

Catalyzing Aggregated Purchasing Power

The Role of Private and Public Intra-City
Procurement for Advancing City Climate Action

Concept Note

November 2025







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ABOUT THE CITIES CLIMATE FINANCE LEADERSHIP ALLIANCE

The Cities Climate Finance Leadership Alliance (CCFLA) is a coalition of leaders committed to deploying finance for city-level climate action at scale by 2030. Trillions of dollars will be required to help cities build the low-emissions, resilient infrastructure necessary to combat and react to climate change. CCFLA is the only multi-level and multi-stakeholder coalition aimed at closing the investment gap for urban subnational climate projects and infrastructure worldwide.

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ABOUT VIABLE CITIES

Viable Cities is a strategic innovation program working towards the mission of Climate Neutral Cities 2030 with a good life for all within the boundaries of the planet. 48 Swedish cities and six national government agencies are part of the program. In 2025, Sweden joined the Coalition for High Ambition Multilevel Partnerships (CHAMP) for Climate Action, with Viable Cities as a coordinator of Sweden's engagement. This concept note is developed in line with Sweden's engagement in CHAMP.

ABOUT THE GREEN TRANSITION INITIATIVE (GTI)

The Green Transition Initiative (GTI) is a joint initiative between the Embassy of Sweden in Washington, D.C., Business Sweden, the Swedish Energy Agency, and Sweden's innovation agency Vinnova. The objectives of GTI are to position Sweden as a key partner to U.S. cities and states in their urban transformation, connect Swedish and U.S. stakeholders, and leverage opportunities in sectors such as electromobility, renewable energy, sustainable industry, and green buildings.

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1. INTRODUCTION

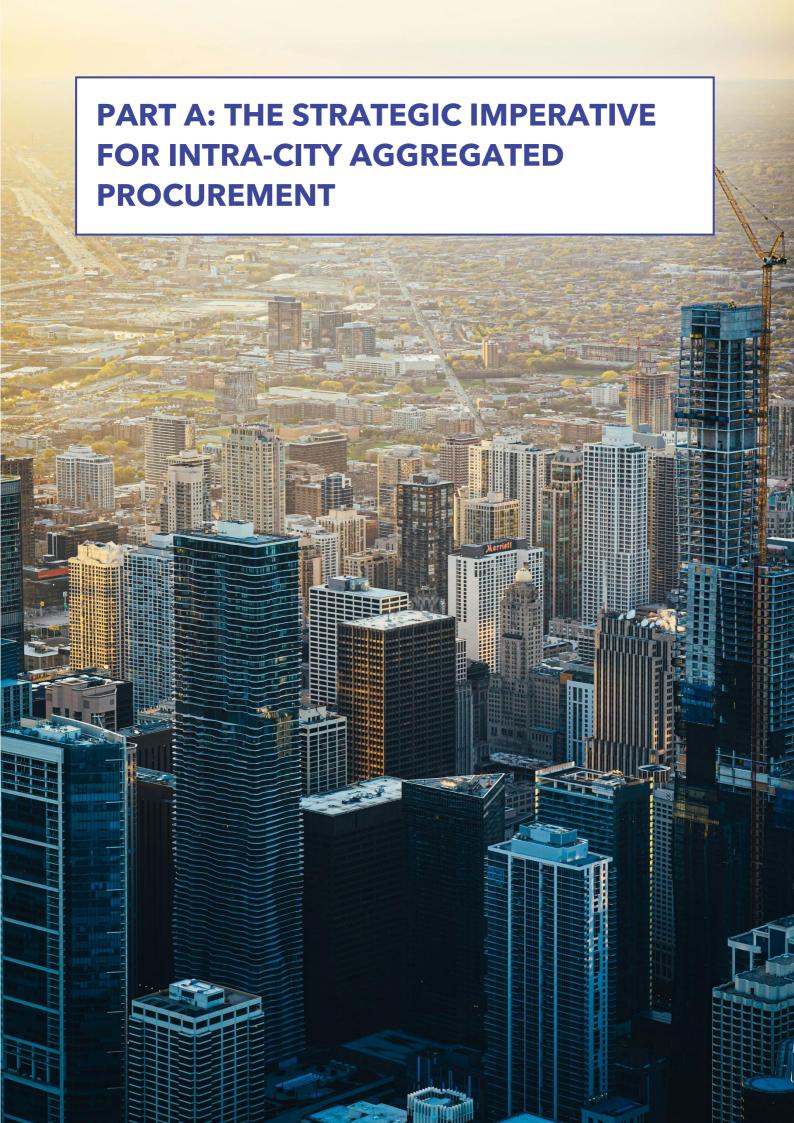
This concept note introduces intra-city aggregated procurement as a systemic, innovative approach for cities to shape markets for climate-neutral and resilience-enhancing materials, technologies and infrastructure. This approach is envisioned as a way for cities to bring together private and public organizations to combine their individual procurement demands in areas such as low-carbon construction, green mobility and clean energy.

