

Net Zero Local Authority Investment Partnerships

Options and considerations

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Introduction

Introduction guide:

Choosing the right investment partnership model

Overview

This document is intended for Local Authority (LA) leaders, senior managers and policymakers tasked with achieving Net Zero targets through strategic infrastructure and service investments. The audience is assumed to have a foundational understanding of LA operations, including financial constraints, governance needs, and sustainability objectives.

Purpose

This document aims to demystify various investment partnership models by outlining their structures, benefits, challenges, and alignment with Net Zero goals. It helps stakeholders evaluate models based on their risk appetite, governance capacity, and project objectives.

Key highlight

Local Authorities face immense pressure to innovate while constrained by tight budgets and ambitious Net Zero goals. Investment partnerships present an opportunity to bridge these gaps by leveraging private sector expertise, funding, and operational efficiencies. Each model offers unique advantages:

- Public-Private Partnerships (PPPs) balance risk-sharing with operational efficiency for large-scale projects.
- Strategic Partnerships focus on shared objectives, such as decarbonization, with mutual commitments.
- Hybrid models and wholly-owned subsidiaries allow flexibility while maintaining LA control.
- The right choice depends on the project's scope, financial profile, and long-term impact goals. By systematically evaluating options, LAs can implement sustainable solutions that drive socio-economic benefits and environmental progress.

How to use this document

1. Understanding key components:

Begin with the overview of investment models to understand their primary features and the contexts where they thrive.

Tip: Use the “Key Components of an Investment Partnership” section to identify risks, governance needs, and financing options suitable for your LA’s circumstances.

2. Evaluating suitability:

Reference the comparative analysis section to match partnership models against your strategic objectives and operational capacity. The “Fit 4 Finance Tool” comprising of seven foundational pillars help assess your LA’s readiness.

Tip: Focus on alignment with sustainability metrics and risk-sharing mechanisms to ensure long-term success.

3. Selecting the right model:

Use the case studies as practical examples to see how similar projects have succeeded in other contexts. Pay attention to how challenges were mitigated and outcomes were maximized.

Example: The Bristol City Leap highlights how a Full Concession Joint Venture can combine public accountability with private efficiency for Net Zero objectives.

4. Implementation insights:

Leverage the step-by-step guidance provided in the roadmap to align stakeholder engagement, regulatory compliance, and funding strategies.

Executive summary

Context

A comprehensive analysis of investment partnership models that Local Authorities (LAs) can employ to achieve strategic objectives, particularly in areas such as infrastructure development, sustainability, and public service delivery. Recognizing the increasing pressure on public finances and the demand for innovative solutions, this report outlines six primary partnership frameworks:

- **Public-Private Partnerships (PPPs)**
- **Full concession Joint Venture (JV)**
- **Strategic partnership**
- **Local authority as asset owner**
- **Wholly owned subsidiaries**
- **Hybrid models**

Each model is examined in detail, with a focus on its structure, benefits, challenges, and suitability for different project types. Case studies and precedents provide real-world examples to illustrate how these partnerships have been successfully implemented in various contexts.

Key insights include:

- The critical importance of aligning partnership models with the strategic goals of the LA and community needs.
- The necessity of robust governance frameworks to ensure accountability, transparency, and performance.
- The value of leveraging private sector expertise and resources to enhance efficiency and innovation.
- The need for clear risk-sharing mechanisms to balance financial and operational responsibilities.

The report also evaluates financial implications, risk assessments, and mitigation strategies, offering actionable recommendations tailored to specific scenarios.

Why a local authority might want to enter investment partnerships

Local Authorities (LAs) are under increasing pressure to meet ambitious Net Zero targets by reducing carbon emissions across sectors like energy, transport, and infrastructure.

Financial constraints: Many LAs face limited budgets and rising costs, making it difficult to fund large-scale projects independently.	Access to capital: By partnering with private investors or other organizations, LAs can secure funding that might otherwise be unavailable through traditional public finance mechanisms.	Community benefits: Well-structured partnerships can drive socio-economic benefits such as job creation, skills development, and improved community engagement.
Risk mitigation: Investment partnerships enable LAs to share financial, operational, and reputational risks with experienced private or public entities.	Expertise and capacity gaps: LAs often lack the in-house technical expertise or organizational capacity required to design and implement complex, sustainable infrastructure projects.	Accelerating progress: Partnerships can streamline project delivery by leveraging private-sector efficiency and innovation, reducing timelines for achieving Net Zero goals.

Example Heat network decarbonization projects highlight how partnerships can address systemic challenges, with private entities providing technical expertise and capital investment while the LA oversees regulatory compliance and community interests.

Investment partnership options

Partnership models

Wholly owned LA subsidiaries The LA creates a distinct legal entity to manage operations, maintaining full ownership and operational oversight.	Full concession Joint Venture (JV) A private entity assumes full responsibility for operations and capital investments while the LA remains a service user. This minimizes the LA's risk exposure.	Public-Private Partnerships (PPPs) A collaborative approach where risks, responsibilities, and rewards are shared between public and private sectors, typically involving long-term agreements.
Hybrid models combining ownership and operations Flexible models that integrate elements of both public and private sector participation to meet specific project needs.	LA as asset owner/operator with simple operations contracts The LA retains control of assets and contracts third-party operators for specific services, offering a balance between control and risk transfer.	Strategic partnerships Specialized agreements with private firms to deliver specific outcomes like energy efficiency or heat network expansion.

Key components of an investment partnership



Fig. 1 Key components of an investment partnership

Key components of an investment partnership



Risk appetite

Risk appetite is the level and willingness of risks local authority is willing to accept to achieve its objectives. For Net Zero initiatives, these risks often include financial, operational, reputational, and regulatory risks.

Fig. 1 Key components of an investment partnership

 **Next section**

Key components of an investment partnership



Risk transfer

Mechanisms to shift risks (e.g., financial, operational) to external partners to reduce LA’s burden.

The Core Considerations of risk transfer are:

- **Financial risk:** Assessing potential financial losses due to investment uncertainties.
- **Operational risk:** Risk of project delays, technical failures, or insufficient operational capacity.
- **Market risk:** Volatility in energy prices, demand shifts, and technological changes.
- **Reputational risk:** Concerns over public perception if projects fail to meet Net Zero objectives.

Fig. 1 Key components of an investment partnership

➡ Next section

Key components of an investment partnership



Governance structures

Clear frameworks to manage roles, responsibilities, and decision-making processes. Effective governance structures ensure transparency, accountability, and efficiency in delivering Net Zero projects.

Fig. 1 Key components of an investment partnership

➡ Next section

Key components of an investment partnership



Regulatory compliance

Compliance with local, national, and international regulations is critical for ensuring the legitimacy and sustainability of Net Zero.

Fig. 1 Key components of an investment partnership

➡ Next section

Key components of an investment partnership



Shared goals

Alignment between LA and partners on strategic objectives, ensuring project success.

Example: Embedding Net Zero targets into contracts.

Fig. 1 Key components of an investment partnership

➡ Next section

Key components of an investment partnership



Sustainability metrics

Measures to ensure long-term environmental, social, and economic benefits. Standards for evaluating environmental and socio-economic outcomes.

Examples: CO₂ savings, energy efficiency improvements.

Fig. 1 Key components of an investment partnership

➡ Next section

Key components of an investment partnership



Access to (development) finance

Ensuring sufficient upfront capital is available for projects through public or private financing. Loans from the UK Infrastructure Bank, equity funding. Ensures adequate funding through public or private sources.

