

Foreword



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group

Investment in the energy transition is at record levels, with new investments in clean power already double that of fossil fuels. Yet some sectors, especially high-emitting industries, still face challenges accessing the finance needed to reduce emissions and deliver change. While there are many promising projects and plans to decarbonise industry, too few are able to secure the financing needed to make them a reality. Enabling finance to flow at greater scale and lower cost to these sectors is integral to transition finance, and a key ambition of the Transition Finance Council. Addressing this 'finance gap' is not only essential for emissions reduction, but also for economic growth, highskilled job creation, and enhanced energy security and resilience.

We are at a pivotal moment. Transition plans are being developed at pace, by businesses, sectors, and governments. Yet without a credible financial component, these plans risk falling short. This Playbook sets out a framework for ensuring that finance is not an afterthought, but a core element of sector transition plans, technology scale-up roadmaps, and policy design.

The Transition Finance Council's aim has been to make this Playbook a practical, sector-agnostic resource: a principles-based template that can be applied across different industries. It outlines the core components of financeable sector plans and provides guidance on co-creation, content, and delivery, illustrated with specific examples, ensuring that financial considerations for different capital types are built in from the start. We emphasise that this must be a living process, with feedback loops, iteration, and collaborative dialogue between businesses, finance, and government at its heart.

We hope this Playbook becomes more than just a document. It is intended as a governance asset and something that can be adopted, implemented, and continually improved upon. To ensure it is practical and evidence-based, the Council conducted a literature review, hosted roundtables across financial sub-sectors, launched a Call for Evidence seeking industry insights on barriers, and sought alignment with existing frameworks such as the Transition Plan Taskforce disclosure framework and the emerging Transition Finance Guidelines. This process ensures the Playbook is relevant, credible, and positioned to deliver impact.

Most importantly, this Playbook is designed to adapt to new insights and endure. Through collaboration with the Net Zero Council and UK Government, its principles can be embedded into the UK's long-term transition architecture, supporting emerging technologies to scale, and enabling sectors to transform with the confidence of investors behind them.

Ultimately, the success of the transition will be defined by its speed and scale, and the benefits it delivers for communities and the UK economy. But it cannot achieve this without access to finance. We hope this Finance Playbook will provide a framework for a new kind of iterative cooperation between businesses, finance, and government that will mobilise finance, and welcome feedback on how we can further support the creation and delivery of financeable sector transition plans.

Executive summary

Transitioning high-emitting sectors to net zero and scaling up key transition technologies requires coordinated action from businesses, finance, and government. This Finance Playbook (the Playbook) provides practical guidance to support this mobilisation of finance for the net zero transition, helping stakeholders understand the role of finance and how it can be effectively integrated into sector transition plans and technology scale-up roadmaps.

The Playbook was developed by the Transition Finance Council, which brings together experts from across finance, the real economy, civil society, and policy to collaborate and drive progress. It aims to support the creation of plans that will bring about a step-change in transition finance flows, through increased confidence in policy, better risk mitigation and innovative financing approaches.

The Playbook seeks to answer three critical questions:

- What do **financial institutions require** to increase transition finance in high-emitting sectors?
- How can sector transition plans practically meet these needs?
- What is the role of government and other actors in developing and implementing sector transition plans?

It explains why robust finance plans are a critical component of sector transition plans, highlights gaps in existing global approaches, and shows how to ensure plans are credible, actionable, and capable of mobilising transition finance at scale. For sector transition plans to be effective, they must be underpinned by comprehensive financial planning, which requires an understanding and mapping of the different risks and dependencies across the value chain, including the development and transition of supply chains, and appropriate policy support.

The Playbook emphasises collaborative processes that bring together businesses, finance, and government informed by structured feedback loops and advisory bodies such as the UK's Climate Change Committee. It builds on the groundwork laid by the Transition Plan Taskforce and the Transition Finance Market Review, and the emerging Transition Finance Guidelines,¹ aiming to provide the clarity, confidence, and credibility that financial institutions need to deploy finance across all sectors of the economy. The Playbook is designed to inform and complement the Net Zero Council's forthcoming Sector Transition Plan Guidance (October 2025), ensuring alignment and, where appropriate, integration.



Playbook structure:

- Chapter 1: Explains why a robust 'finance plan' is critical to a sector transition plan, highlighting gaps and opportunities in existing sector transition plans and roadmaps globally.
- Chapter 2: Guides how to co-create a finance plan, emphasising collaboration between businesses, finance, and government.
- Chapter 3: Outlines what should be in a finance plan, detailing the key characteristics and components for success.
- Chapter 4: Shows how to ensure effective delivery, providing practical approaches to implement and monitor finance plans.

Playbook objective:

Using this Playbook, businesses, finance, and government can collectively create sector transition plans and roadmaps with robust finance plans that:

- Create an enabling environment for transition finance, including confidence in long-term planning, clear sectoral direction, coordinated action across businesses, value chains, and finance, and resolution of cross-system interdependencies.
- Support the raising and deployment of transition finance from diverse sources, by directly mapping investment needs, types of finance, and associated policy dependencies.
- Inform national policymaking, business transition planning, and financing decisions, with plans iterated over time to maintain momentum and relevance.

Government leadership and next steps:

Government strategic oversight is critical: taking clear steps to ensure the process is coordinated, coherent, and delivers plans that can mobilise capital at pace and scale. This will require applying a consistent, transparent process for building finance plans into sector transition plans and roadmaps - whether orchestrated through a body such as the Net Zero Council or led directly by the UK Government.

Table 1: Key takeaways by audience type



Businesses (real economy)

Engage early and fully in the co-development of sector transition plans and technology scale-up roadmaps relevant to your business.

Use this Playbook as a reference to help map technology needs, financing requirements, and policy and supply chain dependencies, and provide practical insights on barriers, enablers, and sequencing, including for the development of financeable business transition plans.

Advocate for the approach set out in the Playbook to ensure roadmaps are credible, commercially viable, and capable of attracting investment.



Finance

Work with government and businesses to co-design 'finance plans' within sector transition plans and technology scale-up roadmaps that identify and respond to investment needs, policy dependencies, and risks, while recognising the diverse requirements of the finance sector across the capital stack and over different timescales.

Use these sector plans to inform development of your own transition plans, identify and assess financing opportunities, evaluate the credibility of transition finance propositions, and inform capital allocation decisions. Provide feedback to government and businesses where barriers remain.

Leverage the Playbook as an advocacy and engagement tool to ensure finance plans meet market needs, address risks, and unlock investment opportunities – particularly in high-emitting sectors.





Government

Take strategic ownership of the development process for sector transition plans and technology scale-up roadmaps, setting the timetable, integrating with national strategy, identifying policy opportunities to scale transition finance and ensuring that cocreation between businesses, finance, and government is present throughout the development and implementation. This should include ensuring holistic connectivity with other government efforts on nature, physical climate adaptation, and the just transition.

While government should have strategic oversight of the process, the plans themselves must be jointly created with businesses and finance so they reflect real market conditions, secure buyin, are credible to investors and underwriters, and optimise government interventions.

Contents





1a. The strategic context

The transition finance challenge and opportunity

Scaling transition finance is essential to delivering UK and global economic growth and net zero goals. Global green finance flows, to technologies such as wind, solar, batteries and electric vehicles, grew by 15% from 2022 to 2023, reaching US\$1.9 trillion annually. Yet this still falls short of the US\$6.3 trillion needed each year until 2030 to support the global transition,² particularly in high-emitting sectors that lack mature solutions for decarbonisation and for sectors where the provision of finance remains difficult.

Transitioning the whole economy to net zero faces interconnected obstacles such as technological limitations, financial constraints, political resistance and inertia. However, it also represents a major investment opportunity, with clean energy investment globally out-pacing investment in fossil fuels by a margin of two to one.³

As a leading financial hub, the UK is uniquely positioned to shape and drive the standards, capital flows, and supporting services required to build a global transition finance market. Scaling credible transition finance has the potential to lower costs for consumers, generate high-quality jobs nationwide, and secure long-term competitiveness for the UK.

The Transition Finance Market Review (TFMR), published in October 2024 provided practical recommendations for scaling transition finance with credibility and integrity. It highlighted the need for clearer, more coherent real economy transition policies and investment signals. A key recommendation was for the UK Government to work more closely with industry on robust sector transition plans that address practical policy barriers and technology dependencies. The TFMR also urged that plans move beyond illustrative scenarios to define concrete investment needs and public financial mechanisms.⁴

About the Transition Finance Council

The Transition Finance Council (the Council) was co-launched by the City of London Corporation and UK Government in February 2025 to implement the TFMR's recommendations and establish the UK as a global hub for transition finance.

Chaired by the Rt Hon Lord Alok Sharma KCMG and Deputy Chair Councillor Irem Yerdelen, the Council brings together representatives from financial and professional services, the real economy, government, regulators, standard setters, academia, and civil society.

Definitions used in the Playbook

Transition finance is defined as the financial flows, products, and services that facilitate an economy-wide transition to net zero.

The term 'finance' is considered broadly and includes direct and indirect private and public capital, including bank lending, equity and debt capital, guarantees and also covers, for example insurance, corporate investment, and financing through carbon

credits or alternative instruments. A more detailed classification of relevant financial instruments is provided in Table 4.

'Financial institution' or 'investor' is used holistically to cover the full ecosystem of financial services actors, including insurers. A more detailed classification of financial sector actors is provided in Table 3



The Council's core functions are to:

- Monitor and drive implementation of the TFMR's recommendations.
- Support transition finance capacity building and engagement across UK and international stakeholders.
- Convene working groups to progress priority areas in line with the Council's objectives.

The Council operates three working groups which take forward complementary work programmes and are aligned to the Council's overarching objectives:

1 Credibility and Integrity

Developing and consulting on transition finance guidelines to promote credibility and integrity.

Pathways,
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Governance

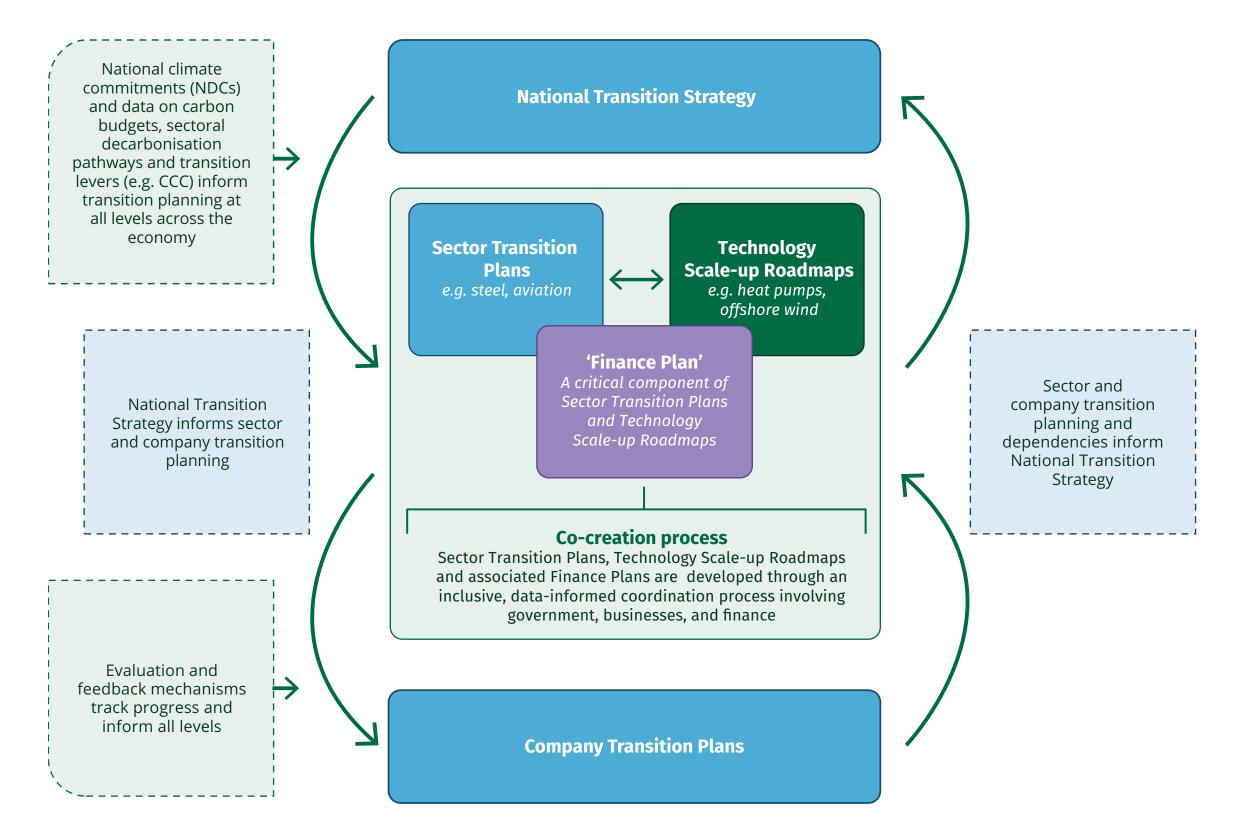
Developing best practice for sector transition plans to unlock investment and support the UK's competitive position in transition finance.

Scaling Transition Finance Identifying practical solutions to support the scaling of transition finance flows through real-world applications.

The transition planning ecosystem

Transition planning occurs across a layered, interconnected ecosystem spanning global, national, sectoral, and company levels where direction flows from higher-level strategies and policies, and insights flow back up from implementation on the ground. Unlocking transition finance requires credible plans at each of these levels. This ecosystem is depicted in figure 1.

Figure 1: Transition planning ecosystem at national, sectoral and company level



Key transition planning tools at the sectoral level:



- Sector transition plan⁵ sets out a sector's forward-looking ambition and strategy for its transition towards a lower-carbon and climate-resilient future, including interim and long-term targets, a range of technological and process-related transition levers, associated financing needs and overarching policy support.
- Technology scale-up roadmap sets out the pathway to accelerate the deployment and commercialisation of a specific transitionenabling technology or suite of technologies, such as offshore wind, solar, or heat pumps. A sector transition plan may include several technology roadmaps, which may evolve as new technologies emerge.
- **Finance plan** (the focus of this Playbook) outlines a quantification of public and private financing needs, how to mobilise and direct finance towards the solutions, technologies, infrastructure needs, and actions required to deliver a sector transition or scale-up a critical technology. The finance plan is a critical component of both sector transition plans and technology scale-up roadmaps.

For simplicity, this Playbook uses the phrase 'sector transition plans and roadmaps' to refer collectively to sector transition plans and technology scale-up roadmaps, with the 'finance plan' as the dedicated finance component.

Related concepts

- Sector transition pathway Outlines how a sector can transition over time, considering a complex interplay of technological, economic, and policy factors. Various organisations develop such pathways including the UK's Climate Change Committee (CCC) and the International Energy Agency (IEA).⁶ While the terms are sometimes used interchangeably, the Council distinguishes between a pathway which provides an overview of potential options, and a plan which translates these into an actionable course with commitment to its implementation, driven by a dynamic and collaborative co-creation process. Transition plans and roadmaps at all levels are typically informed by sector transition pathways.
- Company transition plan Outlines how an individual business or entity intends to adapt and transform its operations, strategies, and business models to align with its transition towards a lower-carbon economy, informed by the wider transition planning ecosystem.
- National transition strategy Integrates net zero ambition across government departments, policy frameworks, and investment strategies, providing a clear framework for sector and company-level planning.⁷

⁵ The focus of the Net Zero Council's forthcoming guidance. **6** UK's CCC develops sector pathways which identify options to net zero by 2050, based on detailed sectoral modelling, assumptions and analysis. The IEA's Net Zero by 2050 roadmap provides sector transition pathways that include a sequence of more than 400 milestones across the global energy system. **7** In its 2024 publication: Taking the lead on climate action and sustainable development, the Centre for Economic Transition Expertise (CETEx) recommends flexible, iterative national transition planning with effective engagement, information flow, and system-wide coordination.

The case for a strategic national approach with effective feedback loops

Effective sector transition planning depends on continuous engagement and alignment between national, sectoral, and company levels. National policies provide overarching direction and create an enabling environment, while insights, data, and practical experience from sector and business plans – including identification of barriers and enablers and tracking of financial flows – feed back to refine and strengthen national approaches. These two-way feedback loops ensure that policies remain grounded in sector and market realities, plans reflect operational and investment feasibility, and implementation aligns with broader national objectives.

Within this multi-layered ecosystem where system-level dependencies and coordination gaps can inhibit progress, government oversight is critical, particularly for the sequencing and integration of plans alongside national strategies such as the Carbon Budget Delivery and Growth Plan. This also extends to establishing a robust mechanism to track financial flows – measuring quantities, sources, instruments, and destinations – to measure progress and inform future action.