Accordingly, this concept note develops the strategic imperative for intra-city aggregated procurement, with practical models for aggregating private and public demand (Part A). It presents a phased program for cities to convene the private and public sectors and implement this approach (Part B). The concept note has been developed in collaboration with leading international institutions (see Box 1). It is strategically aligned with the market-transformation goals of the First Movers Coalition (FMC), city-level procurement initiatives of the C40 Clean Construction program, and the systemic framework of the System Demonstrators program, among others (see section 7.1). The program will focus on developing a practical playbook, testing it with pilot cities, and scaling it through strategic partnerships and policy engagement.

Intra-city aggregated procurement can be applied to sectors that both reduce emissions (e.g., renewable energy) and enhance resilience (e.g., flood-resilient infrastructure). For this concept note, we focus the procurement approach on the FMC-aligned cement and concrete sector due to its high embodied-carbon footprint. The goal is to pilot this approach in a high-impact sector before scaling it to other city-wide procurement activities. This note specifically focuses on implementable models of demand aggregation to shape markets within a city. It does not focus on pooling approaches, such as jointly procuring materials through a single, large tender (see Glossary for the distinction).

Box 1: Concept Note Development Partners and Alignment with CHAMP

The concept note was developed by the Cities Climate Finance Leadership Alliance, Viable Cities, and the Green Transition Initiative, in consultation with UN-Habitat, the First Movers Coalition, C40 Cities, Dark Matter Labs, the World Resources Institute (WRI), the Global Environment Facility, the Global Covenant of Mayors, and the Urban Transitions Mission. This work supports Sweden's participation in the Coalition for High Ambition Multilevel Partnerships (CHAMP), a global platform that accelerates the climate transition in cities. Viable Cities coordinates the country's participation in CHAMP, which positions intra-city aggregated procurement as a key tool for connecting subnational climate action with the national climate frameworks of CHAMP-endorsing countries.



2. BACKGROUND AND RATIONALE

2.1 GLOSSARY

This glossary clarifies key terms used in this concept note to distinguish between different approaches to demand aggregation, purchasing, and procurement within and across cities.

Purchasing Power: In this concept note, *purchasing power* refers to the collective financial and strategic leverage a city can exert on suppliers to encourage the production and adoption of low-carbon goods.

Aggregation and Pooling:

- Aggregation refers to coordinating and combining demand from multiple buyers to increase purchasing power, improve efficiency, and send stronger market signals. Buyers may keep separate budgets and contracts.
- Pooling is a specific form of aggregation in which buyers combine financial resources into a single pot or fund, from which pooled procurement is undertaken through a joint tendering and contracting process.

Procurement and Purchasing:

- *Purchasing* is the transactional act of buying goods and services. It is a key operational step within the broader procurement process.
- Procurement is the formal, end-to-end process of sourcing and acquiring the
 goods and services a city or enterprise needs. While both terms are often used
 interchangeably, this concept note uses the term procurement for consistency and
 comprehensiveness.

Inter-City and Intra-City Procurement:

- Intra-city procurement consolidates demand from various departments, agencies, and stakeholders operating within a single city jurisdiction. This concept note focuses on intra-city procurement.
- Inter-city procurement involves two or more municipal governments, most commonly within a country or region.

2.2 THE URBAN CLIMATE FINANCE CHALLENGE

Cities are crucial to the climate transition, but they face a significant investment gap for urban climate projects. Cities Climate Finance Leadership Alliance (CCFLA) estimates that while urban climate finance reached USD 831 billion in 2021/22, cities require upwards of USD 4 trillion annually through 2030 for climate mitigation. Out of this, USD 1 trillion is needed in buildings and infrastructure alone.