Fig. 1 Key components of an investment partnership

➡ Next section

Investment partnership options



1. Public-Private Partnership – PPP

Key	Public sector	Private sector
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Model description	A Public-Private Partnership (PPP) is a long-term collaboration between public and private entities, aimed at financing, designing, implementing, and managing public infrastructure or services. • The public entity retains ownership of the asset, but the private sector assumes specific operational or financial risks. • Common PPP structures include Build-Operate-Transfer (BOT), Design-Build-Finance-Operate (DBFO), and Operation & Maintenance (O&M) contracts. • Payment mechanisms can vary, such as availability payments (based on asset performance) or user-pay models (e.g., toll roads). • Key sectors for PPPs include transportation (highways, rail, airports), water, healthcare, and energy.
Considerations	• Risk allocation: PPPs excel in transferring risk to the party best positioned to manage it, often the private partner for construction or operational risks. However, public entities need to carefully evaluate risks like regulatory changes or public opposition. • Cost efficiency: While PPPs often result in lower lifecycle costs due to private sector innovation, upfront transaction costs (feasibility studies, legal agreements) can be high. • Transparency and accountability: Robust contractual frameworks are essential to ensure project success. Misaligned incentives can lead to disputes or subpar service delivery. • Flexibility: Adjusting the terms mid-project is challenging, given the contractual complexity. This limits adaptability to evolving public needs.
Constraints & assumptions	• High Upfront transaction costs (Legal, feasibility studies) • Rigid contracts limit flexibility to adapt to evolving public needs • Public opposition or regulatory changes may create hurdles • Private Sector can handle specific risks • Long term collaboration ensures alignment with public goals
Precedents	• HS2 (UK): A high-speed rail project leveraging private sector involvement in design and construction while maintaining public ownership. • Sydney Metro (Australia): A DBFO project for a new metro line that delivered efficiency in construction and operations. • India's National Highways: Widely implemented BOT contracts have improved road infrastructure but occasionally faced financial stress due to toll revenue risks.



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2. Strategic partnerships

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Model description	- Long-term agreements with private firms focused on delivering specific outcomes, such as energy efficiency, heat network expansion, or transport improvements. - Focuses on building trust and shared goals to achieve mutually beneficial results.
Considerations	Long-term focus: Requires commitment from both parties to build and sustain strategic objectives over time. Community alignment: Strong emphasis on achieving outcomes that directly benefit the community, such as job creation or carbon reduction. Operational risk: Both parties share operational risks, ensuring aligned incentives.
Constraints & assumptions	- Requires robust trust building and governance structure - Complex to implement without strong mutual commitment and - Focused on delivering specific outcomes like energy efficiency or transport improvements. - Risks and benefits are shared equitably between parties. - Highly effective for targeted objectives with shared risks and benefits but requires robust contractual agreements and trust-building measures.
Precedents	Coventry Energy Projects (UK): A strategic partnership aimed at decarbonizing heating systems and integrating energy efficiencies into public infrastructure.



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3. Local authority as an asset owner

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Model description	- The Local Authority (LA) retains ownership of critical infrastructure assets while outsourcing specific functions such as maintenance or operations to third-party contractors. Common types of contractors include engineering firms specializing in asset maintenance, private operators with expertise in specific services (e.g., waste management or public transportation), and consultancy firms offering strategic planning or operational support. Outsourced functions may range from routine maintenance and repair to advanced tasks like energy efficiency upgrades or the implementation of new technologies to enhance asset performance. - Allows the LA to maintain strategic control over the asset while leveraging private-sector expertise for specific operational challenges. - Best suited for essential public services where control and accountability are paramount, such as water systems, energy.
Considerations	Control and oversight: LAs maintain significant control, which ensures alignment with public interests and socio-economic objectives. Operational complexity: Requires strong governance frameworks to manage contracts and enforce performance standards. Financial requirements: Capital investment remains with the LA, demanding robust financial management and potentially higher public borrowing.
Constraints & assumptions	- High financial burden remains with the LA, including capital investments. - Requires strong governance to manage outsourced tasks. - Operational complexities demand significant internal expertise. - LA retains control of critical assets while leveraging private operational expertise. - Best suited for essential public services (e.g., water systems, housing).
Precedents	Enfield Heat Networks (UK): The LA retained full ownership while outsourcing operational tasks to private contractors, ensuring alignment with community climate goals. Paris Water Supply: Public ownership with private operational expertise to ensure service quality and efficiency.



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4. Wholly owned subsidiary

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Model description	• The LA establishes a distinct, wholly-owned subsidiary to manage a specific service or infrastructure project. • Subsidiaries operate as separate legal entities with operational independence but remain fully accountable to the LA. This balance is achieved through clearly defined governance structures that outline the subsidiary’s responsibilities and reporting mechanisms. Regular audits, performance evaluations, and strategic oversight by the LA ensure accountability, while the subsidiary’s operational autonomy allows for flexibility in day-to-day management and decision-making. • Commonly used for energy projects, affordable housing, or municipal utilities.
Considerations	• Financial risk: Financial and operational risks remain with the LA but allow for direct alignment with public goals. • Governance and flexibility: Subsidiaries provide flexibility in operations while maintaining LA control through ownership. • Regulatory and community alignment: Ensures services adhere to local policies and meet public needs.
Constraints & assumptions	• Financial and operational risks remain fully with the LA. • Requires clear governance to prevent operational inefficiencies. • Challenges may be faced in securing external financing due to public ownership. and • Subsidiaries allow flexibility in operations with direct alignment to public goals.
Precedents	• Oldham Energy Project (UK): A wholly owned LA subsidiary managing renewable energy initiatives with a focus on community sustainability. • Nottingham City Transport: A municipally owned transport subsidiary delivering public transport services efficiently.



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Considerations	Financial risk: Financial and operational risks remain with the LA but allow for direct alignment with public goals. Governance and flexibility: Subsidiaries provide flexibility in operations while maintaining LA control through ownership. Regulatory and community alignment: Ensures services adhere to local policies and meet public needs.
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5. Hybrid model

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Model description	- Combines elements of public and private participation tailored to project needs. - Offers flexibility in governance and funding, enabling adaptation to unique project requirements. - Often used for urban regeneration, local power generation, and multi-stakeholder initiatives.
Considerations	Risk sharing: Flexible allocation of risk between public and private partners ensures balanced incentives. Funding diversity: Access to both public and private capital increases financial resilience. Complexity: Hybrid models require careful structuring to ensure clarity in roles, responsibilities, and revenue sharing.
Constraints & assumptions	- High complexity in defining roles and revenue-sharing. - Requires ongoing stakeholder engagement to align goals. - Coordination between public and private entities can be challenging. - Combines elements of public and private participation for flexibility. - Suitable for projects needing diverse funding sources (grants, bonds, private investment).
Precedents	Manchester’s Urban Energy Systems: A hybrid model combining LA ownership with private sector operational expertise to deliver district heating solutions. European Green Cities: Multi-stakeholder collaborations to develop sustainable urban infrastructures.



5. Hybrid model

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6. Full concession Joint Venture (JV)

Key	Public sector	Private sector
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*Please note that the public/private split is not absolute and varies on a case-by-case basis.

Model description	A Joint Venture (JV) involves a shared partnership between public and private entities, forming a new legal entity to manage a specific project or investment. - Both parties share equity, risks, returns, and decision-making responsibilities. - Typically used for complex, high-value projects where both parties bring complementary skills or resources (e.g., land from the public sector, capital from private investors). - Revenue sharing agreements are defined based on equity contributions or predefined contractual terms.
Considerations	Governance structure: Requires a clear and balanced framework for decision-making, as conflicting objectives (profit maximization vs. public service delivery) can arise. Capital and resource contributions: Public entities often contribute land, permits, or regulatory support, while private partners provide financing, expertise, and operational efficiencies. Legal and financial frameworks: Establishing a JV requires significant time and legal resources to define the partnership’s scope, governance, and revenue-sharing models. Exit strategy: Planning for eventual dissolution or sale of the JV is crucial to avoid long-term disputes.
Constraints & assumptions	- High complexity in defining roles and revenue-sharing. - Requires ongoing stakeholder engagement to align goals. - Coordination between public and private entities can be challenging. and - Combines elements of public and private participation for flexibility. - Suitable for projects needing diverse funding sources (grants, bonds, private investment).
Precedents	Thames Tideway Tunnel (UK): A JV between public water utilities and private investors, delivering a large-scale sewer infrastructure project. Hong Kong MTR: A successful JV model combining public land contributions and private capital to develop rail and surrounding real estate.