Co-created sector transition plans provide policymakers with insights into sectoral challenges, opportunities, and progress, enabling holistic action across policy, regulation, and strategic public investment. Our review of the existing landscape found that plans and roadmaps lacking government support are less likely to be implemented or financed, while government-led plans without sufficient business or finance engagement often miss critical market realities.

A coordinated approach - anchored by strategic government oversight, shaped through co-creation with businesses and finance, and informed by structured feedback loops - ensures that plans at all levels are credible, actionable, investment-ready, and capable of mobilising finance at pace and scale to accelerate the transition to net zero.⁸

Work to evolve the wider transition plan ecosystem is ongoing in the UK, including via the consultation on implementing corporate transition planning requirements which was launched in July 2025⁹ and builds on the work of the UK Government-commissioned Transition Plan Taskforce (TPT) which produced the 'gold standard' disclosure framework for business transition plans and sector specific guidance documents.¹⁰

Coordinating across Councils

The Transition Finance Council and the Net Zero Council have distinct but complementary roles within the transition planning ecosystem, guided by a joint statement of collaboration.¹¹

- The Net Zero Council is a partnership between government, business, civil society, local government and trade unions. It provides strategic leadership for the accelerating to net zero pillar of the UK's Clean Energy Superpower Mission, including through the development and delivery of holistic sector transition plans.
- The Transition Finance Council's work on sector transition planning and roadmaps focuses specifically on strengthening the finance plan components within them, including those produced by the Net Zero Council, to mobilise capital for the transition of high-emitting sectors.

The Councils are collaborating to produce coherent guidance and best practice examples of sector transition plans and roadmaps that support real economy transition and accelerate transition finance and economic growth. The Councils are committed to alignment, avoiding duplication, and building on existing work to strengthen coherence and impact.¹²

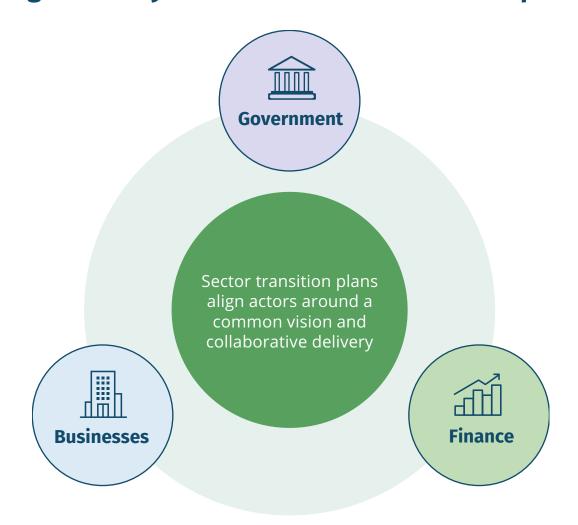


1b. Use cases of a sector transition plan

Sector transition plans with robust finance plans are a critical tool for guiding societal, economic, financing, and policy decisions that support the achievement of transition targets. When welldesigned, they build confidence across the ecosystem by co-developing a feasible, long-term shared vision and commitment to delivery. These plans also highlight systemic interdependencies between sectors and value chains (such as housebuilders relying on decarbonisation in steel, cement, and transport), and provide a platform for collaboration, including on project origination, financing, policies, standards, and governance.

While there may be many users of a sector transition plan, as depicted in figure 2, the Playbook identifies businesses, finance, and government as the key users. For these key stakeholders, sector transition plans support multiple use cases, with more likely to emerge over time. Particularly relevant to scaling transition finance, these plans help identify investment and underwriting opportunities, address obstacles to capital deployment, and establish a baseline to assess a recipient's ambition, plans, and progress over time.

Figure 2: Key users of a sector transition plan





User	Activities supported by sector transition plans
Government (including international, national and regional policymakers, and real economy and finance	Align and empower actors by clarifying roles and responsibilities, and identifying where policy, fiscal incentives, and public investment are needed, including responsive interventions to market and geopolitical dynamics. Plan and sequence action by setting clear timetables, identifying feasible technology deployment, and determining the required page and scale of investment.
	 Plan and sequence action by setting clear timetables, identifying feasible technology deployment, and determining the required pace and scale of investment. Coordinate across regulators and policymakers to map interdependencies, share lessons, and align actions for joint implementation.
regulators)	 Design effective incentives and regulations by selecting the right timing, scale, and mix of measures across sectors, managing trade-offs, and enabling long-term investment.
	• Track progress and close delivery gaps by benchmarking against ambitions, agreed actions, and review mechanisms in the sector transition plan.
	Manage systemic risks by understanding exposures of businesses and sectoral vulnerabilities across the economy.
	Anticipate and respond to market shifts with timely guidance that supports an orderly transition.
	• Plan and implement actions (e.g. procurement policy, product / technology mandates) to grow demand in line with market shifts.
	• Ensure clarity for all stakeholders by setting alignment and disclosure expectations, and fostering transparent, accessible information flows.
	• Inform future strategic priorities for public finance institutions (such as the National Wealth Fund) to use public finance in the most effective ways to crowd in private capital.
Businesses	• Develop and execute a robust transition plan - including decarbonisation targets, financial and business planning, and product and service development, accounting for dependencies across the value chain and aligning with future demand.
	• Collaborate with stakeholders to address dependencies, improve the ecosystem, and create self-reinforcing feedback loops around planning, skills, policy, and project development.
	• Build confidence in transition delivery through visibility of the future pipeline of projects and policy levers, and an understanding of the financing landscape including the types of capital providers and public finance support, strengthening business case development and financing decisions.
	• Commit to, and demonstrate, impact by measuring progress against the sector transition plan, including tracking capital expenditure (capex), and showcasing leadership to financial institutions.
Financial institutions (e.g.,	Develop and execute a robust transition plan - setting sector targets and investment policies.
institutional investors, insurers – broken down	• Collaborate across stakeholders – addressing dependencies, strengthening the ecosystem, helping to originate financeable projects that align with future demand, and actively engaging with investee companies to encourage credible strategies in line with the sector plan.
further in table 3) ¹³	• Inform financing decisions – integrating transition risk and opportunity considerations into capital allocation and insurance capacity decisions.
	• Inform scenario modelling and climate and nature-related risk and opportunity analysis, which are mandatory for many financial institutions.
	Benchmark for activity and entity-level transition assessment, portfolio alignment, progress measurement, and stewardship approaches.
	Assess businesses' transition plans and associated capex, and benefit from more robust entity-level transition planning made possible by sector transition plans.
	• Inform transition finance classification and labelling, following the emerging Transition Finance Guidelines to avoid greenwashing risks. 14

A diverse range of capital providers and financing instruments will be deployed at different stages of a sector transition plan or roadmap, each with different risk profiles, investment horizons, and liquidity preferences. Different capital providers will have different uses for, and will derive a range of different benefits from the development of sector transition plans and roadmaps with robust finance plans. These are summarised in table 3 (noting that these are examples only and there is likely to be both distinct and common use cases and benefits across capital providers). Section 3.b explores in more detail which instruments each financial sector user may apply to transition finance opportunities.

Breakdown of finance sector use cases by asset class / capital type.

As explored further in section 3.b a diverse range of capital providers and financing instruments will be deployed at different stages of a sector transition plan or roadmap, each with different risk profiles, investment horizons, and liquidity preferences. A range of finance sector users can benefit from the development of sector transition plans and roadmaps, including through opportunities to scale transition finance.

Capital provider	S Commence of the commence of				
Venture capital investors	 Assess emerging transition solutions, pilot projects, and early commercial-scale opportunities. Align investments with anticipated policy and market conditions, including future demand and value chain development. 				
Private equity investors	Identify and acquire private companies positioned for growth aligned with sector transition plans.				
Private institutional investors (e.g. insurance, pension funds)	 Identify investable infrastructure projects and project finance opportunities. Can also provide lower-risk private equity (often described as long-term patient capital). Assess long-term policy direction, technological priorities, and sectoral roadmaps to inform confident capital allocation. Evaluate the credibility of investee entities' transition plans and associated capex. Structure investments within transition envelopes or labelled transition/improver funds to target and track real-world decarbonisation impact in high-emitting sectors. 				
Listed equity investors	 Evaluate companies' ability to act on credible transition strategies and better manage associated transition risks, supported by policy signals (e.g., heat pump mandates, cement decarbonisation incentives). Inform capital reallocation to sector leaders and attract new investment through credible transition strategies. 				
Public debt investors	 Assess borrower transition readiness and associated credit risk. Support issuance of green, transition, and sustainability-linked bonds or loans by helping to define credible activities. Reduce cost of capital through enhanced transparency and alignment with sector transition plans. 				
Sovereign debt investors	 Understand country-level transition strategies, climate risks (physical and transition risks), and policy support. Inform sovereign credit assessments and investment decisions, including climate-adjusted sovereign ratings and frameworks such as ASCOR.¹⁵ Example: Japan's Green Transformation (GX) program leverages sector-specific plans to support sovereign and corporate transition bond issuance. 				
Commercial and investment banks	 Inform company or activity-level transition assessment and transition classification. Inform the analysis of their client base and the evolution of the share of clients that are credibly transitioning. Support the design and deployment of green, transition and sustainability-linked loans and bonds by helping to define credible activities. Provide a basis for stewardship and engagement approaches. 				

Public finance institutions (e.g. policy banks, development finance institutions, multilateral development banks)	 De-risk high-capex or early-stage transition projects to mobilise private finance through sector pipeline visibility and credibility. Support the provision of concessional finance, guarantees, or blended finance instruments aligned with sector transition plans. Shape interventions to address identified dependencies, policy gaps, and timelines. Facilitate coordination across private and public capital in alignment with the sector transition plan.
Philanthropy (e.g. foundations)	 De-risk high capex or early-stage projects. Provide concessional finance or guarantees aligned with sector transition plans.
Insurance markets	 De-risk transition projects using tailored insurance instruments (e.g., technology performance warranties, parametric policies, and sureties) through knowledge of technology scale-up roadmaps. Integrate sector transition data into climate risk modelling to inform pricing, capacity, and risk transfer strategies. Support skills and knowledge planning to ensure emerging transition solutions remain insurable.

¹⁵ Assessing Sovereign Climate-related Opportunities and Risks (ASCOR) is an investor-led initiative to provide comprehensive and comparable assessments on how sovereigns are managing the low-carbon transition as well as the physical risks stemming from climate change. The country assessments are available through the ASCOR tool and produced by the TPI Global Climate Transition Centre at the London School of Economics.

1c. The case for a robust finance plan

While sector transition plans and roadmaps are becoming more common, they often fall short in one critical area: the practical integration of finance. Existing plans tend to emphasise technological ambition and emissions outcomes but provide limited detail on how financing needs will be met, how risks will be mitigated and dependencies addressed, and how government policy and public finance will interact to mobilise private finance at scale. This gap undermines credibility, slows delivery, and constrains investor confidence.

In practice, deploying and accessing transition finance faces practical challenges. High upfront costs, uncertain returns, and unproven technologies often make opportunities commercially unviable without supportive policy frameworks and coordinated action across value chains. A recent Deloitte survey found that 97% of UK investors require stable policy frameworks, and 62% have low appetite for technology risk. The Institutional Investors Group on Climate Change (IIGCC) has highlighted the importance of clear policy guidance, including which technologies are supported and which are unlikely to be deployed or 'off the table'. 17

Finance-focused sector transition plans and roadmaps are vital to accelerate capital deployment, yet many existing plans lack sufficient detail on how government policies interact with investment needs to mobilise capital. Granular, time-bound policy clarity is essential to unlock private capital and existing plans generally do not go far enough to address this. In particular, existing plans often omit demand-side policies and sectoral coordination, which are critical for making projects financeable. Both high-level measures (such as incentives to establish the business case for a transition) and specific, differentiated interventions that address the needs of different sources of transition finance are required (explored further in chapter 3). Without this detail, roadmaps risk remaining aspirational rather than financeable.18

"Without this detail, roadmaps risk remaining aspirational rather than financeable."

To address this, sector transition plans and roadmaps should be:



This Playbook supports these objectives by guiding the development of robust 'finance plans' within sector transition plans and roadmaps. When well-designed, they can build confidence in transition delivery, strengthen coordination across systems and value chains, and unlock private capital flows, accelerating progress toward net zero ambitions.



Evidence leveraged by the Council

The Council undertook a wide programme of engagement and an extensive literature review to inform the development of this Playbook. A more detailed summary of the Council's engagement and evidence base can be found in appendix A-C and includes:

- A public call for evidence to seek insights from the real economy, as well as a number of bilateral meetings with real economy businesses.
- A series of evidence-gathering workshops with stakeholders across the finance value chain.
- A number of international engagements to understand best practice learnings from Australia, Japan, the EU, and the USA.
- A detailed literature review, reflecting best practice and lessons learned from sector transition plans and roadmaps previously produced by the UK Government, civil society and industry, and international stakeholders and governments.

Key takeaways for this Playbook

Through its evidence base, the Council identified three key takeaways that were applied in the development of this Playbook:

1 The most effective sector transition plans and roadmaps share some common core features:

Clear ambition: Mobilisation of finance and action must be underpinned by a clear long-term vision, including emissions reduction and technology deployment goals with interim milestones. For example, the UK Government's Hydrogen Net Zero Investment Roadmap set a clear overarching ambition to deploy up to 10 GW of low-carbon hydrogen production capacity in the UK by 2030.

A strong investment focus: The vision must then be translated into a granular quantification of capital needs over time and a mapping to different sources of transition finance, from early-stage through to mature capital. For example, E3G and Baringa's sectoral investment roadmap for clean power included a detailed breakdown of annual investment need across key technologies.

Forward-looking policy plans: Plans to create enabling conditions through public policy reform, public investment and de-risking tools, and infrastructure deployment over the near-, medium-, and long-term must be outlined. For example, the UK Government's Clean Power Action Plan outlined a detailed set of policy plans to address industry and investor feedback, including their plans to reform the Contracts for Difference scheme for the renewable energy auctions in 2025, 2026, and 2027

Mechanisms for feedback, co-creation, and continuous dialogue between businesses, finance, and government underpin an effective sector transition plan or roadmap.

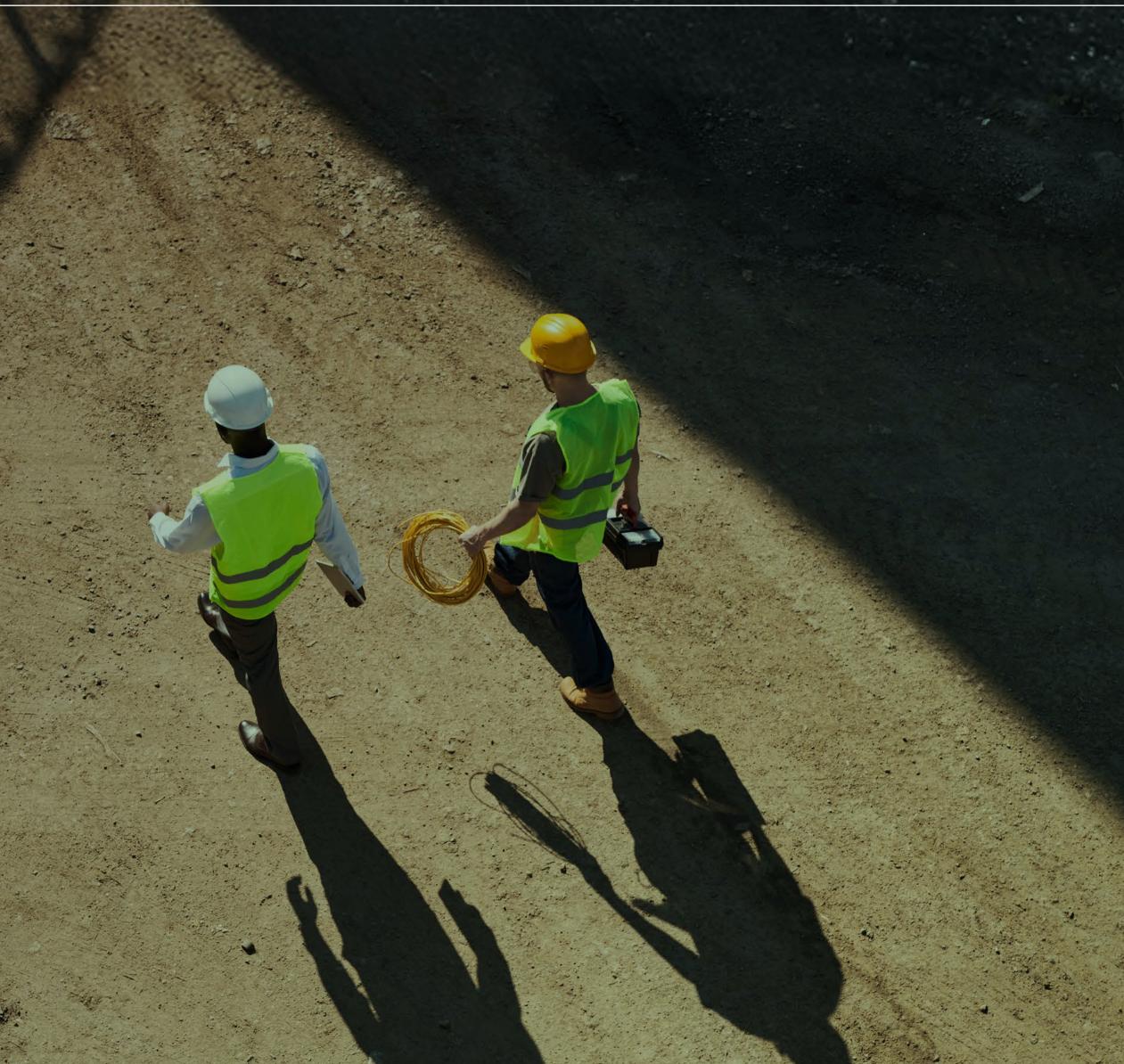
Initial development of sector plans should involve close collaboration within a defined process between key stakeholders from businesses, finance, and government, all of whom bring different and essential expertise.