This challenge is exacerbated because traditional public and multilateral financing is insufficient to meet the overwhelming need. According to the OECD, national fiscal spaces are tightening, and donor funding is receding due to shifting priorities. Therefore, cities cannot rely on external capital alone to deliver the climate transition. They must increasingly turn to internal levers already within their control – particularly their powers, first and foremost, as planners, building code designers, and permitters, via which they give overall direction and help scope demand, and subsequently as major purchasers of goods, services, and infrastructure.

2.3 PURCHASING POWER: A POWERFUL LEVER WITH UNREALIZED POTENTIAL

Purchasing power - leveraged through procurement - remains an underutilized tool for cities to drive the climate transition. By making everyday procurement decisions, cities shape local markets and influence how goods and services are produced.

Collectively, cities already command significant purchasing power. In 2021, cities and subnational governments globally purchased goods and services worth over <u>USD 6</u>

<u>trillion</u>, equivalent to 8% of global GDP.

However, this immense purchasing power remains fragmented across city agencies and private actors, preventing markets from receiving stable signals to manufacture and invest in climate-neutral and resilience-enhancing solutions. Current challenges to aggregating cities' purchasing power for such solutions include:

• "Lowest cost" mindsets: current city-level procurement practices generally favor short-term cost-effectiveness over long-term life-cycle cost savings and emissions reductions. Green technologies and materials are often perceived as more expensive upfront, even when they may entail little to no additional upfront cost.¹

¹ This <u>RMI report</u> presents case studies demonstrating that alternative building materials, including lower-carbon concrete, can deliver embodied carbon reductions of 19%-46% with cost premiums of less than 1%.

- Combined with a generally <u>low appetite for risk</u> in public procurement, this makes it difficult to shift procurement strategies toward climate-neutral solutions.
- **Siloed governance:** siloed governance often holds back procurement innovation by fragmenting decision-making across departments, which can impede the coordination needed to implement city-wide demand aggregation strategies. These siloes often occur due to wider political factors and the general procurement culture of risk aversion.
- **Limited capacities and awareness:** local procurement professionals often lack <u>awareness and training</u> on innovative approaches to purchase sustainably and cost-effectively. City procurement teams may also find challenges in defining and implementing an "environmentally and/or socially preferable" procurement criterion.

Together, these challenges constrain cities' ability to aggregate demand effectively, slowing the adoption of innovative procurement approaches. This can result in a pipeline of infrastructure projects that entail high transaction costs (including legal fees, negotiation time, etc.) relative to their potential returns, making them financially unattractive to investors. Ultimately, this represents missed opportunities to accelerate city climate action through market transformation. Many climate-aligned technologies and services, from green cement and concrete to new electric vehicle models, require large, predictable orders to create a stable demand and justify investment in production.²

This creates a clear imperative for cities to adopt intra-city aggregated procurement models that align procurement commitments across private and public actors, thereby creating a unified, more stable demand for climate-neutral, resilient infrastructure.

² <u>First Movers Coalition</u>'s 2024 status report underpins the need for stimulating demand for low-carbon technologies to reach the global net zero goal. It highlights that building early market demand for such technologies by 2030 is critical to help scale-up and catalyze their mainstream adoption for carbon-intensive sectors.

3. INTRA-CITY AGGREGATED PROCUREMENT

Intra-city aggregated procurement is an approach in which a city leverages its purchasing power by bringing together private organizations and public agencies to aggregate their individual procurement demands. By aggregating this demand, the city creates a unified market signal that accelerates the local transition toward climate-neutral and resilient infrastructure.

Aggregation approaches have been piloted at the *inter-city level* (to aggregate demand across subnational jurisdictions, typically within a country or region). However, scaling across jurisdictions can be challenging in practice, due to misaligned political cycles, differing technical and legal standards, complicated financial structures, incompatible budget timelines, and the need for sustained coordination over long planning horizons.³ Intra-city aggregation, by operating inside a single city's institutional and budgetary ecosystem, can avoid many of these barriers – enabling faster coordination, simpler contracting, and clearer accountability. This positions it as a practical and immediate mechanism to strengthen both the local investment environment and the city's capacity to advance national and global climate objectives.

