework** and National Policy Statements, providing **greater resourcing & upskilling for local & planning authorities**, and pursuing **sector specific reforms**, such as on power grid construction and connection (e.g., Transmission Action Acceleration Plan).



## Identifying and tackling skills gaps in low carbon supply chains

UK needs a **Green Skills Action Plan** to (i) **identify skill gaps** across low carbon supply chains, and (ii) **take action to remedy them**, with some **measures tailored to those going through the education system** (e.g., increase the accessibility of STEM & low-carbon skills training in all levels of education), **and others tailored to those already in work** (e.g., skills provision and financial support for workers adjusting to low carbon changes in sectors such as steel, cement, chemicals).



## Strengthen and improve the predictability of the UK carbon price

Following significant volatility and low prices in 2023, consider **further reforms to UK Emissions Trading Scheme (UK ETS) or a linkage agreement with the EU ETS**. The latter could improve liquidity, price discovery, and predictability of the future carbon-price trajectory, and deliver greater alignment between the EU and UK Carbon Border Adjustment Mechanisms.



## Implementing the Resources and Waste Strategy: growing the availability of secondary materials

Grow the availability and re-use of secondary materials in the economy by developing a comprehensive policy framework (e.g., product standards and procurement rules, consumer engagement) to drive resource-efficient product design and unlock investment in material recovery, sorting, recycling & remanufacturing.

# Theme 2: Using limited public investment to de-risk and crowd in private investment

Public investment has a targeted role to play in de-risking and crowding in private investment in low-carbon projects (such as through UK Infra Bank, National Wealth Fund). We identify three broad categories of action:



## Projects involving emerging technology risk

This might include first-of-a-kind projects, such as low carbon industrial plants (e.g. EAF green steel plant at Port Talbot, green cement / chemicals plants), green hydrogen production plants, first CCUS projects. This type of direct investment should form part of a coherent industrial strategy, with a focus on delivering positive outcomes for the workforce.



## Logistically complex projects for private investors

This might include targeted public intervention to crowd in private investment to support the rollout of mass energy efficiency and low-carbon heat measures required in the UK's 28 million homes and 2 million commercial buildings by the mid 2030s. A finance aggregation mechanism could help private investors navigate the scale, speed and high number of micro projects involved.



## Critical infrastructure underpinning economy-wide decarbonisation and key supply chains

This might include public investment in hydrogen transport infrastructure (key to decarbonisation of several sectors), port infrastructure (e.g., to support the floating offshore wind sector and the decarbonisation of shipping), battery manufacturing (to support the growth of the EV supply chain), SAF plants (sustainable aviation).

# Theme 3: Accelerating the deployment of clean electricity and low-carbon fuels

Unlocking commercially viable low carbon investment opportunities in several sectors such as heavy industry relies on plentiful supplies of affordable, clean electricity and other low-carbon fuels. Key areas of action:



## Strengthening policies to decarbonise the power sector by 2035

Following the positive results from September's renewable energy annual allocation round 6 (AR6), **strike prices and annual auction pots for renewable energy projects must be regularly reviewed** in line with the evolution of underpinning supply chain costs. The **Review of Electricity Market Arrangements (REMA)** must future proof revenue streams for renewable projects and create business models for long-term storage and flexibility services. **Transmission planning and connection reforms** key too.



## Accelerating delivery of low carbon hydrogen production, storage and transport

UK must **grow the scale of the annual Hydrogen Allocation Rounds** for green hydrogen production projects following the successful HAR 1 round in 2023, and **award the first contracts for blue hydrogen production projects** under the Carbon Capture Cluster Sequencing Regime. **Business models for hydrogen transport and storage** needed by end of 2025.



## Delivering market deployment policies for low-carbon aviation and shipping fuels

The **Sustainable Aviation Fuel Mandate** (requiring 10% SAFs in UK aviation fuel mix by 2030) needs to be implemented in January 2025, **underpinned by a revenue certainty mechanism and focused guarantees** for the first SAF plants. **A similar approach** (innovation funding, sustainable fuel mandate and revenue mechanism) **could be used for low-carbon shipping** fuels, such as green ammonia and methanol.

# Theme 4: Creating enduring markets for low-carbon supply chains

Getting the right balance of ‘supply push’ and ‘demand pull’ policy measures is key to creating long-term market signals to drive investment in low carbon supply chains across the economy. Some examples:



## Combine regulatory standards with fiscal incentives in the built environment

E.g. introduce **minimum regulatory standards and fiscal incentives** for investment in energy efficiency measures in ‘able to pay’ homes. **Combine the existing** (and generous) **Boiler Upgrade Scheme with a Clean Heat Market Mechanism** to gradually grow the supply of heat pumps.



## Complement the Zero Emissions Vehicle (ZEV) mandate with targeted grants / VAT cuts

E.g. ensure the ZEV mandate is delivered on the ground by combining it with **time limited grants or VAT cuts targeted to support the purchase of affordable EV models** until upfront cost parity is achieved – consider similar approach on HGVs. Also consider reducing VAT on public charge points to ensure equal treatment with home charging.