Sector plans and roadmaps must be dynamic and well-integrated into national frameworks to be effective.

Once created, they should be 'living documents', institutionally anchored in an official body, with mechanisms to track progress and financial flows and clear governance processes on how, with which stakeholders, and when updates will be made. This will help build credibility and deliver stronger investment signals.

2.

Developing financeable sector transition plans through co-creation



2a. The case for collaborative development

System-wide transformation, essential for the climate transition, is complex and requires coordinated action across multiple actors within a coherent strategy. Accelerating progress demands mechanisms to manage uncertainty and align decisions and plans across the economy.

This Playbook recommends a **co-creation process:** a structured mechanism for businesses, finance, and government to come together – supported by civil society and academia – to share knowledge, build a shared vision, and co-develop financeable sector transition plans and roadmaps. By coordinating across actors, co-creation helps reduce uncertainty, leverage system-wide agency, and strengthen the credibility and mobilisation of transition finance.

Financial institutions consistently emphasise the importance of government-led direction and policy certainty to unlock transition finance. Accordingly, government should have strategic oversight of the co-creation process while drawing on expertise from across the ecosystem.

transformation of the economy relies critically on changing key systems: energy, cities, transport, land use. These large and complex systems cannot be changed by fiddling with just one parameter, a whole set of policies will be required to foster change"

Stern, 2021¹⁹

Research by the World Business Council for Sustainable Development (WBCSD), in collaboration with BRAE, identifies five design imperatives underpinning successful public-private collaboration: clarity of mission, trusted orchestrators, robust governance, delivery focussed capabilities, and development of a full solution stack.²⁰

These factors can be seen in collaborative initiatives around the world such as the Danish Climate Partnerships which illustrate how structured collaboration can drive system-level outcomes. In the UK, the Offshore Wind Industry Council, co-chaired by government and industry, has successfully supported businesses, finance, and government in dismantling barriers to the commercial development of wind energy projects.²¹

Similarly, policy work undertaken by the Centre for Economic Transition Expertise (CETEx), at the London School of Economics and Political Science recognises the important role of collaboration and coordination across the system and consideration of success drivers including "inclusivity, and the agency and incentives of participants in the engagement".²²

Case study 1: Danish Climate Partnerships ²³



Delivery of Denmark's Climate Act 2020 is supported by 14 sector-specific public-private Climate Partnerships, established by the Danish Government. Each Partnership is tasked with developing recommendations for government to support sectoral climate action plans aligned with Denmark's emissions reduction targets.

In establishing the Partnerships, the Danish Government recognised that "while the public sector provides the ambitious long-term goals and stable framework conditions, the private sector supplies the innovation, solutions and investments needed to achieve the vision."

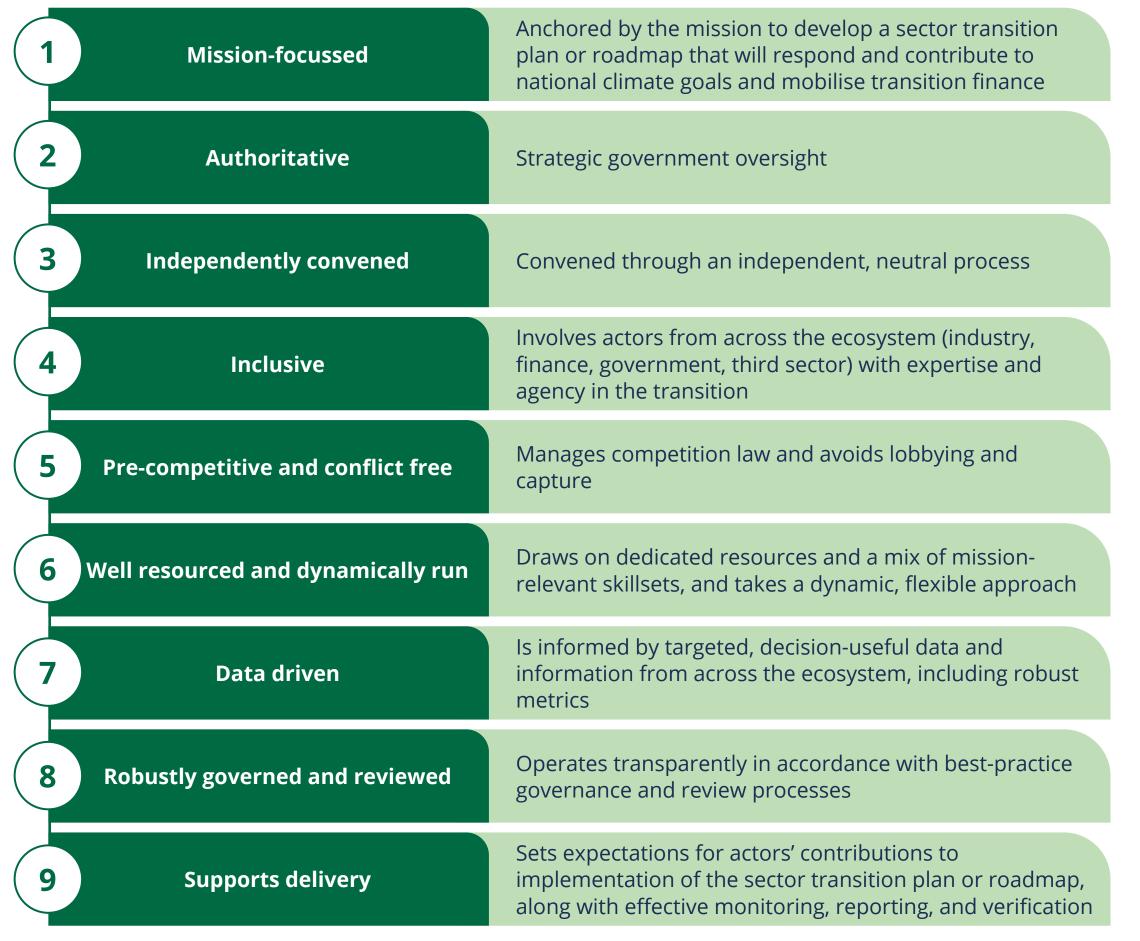
Consistent with the design features set out here, the Partnerships emphasise engagement, innovation, acceleration, and cocreation. Across the 14 Partnerships, over 400 recommendations were developed, most of which have been taken forward.

2b. Design features of the co-creation process

Drawing on this evidence base, we have identified nine critical **design features** of an effective co-creation process that enable sector transition plans and roadmaps to meet the financing needs set out in chapter 1. These complementary and interdependent features are summarised in figure 3 and explored in detail in the remainder of this chapter.



Figure 3: Key design features of the co-creation process



2 Authoritative

Strategic Government oversight of the cocreation process is essential to confer legitimacy and ensure buy-in from relevant stakeholders. Coupled with robust governance, it ensures the process delivers clear, decision-useful outcomes that instil confidence and support private sector transition planning and capital allocation.

3 Independently convened

Although government should have strategic oversight of the process, independent convening by a neutral 'honest broker' is essential to build buy-in, foster trust, and mitigate perceptions of bias or capture. This independence supports inclusivity and openness across stakeholders. The selection of the independent convener will be context-specific, but they should have standing, legitimacy and credibility among all relevant stakeholder groups.

4 Inclusive

Co-creation must engage actors with relevant expertise and agency across the ecosystem. Inclusive engagement ensures plans reflect market realities, secure buyin, and optimise interventions, while also addressing interdependencies across sectors.

- Engaging businesses ensures access to practical experience of the barriers and enablers that could unlock progress. To avoid the risk of entrenching existing practice, participants should include both incumbents and the innovators, technology developers, and disruptors, with a balance of domestic and global perspectives. Deep engagement across interdependent sectors, both domestic and international, is essential.
- Early and ongoing involvement of **finance** is critical. Finance sector expertise including from banks, insurers, asset owners, asset managers, private equity, and venture capital (summarised in Table 3)– can inform commercial viability, pre-conditions for investment, current and future insurance considerations, and the mix of public and private finance solutions.
- Strategic government oversight of and participation in the co-creation process enables timely consideration of the policy-related barriers and enablers identified by industry.

Ideally the process should involve non-governmental organisations, workforce bodies and representatives of relevant communities. Engaging academia can also help to ensure that the process is supported by relevant knowledge, research and modelling capabilities.

Pre-competitive and conflict free

The process must navigate competition law and avoid lobbying and capture. Well-designed co-creation can effectively navigate anti-trust considerations, supported by clarifying guidance from competition authorities.²⁴

The process must recognise and manage the potential for conflicting interests. Process independence, inclusivity, and operation must actively manage vested interests and power dynamics to avoid capture. Principles of Responsible Policy Engagement principles – including alignment with climate goals, evidence-based advocacy, and transparency - should be reflected in the design of the process.²⁵

6 Well-resourced and dynamically run

Co-creation involves an inherent trade-off between inclusivity and efficiency. The process must balance broad stakeholder representation, with the need to remain decisive and agile. To navigate complex interdependencies and encourage innovation beyond incumbent practices, the process must be dynamic, adaptive, and iterative. Success also requires drawing on a mix of creative, technical, design and relational skills.

Participation cannot be a 'side-of-desk' activity. It should be supported by a dedicated secretariat and rely on committed time from participating actors. While the benefits of high-quality sector transition plans recognised in this Playbook provide clear incentives to participate, the process should be agile and utilise topic-specific sub-groups rather than frequent large plenaries. Government may need to invest time and resources, particularly to ensure meaningful participation of small and less well-resourced actors.

Data-driven

The process should be informed by decision-useful, evidence-based data and inputs from actors across the ecosystem, covering transition levers, barriers, feasibility, and financing needs. This may include science-based inputs on sector-level emissions benchmarks (e.g., Transition Pathway Initiative (TPI) sectoral benchmarks).²⁶ This information fuels collaboration and solution development, while ongoing data flow supports monitoring and evaluation.

8 Robustly governed and reviewed

The co-creation process should operate transparently, in accordance with best-practice governance and review processes. Embedding it within the institutional architecture of the government's net zero strategy strengthens its authority, while clear, fair, and transparent governance enables ongoing monitoring, agility, and course-correction.

9 Supports delivery

To ensure success against the overall objective, the process must set clear expectations for actors' contributions and establish mechanisms to regularly monitor, report, and verify progress against benchmarks. Chapter 4 of this Playbook sets out the key components of effective implementation.



The core components of a robust finance plan

3. The core components
of a robust finance plan

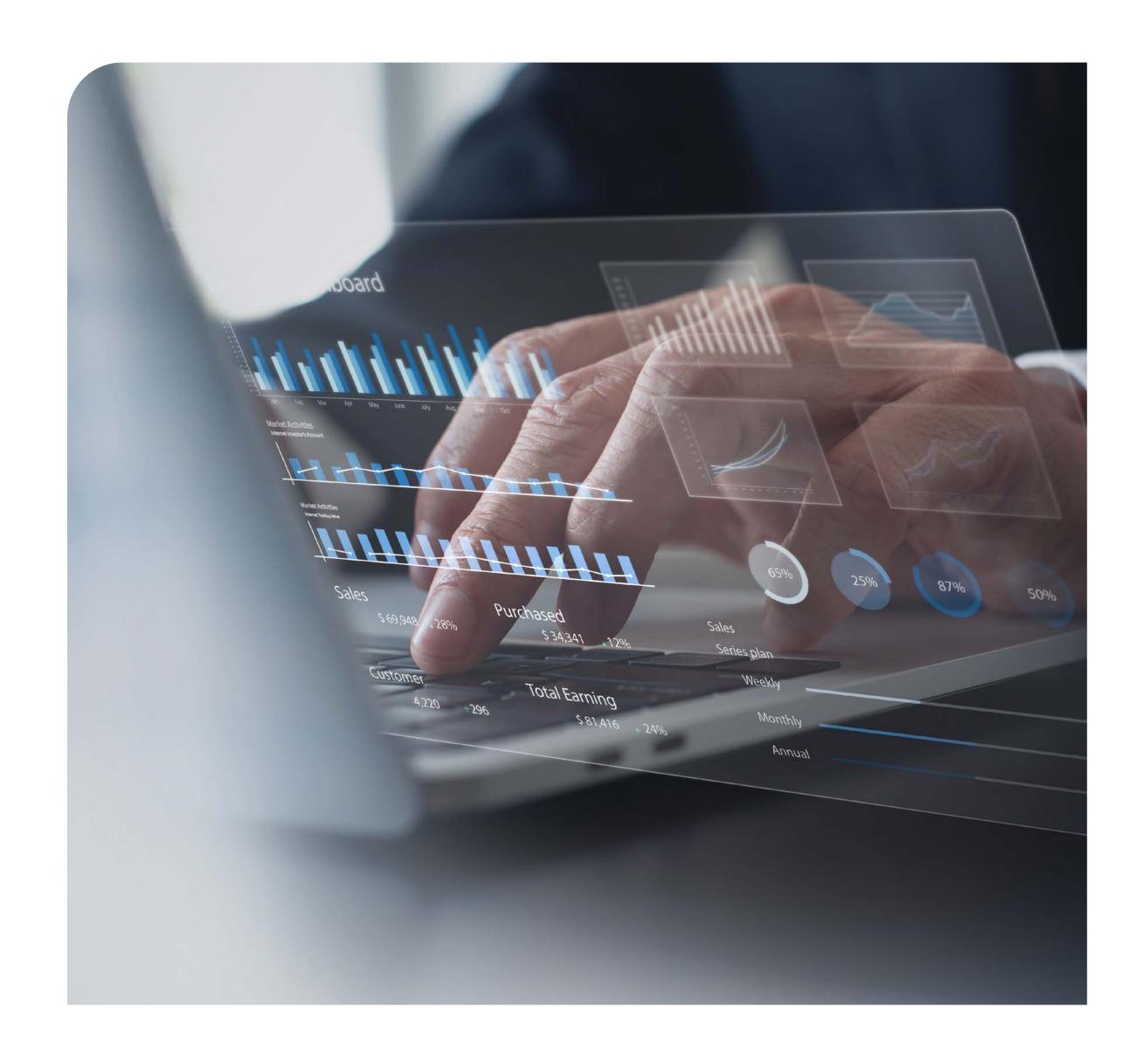
The Finance Playbook

Overview

Building on the collaborative development process described in the previous chapter, this chapter sets out the essential components that a sector transition plan or roadmap must contain to be considered to have a robust finance plan.