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Summary of responsibilities

PPP models

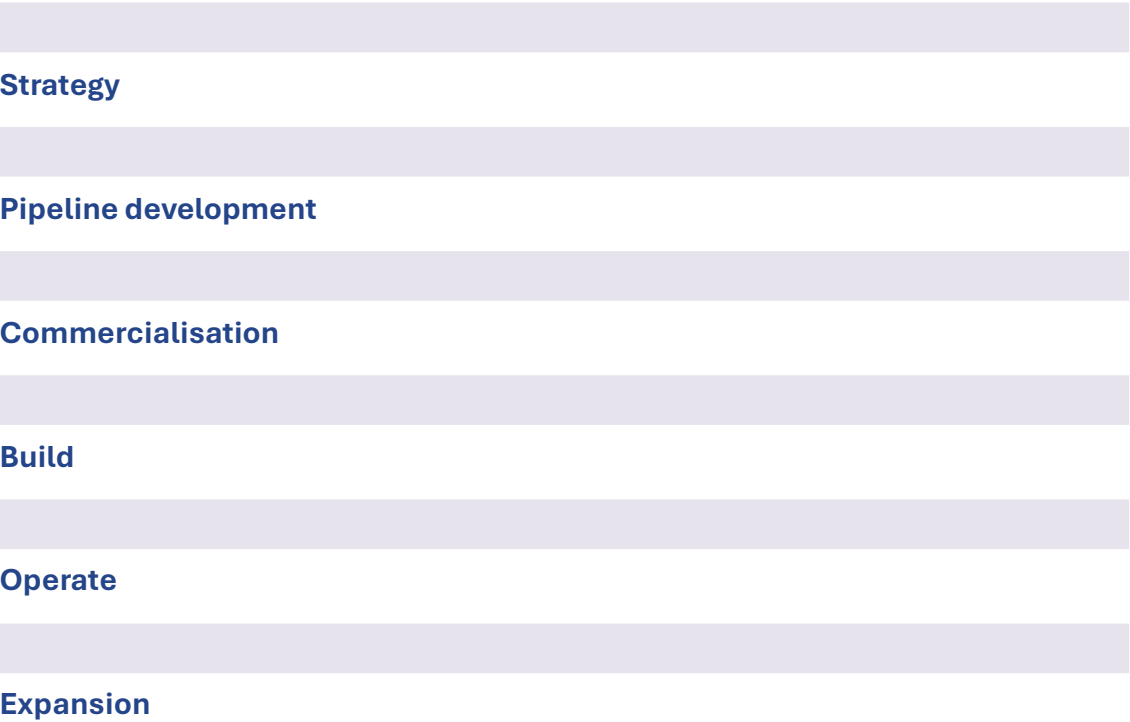
Click on an Investment Partnership Option to see and compare the public and private sector split

- ☐ Public-Private Partnership – PPP
- ☐ Strategic partnerships
- ☐ Local authority as an asset owner
- ☐ Wholly owned subsidiary
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Key	Public sector	Private sector
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None selected



Summary of responsibilities

PPP models

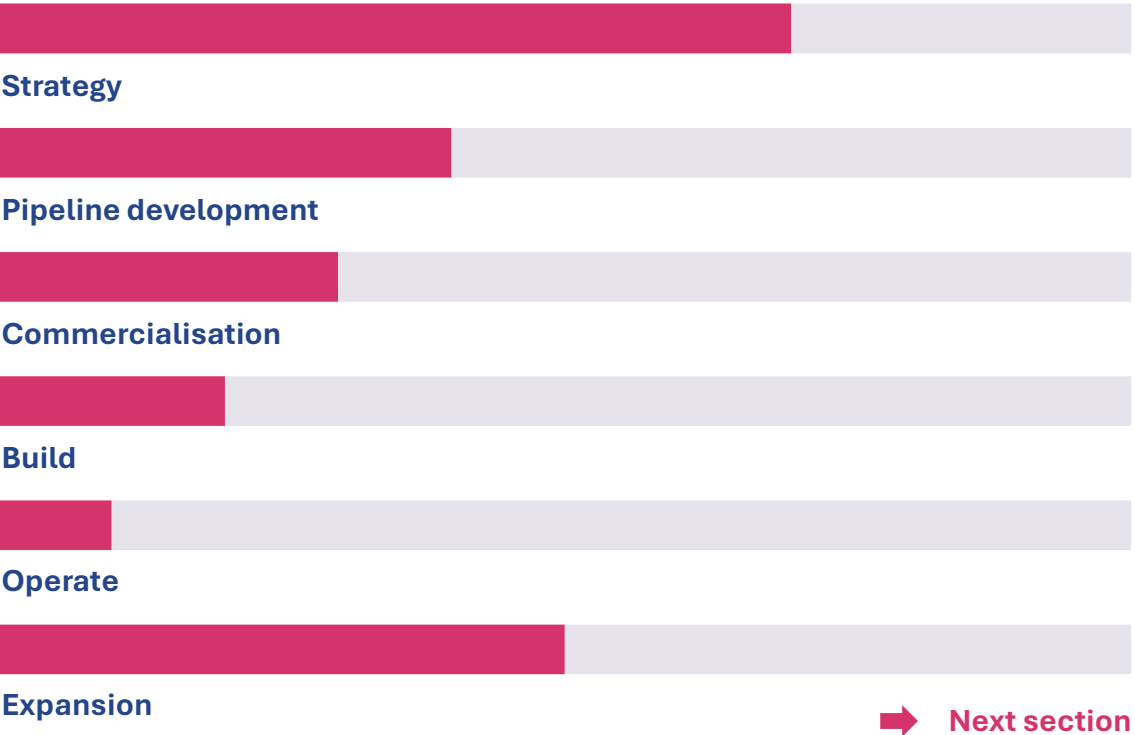
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Public-Private Partnership – PPP