CEMENT AND CONCRETE: A HIGH-IMPACT OPPORTUNITY SECTOR TO PILOT INTRA-CITY AGGREGATED PROCUREMENT

Global cement manufacturing accounts for about 7-8% of the world's greenhouse gas emissions, making it a key opportunity for intra-city procurement pilots. In 2022 alone, cement production generated 1.6 billion tCO₂ emissions. To put this in perspective, if the cement industry were a country, it would be the fifth-largest emitter in the world, behind only China, the United States, India, and Russia. Cement emissions exceed those from global aviation (858 million tCO2e in 2022) or shipping (950 million tCO2e in 2023). This points to the outsized impact of carbon-intensive construction practices and the opportunity to finance a transition to green cement and concrete in the urban built environment (Box 2).⁴

³ For successful examples and associated challenges of inter-city pooled procurement, refer to CCFLA's <u>Financial Aggregation Blueprints for Urban Climate Infrastructure (2023)</u> and <u>Financial Aggregation for Cities (2022)</u>.

⁴ In 2022, <u>34% of global GHG emissions</u> came from operational energy use and embodied carbon in the buildings and construction industry, where concrete is a key building material.

Box 2: What Makes Cement and Concrete "Green"

Green cement and concrete have the potential to minimize the environmental impact of buildings by lowering embodied climate emissions throughout their lifecycle. Greening cement and concrete can involve a range of strategies, including replacing clinker (the most carbon-intensive component of cement) with supplementary cementitious materials (SCMs) such as fly ash and limestone, using recycled aggregates, and improving durability against extreme weather events.

However, the adoption of green cement and concrete by manufacturers and cities remains limited. The sector is fundamentally <u>hard to decarbonize</u> due to both process emissions and high energy use during cement production. In addition, <u>factors</u> such as fragmented standards, varying regulations, limited awareness, technical and implementation gaps, and <u>weak policy incentives</u> limit the local uptake of green concrete. Aggregated procurement and long-term market commitments can therefore help overcome these challenges by creating predictable demand, harmonizing performance requirements, and mobilizing financial de-risking tools to reduce costs and risks for both cities and suppliers.

Cities are uniquely positioned to drive this transition by aligning their procurement decisions with climate-neutrality goals. Cities have a high degree of influence over the production and consumption of cement and concrete products, which are generally produced and consumed locally, i.e., manufactured within 250 km of their use. In the concrete sector alone, public buyers – especially subnational governments – account for 40-60% of purchases.

For developing economies, procuring green cement and concrete offers an opportunity to achieve climate goals while addressing urban development priorities. Recent studies suggest that over 50% of the buildings and infrastructure needed by 2050 will come from deep renovation, repurposing, or redesign, or will yet be built, mostly in rapidly urbanizing, developing economies. Procuring green cement and concrete in such economies, such as India (see Box 3), can help to avoid locking into highemissions development trajectories while developing new housing and urban infrastructure.

Procuring green cement and concrete to meet the growing housing and infrastructure needs also offers broader co-benefits for cities in developing economies. These include health benefits, improved living conditions and greater energy

efficiency.⁵ In addition, such procurement can help stimulate <u>new and innovative markets</u>, particularly in <u>secondary cities</u> that will house most urban dwellers by 2035, and as such, face challenges in accessing capital markets and international climate finance.

Box 3: Opportunities for Intra-City Aggregated Procurement in India

Intra-city aggregated procurement is particularly relevant for emerging economies like India, where national housing and urban development programs such as the Pradhan Mantri Awas Yojana (PMAY), Atal Mission for Rejuvenation and Urban Transformation (AMRUT), and the Urban Challenge Fund are driving urban infrastructural development and renewal. Cities are central to implementing these programs, and the mandate to partner with the private sector creates an opportunity for more coordinated, sustainable procurement practices. Institutions such as the Building Materials and Technology Promotion Council (BMTPC) can support such efforts and have long facilitated the adoption of emerging low-carbon construction technologies and standards under PMAY. Such programs and practices can integrate intra-city aggregated procurement and, in turn, enable city-level standards that encourage private developers to adopt sustainable cement and concrete in their projects and send a strong market signal to suppliers and manufacturers.

3.1 KEY BENEFITS FOR CITIES

Intra-city aggregated procurement offers a new approach by operating within a single jurisdiction. In theory, its strength lies in its adaptability to a city's unique context, capacity, and enabling conditions.

For city governments, the benefits of intra-city aggregated procurement include:

1. **Market transformation:** cities can drive cost-efficiency and promote low-carbon solutions by setting new aggregation standards, encouraging private developers to adopt similar practices.