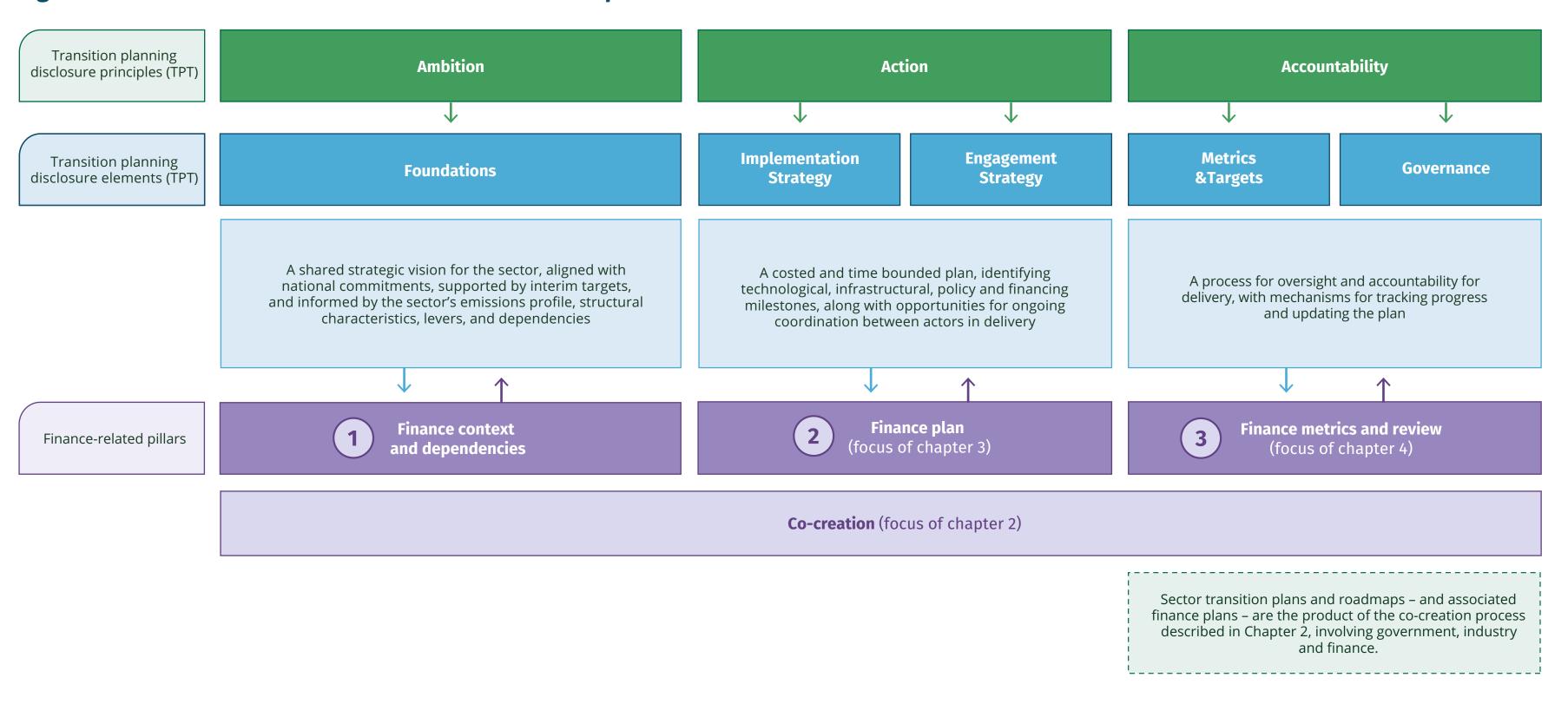
The finance planning techniques described here - such as mapping capital to solution lifecycles, sequencing investment flows, and assessing financing risks - draw on familiar finance concepts and practices. What is new in the context of sector transition is how these techniques are applied: they are informed by the wider sector transition planning process, including the technology, infrastructure, market-building, and policy elements identified through the co-creation process. They are integrated into an iterative and stakeholder-driven approach, ensuring that financing solutions respond to evolving market, policy, and technology conditions rather than being drafted in isolation.

"This chapter sets out the essential components that a sector transition plan or roadmap must contain to be considered to have a robust finance plan."



3a. Mapping finance components to the sector transition plan framework

Figure 4: Structural framework for a sector transition plan



Framework overview

Figure 4 demonstrates an overarching sector transition plan framework - which will also be utilised in the Net Zero Council's upcoming guidance - with finance-related pillars mapped across it. This framework ensures that sector transition plans not only set a clear vision but also establish the necessary foundations, strategies, and review mechanisms to progress from ambition to reality.

This framework draws on the disclosure framework developed by the TPT for business transition plans. It can also be mapped to the four Principles of credible entity-level transition finance which form part of the Transition Finance Guidelines being developed by the Council. These are: Credible Ambition; Action into Progress, Transparent Accountability, and Addressing Dependencies.²⁷

The Finance Playbook

Pillar 1: Finance context and dependencies - developed through the co-creation process discussed in chapter 2

Establishes the strategic direction, emissions trajectory, sector characteristics, and dependencies framing financing requirements.

A sector transition plan or roadmap should establish the strategic and structural context necessary to frame financing requirements. The co-creation process (discussed in chapter 2) is anchored by robust information on matters such as sectoral characteristics, dependencies, and financing needs, ensuring that finance solutions are aligned with the broader sector transition planning and integrated with technology, infrastructure, and market-building elements. Finance-relevant context will include:

- **Emissions trajectories** aligned with national carbon budgets and Paris Agreement goals, with clear interim targets.²⁸
- **Sector characteristics** including emission profiles and structural dependencies.
- Technical / development characteristics of transition solutions, ²⁹ including technology maturity assessment, uptake curves, delivery risks, financing needs, and deployment targets.

- **Financial characteristics of solutions,** including capital intensity, cash flow profile, and viability of business models.
- **Enabling actions** such as enabling policies, infrastructure, and market mechanisms.
- Finance market context, including capital sources, investor horizons and risk appetites, insurance de-risking capacity, and barriers to mobilisation.
- Underlying assumptions, including technology, finance, market, and policy factors, which enable risk exposure assessment, stress-testing, tradeoff analysis, and adaptive planning.

Pillar 2: The finance plan - focus of chapter 3

Translates the strategic and structural context into an actionable, costed plan with financing milestones.

Building from the finance context and dependencies, the finance plan translates the broader sector transition ambitions into a coordinated, costed, and time-bound programme of investments and financing milestones. It provides the blueprint for the mobilisation of finance needed to achieve the sector's transition. A structured approach to mapping capital to the plan focuses on four priorities, explored further in section 3.b.

- 1. Quantify total investment need for required transition solutions including the scale and phasing of the financing need.
- **2. Map key risks across solution lifecycles**³⁰ considering technology maturity, supply chain deliverability, and risk profiles relevant to financing and insurance decisions.

- 3. Understand the diverse needs and roles of capital providers to identify where different capital types best align with the development stage of a particular solution based on the lifecycle risk assessment. Table 4 explores in more detail the type of instruments that may be included.
- **4. Sequence capital flows to the phases of solution development** mapping different capital providers and financing instruments to the identified transition solutions, including enabling policies.

The second key component of this finance pillar is then to map policy interventions to this financing blueprint, ensuring that the appropriate conditions are in place to ensure the plan's financeability. This is explored further in section 3.c.

²⁸ Clear emissions trajectories are foundational. Recognising that sectors have different starting points, abatement costs, and decarbonisation timelines, trajectories must be sector-specific - grounded in scientific evidence and designed to collectively sum up to the global carbon budget. They should reflect both current baselines and end-state ambition, providing a transparent pathway toward net zero that should include interim targets across short-, medium-, and long-term horizons. The TPI benchmarks mentioned in chapter 2 offer a robust example of this approach, combining rigorous data with sectoral specificity to enable credible benchmarking and investor decision-making. Moreover, they ensure alignment with the UK's legally binding carbon budgets and the Paris Agreement goals, as guided by the CCC, and with coordination from the UK Net Zero Council to align sector trajectories with national goals. Similar approaches have been implemented by other organisations such as the Science Based Target Initiative.

^{29 &#}x27;Transition solutions' refers to the activities required to meet the sector's transition ambition and may include for example new technology upgrades, retrofit, process improvements, and activity phaseout. 30 Note: In practice, we expect the sector transition plan co-creation process to seek to map to the interim capacity targets and long-term timelines set out by bodies such as the CCC at high level to meet sector emissions targets, aligned with electoral cycles and with business and investment cycles (typically up to five years), but swiftly adapt to a granular sector-specific solutions approach, e.g., grid investment with a regulated timeline and emerging technologies with bespoke timelines to match their development.

Pillar 3: Finance metrics and review – focus of chapter 4

Sets mechanisms to track finance mobilisation and adjust the plan as needed.

Robust metrics and review mechanisms underpin the credibility and effectiveness of the finance plan. The sector transition plan should establish processes for tracking finance flows - measuring quantities, sources, instruments, and destinations - and evaluating the extent to which barriers to capital mobilisation are being addressed. Businesses, value chains, and financial institutions align with the sector transition plan and feed in data and insights, which in turn inform their own strategies and financing decisions. An effective review process, owned by government, covers four key steps, further developed in chapter 4.

3. The core components

of a robust finance plan

While this Playbook focuses on finance, sector transition plans also include broader considerations which will be covered in the Net Zero Council's forthcoming guidance and complementary initiatives such as the European Committee for Standardisation's draft standard on sector transition plans.³¹ These resources provide guidance on the wider structural, policy, and operational aspects of a transition plan that naturally complement the finance-focused components outlined here.

- 1 Identify and act on barriers, dependencies, and enablers, leveraging co-creation infrastructure for ongoing engagement.
- Monitor implementation progress, tracking finance-related KPIs and progress against sector ambition.
- **3** Respond to misalignment through policy, regulation, and strategic integration.
- Ensure sector transition plans and roadmaps are regularly updated, embedded in a structured governance and review process.

Broader sustainability considerations

To date, most sector transition plans have focused primarily on sector decarbonisation. Yet financial institutions must also consider a broader set of climate and sustainability-related risks and opportunities when deploying transition finance. These include:

- Physical climate risks, including the importance of adaptation considerations in capex plans.
- Nature-related risks and opportunities, including the dependencies of sectors on natural capital for ecosystem services, resilience, and mitigation of physical climate risks.
- Just transition considerations, including how workforce, customer, and local community concerns are proactively managed through sector transition plans.

While these issues are not the central focus of the Council, sector transition plans should ensure they are integrated into planning and decision-making, given their interdependencies.

Recent guidance from the TPT, the Climate Financial Risk Forum, the IIGCC, and the Network for Greening the Financial System supports embedding of adaptation considerations within transition planning.32 ^{33 34 35} On nature, the UK Government is supporting the development of Nature-Positive Pathways with the Green Finance Institute and WWF, which will set out how sectors can become nature-positive as well as net zero.³⁶ As sector transition planning matures, climate-nature interdependencies should be explicitly addressed, and in time may be fully integrated into combined net zero and nature positive sector transition plans.

It is also essential for sector transition plans to be tailored to national and local contexts, recognising the skills, resources, and needs of the communities on which implementation will depend. Guidance on embedding these just transition dimensions has been developed by the Oxford Smith School and the TPT, among others.^{37 38}



3b. Mapping investment needs and financing mechanisms

Building on the finance context and dependencies outlined in the previous section, developing a robust finance plan requires translating this understanding into a detailed **capital structure mapping.** To guide this process, the Playbook presents a structured approach that follows four key priorities, which are unpacked in the text that follows.

Priority 1: Quantifying total investment need for required sector transition solutions

This Playbook recommends that plans articulate the total investment need – as well as the investment opportunity – to deliver a sector's transition, broken down by the required transition solutions (including technologies, infrastructure, and enabling activities) and time periods. This foundational step enables identification of the appropriate sources of capital to underpin the finance plan.

Quantify total investment need for required transition solutions

Including the scale and phasing of the financing need.

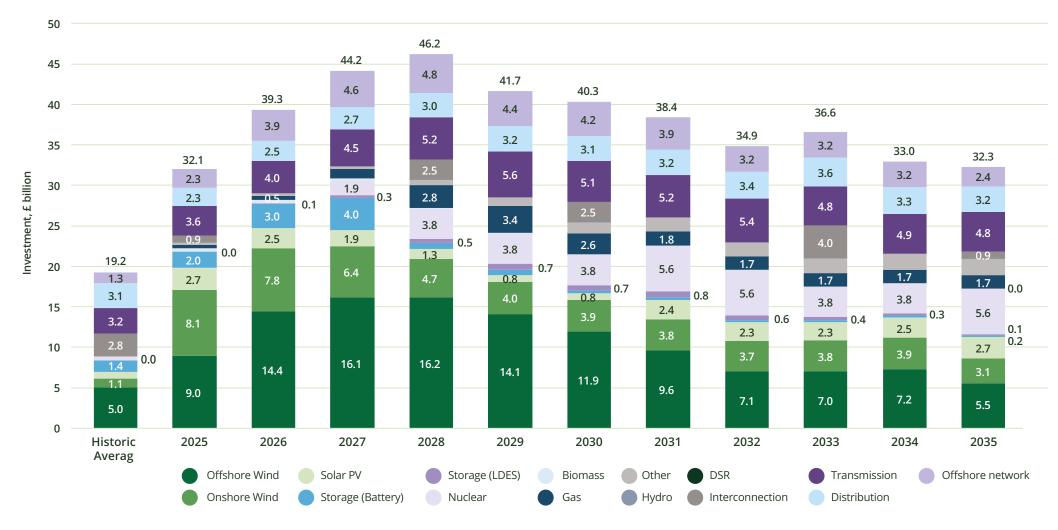
- Map key risks across solution lifecycles
- Considering technology maturity, supply chain deliverability, and risk profiles relevant to financing decisions.
- Understand the diverse needs and roles of capital providers

To identify where different capital types best align with the development stage of a particular solution based on the lifecycle risk assessment. Table 4 explores in more detail the type of instruments that may be included.

Sequence capital flows to the phases of solution development

Mapping different capital providers and financing instruments to the identified transition solutions.

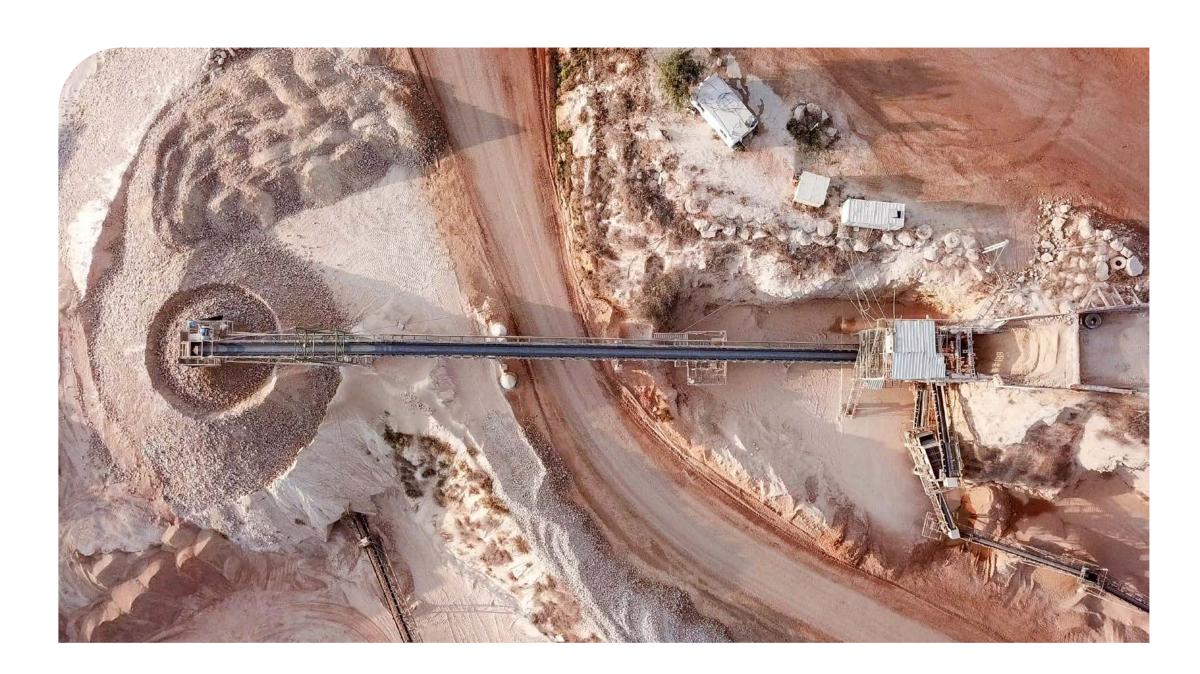
Figure 5: Annual capex investment required for the UK to reach clean power by 2030



Source: Source: E3G, WWF, and Baringa.³⁹

For example, the UK Government's Clean Power Action Plan articulated a total expected investment need of £40 billion on average per year between 2025 and 2050. An indicative sectoral investment roadmap created by E3G and Baringa in January 2025 went further to provide a detailed quantification of the annual investment need across different technology types (such as offshore wind, battery storage, and transmission infrastructure) over the next decade, as shown in figure 5.

Applying this approach in practice requires a good understanding of project pipelines and the current state of their ability to attract finance. The UK Government is building out an open-source pipeline of domestic infrastructure projects, including transition opportunities. 40 This could be leveraged as a bottom-up measure to identify investment needs, project-specific barriers to scaling finance, and pipeline gaps that must be filled to meet the objectives and delivery timelines set out in sector transition plans.