➡ Next section

Summary of responsibilities

PPP models

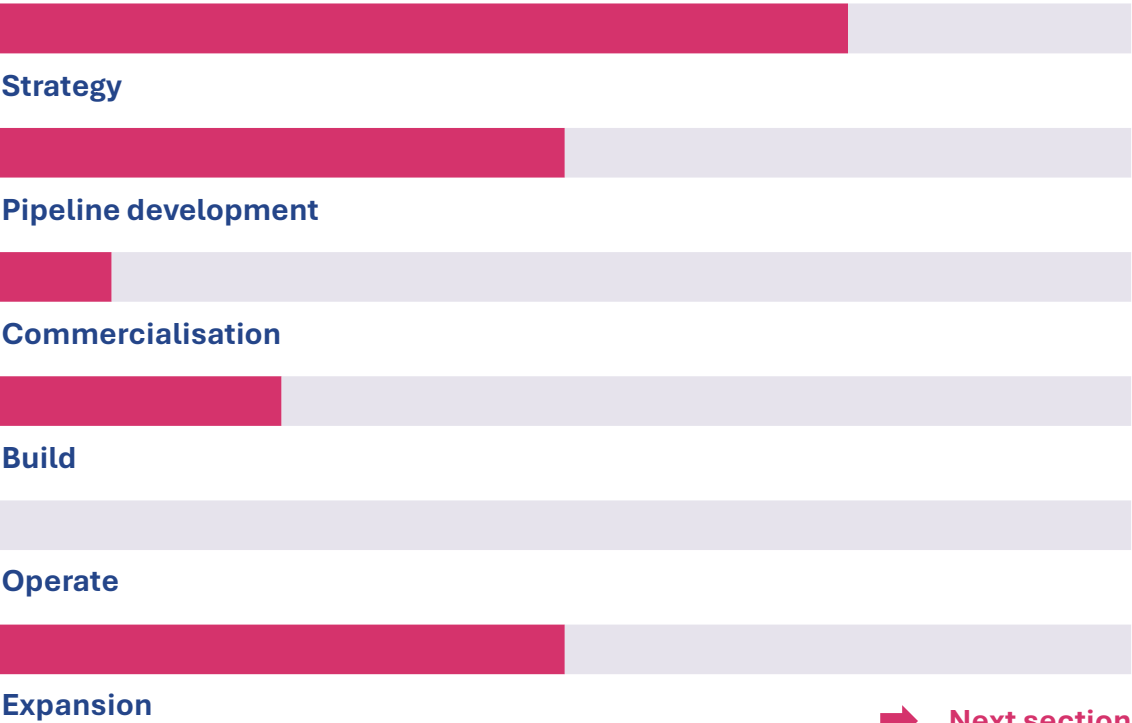
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Strategic partnerships



➡ Next section

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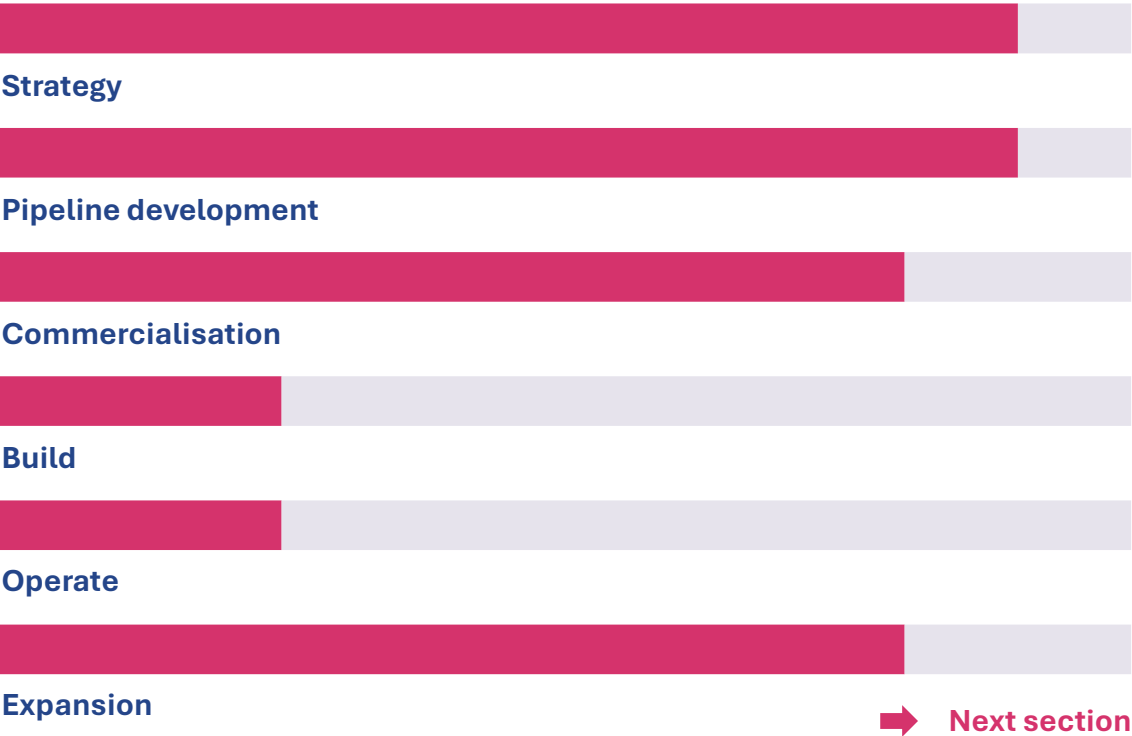
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Local authority as an asset owner



➡ Next section

Summary of responsibilities

PPP models

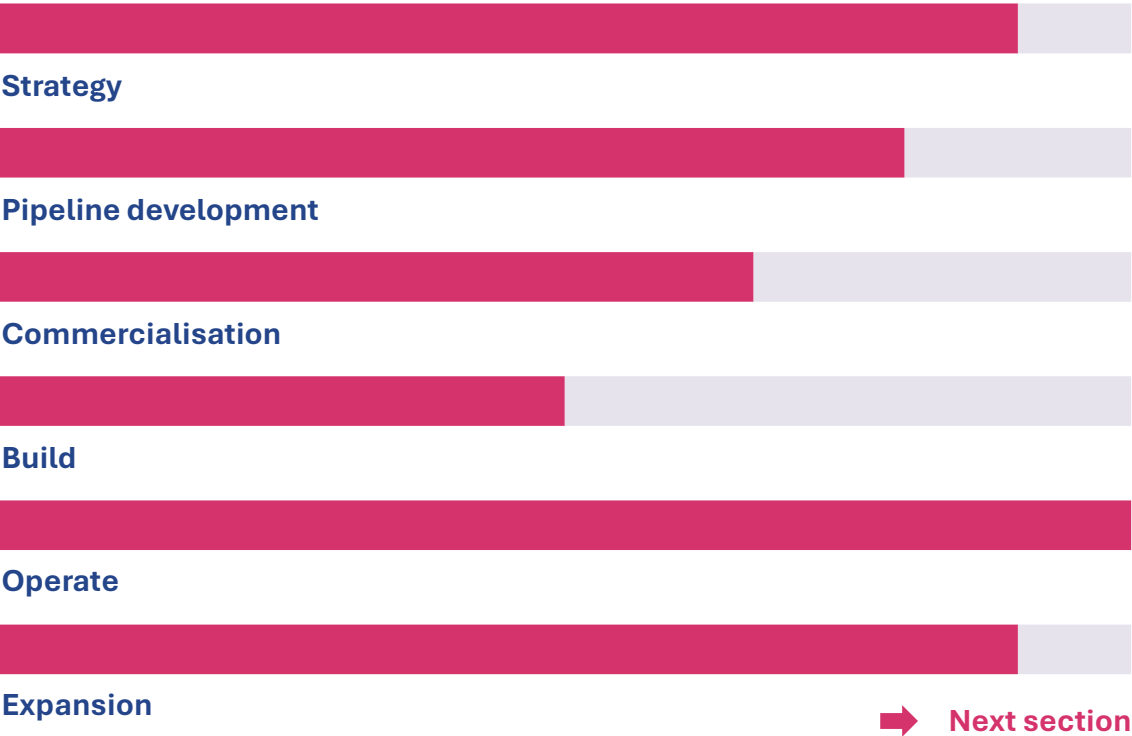
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Wholly owned subsidiary