## Accelerate industrial decarbonisation through balance of supply and demand side measures

E.g. combine the policy measures being developed to grow the ‘supply’ of key technologies to decarbonise sectors like steel / cement (hydrogen, CCUS, electrification) with ‘demand side measures’ that will create a long-term demand for low carbon steel / cement. E.g., **green public procurement criteria, mandatory low carbon product standards** on intermediate and finished goods, and a successful implementation of the **UK Carbon Border Adjustment Mechanism**.



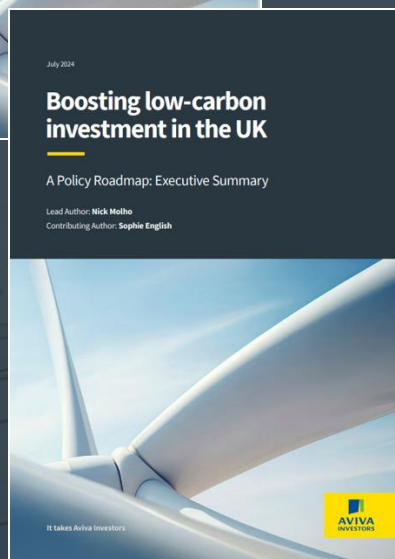
## Establish the policy framework needed to unlock investment into nature restoration

E.g. Finalise the **policy detail, options design and payment rates for agri-environment schemes** across UK nations, introduce **measures under the Environmental Improvement Plan to deliver England’s Environment Act nature targets**, and develop the standards / rules for voluntary nature markets in the UK.



# A bird's eye view of the Roadmap

## The report's front covers<sup>3</sup>



## The report's components<sup>4</sup>

**Figure 3. The Roadmap's recommendations in a timeline: Sector-specific**

	2024	2025	2026	2027	2028	2029	2030
<b>Power</b>	<ul style="list-style-type: none"> <li>Complete the Review of Electricity Market Arrangements and gradually implement reforms to accelerate investment in renewables, grid, energy storage and flexibility technologies, and cut the cost of electricity (from 2025)</li> <li>Keep CfD strike prices and auction pot sizes under review to maximise volume of commercially viable offshore wind projects</li> </ul>					Unlock investment towards a decarbonised power grid by 2035 or sooner	
<b>Heavy industry</b>	<ul style="list-style-type: none"> <li>Implement British Industry Supercharger package and consider further reforms to cut industrial electricity costs (2024/25)</li> <li>Develop product standards and green public procurement rules to grow the demand for low carbon industrial products (from 2024)</li> <li>Complete design of UK carbon price levy (2027)</li> </ul>					Decarbonise heavy industry and grow low carbon industrial supply chains	
<b>Surface transport</b>	<ul style="list-style-type: none"> <li>Implement the ZEV mandate (2024) so that zero-emission vehicles achieve at least 80% of new car sales and 70% of van sales by 2030; double annual installation of charging points; provide targeted grants to support consumers with upfront EV costs (2024-30)</li> <li>Put in place enablers to achieve 75% rail freight growth target; review fare and taxation framework across all transport modes to improve the affordability and grow market demand for low carbon travel options, such as rail</li> </ul>					Decarbonise road transport and grow zero emission vehicle supply chains	
<b>Buildings</b>	<ul style="list-style-type: none"> <li>Implement the Future Homes + Buildings Standard (2025), introduce minimum regulatory energy efficiency standards and fiscal incentives to drive energy efficiency investment in existing homes (2025/26) and review social housing schemes such as ECO4 to support the installation of efficiency and low carbon heat measures (2025/26)</li> <li>Implement a Clean Heat Market Mechanism to grow the supply of low carbon heat solutions and heat pumps, and keep the overall funding pot size in the Boiler Upgrade Scheme under review (from 2024)</li> </ul>					Drive significant take-up of energy efficiency and low-carbon heat by 2035	
<b>Aviation</b>	<ul style="list-style-type: none"> <li>Accelerate deployment of innovation funding under the Aerospace Technology Institute Programme to support hybrid, hydrogen and electric aircraft (from 2025)</li> <li>Introduce a Sustainable Aviation Fuel (SAF) mandate with strong environmental criteria and a revenue certainty mechanism for SAF production by 2025. Support construction of five SAF plants by 2030 (2025-30)</li> </ul>					Deliver 10% SAFs in the aviation fuel mix by 2030	
<b>Shipping</b>	<ul style="list-style-type: none"> <li>Publish a Clean Maritime Plan for the UK shipping sector, with a focus on investment in innovation, a low-carbon fuel mandate, revenue-certainty mechanisms, and investment in shore power infrastructure (2024/25)</li> <li>Implement the new Clean Maritime Plan</li> </ul>					Work towards net zero shipping by 2050	
<b>Nature restoration</b>	<ul style="list-style-type: none"> <li>Implement a co-ordinated Land Use Framework; progress agri-environment schemes in England and devolved nations (2024/25)</li> <li>Develop rules and investment standards under the Nature Markets Framework (2024-26)</li> <li>Implement the Environmental Improvement Plan (EIP) and broaden Environment Act targets (until 2030)</li> </ul>					Deliver a pipeline of nature restoration projects through land use and agriculture	
<b>Engineered removals</b>	<ul style="list-style-type: none"> <li>Complete the business models for Greenhouse Gas Removals (GGRs), and clarify the integration with the CCUS Cluster Sequencing Programme and with CCS transport and storage infrastructure (2024/25)</li> <li>Put in place robust sustainability criteria on MRV for negative emissions and on the prioritisation, production, and use of biomass as well as enhanced compliance criteria (2024-30)</li> </ul>					Capture 5m tonnes of CO <sub>2</sub> annually from 2030 through engineered removals	