Priority 2: Map key risks across solution lifecycles

Effective plans must identify and clearly articulate the barriers and risks, both at the transition solution level and more broadly. For the finance plan this requires a detailed risk assessment across the full lifecycle of each solution, recognising that risks vary by project stage and sector maturity, and may include technology, supply chain deliverability, location, and market readiness considerations.⁴¹ Mapping these risks enables a clear view of

which risks can be managed by businesses and finance, and which are systemic or unpriceable without external intervention. This should also help to identify where de-risking insurance solutions may be deployed to help increase the number of investable projects, reduce the cost of capital, and manage returns. When supported by explicit assumptions, such analysis strengthens the credibility of the plan and provides a solid foundation for implementation. Figure 6 provides an example of risk mapping for CO₂ transport and storage projects.

3. The core components of a robust finance plan

Figure 6: Major risks for CO₂ transport and storage projects across each stage (nonexhaustive)

		Applicable project stage			
Types of risk	Description of risk	Pre-operation	During operation	Post- operation	
Permitting issues or delays	Hurdles or delays when obtaining storage or economic permits				
Securing emitters	Contracting emitters that will provide captured CO ₂ to the network				
Network underutilization	Insufficient CO ₂ to run the network at its designed capacity, increasing costs per ton				
Volatility in T&S capacity	Unexpectedly lower T&S capacity than planned, meaning less CO ₂ is stored				
Volatility in T&S opex	Increases in opex during the operation of the project, harming project economics				
Volatility in interest rates	Higher interest rates push up costs and affect economic viability of the project				
CO ₂ pipeline/ship leakages	Leakage of CO ₂ during transport to storage, a safety and environmental hazard that can also damage public perception				
CO ₂ storage leakages	Leakage of CO ₂ from the storage site, a safety and environmental hazard that can also damage public perception				
Accurate monitoring and reporting Ensuring data around T&S efficiency and safety are accurately tracked and reported					
Higher decommissioning costs or disruptions Issues in decommissioning can impa both project economics and safety					
Regulatory changes	Updates in policy that affect the progress or economic viability of the project				

Source: BloombergNEF, Inside Europe's CO₂ Infrastructure Projects – Who Takes The Risk?.

⁴¹ Addressing technical challenges is necessary but not sufficient to successfully commercialise and scale a new technology. Technology commercialise and scale a new technology commercialise and scale and s Department of Energy, 2023. Adoption Readiness Levels (ARL) Framework.

Priority 3: Understand the diverse needs and roles of capital providers

Transition finance involves a broad spectrum of investors and underwriters, each with distinct risk appetites, investment horizons, and liquidity preferences.

This applies both to financing transition solutions through different stages of maturity, and to individual projects deploying mature transition solutions through different stages of development. Higher returns are generally demanded in early project and solutions' stages, compared to lower returns once an asset is operating. The recycling of early-stage, higher-risk capital with lower-cost capital for operational assets is essential to attract further investment and reduce the overall cost of capital.42

"Insurers are an essential underpinning of this capital stack, providing the financial de-risking capacity necessary to promote equity and lending activities."

Private capital providers may include the following:

- Early-stage investors (e.g., angel investors and venture capital) typically accept higher risk for higher returns over shorter investment horizons, providing critical funding for R&D, pilots, early commercialisation, and project feasibility stages.
- Growth and scale-up investors (e.g., specialist debt funds, private equity) operate with medium risk tolerance for medium expected returns and focus on initial deployment to scaling and project development.
- Long-term institutional investors (e.g., pension funds, insurance companies) prefer lower risk, stable returns from mature, cash-flow-positive projects with proven transition solutions, often in full deployment, construction, or operational phases. They also lend to governments and indirectly fund public investment.

Financing instruments also vary by scale and stage, from grants supporting early research and junior debt providing first-loss tranches for pilots to senior debt (including infrastructure) equity, and securitised products for mature and full deployment projects.

Insurers are an essential underpinning of this capital stack, providing the financial de-risking capacity necessary to promote equity and lending activities. All investor groups routinely rely on some form of insurance, but the requirement is often particularly acute for transition projects involving nascent technologies and value chains - where risks may otherwise fall outside the appetite of targeted investors. By transferring technology, development, and operational risks from financiers or developers to insurers, these products can make projects commercially viable and accelerate deployment.

Limited or prohibitively expensive coverage can restrict access to capital, underscoring the importance of involving insurers early in technology development and capital stack design. This enables more effective risk management conversations, improves market readiness, and supports the adaptation or creation of insurance products suited to different stages of the finance lifecycle. For example, infrastructure investors may employ specific insurance mechanisms on novel renewable energy technology projects to guard against technology, development (including supply chain), and operational risks.⁴³ The careful and granular mapping of a sector transition plan's levers and phases to the capital stack can help identify opportunities for innovative insurance to catalyse transition finance.

Public finance similarly encompasses a range of instruments which can be tailored to the different stages of technology and project development. Early-stage innovation typically requires grantbased funding, whereas later-stage projects may be better suited to public lending and equity investments – for example, the UK's National Wealth Fund's (NWF) £28.6m equity investment in the Peak Cluster carbon capture project.⁴⁴ Some public finance interventions may take the form of insurance-type, blended finance, or first loss products.45

Sustainable government bonds are in turn a source of capital for public finance, part of which may be attributed to early stage or R&D projects within the bounds of well-established Green or Transition Bond standards and bought by capital market investors. There may also be securitisation options available for public or private assets to be repackaged for sale in the capital markets, freeing up capital for further investment.

Understanding these diverse capital needs and roles informs the design of capital structures and policy frameworks to enable effective scaling of transition finance. Table 4 provides a breakdown of the key characteristics of different capital providers and financing types in greater detail.

Instrument / Provider	Project Life Cycle Stage	Investor Risk	Typical Return	Investor Types	Vehicle Types & Examples	Comments / Stage-Specific Use Cases
De-risking and catalytic capital ins						
Grants & technical assistance (TA)	Early stage / R&D	Very low (typically no repayment obligation)	None or negative	Governments, Public finance institutions	Direct grants, R&D programs, TA facilities	Funds early research, concept validation; highest failure risk absorbed by donors/public entities.
Repayable / convertible grants	Pilot / early development	High (repayment contingent on success)	Negative to low / moderate (success contingent)	Governments, Public finance institutions, Philanthropy	Impact bonds, conditional/ repayable grants	Catalytic for risky pilots; may convert to loans or equity upon success.
Guarantees and insurance	Pilot / early development to full deployment	Low to medium (dependent on claims)	Fee-based (Near-zero to low)	Public finance institutions, Insurers	Credit guarantees, political risk insurance	Risk mitigants enabling lenders to finance higher-risk projects; span multiple stages.
Capital instruments						
Venture capital (VC)	Pilot / early development to early commercialisation	High	Very high	VC investors	VC funds, seed and early-stage funds	Invests in unproven startups or early commercial ventures; accepts high failure risk.
First loss (e.g. junior debt)	Pilot / early development to initial deployment / bridge between debt and equity	High (first loss position)	Low to high	Public finance institutions, Philanthropy	First-loss tranches in blended funds, subordinated debt/equity	Absorbs early losses and takes on asymmetric risk, unlocking senior capital; investors accept high risk for catalysis.
Growth capital (e.g. mezzanine debt)	Initial deployment / scale-up / bridge between debt and equity	Medium	Medium	Specialist Debt Funds, Growth Equity Funds	Mezzanine funds, convertible debt/equity	Bridges junior and senior capital; linked to growth targets, balancing risk and return.
Private equity (PE)	Initial deployment / scale-up to full deployment	Medium to high	High	Private Equity Investors, Infrastructure Funds	Direct equity, PE/infrastructure funds	Invests in maturing businesses scaling operations; expects higher returns for considerable risk.
Corporates (balance sheet investments)	Pilot / early development to full deployment	Variable (strategic alignment may lower perceived risk)	Low to high	Corporates	Direct equity, corporate venture capital, joint ventures	Strategic investments aligned with business objectives; flexible risk tolerance; balance sheet deployments often target operational scaling and market positioning rather than purely financial return.
Sovereign bonds / gilts	Early development to full deployment	Low (developed markets) to high (emerging)	Low	Institutional Investors	Government bonds, gilts	Governments raise capital through bonds to fund a wide range of projects, including higher-risk transition finance; government assumes risk of project outcomes while providing low-risk instruments to investors.
Securitised assets (debt & equity)	Initial deployment to maturity	Senior tranches: low to medium; equity tranches: high	Varies by tranche	Institutional Investors	Asset-backed securities, mortgage- backed securities, collateralised debt / equity obligations	Pools of financial assets packaged and sold to investors; can tailor risk-return profiles; improve liquidity and capital recycling.
Senior debt (including corporate bonds and infrastructure debt)	Full deployment / maturity	Low to medium	Low to medium	Commercial Banks, Institutional investors, Insurers	Bank loans, infrastructure funds, bonds	Targets proven, cash flow positive projects; risk mitigated by junior layers and guarantees.
Public equity (including mutual funds / ETFs)	Full deployment / maturity	Medium (market volatility)	Medium to high	Institutional Investors	Listed shares, mutual funds, ETFs	Offers liquidity and diversification; invests in mature, commercial enterprises.

Priority 4: Sequence capital flows to the phases of solution development

Actively planning for the roles of different capital types and sources throughout the implementation of a sector transition plan is a critical determinant of its success, ensuring investments are sequenced efficiently in line with technological, project, and infrastructure milestones.

The financing of transition technologies often falters between early development (typically backed by early-stage and growth investors) and deployment at commercial scale (which requires engagement from banks, insurers, and long-term institutional investors). This challenge is commonly described as the "missing middle" of transition finance. Anticipating these gaps through the cocreation of sector transition plans can help design capital structures and policy frameworks that align the investment characteristics of transition opportunities with the requirements of diverse financial actors, from early-stage investors to long-term capital providers.

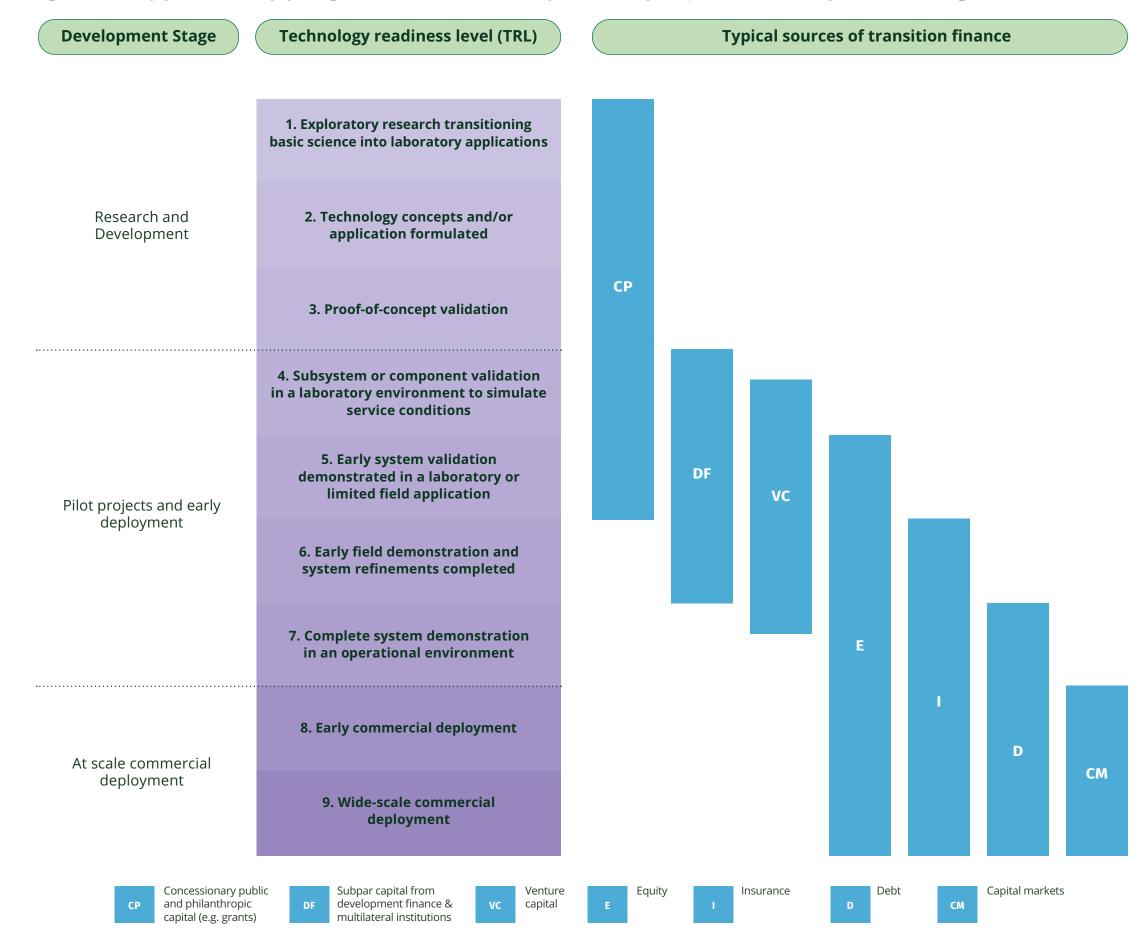
Sector transition plans and roadmaps should therefore set out a clear, phased capital structure to enable delivery of the transition solutions required to achieve their objectives. This involves mapping finance needs to the capital stack – using real data on capital deployment where available - and specifying who provides finance, when, and through which instruments.

Such mapping should incorporate diverse sources such as commercial banks, institutional investors, and businesses' balance sheets, alongside a variety of financial instruments ranging from specialised funds and insurance products to carbon credits. It should also extend beyond asset-heavy transitions to include sectors where transformation depends on changes in practices rather than capex - such as regenerative agriculture.

Figure 7 illustrates a typical high-level mapping of capital sources to stages in technology development. Different capital providers are also mapped against project lifecycle stages under Priority 3 in this section.

See Figure 10 (section 3c) for an example of mapping capital structures to the UK's offshore wind industry strategy and related policy measures.

Figure 7: Typical mapping of sources of capital to project development stages



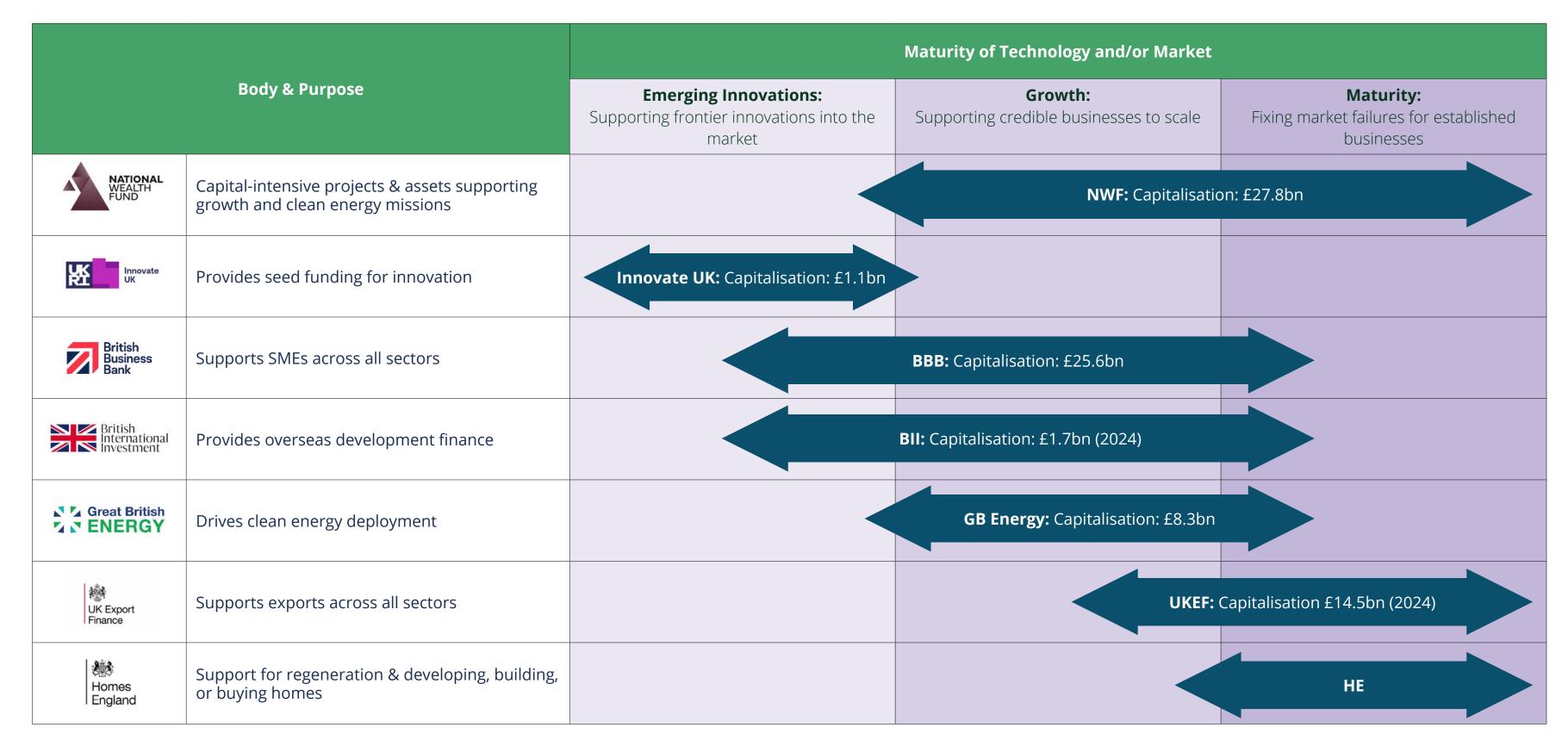
Source: Adapted from WEF⁴⁶ and Geneva Association⁴⁷ publications.