➡ Next section

Summary of responsibilities

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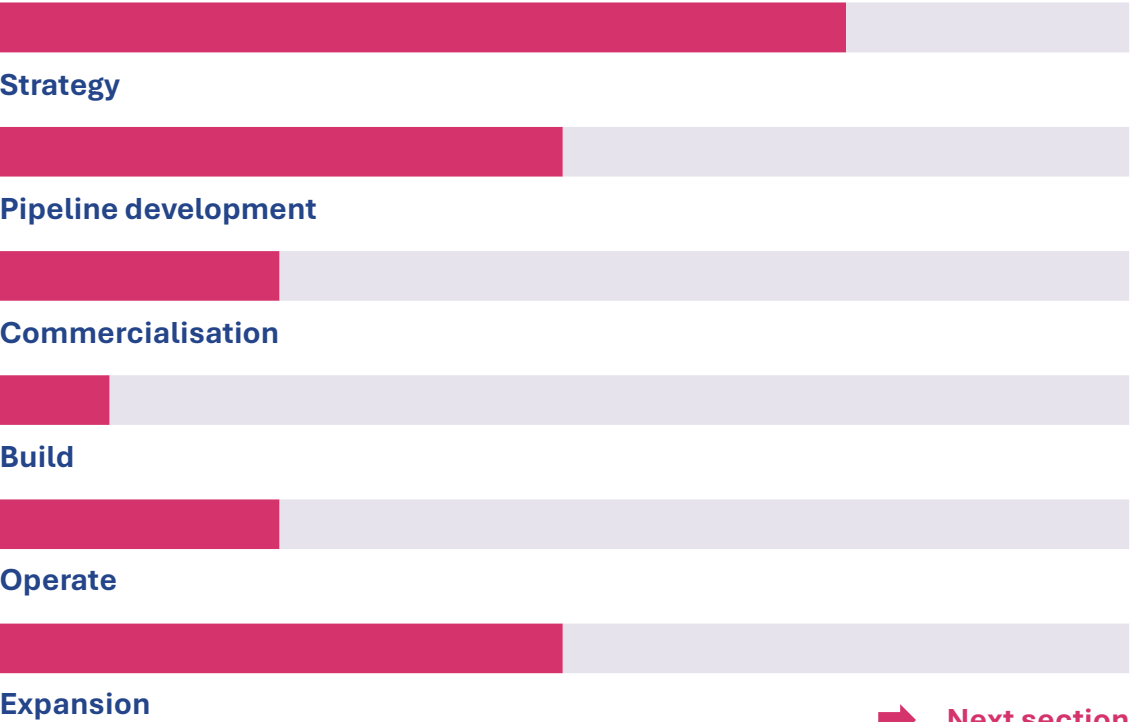
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Hybrid model



➡ Next section

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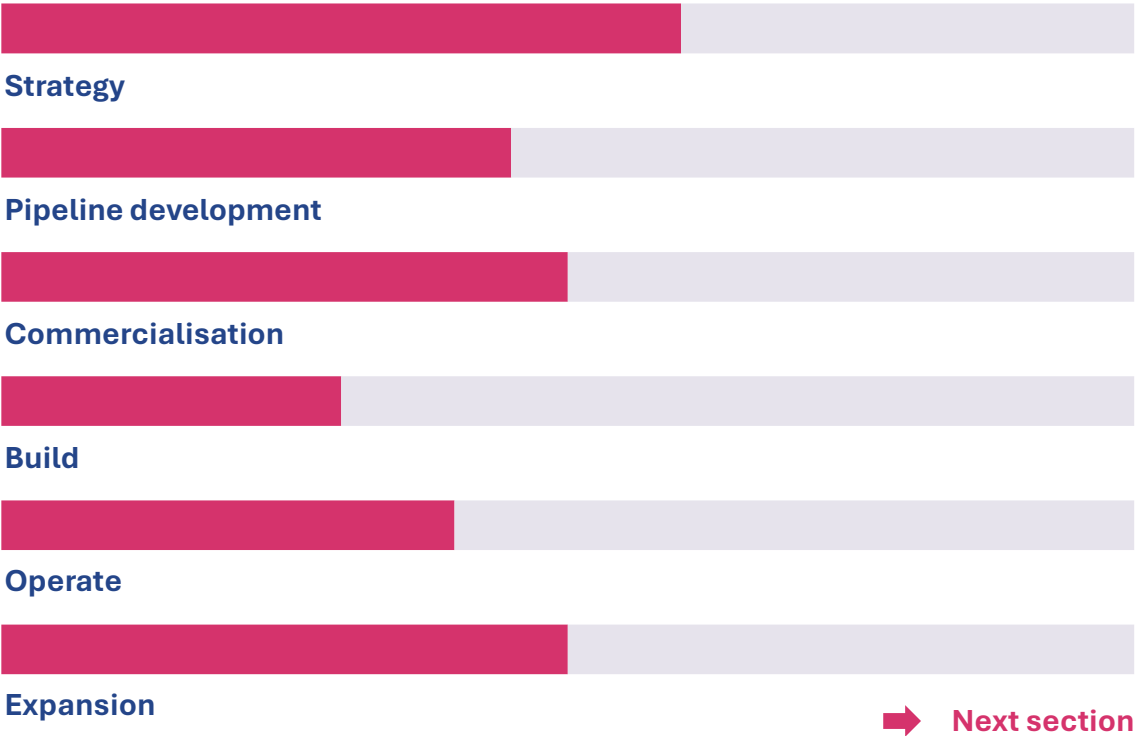
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Full concession Joint Venture (JV)



➡ Next section

Comparative analysis



Fit4Finance: Seven foundational pillars

Local authorities need to consider the strength of all seven pillars to achieve a stable foundation upon which to be successful at securing NZ investment at pace and at scale.



Fig. 2 Fit4Finance tool



Comparative analysis:

Investment model comparison

Strength of foundational pillars and the blend will vary from one Local Authority / Combine Authority to another – unrealistic to expect strong in all areas (consistently).

Some models will be more appropriate for organisations that have stronger or weaker pillars, i.e. PPP – for LAs that can’t or don’t want to borrow this options may be more suitable.



Investment model comparison: 7 Pillars

Investment model /Pillars	Access to Finance	Place-based Factors	Organizational Capacity	Planning & Procurement	Community Engagement	Political & Public Policy Alignment	Socio economic benefits
Public -Private Partnership – PPP	Private sector provides funding, lowering LA's financial exposure.	Utilizes private sector expertise tailored to local contexts.	Requires substantial LA capacity for contract oversight.	Detailed and lengthy procurement processes, often rigid.	Typically low due to minimal direct community input.	Alignment can vary based on contractual objectives.	Indirect focus, outcomes driven by ROI objectives.
Full concession Joint Ventures (JV)	Balanced contributions of land (public) and capital (private).	Joint planning ensures alignment with regional needs.	Shared resources reduce individual capacity burdens.	Flexible procurement but requires robust governance.	Moderate as communities can be part of the JV dialogue.	Strong alignment due to shared strategic goals.	Outcomes directly aligned with agreed public-private KPIs.
Wholly owned subsidiary	Relies on LA's financing capabilities and borrowing capacity.	Fully tailored to local requirements under LA control.	High LA capacity required for operations and oversight.	Streamlined procurement but reliant on LA systems.	High due to direct LA-community relationships.	Strong alignment with local policy goals.	Prioritised due to direct municipal control.
Strategic partnership	Private partners support specific financial needs in focus areas.	Focused on specific local projects, such as energy or transport.	Moderate demands on LA capacity, often task-specific.	Limited to specific goals with efficient procurement.	Medium to high, depending on contract design.	Strong alignment with targeted policy objectives.	Focused on achieving measurable community benefits.
Hybrid model	Flexible funding from public-private sources.	Adaptable to diverse local needs.	Moderate demands due to combined expertise.	Complex procurement due to dual control systems.	Medium to high, depending on stakeholder engagement.	Moderate to strong alignment based on defined goals.	Tailored outcomes but risks of competing interests.
Local authority as an asset owner	Requires robust public financial management to secure loans, grants, or enterprise partnerships for investments.	Maintains control of assets while tailoring operations to meet local geographic and socio-economic requirements.	Demands significant in-house expertise to manage assets effectively, ensuring alignment with strategic objectives.	Retains control over procurement processes, ensuring alignment with public interest and socio-economic outcomes.	Enables direct community engagement through ownership and operational oversight.	Fully aligned with public policies, ensuring all projects support broader strategic objectives like Net Zero goals.	Ensures direct community benefits, such as access to improved public services and socio-economic development.