The sector produced **105 million tonnes of carbon dioxide emissions (MtCO<sub>2</sub>e)** or **23 per cent of UK emissions** in 2022.<sup>263</sup>

The Government's Carbon Budget Delivery Plan indicates a cut in surface transport emissions of **58 per cent** by 2035, relative to 2022.<sup>264,265</sup>

The Climate Change Committee recommends a reduction of **69 per cent** by 2035, relative to 2022.<sup>266</sup>

The investment requirement to decarbonise road transport in the UK is estimated to be around **£140 billion** by 2035.<sup>267</sup>

Manufacturing zero-emission vehicles in the UK could support **72,000 jobs**, worth up to **£9.7 billion GVA** by 2050.<sup>268</sup>

### Key takeaways

- Heating:** Make a rapid, strategic decision that **heat pumps** and **low-carbon district heating networks** are the most suitable solution for low-carbon heating, using grant schemes and a market mechanism to grow the supply, cut the costs and grow market demand for heat pumps.
- Existing homes:** Combine minimum – and gradually tightening – regulatory **energy-efficiency standards** and **fiscal incentives to drive investment in energy efficiency** in existing homes, and improve the efficiency of social housing schemes such as ECO4.
- New homes and buildings:** Complete ambitious technical details for – and implement – **the Future Homes and Buildings Standards** to ensure that investment in new homes and buildings built from 2025 delivers high levels of performance in terms of energy efficiency, low-carbon heat, renewable electricity, and extreme-weather resilience.

### Investment insights

Investing in sustainable aviation fuels (SAFs) and low-carbon aviation solutions presents several investment challenges. The SAF industry, still in its infancy, is considered high-risk due to a nascent policy framework and the competitive global feedstock market. Research and development in the field have pivoted in recent years from electricity-based solutions to hydrogen and SAFs, in recognition of the limitations of current battery technology for large aircraft. However, scalability remains a significant issue, as seen in minimal SAF production compared to total jet fuel consumption, and is hindered by limited refinery capacity and high production costs.

The maturity of production conversion types for SAFs also poses a challenge. While HEFA-SPK is the most technically mature pathway, expanding into other feedstock types like agricultural residues and municipal solid wastes requires new supply chains and appears, for now, to be a more expensive solution versus HEFA. Additionally, the development of electrofuels (Power-to-Liquid), though technically viable, is currently hampered by their high production cost compared to traditional kerosene.

From a policy perspective, several interventions could address these challenges. The UK's planned implementation of a SAF mandate backed by a revenue certainty mechanism could help stimulate SAF demand in line with clear sustainability and emissions criteria. Enhancing international collaboration for standardising and deploying low-emission fuels and aircraft is also vital. Reforming carbon pricing could incentivise the growth of low-emission fuels. Investing in and promoting low-carbon transport alternatives, like rail and virtual conferencing, and developing a credible market for high-quality carbon offsets are other crucial steps. These interventions, when combined with recognition of the cost and yield advantages of different SAF production methods like HEFA-SPK and ATJ, could significantly advance the sector towards achieving low-carbon aviation goals.<sup>269</sup>



Sora Utzinger  
Head of ESG Integration, Equities



Joshua French  
Global Equity Research Analyst

3. Aviva Investors (July 2024), 'Boosting low carbon investment in the UK: A Policy Roadmap'

4. Ibid



## Important Information

### THIS IS A MARKETING COMMUNICATION

Except where stated as otherwise, the source of all information is Aviva Investors Global Services Limited (AIGSL). Unless stated otherwise any views and opinions are those of Aviva Investors. They should not be viewed as indicating any guarantee of return from an investment managed by Aviva Investors nor as advice of any nature. Information contained herein has been obtained from sources believed to be reliable but, has not been independently verified by Aviva Investors and is not guaranteed to be accurate. Past performance is not a guide to the future. The value of an investment and any income from it may go down as well as up and the investor may not get back the original amount invested. Nothing in this material, including any references to specific securities, assets classes and financial markets is intended to or should be construed as advice or recommendations of any nature. This material is not a recommendation to sell or purchase any investment.

In the UK this is issued by Aviva Investors Global Services Limited. Registered in England No. 1151805. Registered Office: 80 Fenchurch Street, London, EC3M 4AE. Authorised and regulated by the Financial Conduct Authority. Firm Reference No. 119178.

**RA24/0163/23092025**