Granular mapping focuses capital providers on the components most relevant to them, while recognising the inherent relationships and interdependencies when it comes to risk allocation. It also reduces uncertainty for financial institutions, signals concrete investment opportunities, and guides policymakers to address specific barriers and identify the minimal government intervention required to ensure the availability of finance at the right scale, cost, and timing.

For example, the Green Finance Institute's National Wealth Fund Taskforce analysis of barriers to specific sector transitions allowed it to identify the least fiscally-constrained public finance instruments – ranging from direct equity investments and credit to price assurance and grants.⁴⁸ This type of analysis can help make the most effective use of scarce public capital and ensure appropriate value for the taxpayer.

Public finance plays a crucial role in bridging gaps where private finance alone cannot finance or underwrite a project in line with their risk-return requirements. This bridging function encompasses a range of instruments - such as grants, price guarantees, lending, equity investments, guarantees, and blended finance - particularly in early technology phases or to catalyse private capital deployment. Blended finance mechanisms, for example, combine public and private funding to de-risk investments and unlock capital that would otherwise not flow, supporting first-of-a-kind and hard-to-finance projects, facilitating market development.⁴⁹

Figure 8: Mapping UK public investment bodies' activity by technology and market maturity



Source: Adapted from UK Government⁵⁰

48 Green Finance Institute, 2024. Apprendix 1_NWF Taskforce_Sector Analysis. **49** The TFMR defines blended finance as funding interventions which combine public and private funding, with the aim of lowering risk and attracting private investment. **50** UK Government, 2025. Launch of the UK Strategic Public Investment Forum.

The balance between public and private finance will vary by sector, technology maturity, and adoption speed. High-emitting sectors earliest in their transitions face the greatest levels of technology uncertainty, and may require more substantial earlier-stage public finance to support research and development efforts and propagate technology readiness. In contrast, sectors where transition relies on commercially proven solutions may access private capital more readily, with public or quasi-public instruments (such as CfDs for renewables) still playing a role in creating demand certainty and meeting time-bound capacity goals.

A clear plan for transitioning from early-stage public financing to private capital with suitable risk-return profiles is essential. Public finance institutions play a critical role in de-risking projects that are first-of-a-kind or not yet financeable on fully commercial terms, and signalling when and how private capital should take over. HM Treasury's Strategic Public Investment Forum was set up in 2025 to ensure public financial institutions coordinate effectively to deliver investment in key areas. Figure 8 demonstrates how their mandates are intended to align with technology scale up and maturity. It will be essential that this coordination function is successful in responding to the TFMR's recommendation that "catalytic capital and blended finance targets specific sectoral market failures, embedded within a streamlined landscape of public finance institutions" and that these institutions are directly involved in the shared creation and implementation of sector transition plans and roadmaps.

Ultimately, public finance interventions should aim to scale proven transition activities rapidly, demonstrate the commercial viability of emerging solutions, and foster new value chains (such as scalable supply chains and circular economy models). Combined with clear sequencing of capital flows, this ensures the right capital is available at the right scale, cost, and timing - accelerating sector transitions while safeguarding fiscal resources.

"Catalytic capital and blended finance targets specific sectoral market failures, embedded within a streamlined landscape of public finance institutions."



3c. Mapping policy to finance



Having mapped investment needs, risk profiles, and the sequencing of capital flows, the next step in the finance plan is to ensure the enabling environment is aligned with those flows. Even the most robust capital structure will fail to unlock transition finance if the external conditions - such as policy measures, regulatory clarity, and value chain coordination - are not in place.

By explicitly mapping each stage of the capital stack to the policy levers, regulatory interventions, and market enablers required to make investment commercially viable, the finance plan becomes an actionable framework. This alignment reduces uncertainty, enables more efficient allocation of public resources, and creates an adaptable blueprint for scaling transition finance as transition solutions and markets evolve.

This mapping exercise depends on a structured flow of targeted, decision-useful information from public and private sector actors. As outlined in chapter 2, an effective co-creation process requires companies and sector bodies to provide detailed evidence on transition levers, barriers, and enabling conditions, including targeted 'asks' for government, regulators, technology developers, and capital providers. This information flow will improve policymakers' ability to identify efficient interventions, while enabling capital providers to assess investment readiness and barriers on a likefor-like basis across sectors.

Policy certainty is crucial for turning transition plans into credible, financeable opportunities. Investors and underwriters need transparent, predictable, and stable policy frameworks to assess risks and returns confidently. Our evidence showed that forward guidance - such as clear decision timelines, predictable allocation schedules, and transparency around regulatory and permitting processes - significantly boosts investor confidence. For example, the UK Clean Power 2030 Action Plan's ambition to implement a CfD auction schedule, including capacity targets for upcoming rounds, enhances transparency and predictability.

"Even the most robust capital structure will fail to unlock transition finance if the external conditions - such as policy measures, regulatory clarity, and value chain coordination - are not in place."

While policy discussion often focuses on supplyside measures, successfully unlocking finance for a sector's transition also requires predictable demand signals. Within a sector transition plan or roadmap, these signals can be explicitly mapped and sequenced alongside the capital stack and supply-side interventions, identifying where demand creation is needed to make investment commercially viable. Governments can support this through targeted policy instruments, public procurement, subsidies, mandates, or by facilitating marketplaces and platforms that enable private sector participation. Notable examples include the German government's purchase of electricity from renewable sources, which helped create credible demand and unlock investment in the solar energy sector. By incorporating and sequencing demandside measures into the plan, users can see where demand certainty reduces risk, complements supply-side interventions, and accelerates sector transitions.

By linking the capital structure mapping exercise to targeted policy interventions, sector transition plans can help policymakers identify the most efficient and effective financial and non-financial measures. This approach also enables the private sector to crystallise components of the plan through early commitments such as memoranda of understanding, offtake agreements, or supply chain partnerships, particularly in sectors with greater technology readiness and established policy support. Figure 9 shows a simplified diagram of how transition solutions at different stages of development can be supported through a mixture of policy and regulatory levers and applications of blended finance.

Figure 9: Mapping policy interventions to phases of a transition solution scale-up

Full deployment **Initial deployment** Early stage / R&D Pilot / early development / scale up / maturity **Public procurement** Repayable / **Revenue support R&D** funding or tax convertible grants **Export guarantees** models incentives **Subsidies Product standards** Blended finance (e.g. Challenge funds / junior debt, equity, Blended finance (e.g. prizes Revenue support guarantees) junior debt, equity, models **Innovation clusters** guarantees) Regulation (e.g. bans, phase out)



A worked example of this policy-to-capital-structure mapping is found in assessing the history of the UK's offshore wind industry, depicted in figure 10. In 2002, the UK Government legislated to require electricity suppliers to procure a proportion of their energy purchases from renewable sources, evidenced through the establishment of Renewables Obligation Certificates (ROCs).⁵¹ This was the first key policy enabler of early-stage investment in the nascent offshore wind industry by players with higher risk appetites. More recently, the UK's 2023 Offshore Wind Net Zero Investment Roadmap estimated the investment need for the offshore wind sector to be £50 billion out to 2050. As the technology matured, so did the field of transition finance available, successfully unlocked by successive policy innovations, including CfDs, feed-in tariffs and public finance interventions through the UK Green Investment Bank.⁵² This upward trend is likely to carry on, as the current government continues to deploy other policy levers, such as planning and grid connection reforms to support a greater number of commercially viable projects, particularly in the second half of this decade.

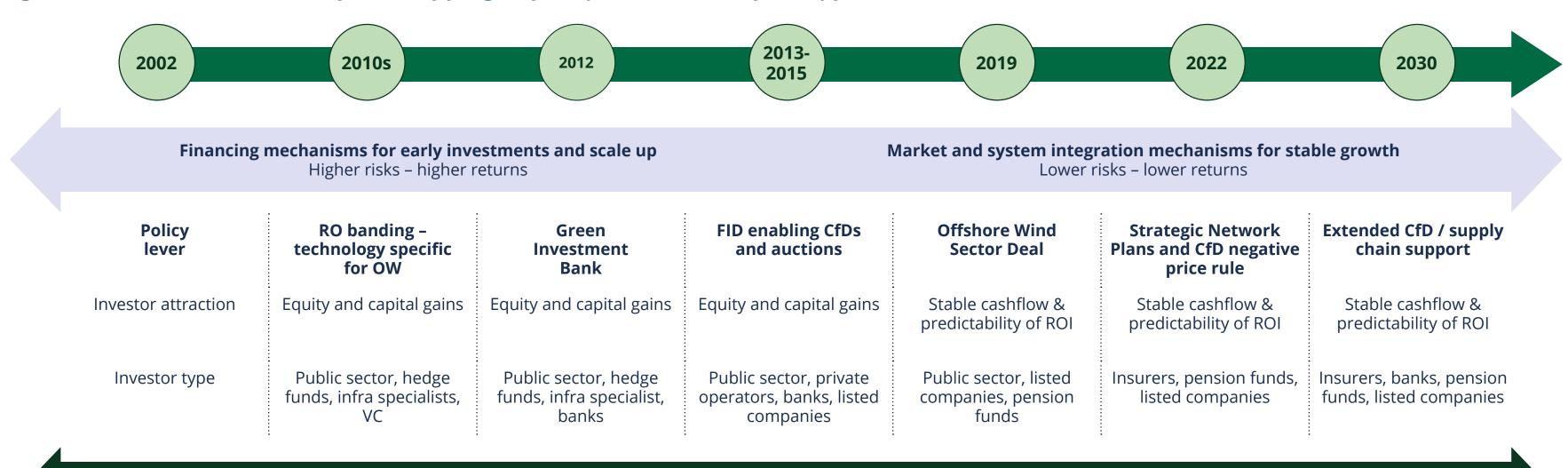
Mapping interventions to sources of capital and plotting these on a timeline also allows policymakers to envisage at what stage (in a sector transition plan) policy support could be reshaped, reduced, or even fully withdrawn. For example, once a transition technology has scaled, the commercial landscape may become sufficiently altered to incentivise persistent decarbonisation without policy support or to enable public finance to be repackaged into private vehicles. This can inform and justify a more robust and attractive long-term economic strategy around sector transition plans, including fiscal planning and debt management.

Together, the components outlined in chapter 3 offer a practical framework for credible and responsive finance plans. Strong investment frameworks, enabling conditions, and informed mapping of capital and policy measures will be key to unlocking the finance required for sector transitions. Chapter 4 builds on this foundation, focusing on implementation, monitoring progress, and updating plans to reflect the evolving transition landscape.



The estimated investment need for the offshore wind sector out to 2050

Figure 10: Offshore wind example – mapping of policy levers and capital type over time



Banks, private equity capital, govt grants

Bank, green gilt loans, private credit, GBE, govt co-investment, private and listed capital





Overview

Implementation of a sector transition plan or roadmap (and its constituent finance plan) will be the ultimate measure of success, relying on the continued collaboration of business, finance, and government that shaped its creation. As outlined in chapter 3, effective finance plans depend not only on a clear mapping of capital types and sequencing, but also on the alignment of policy levers, regulatory interventions, and market enablers to those flows. Embedding these elements from the outset supports plans that are dynamic and adaptable, operating as live vehicles to guide ongoing coordination and financing decisions.

4. Ensuring effective

implementation

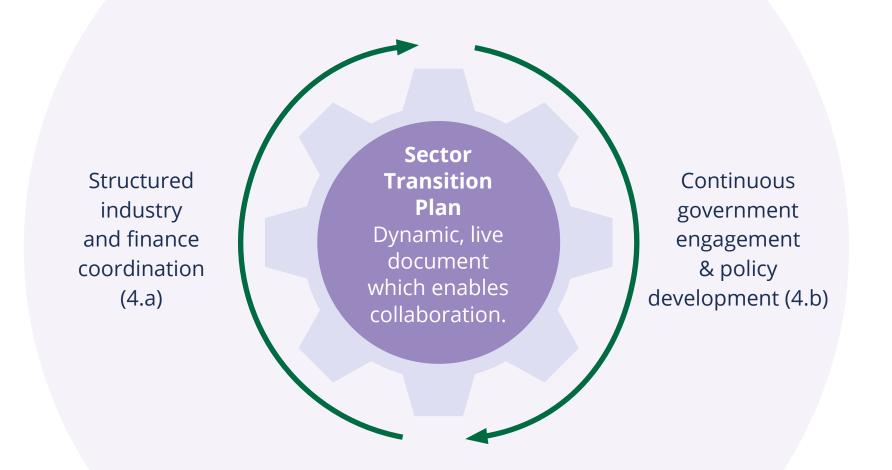
No plan can fully anticipate external shocks, including changes in technology development, supply chain disruptions, evolving customer trends, or macroeconomic and geopolitical shifts. A plan's resilience therefore depends on its ability to adapt, with the convening of businesses, finance, and government providing the structures and relationships necessary to course-correct, while still maintaining long-term strategic direction and momentum toward the sector's transition objectives. A time-structured approach – balancing frequent updates with a consistent, long-term strategic direction – to sector transition plans and roadmaps will help to bring shortterm corporate, financial, and political planning and decision cycles in line with long-term climate goals.

In this chapter, we consider how plans may durably raise transition finance and be successfully implemented through (a) business and finance coordination, and (b) continuous government engagement and policy development, depicted in figure 11. Across both these areas, the co-creation design features of chapter 2 support this coordinated implementation by ensuring the plan's finance and policy mappings remain actionable and responsive over time.

Figure 11: Coordinated implementation across businesses, finance, and government

Government & regulators

- Identify and address barriers, dependencies and enablers
- Monitor implementation progress
- Respond to misalignment through policy, regulation, and strategic integration
- Regularly update plans



Businesses

- Benchmark individual transition plans against the sector plan
- Provide insights on barriers and enablers
- Coordinate across value chains and project pipelines

Finance institutions

- Identify and finance future investment opportunities
- Integrate sector view into forward-looking models and frameworks
- Anchor stakeholder engagement around the sector transition plan

Robust sector transition plans and roadmaps will be well-positioned to anchor structured businesses, finance, and government coordination, guiding the mobilisation of finance for the sector's transition. To translate these plans into actionable finance outcomes, businesses, value chains, and financial institutions need to coordinate their efforts around a few key practices: Plans should operate as 'living governance assets', with businesses, value chains, and finance actively feeding in data, updates, and insights so the plans continually reflect evolving market conditions, technological progress, and policy gaps - ensuring they remain practical, credible, and financeable over time.

- Pusinesses align their transition plans to the sector transition plan, including anchoring visions, strategy, and financing decisions. Businesses should actively feed in data and insights so that the sector transition plan evolves to reflect changing conditions. Over time, businesses' disclosures on barriers and enablers can coalesce around a common language for example applying a typology of dependencies and actions improving comparability and decision-usefulness for policymakers.
- Value chain coordination. Sector transition plans provide a shared understanding of how the sector will transition, enabling collaboration across suppliers and customers. Addressing coordination challenges enhances the financeability of project pipelines, particularly where the economics of transition solutions depend on interdependent actions, including through contracting arrangements.
- Financial institutions identify transition opportunities. Capital and insurance providers can leverage sector transition plans to identify future opportunities, and direct finance toward credible solutions across the sector. Financial institutions will focus on capacity-building for solutions that they deem to be scalable, informed by sector transition plans.
- Financial institutions identify and finance transition opportunities across the sector. They can use the sector transition plan to anchor stakeholder engagement and integrate a forward-looking sector view into models and frameworks, while also benefitting from improved and aligned business transition plans.