Investment model comparison: Key component

Investment model /Key components	Risk appetite	Risk transfer	Governance structure	Regulatory compliance	Shared goals	Sustainability metrics	Commercial viability
Public -Private Partnership – PPP	Private sector assumes major risks.	Most financial/ operation al risks are transferred.	Requires detailed contracts to avoid disputes.	Relies on partner compliance.	Needs alignment of public/private priorities.	Focus on financial outcomes over sustainability.	Shared risk, funding, and expertise make it more commercially sustainable.
Full concession Joint Ventures (JV)	LA accepts risks but controls outcomes.	Risks largely remain with the LA.	Governance depends on internal oversight.	Full control ensures strong compliance.	Goals fully align with LA policies.	Designed to prioritize sustainability.	Requires full funding and operational control, commercially challenging.
Wholly owned subsidiary	Focused risks tailored to goals.	Task-specific risks shared with partners.	Clear roles ensure smooth operation.	Relies on partner regulatory expertise.	Aligns with targeted public goals.	Driven by outcomes like carbon reduction.	Strong collaboration reduces risks thereby increasing commercial viability.
Strategic partnership	Flexible risk-sharing structure.	Combines risk transfer with shared responsibility.	Complex governance structures.	Combines LA and partner compliance efforts.	Competing interests can affect goals.	Tailored for environmental and social outcomes.	Combines advantages of multiple models, enhancing revenue potential.
Hybrid model	A retains full control and assumes all risks.	Minimal risk transfer as LA holds operational responsibility.	Governance requires strong LA oversight.	Full compliance due to LA control.	Goals align entirely with municipal policies.	Prioritizes long-term community sustainability.	Generates revenue from asset use but depends on long-term investments.
Local authority as an asset owner	Shared risks between parties.	Full risk transfer to private operator.	Governance depends on clear concession agreements.	Compliance ensured through concession terms.	Goals align with long- term financial and service KPIs.	Designed to achieve operational efficiency and sustainability targets.	Commercial viability depends on strength of external operators – can be limiting.

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Investment model comparison: Asset type

Investment model /Key components	Level of alignment with key components					
	Transport	Power	Retrofit Houses	Heating Networks and Heat Pumps	Waste (All Interventions)	GHG Removals
	EV Charging Infrastructure, Active Travel, Public Transport	Solar, Wind, Network/Grid, Storage (Battery), Hydro, Geothermal				Engineered, Natural
Public -Private Partnership – PPP	Large-scale, capital-intensive, and requires risk-sharing with private operators.	Large-scale, long-term revenue potential.	Decentralised nature makes PPP ineffective currently. Aggregation and bundling can help.	Large-scale infrastructure needs private-sector involvement.	Works with policy support but may need extra funding mechanisms.	Works with policy support but may need extra funding mechanisms.
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Wholly owned subsidiary	Targeted investments with complex governance.	Requires strong governance and policy support.	Government-private collaboration works best.	Government-private collaboration works best.	Targeted investments with complex governance.	Targeted investments with complex governance.
Strategic partnership	Balances public-private control but requires governance.	Balances public-private control but requires governance.	Balances public-private control but requires coordination.	Balances public-private control but requires governance (key).	Private involvement enhances efficiency.	Pooled investment structures work better.
Hybrid model	High cost; needs private investment and risk-sharing.	Expensive and complex; LA lacks capacity for direct ownership.	Well-suited for LA-led implementation and control.	High upfront costs; private sector needed.	LA ownership is possible but inefficient; risk-sharing with private sector improves efficiency.	Needs pooled capital; too costly for LA alone.
Local authority as an asset owner	Suitable for targeted investments but may require complex governance.	Long-term, revenue-driven infrastructure suits private.-sector-led.	Doesn’t fit decentralised projects or emerging technologies.	Suitable for targeted investments but may require complex governance.	Doesn’t fit decentralised projects.	Long-term, revenue-driven infrastructure suits private-sector-led models.

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Investment model comparison: Asset type

Investment model comparison: Asset type				Level of alignment with key components	High	Moderate	Low
Investment model /Key components	Transport EV Charging Infrastructure, Active Travel, Public Transport	Power Solar, Wind, Network/Grid, Storage (Battery), Hydro, Geothermal	Retrofit Houses	Heating Networks and Heat Pumps	Waste (All Interventions)	GHG Removals Engineered, Natural	
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Pathway to Net Zero

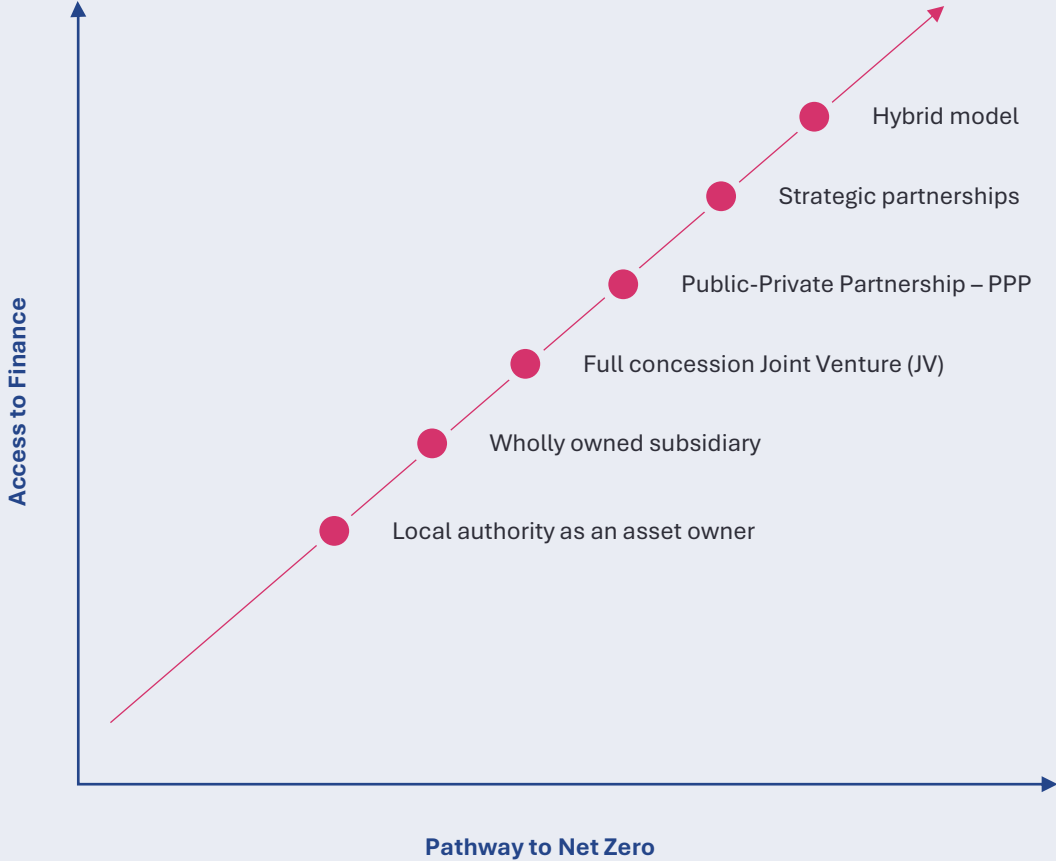
This framework evaluates the investment models based on their relative Access to finance and effectiveness in contributing to the Pathway to net zero.

The models’ placements on the graph reveal trade-offs between financial capacity and alignment with sustainability goals.