The Finance Playbook

4b. Continuous government engagement and policy development

Strategic government oversight of the sector transition planning and implementation process is critical to ensure coordination, coherence, and alignment with national strategy. Implementation is an iterative, learning-by-doing process. To scale transition finance and deliver effective sector transition plans and roadmaps, government engagement should focus on four priorities:

1. Identify and act on barriers, dependencies, and enablers

Governments should actively engage with businesses and finance to surface barriers, dependencies, and enablers within the sector. Structured engagement – leveraging co-creation platforms and sector forums – helps identify obstacles to finance flows, project pipelines, and technology deployment, and enables timely interventions to address them. Using insights from financial institutions on which technology types and solutions are currently deemed to be scalable will help to direct which other solutions require further policy action. Such engagement can also inform the strategic direction of public finance institutions to ensure that public investments are targeted where they can be most effective at unlocking private capital. Acting on these insights ensures that sector-level initiatives remain aligned with broader objectives, while supporting the practical delivery of projects and transition solutions.

2. Monitor implementation progress

Finance-related KPIs should be embedded in a broader monitoring framework to track progress against the sector transition plan or roadmap, evaluate effectiveness, and ensure alignment with emissions targets and strategic objectives. This could build on the UK Government's previous work with Frontier Economics to develop a methodology and model for a UK Lanscape of Climate Finance that would track net zero investment in the UK economy. This monitoring process should include regular and transparent tracking of KPIs covering:

- Transition finance flows (including quantities, sources, instruments, and destinations)
- Deployment rates of key transition solutions
- Emissions reductions
- Customer affordability
- Avoided system costs (benefits from reduced exposure to external shocks, e.g., gas price volatility)
- Jobs growth / retraining rates

Regular monitoring of these KPIs, for example, by the UK's CCC, will support policymakers' diagnostic exercises to identify the most effective interventions. Monitoring and optimising customer affordability will also be key to securing broader

stakeholder support for an enduring sector transition plan. Similarly, tracking costs avoided through the successfully delivery of transition solutions enables government to assess return on investment and build public trust.

3. Respond to misalignment through policy, regulation, and strategic integration

Where monitoring indicates gaps or misalignment between sector progress and long-term objectives, governments should adjust policies, regulations, use of public finance, and engagement mechanisms at a strategic level. This ensures that sector transition plans remain consistent with national strategies, industrial policies, financial services priorities, and budgetary decisions.

- Continuous dialogue with businesses and finance enables agile adjustments to market shifts, technology developments, or emerging policy opportunities.
- Mechanisms such as a consistency and adequacy 'test' can help maintain alignment between sector-specific interventions and overall policy programmes.
- Policy adjustments should be evidence-based, targeted, and timely, supporting the long-term objectives of emissions reduction, economic resilience, and social outcomes.

4. Regularly update sector transition plans and roadmaps

Sector transition plans should be dynamic, with mechanisms for periodic review and updates to reflect evolving market conditions, technology developments, and policy contexts. Review triggers could include:

- Finance flows and KPIs off track, prompting course corrections
- Technology development materially over- or under-performs expectations
- Changing economic conditions requiring realignment with national strategy
- Updates to national or international climate commitments (e.g. legislated emissions reduction targets, NDC cycles, or sectoral pathways) requiring plan realignment
- Achievement of policy objectives, allowing policy levers to be applied elsewhere

Regular updates ensure that implementation, oversight, and finance plans remain responsive while maintaining long-term confidence in the sector transition pathway. Conceptually, reviewing plans at least once every three years aligns with the TPT frequency suggested for corporate transition plans. However, the frequency and structure of updates should be tailored to the specific sector and context.

Conclusion

Sector transition plans and roadmaps, supported by robust finance plans, are critical tools to mobilise the scale and pace of finance needed for the net zero transition. This Playbook shows that achieving this ambition requires coordinated action across businesses, finance, and government, with a strong focus on actively identifying finance needs and barriers, developing practical sequenced solutions, and continuously monitoring and adapting plans.

This Playbook dives deeply into the finance case, addressing gaps in existing plans and pathways which have limited private capital mobilisation, and showing how these can be addressed to unlock transition finance. By integrating finance into sector transition plans and roadmaps, stakeholders can align financing decisions with technology scale-up, tackle cross-system dependencies, and build confidence among both industry and policymakers.

Commitment to regular review will ensure that the finance plan remains credible, actionable, and resilient to market and technology changes. Ultimately, the Playbook's approach provides a practical, evidence-based roadmap for unlocking finance, accelerating technology deployment, and driving a just, sustainable transition of high-emitting sectors.





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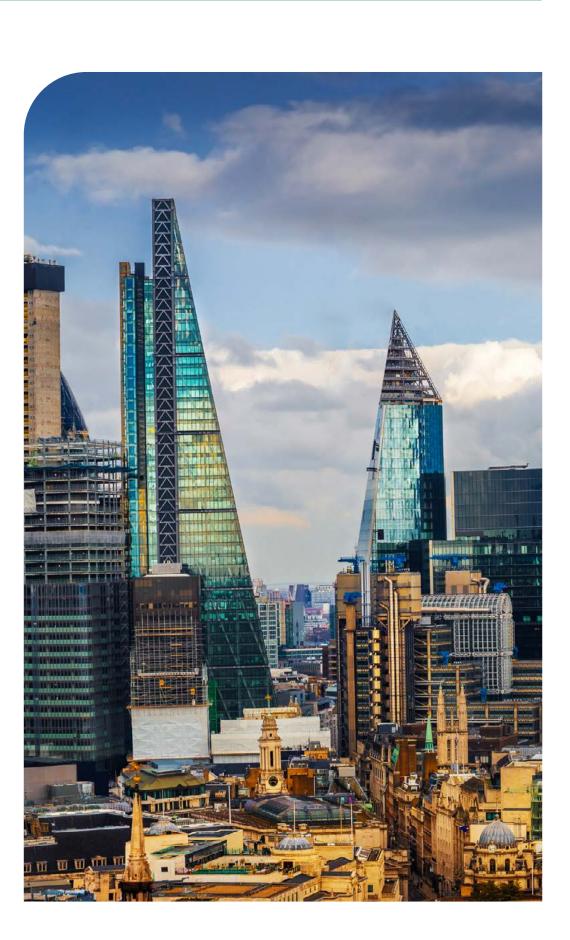
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The views expressed in this report do not necessarily reflect those of individual members of the Council or the organisations they represent.



Appendix a. Review of UK landscape

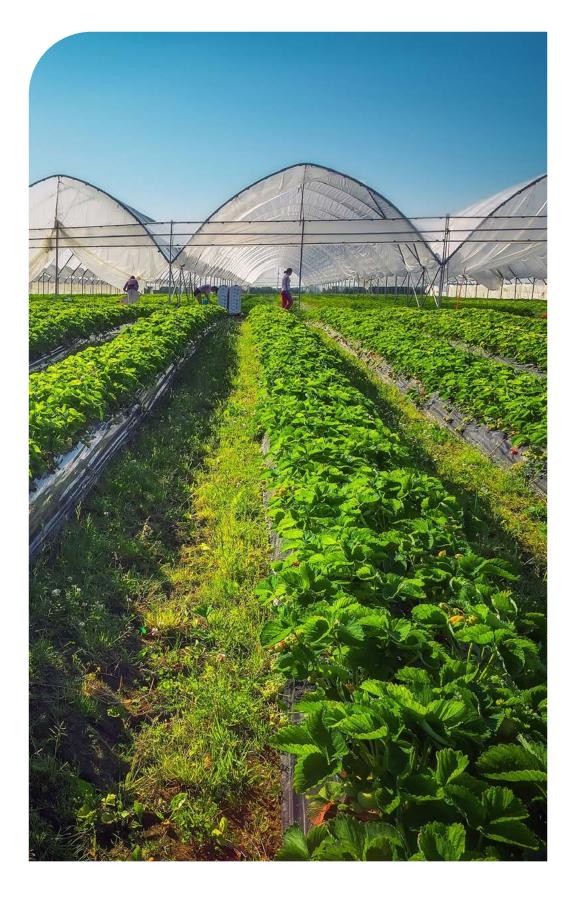
Government sector transition plans and roadmaps

Several jurisdictions have sought to articulate sector transition plans and roadmaps. The UK Government has published a range of relevant documents including its UK Renewable Energy Roadmap as early as 2011, and through 2023 and 2024 has published the Carbon Capture Utilisation and Storage (CCUS) Net Zero Investment Roadmap, the Heat Pump Investment Roadmap, the Offshore Wind Net Zero Investment Roadmap, the Hydrogen Net Zero Investment Roadmap, and the Clean Power 2030 Action Plan. ^{55 56 57 58} It has also published broader sectoral strategies such as the 2021 Industrial Decarbonisation Strategy, due to be updated in 2026. ⁵⁹

The Council's evidence shows, a number of elements in existing UK Government roadmaps have been identified as essential in sector transition plans:

- Clear ambition for the deployment and scaling of key transition solutions: For example, the Hydrogen Net Zero Investment Roadmap seeks to deploy up to 10GW of low-carbon hydrogen production capacity by 2030, while the CCUS Net Zero Investment Roadmap aims for world-leading carbon capacity of 20-30 MtCO₂ p.a. by 2030.^{60 61} The foundation of these roadmaps is a clear timeline for the development of policy, early stage technology investment, and some wider infrastructure and supply chain considerations plotting the path forwards for transition finance to address.
- An assessment of the most economically attractive technology deployment opportunities that will benefit from government and policy focus: In the case of CCUS, the roadmap outlines a plan for four industrial carbon capture clusters, cutting through the uncertainty and focussing companies and financial institutions on a clear sequence of projects developing the CCUS value chain. This provides an example of nonfinancial government intervention effective in coordinating a value chain as it seeks to shift from one system to another.

• An outline of near-term policy interventions to facilitate early-stage private capital deployment: For example, the Hydrogen Net Zero Investment Roadmap articulates how funding mechanisms will be supported by the Hydrogen Production Business Model (HPBM), a revenue support model delivered via the Hydrogen Allocation Rounds. The first round of the mechanism saw £400m of private capital investment committed to projects between 2024-26.63



However, in the round, our analysis has identified that sector transition plans and roadmaps lack the granularity and time-bound policy clarity required to properly unleash private transition finance. Specifically, the existing UK Government roadmaps typically do not go far enough to address the following elements:

- Quantification of investment need;
- Mapping of transition finance sources and identification of barriers to delivery;
- Forward plans on the policy, industrial strategy, and infrastructure strategy levers that will underpin the roadmaps across relevant timeframes;
- Mechanisms for continuous dialogue between businesses, finance, and government to iterate and improve roadmaps, associated policymaking, and development of financial solutions.

For example, two recent energy sector plans achieved several of these elements in part (summarised in the table 5). The Offshore Wind Net Zero Investment Roadmap – published in 2023 - had several welcome elements, but could have benefitted from even closer industry dialogue. The Clean Power 2030 Action Plan – published in 2024 – was a major development and has had a galvanising impact on the sector.⁶⁴ A key enabler of the plan will be ongoing engagement with businesses and finance to ensure the sufficient capital deployment to deliver the plan, particularly the case for more nascent solutions such as CCUS and long-duration energy storage. This is supported by a dedicated 'Mission Control' team of experts in DESNZ.

Finally, our evidence base shows that the implementation of sector transition plans and roadmaps requires continuous government policy development in collaboration with businesses and finance, but that industry also believe this would be challenging to achieve without systematic integration of sector transition plan development into the UK Government's core policy programme. This integration and the government's oversight of sector transition plans and roadmaps is an opportunity to better signal confidence to the finance sector, and we expand on the approach in chapter 2.

The UK's offshore wind sector provides an example for how business and finance engagement can resolve unanticipated sector plan implementation challenges. The 5th round of CfD auctions for UK offshore wind (AR5) failed to secure any bids, largely attributed to a lack of recognition of the changing investment landscape in the sector, including increased development costs.^{67 68}
However, in response to finance sector feedback on the CfD mechanism, the recent Clean Power 2030 Action Plan features CfD reform (extending the CfD period from 15 to 20 years) and recognises the need for forward guidance on policy mechanisms underpinning key components of the sector transition plan.⁶⁹

Collaboration between businesses, finance, and government is going in the right direction: for example, the UK's latest industrial strategy, published in June 2025, makes some reference to the UK Government's pathway documents, including interventions to incentivise investment into CCUS and hydrogen to "ensure there are viable pathways for industries like steel, chemicals, and materials to decarbonise". To However, these references could be deepened and do not directly address how government envisages these highemitting sector pathways materialising, nor how the industrial strategy will underpin pathways with short- and medium-term policies.

Table 5: Assessment of key financing elements in two sector plans / roadmaps

	Offshore Wind Net Zero Investment Roadmap ⁶⁵	Clean Power 2030 Action Plan ⁶⁶
Investment need	Articulated the total capex opportunity (the 'investment need') of £50bn through 2030	Articulated an expected investment need of £40bn on average per year between 2025 and 2050.
Identification of transition finance sources and barriers to delivery	Underdeveloped assessment of emerging investment risks, such as supply chain inflation and dislocation, and planning delays.	Underdeveloped assessment of investment needs against relevant sources of finance and financing channels.
Policy, industrial strategy, and infrastructure plans	Articulated a suite of underpinning policies aimed at catalysing private capital, including an extension of the successful revenue-guarantee mechanism. CfDs, and the innovation of new freeports.	Articulated a detailed set of policy plans to address industry feedback. For example, plans to reform the CfD mechanism and set out a CfD auction schedule with capacity ambitions aimed to respond to business and investor concerns.
Mechanisms for continuous dialogue	No mechanism for continuous dialogue with businesses and finance on the sector's challenges and the government's plans.	Outlined a deeper programme of engagement with businesses and finance and outlined plans for further consultation in 2025.

Non-governmental plans and roadmaps

In the UK, several non-government organisations have also sought to produce their own - or build upon existing - sector transition plans to outline pathways for high-emitting sectors to decarbonise, the adoption of new solutions, promote economic opportunities, and achieve net zero goals.

Inevitably, these roadmaps cannot provide investors and underwriters with the strategic government engagement and policy plans that underpin investor confidence. However, our review of these plans has identified several lessons for the development of sector transition plans and roadmaps that effectively address finance needs.

As the market contends with these transition challenges, there has also been a proliferation in the number of companies, lenders, insurers, investors and underwriters advocating for transition policy recommendations. These are usually centred around unlocking commercial opportunities for investing in transformative

transition solutions in their own transition plans, serving to demonstrate the commercial need for constructive collaboration with government to deliver decarbonisation in high-emitting sectors, e.g., levelling the playing field for green steel.

In 2024, Aviva Investors produced a policy roadmap for boosting low-carbon investment in the UK, which featured a detailed number of suggested policy interventions aimed at improving market conditions for low carbon investment across the UK, including actions on tackling planning delays and targeting public investment where it is most effective.⁷⁴ Similarly, Tesco published its Greenprint report for the first time in 2025, with policy recommendations to achieve net zero and broader sustainability goals in its UK agriculture supply chain, based on intensive consultation with farmers. The interventions recommended include measures to provide financial certainty to the sector as it deploys capital behind transition opportunities.⁷⁵ Again, however, such recommendations need to be adopted where politically feasible for finance to flow.

Table 6: Lessons from non-governmental plans and roadmaps

Roadmap and context	Key lessons for an effective sector transition plan
E3G's 'The UK's clean power mission: Delivering the prize' ⁷¹ Developed a delivery plan for the UK Government's mission to achieve 95% clean power by 2030, including reforms to CfDs and levies, flexibility mechanisms, and opportunities for blended finance and central bank initiative. Demonstrated that such a delivery plan would deliver more stable electricity bills over the long term.	 Targeted policy reform: This roadmap demonstrates how targeted policy interventions can underpin a sector transition plan to address delivery challenges, while the simultaneous addressing of economic opportunities supports policy durability and, in turn, investor confidence. Economic policymaking grounding: This roadmap illustrates how well-designed sector transition plans can be grounded in the quantitative economic merits of the transition, supporting integration with core economic policymaking (such as the Industrial Strategy) and sustaining long-term policy durability and stability.
Green Finance Institute's 'National Wealth Fund (NWF) Taskforce Analysis' ⁷² Reflects on the UK Government's Hydrogen Net Zero Investment Roadmap. Identifies barriers to deployment and corresponding recommendations on how the NWF could unlock transition finance, including price guarantees and project insurance.	 Strong investment focus: This roadmap offers examples for how sector-specific, actionable interventions may more robustly address investor needs in high-emitting sectors. Stakeholder-specific actions: Through its focus on how the NWF could address specific barriers, this roadmap provides an example of the type of granular actions that are most helpful for businesses and finance. The next step would be to have these actions taken and policy measures to be in place.
Institute of Grocery Distribution's 'Net Zero Transition Plan for the UK Food System in 2024' ⁷³ Sets out a granular least-cost plan to achieve national climate targets in 2030 and 2050 in the food system. Quantifies the optimal contribution of feasible decarbonisation levers and provides policy recommendations to support collaboration.	 Technical foundation: This roadmap demonstrates how policy plans can be formulated from a technical and quantitative foundation using independent evidence. Identification of barriers: This roadmap provides a strong foundational understanding of key barriers and risks for businesses, finance, and government to collaborate on and co-create the enabling conditions for transition finance, for example how the additional annual system costs expected to support the penetration of low-carbon agricultural practices and solutions would be compensated or incentivised. Again, such measures would need government support and be put in place to unlock financing.

Outside the UK, other jurisdictions have made strides in addressing the challenge of decarbonising high-emitting sectors. Much like the UK's roadmaps, the different approaches reviewed correspond to different pieces of the 'scaling transition finance' puzzle. These examples provide further evidence of the hurdles to unlocking transformative transition finance and further lessons on how to effectively address these challenges through sector transition plans.

Table 7: Summary of international landscape review

Context	Strengths	Weaknesses
France's Strategic development plan for the French transmission grid ⁷⁶ Annual roadmaps to decarbonise the grid are developed by the transmission system operator.	 Informed by significant industry and public consultation, culminating in a granular, actionable, and measurable roadmap. Identifies the specific actions, infrastructure needs, and investment needs at specific junctures, totalling an investment need of over €100bn over 2025-40 and quantifies the avoided costs. Informs engagement with policymakers, translating into the delivery of key projects articulated in earlier iterations, such as the grid and electrification upgrades for the Dunkirk Low Carbon Industrial Area.⁷⁷ 	Underdeveloped in articulating the role of private finance and how it would be mobilised.
Japan's Technology Roadmap for 'Transition Finance' in Cement Sector ⁷⁸ Ministry of Economy, Trade, and Industry produced sector roadmaps as part of Japan's first transition sovereign bond.	 Provides a detailed assessment of the current state of the cement industry, including a breakdown of potential decarbonisation levers (tech and non-tech) and expected technology developments to deliver emissions reductions in line with Japan's nationally determined contributions (NDCs). Produced by government and informed by industry to make authoritative. Companies are expected to refer to the technology roadmaps when raising transition finance. 	 Mainly a tool for investors to assess decarbonisation options in the sector and classify activities for the GX transition bond to invest in, rather than directly addressing barriers to the scaling of transition finance through multiple levers.
Australia's Sector Pathways Review ⁷⁹ The Climate Change Authority identified technology transition and emissions pathways in six high-emitting sectors: electricity and energy, transport, industry and waste, agriculture, resources, and the built environment.	 Granular breakdowns of sectoral emissions reduction levers and go beyond technology pathways by assessing some of the specific market barriers to adoption of the solutions identified (mostly related to costs and market mechanisms). 	 Only high-level suggestions for dismantling barriers, but it does recommend developing sector transition plans.
USA's Pathways to Commercial Liftoff ⁸⁰ The Department of Energy has published reports on advanced nuclear, clean hydrogen, long-duration energy storage, offshore wind, sustainable aviation fuels, and industrial decarbonisation.	 Provide a 'shared fact base on the development, deployment, and commercialisation of clean energy technologies' Informed by engagement with industry, communities, and public sector organisations. Zoom in on key technologies, describe the market opportunity, diagnose current challenges, and suggest policy and wider actions to deliver commercial 'lift off' to the transition over a clear timeline. For example, for clean hydrogen, an understanding of barriers (e.g. high production costs) directly informed the policy interventions 	
Mission Possible Partnership's (MPP) Making Net Zero Concrete and Cement Possible ⁸¹ MPP – a collaboration between businesses and finance – produce sector transition plans assessing the decarbonisation levers available in each sector and current levels of commercial and market readiness.	 Estimation of the full investment need broken down by decarbonisation lever e.g. efficiency measures are deemed to already be cost effective while the use of supplementary cementitious materials would incur additional costs of \$11-20/t CO2. Detailed recommendations for government, including carbon pricing, tax credits, and revisions to building standards. 	Private finance sources and channels are vague.

Case study 2: South Australia's Hydrogen Roadmap

The State of South Australia's 2019 Hydrogen Action Plan provides a rare example of how government and industry co-creation of a sector transition plan (focussed on hydrogen as a transition solution) can successfully unlock private capital and initiate a system transformation.

Focussed on capturing a green hydrogen export opportunity, the plan articulates the economic case for investing in green hydrogen production capacity (leveraging the state's abundant renewable resources), a strategic vision for how this could be delivered, and clear forward guidance on the state government's next policymaking decisions.⁸²

While the plan did not quantify investment needs or identify how different sources of private capital would be accessed, the strength of the state policy underpins substantially elevated the investability of the plan's projects. The plan was a 'living strategy' that provided the foundation for continued policy development to address market

and transition finance barriers, including through the legislation of the state's Hydrogen and Renewable Energy Act 2023, which streamlined processes for companies to invest in projects through a 'one window to government' licensing and regulatory system.⁸³

This was also supported by the articulation of policy KPIs, such as the annual volume of hydrogen produced and exported or the cumulative capital investment secured in hydrogen infrastructure. Success can be measured in the development of the state's hydrogen pipeline, first articulated in 2019. By the time of Australia's federal hydrogen strategy in 2024, one project had begun operations (the 1.25MW AGIG Hydrogen Park) with several others under active development, including a 60MW electrolyser at the AGIG Hyp Adelaide Project.⁸⁴



Appendix c. Summary of evidence gathered from stakeholder engagement

Context

To inform the development of this playbook, the Council published a call for evidence to gather real economy insights and held a series of evidence-gathering workshops with stakeholders from across the investment chain:

- We received responses to our call for evidence from a number of different sectors across the economy.
- We held 5 workshops on how sector transition plans can effectively guide capital allocation and unlock transition finance convened by UKSIF, Aldersgate Group, UK Finance, the Association of British Insurers, and Federated Hermes.

TThe evidence gathered across the financial sector workshops and the real economy call for evidence revealed a strong degree of alignment on key aspects of effective development, core components, and implementation of a sector transition plan to unlock transition finance. Both stakeholder groups emphasised that the most effective sector transition plans (sector transition plans) serve a dual function, including: (i) informing real-time financing and risk decisions, and (ii) shaping long-term product innovation and alignment strategies; therefore

acting both as technical guides and mobilisation tools. To be effective, sector transition plans should incorporate a number of core components, including clear emissions trajectories, technology pathways, and capital requirements. Evidence from the finance and real economy stakeholders also highlighted the need for a structured and inclusive development process for effective sector transition plans with each stakeholder bringing a key area of expertise. Once created, sector transition plans should then be 'living documents' that are embedded in an institution and within national policy frameworks, with mechanisms to ensure regular review and updates to reflect new developments.

Some slight differences in emphasis emerged within and between the two stakeholder groups. For example, investors in the evidence-gathering workshops called for sector transition plans to provide detailed, directive plans, while other stakeholders preferred a more flexible and outcome-agnostic approach, especially where there was a risk of overcommitment without political durability to implement plans over the longer term.

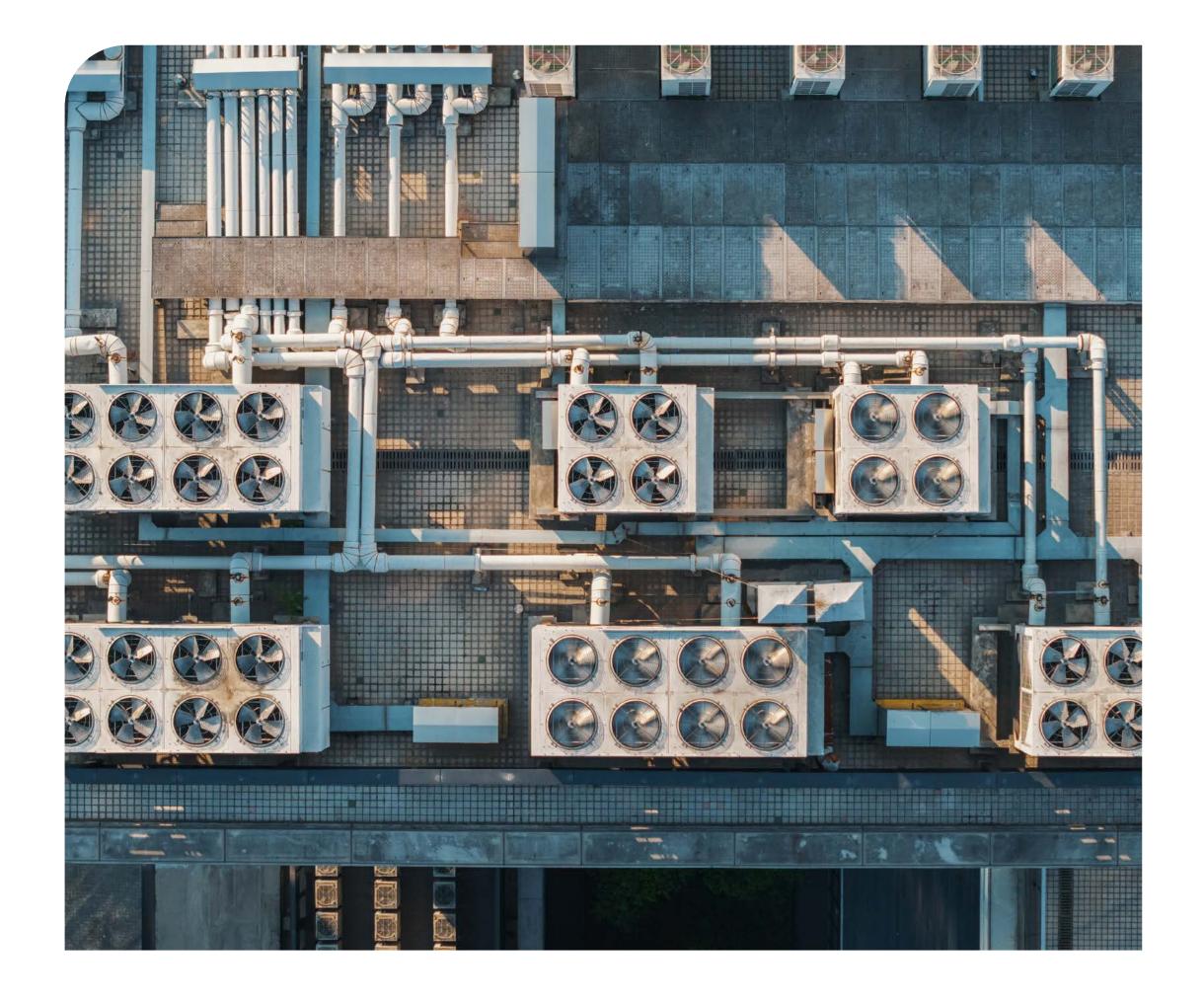


Table 8: Summary of evidence from stakeholder engagement

Theme	Key insights from financial and real economy stakeholders
Key components of sector transition plans should include:	Clear emissions trajectories with interim targets aligned to carbon budgets.
	• Technology pathways over a clear timeline with costings (capex and opex), uptake curves, technology readiness levels (TRLs), dependencies, and associated emissions reductions potential.
	 Total and granular investment needs and financing structures over the investment lifecycle (from early-stage and pre-commercial through to mature capital), including de-risking and risk- sharing tools and capital stack requirements. For some capital-intensive transition solutions, information on blended finance instruments and early-stage support should be provided – such as revenue certainty mechanisms or public procurement commitments.
	Assumptions and scenario options with uncertainty bands and feedback loops to account for policy delays, technology failure or climate events.
	Clarity on national and regional policy levers (such as subsidies, public procurement, and carbon pricing), enabling infrastructure plans and institutional coordination processes.
	Sector-specific KPI and metric standardisation to enable cross-sector comparability and support the structuring of credible instruments.
	Specific financial subsector needs (e.g. insurers, banks, and asset managers).
	Alignment with existing frameworks , such as US 'Lift off' reports and existing disclosure regimes.
	Integration of physical risk and resilience, co-benefits, and consumer-level impacts.
The development process and participation should include:	Collaboration between businesses, finance, and government with structured stakeholder consultations and differentiated roles in the development:
	 Businesses should develop the technology pathways, project timelines, and cost assumptions. They should also articulate the practical implementation needs, policy enablers, and sector-specific investment barriers.
	• Financial institutions should stress-test the commercial viability of proposed pathways, identifying financing gaps, and designing tools to support scalable investment.
	Government should convene all key actors and set the overall, long-term targets.
	 These stakeholders should be brought together in an agile process, rather than overly complex governance structure, by a neutral third-party convener, such as an academic network or public body to coordinate cross-sectoral input and provide consistent data and modelling.

Theme	Key insights from financial and real economy stakeholders
Effective implementation, ownership, and use of sector transition plans should include:	 Co-creation of sector transition plans as the 'living documents' between businesses, finance, and government supported by mechanisms for regular review and course correction to reflect new data, policy, and technologies.
	 Government should own the sector transition plans to provide long-term, stable signals on policy direction and embed them in national policy frameworks, such as the Carbon Budget Delivery Plan and Treasury budget cycles. This could be supported by a dedicated cross-government team or a 'Mission Control' structure.
	 Presented in a user-friendly, online format with different tiers of information, live tracking of financial flows, and best practice case studies.
Key benefits of effective sector transition plans to real economy and finance stakeholders include:	 A benchmark and granular plan with trajectory-aligned expectations for different sectors to support business planning and quantify funding needs against specific milestones.
	 A guide for climate risk assessment and lending decisions, setting targets and guiding stewardship.
	A tool to guide policy engagement and advocacy asks.
Examples of effective sector transition plans provided:	• EU Taxonomy and Platform on Sustainable Finance Guidance: Offered sector-level clarity on emissions metrics, eligibility thresholds, and financial labels; enabling more consistent product structuring and screening criteria. 85 86
	• Climate Bonds Initiative (CBI) Sector Criteria: Provided science-aligned, technically specific criteria used in structuring certified green bonds and in internal financing and pricing decisions. ⁸⁷
	Mission Innovation Net-Zero Innovation Platform: Indexed TRLs and funding gaps across emerging sectors, aiding the design of blended finance and technology deployment models.
	UK Net Zero Electricity Roadmap: Supported securitisation, power purchase agreements (PPAs), and infrastructure financing through clear policy commitments and capacity deployment timelines.
	• IGD Net Zero Transition Plan (Food & Agriculture): Distilled sector financing needs by quantifying abatement costs and capital requirements across interventions - enabling blended finance and place-based models. ⁸⁸
	• IMO 2023 Maritime Strategy & Net Zero Framework: Provided high-level policy clarity, sector-specific timelines, and regulatory signals that informed business planning for newbuilds and retrofits. ^{89 90}
	GFI's Nature Recovery Roadmaps: Focused on unlocking investable nature-based solutions through revenue model design, ecosystem service stacking, and alignment with DEFRA targets. 91
	ADEME (France) Sector Plans: Used for scenario-based investment planning in industrial sectors by linking emissions impacts to capex timing and technology options. 92
	Hydrogen and CCUS NZ Investment Roadmaps: Cited as useful tools for evaluating borrower alignment and transition plan credibility in finance frameworks. 93 94

85 European Commission, 2025. EU taxonomy for sustainable activities. 86 European Commission, 2025. Platform on Sustainable Finance. 87 Climate Bonds Initiative, 2025. Sector Criteria. 88 Institute of Grocery Distribution, 2024. Net Zero Transition Plan for the UK Food System. 89 International Maritime Organisation, 2023. 2023 IMO Strategy on Reduction of GHG Emissions from Ships. 90 International Maritime Organisation, 2024. Biodiversity Net Gain: A Roadmap for Action. 92 French Agency for Ecological Transition (ADEME), 2025. Sectoral Transition Plans for Industry. 93 UK Government, 2024. Hydrogen Net Zero Investment Roadmap.

Transition Finance Council



About the City of London Corporation:

The City of London Corporation is the governing body of the Square Mile dedicated to a vibrant and thriving City, supporting a diverse and sustainable London within a globally successful UK.

We aim to:

- Contribute to a flourishing society
- Support a thriving community
- Shape outstanding environments

By strengthening the connections, capacity and character of the City, London and the UK for the benefit of people who live, work and visit here.

www.cityoflondon.gov.uk





About the Global City campaign:

The Global City campaign is the City of London Corporation's overarching initiative to promote the UK as a world-leading international financial centre.

It showcases the UK as a great place for financial and professional services firms to invest, locate and grow.

www.theglobalcity.uk