It highlights the inherent trade-offs in selecting investment models. For Local Authorities (LAs), achieving a balance between financial feasibility and net zero alignment is crucial.

While full asset ownership offers maximum control and alignment with net zero, financial constraints often necessitate partnerships. Hybrid models or strategic partnerships frequently emerge as optimal solutions, combining private-sector capital with public oversight to achieve sustainable and scalable outcomes.

Fig. 3 Access to finance vs Pathway to Net Zero Matrix



Analysis between Fit4Finance Diagnostic Tool and the Key components

Fit4Finance (7 Pillars)	Risk appetite	Risk transfer	Governance structure	Sustainability metrics	Shared goals	Regulatory compliance	Access to finance
Place-Based Factors	Ensures risk levels account for local economic, geographic, and social contexts.	Encourages transferring risks to partners familiar with the specific region's challenges.	Establishes governance frameworks sensitive to unique local community needs and challenges.	Aligns sustainability goals with regional environmental and socio-economic conditions.	Prioritizes projects that align with local stakeholders' and partners' interests.	Ensures compliance with regulations specific to the local context.	Focuses on attracting funding options that cater to regional needs, such as local enterprise grants/devolved funding.
Organizational Capacity	Evaluates staff readiness to understand and accept project risks.	Transfers operational risks where capacity gaps exist, ensuring smooth implementation.	Implements robust governance to compensate for capacity limitations within the LA.	Ensures the organization has the technical and human capacity to monitor sustainability outcomes.	Aligns departmental and team objectives with partnership goals to mitigate internal conflicts.	Prepares internal teams for effective regulatory compliance through training and resources.	Builds in-house financial expertise to secure funding and manage investments effectively.
Access to Finance	Ensures risk appetite matches available financial resources to mitigate potential losses.	Transfers financial risks to private entities, reducing the burden on public finances.	Provides governance mechanisms for the efficient allocation of limited financial resources.	Measures environmental and economic returns to justify investments and attract funding.	Focuses on securing partnerships that align with shared financial and sustainability goals.	Ensures access to funding sources compliant with local and international financial regulations.	Prioritises diverse funding sources, including loans, grants, and private equity investments.
Planning and Procurement	Incorporates risk assessment into planning and procurement processes.	Transfers risks associated with procurement inefficiencies to experienced private partners.	Ensures governance processes are well-structured to support smooth planning and procurement.	Integrates sustainability metrics as procurement criteria for partner selection.	Embeds shared goals into procurement contracts to ensure alignment with partners.	Ensures compliance with procurement laws and regulations to legitimize partnerships.	Seeks cost-effective procurement solutions that align with available financial resources.
Community Engagement	Balances risk appetite with community concerns and expectations.	Transfers reputational risks by involving trusted local partners in community-focused projects.	Establishes governance structures that involve community stakeholders in decision-making processes.	Prioritizes projects that deliver tangible sustainability benefits to the community.	Builds trust by ensuring that shared goals reflect community priorities and aspirations.	Ensures local compliance to strengthen community trust in the partnership process.	Secures community-driven funding sources, such as crowdfunding or local investment initiatives.
Political/Public Policy Alignment	Ensures risk-taking aligns with long-term political and policy goals.	Shifts regulatory and political risks to private entities with experience navigating policy environments.	Provides governance structures that ensure adherence to political and public policy priorities.	Aligns sustainability metrics with national and regional policy targets, such as Net Zero goals.	Ensures shared goals are integrated into political agendas and stakeholder communications.	Ensures regulatory compliance to avoid political or reputational risks.	Attracts funding aligned with political objectives, such as green bonds or policy-driven grants.
Socio economic benefits	Evaluates risks to ensure they align with delivering socio-economic benefits to the community.	Transfers risks that could negatively affect community outcomes to experienced private partners.	Ensures governance structures prioritize community representation and feedback loops.	Measures long-term sustainability benefits to ensure alignment with community needs.	Embeds community goals into shared objectives to ensure mutual benefits.	Ensures compliance with standards that prioritize community well-being and equity.	Focuses on funding sources that directly benefit the community, such as social impact investments.

An aerial photograph of several large industrial buildings with corrugated metal roofs. The roofs are covered with a dense array of blue solar panels. The buildings are situated in a commercial or industrial park area with other buildings and trees visible in the background. A semi-transparent blue gradient is applied to the left side of the image, where the text is located.

Appendices A

Case study (draft)

Public-Private Partnership – PPP

A. Bristol City Leap Public-Private Partnership

A large-scale public-private partnership (PPP) aimed at achieving Net Zero emissions for Bristol City Council by 2030, operating as a Full Concession Joint Venture. Joint venture was formed with Vattenfall Heat UK and Ameresco, leveraging significant private capital investment. The project serves as a model for integrating private expertise and public accountability to address complex environmental goals. It targets substantial CO₂ reductions alongside socio-economic benefits like job creation in green energy sectors.

Achievement of the project

- Implementation of renewable energy projects, including heat networks and solar PV installations.
- Over 140,000 tonnes of CO₂ reduction targeted annually.
- Creation of 1,400 jobs in green energy sectors.

Challenges

- The project faced initial hurdles in aligning stakeholder expectations, as public bodies prioritized environmental and social outcomes, while private entities focused on financial returns.
- Regulatory complexity and ensuring compliance with evolving Net Zero policies created delays during the planning phase.

How challenges were mitigated

- Regular stakeholder consultations and transparent reporting frameworks helped build trust and align priorities.
- A dedicated task force was established to address regulatory challenges and streamline compliance processes, ensuring timely approvals and execution.

Public-Private Partnership – PPP

Canada: The Ottawa Light Rail Transit (OLRT) project

A large-scale PPP aimed at improving urban mobility and reducing congestion in Ottawa, Canada. The project was structured as a Design-Build-Finance-Maintain (DBFM) agreement between the City of Ottawa and Rideau Transit Group (RTG), involving significant private sector investment.

Achievement of the project

- Development of a 12.5 km light rail system with 13 stations.
- Reduction of traffic congestion and lower greenhouse gas emissions.
- Creation of over 3,200 jobs during construction.

Challenges and mitigation

- Delays due to construction difficulties and technical setbacks.
- Concerns over public transparency and accountability in the PPP model.
- Challenges addressed through regular public consultations and transparent reporting.
- Establishment of a review board to oversee implementation and ensure compliance.

Local authority as an asset owner

B. Enfield Heat Networks

Enfield Council was allowed to retain full ownership of its heat network infrastructure, ensuring alignment with local climate goals and community priorities, while leveraging private-sector expertise for operations and maintenance. The Project was able to secure a £15 million loan from the Mayor’s Energy Efficiency Fund (MEEF). This initiative highlights the effectiveness of combining local oversight with external operational expertise to meet sustainability targets. It ensures long-term benefits for the community while achieving significant reductions in carbon emissions.

Achievement of the project

- Delivered significant carbon savings by replacing local energy generation systems.
- Reduced CO₂ emissions by 4,972 tonnes annually.

Challenges and mitigation

- Ensuring alignment between operational contractors and council goals.
- Addressed through strong governance frameworks and regular performance audits.

Local authority as an asset owner

South Africa: Johannesburg Water Utility

The City of Johannesburg owns and operates Johannesburg Water as a municipal entity, maintaining control over water services while engaging private firms for technical operations.

Achievement of the project

- Expansion of water access to underserved communities.
- Implementation of water conservation programs.
- Revenue generation through service charges.

Challenges and mitigation

- Financial sustainability concerns.
- Balancing affordability with cost recovery.
- Addressed through Tariff restructuring to ensure cost effectiveness.
- Public-private partnerships for infrastructure maintenance.

Strategic partnerships

C. Coventry Heat Decarbonization

The Coventry Heat Decarbonization project focused on the benefits of a Strategic Partnership, where the Heat Networks Delivery Unit (HNDU) collaborated with private investors to decarbonize heating systems. This district-wide initiative demonstrated how strategic alliances can drive energy efficiency and sustainability goals

Achievement of the project

- Retrofitted existing infrastructure for improved energy efficiency.
- Integrated waste heat recovery systems into the district network.

Challenges and mitigation

- Complexity of integrating legacy systems with modern low-carbon technology.
- Challenges addressed through phased implementation and adaptive design strategies.

Strategic partnerships

Germany: Siemens and Deutsche Bahn Green Rail initiative

A strategic partnership between Siemens Mobility and Deutsche Bahn to develop hydrogen-powered trains as a sustainable alternative to diesel.

Achievement of the project

- Successful pilot of the world’s first hydrogen train.
- Reduction of CO₂ emissions in railway transport.
- Advancements in green mobility technology.

Challenges and mitigation

- High initial capital costs.
- Regulatory challenges in approving hydrogen infrastructure.
- Challenges addressed through Government incentives and funding for research and development.
- Collaboration with environmental agencies to streamline approvals.

Wholly owned subsidiary

D. Oldham renewable energy

The Project focused on transitioning Oldham’s municipal infrastructure to renewable energy sources to meet Net Zero goals. A renewable energy initiative led by Local Authorities Owned Subsidiary, balancing local control with financial sustainability. The Project financing was delivered through a wholly owned LA subsidiary leveraging green bonds and local enterprise partnerships.

Achievement of the project

- Installed community-owned solar farms generating power for municipal use.
- Achieved substantial reductions in operational emissions and energy costs.

Challenges and mitigation

- Balancing community interests with financial sustainability.
- Addressed through participatory decision-making and flexible financing options.

Wholly owned subsidiary

China: State Grid Corporation of China (SGCC)

SGCC is the largest electricity utility in the world, operating as a wholly owned subsidiary of the Chinese government. It is responsible for nationwide power distribution and grid expansion.

Achievement of the project

- Expansion of power infrastructure to remote regions.
- Investment in renewable energy integration.
- Significant reduction in power outages.

Challenges and mitigation

- High financial burden on the government.
- Risk of bureaucratic inefficiencies.
- Addressed through Partnerships with international technology firms for efficiency improvements.
- Regulatory reforms to enhance operational transparency.

Hybrid model

E. Manchester Urban Energy Systems

A hybrid model integrating public ownership with private operational expertise to deliver district heating solutions, focusing on sustainability, cost efficiency, and reducing carbon emissions. Funding was sourced from public grants, private investments, and green bonds, ensuring a robust financial framework.

Achievement of the project

- Developed district heating solutions combining LA ownership with Private Sector Operational expertise.
- Achieved a 25% reduction in energy costs for residents.
- Enhanced sustainability metrics, including a 30% decrease in CO2 emissions.

Challenges and mitigation

- Balancing diverse funding sources from public grants, private investments, and green bonds.
- Addressed through a robust financial plan integrated various funding sources, ensuring transparency and financial sustainability.
- Aligning priorities across public bodies, private entities, and community groups.
- Addressed through regular stakeholder consultations facilitated alignment of goals and community engagement.

Hybrid model

Australia: The Sydney Metro Project

Sydney Metro is Australia's biggest public transport project, utilizing a hybrid model combining government funding with private sector expertise. The government retains control over operations while private firms finance and deliver infrastructure.

Achievement of the project

- Development of a fully automated metro system.
- Increased public transport capacity and efficiency.
- Job creation and economic growth through infrastructure investment.

Challenges and mitigation

- Managing cost overruns and contract disputes.
- Coordinating between multiple stakeholders.
- Challenges Addressed through Use of independent cost reviews and performance-based contracts.
- Regular coordination meetings between public and private partners.

Hybrid model – (“Thin”) cooperative model

Blackpool Broadband Cooperative (BBC)

The Blackpool Broadband Cooperative (BBC) is a community-led initiative that successfully delivered high-speed broadband to underserved areas using a hybrid investment partnership model. This approach combines public sector oversight, private investment, and community ownership, ensuring both financial sustainability and equitable access. The public sector provides regulatory support, private investors contribute capital and expertise, and the community plays a direct role in governance and reinvestment.

Governance Model: **Public Sector** ensures regulatory compliance & policy alignment; **Private Investment** provides capital & technical expertise; **Community Ownership** drives reinvestment & long-term sustainability.

Achievement of the project

- Successfully provided high-speed broadband to underserved areas in Blackpool, bridging the digital divide.
- Supported local businesses by offering reliable internet, enabling them to access new markets and digital tools.
- Fostered local job creation and digital literacy, ensuring long-term community involvement in broadband provision.
- Developed a self-sustaining cooperative structure, reinvesting profits into expanding and maintaining the broadband network.

Challenges and mitigation

- BBC faced financial challenges in the early stages, including securing the necessary funds to cover construction costs. However, through a combination of grants, member contributions, and partnerships with private investors, the cooperative was able to overcome these challenges.
 - **Regulatory Barriers** were addressed via close collaboration with local authorities. **Market Competition** was negotiated via fair agreements to ensure affordability.
- Key Takeaways:** Hybrid models attract diverse funding while ensuring public benefit. Strong governance aligns investment efficiency with community needs. Collaboration is key—public, private & community roles must be well-defined.

Hybrid model – (“Thin”) cooperative model

Mondragón Corporation, Spain

Mondragón is one of the world’s largest worker cooperatives, with over 80,000 employees across multiple industries. It successfully integrates cooperative ownership with private sector investment, allowing worker-members to have decision-making power while securing external funding for growth.

Achievement of the project

- It successfully integrates cooperative ownership with private sector investment, allowing worker-members to have decision-making power while securing external funding.
- The model led to long-term job stability and strong local economic development.

Challenges and mitigation

- Difficulty in balancing cooperative values with external investor interests.
- Expansion into global markets posed governance and cultural adaptation challenges.
- Maintaining democratic decision-making became complex as the organization grew.
- Challenges were addressed through Developing a multi-tier governance structure, ensuring worker-members retain control while allowing for professional management.
- Established a solidarity fund to support weaker cooperatives within the group during downturns.
- Created international partnerships while preserving the cooperative ethos through careful strategic planning.

Full concession Joint Venture (JV)

F. Southwark Council

The Southwark Council’s Water Source Heat Pumps delivered heat to 2,175 homes, reducing CO₂ emissions by 1,774 tonnes annually. The Project secured a £7 million loan from the Mayor’s Energy Efficiency Fund (MEEF) at below PWLB rates.

The loan was repaid through renewable heat incentives, demonstrating the sustainability of Full Concession JVs, the Project also demonstrates the viability of Full Concession JVs for achieving large-scale sustainability objectives. It underscores the importance of integrating innovative technologies with financial prudence.

Full concession Joint Venture (JV)

Brazil: São Paulo International Airport concession

A full concession joint venture where Brazil’s São Paulo International Airport was partially privatized, with a consortium (Invepar and Airports Company South Africa) operating and modernizing the airport.

Achievement of the project

- Infrastructure improvements, including terminal expansion.
- Increased passenger capacity and revenue growth.
- Enhanced service quality and efficiency.

Challenges and mitigation

- Financial risks associated with large-scale capital investment.
- Balancing private profits with public service quality.
- Challenges addressed through Performance-based contract incentives.
- Government oversight to ensure compliance with public service goals.

Document Version Control

Version	Date	Purpose / Change	Produced by	Approved by	Date
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1	01-Dec-25	Added updated disclaimer	Sean Shiels	Sean Shiels	01-Dec-25

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