⁵ For a detailed discussion on the co-benefits of sustainable buildings, refer to this evidence review by <u>Bregge</u> et al. (2021).

- 2. **Economies of scale:** cities can achieve cost savings via economies of scale and lower transaction costs and life-cycle cost-effectiveness by aggregating demand for climate-neutral solutions.
- 3. **Emissions reduction at minimal additional cost:** cities can procure sustainable cement to save embodied carbon at a <u>cost premium of less than 1%</u>.
- 4. **Agile decision-making:** cities can use their influence to streamline procurement decision-making within their jurisdiction and overcome coordination challenges, often associated with <u>multi-city procurement</u> approaches.
- 5. **Enhanced negotiating power:** cities can create favorable public-private partnership opportunities and obtain leverage to embed ambitious climate criteria into public works
- 6. **Strengthened capacities:** cities can use this approach to strengthen the capacity of local officials to implement sustainable and climate-aligned tenders.⁶

3.2 THE BUSINESS CASE FOR MOBILIZING PRIVATE SECTOR ACTORS

Beyond benefits for cities, intra-city aggregation can create enabling conditions for private sector mobilization. Its transformative potential lies in reshaping local markets to crowd in the private sector. Intra-city aggregated procurement has the potential to provide a range of benefits to the following key private sector actors:

MATERIALS MANUFACTURERS AND SUPPLIERS

- Investment de-risking and bankability: cities aggregating demand across private and public sectors can create a stable market with predictable purchase orders. This can give manufacturers the confidence to invest in low-carbon production and make their businesses more bankable.
- **First mover advantage:** manufacturers and suppliers can become market leaders by partnering with cities early to supply climate-neutral cement and concrete. This can help build a solid track record and attract more business opportunities as ambitious regulations mandating high-performance construction materials increase.

⁶ It is noteworthy that intra-city aggregated procurement will include multiple harmonized RfPs/tenders, typically one for each buyer. This is distinct from pooled procurement, where a single joint RfP/tender is issued.

REAL ESTATE DEVELOPERS AND CONTRACTORS

- Improved project economics: aggregated procurement can drive down the cost of materials like green cement in construction projects. This cost efficiency can enable cities and developers to adopt more ambitious sustainable material requirements without compromising the financial attractiveness of their projects.
- **Smart risk management:** procuring cost-effective, sustainable construction materials via aggregation can help future-proof real estate assets against tightening carbon regulations.

SUSTAINABLE CONSTRUCTION VALUE CHAIN

Additionally, intra-city aggregated procurement in the cement and concrete sector can also create new business opportunities throughout the sustainable construction value chain, supporting a range of innovative professional services.

- Market opportunities for climate technology startups that develop and promote green building materials and other climate-neutral and resilience-enhancing solutions and tools.
- Transformations in architecture, engineering, and construction industry practices, empowering professionals to specify green materials and technologies in their designs, backed by a strong local supply chain.
- Incentives for insurance providers and risk managers to offer <u>lower premiums</u> or <u>special coverage options</u> for projects involving green cement and concrete, building on cities' efforts to transform their markets via intra-city aggregated procurement.
- Creation of new jobs in local production facilities, development of new production technologies, recycling and waste management, and the implementation sustainable construction practices.

Realizing these benefits depends on how aggregation is scaled and coordinated across market actors. Large private developers, national agencies, and municipal governments all have the capacity to standardize and aggregate procurement. What distinguishes cities is their position as both major clients and policymakers, commissioning and regulating local infrastructure at a scale that can align supply chains with low-carbon materials. To leverage this, cities should engage the market early and comprehensively to harmonize standards and procurement requirements with private and national actors. Doing so will help cities avoid conflicting market signals while still advancing climate goals.

4. INTRA-CITY AGGREGATED PROCUREMENT MODELS AND CASE STUDIES

Cities can adopt four practical models to become market conveners, i.e., aggregate individual commitments from private and public actors and align their procurement decisions with climate-neutral a resilience-enhancing construction materials. While these models are not new, as highlighted by the case studies below, the innovation lies in their strategic application to aggregate the otherwise fragmented private and public demand for cement and concrete into a unified market signal—an approach that remains relatively untested at scale.

These models are not mutually exclusive; in fact, cities can combine them to maximize their impact. They may rely on two critical data tools that serve as the foundation for measuring impact: Environmental Product Declarations (EPDs), which provide embodied carbon information for materials, and Life-Cycle Assessments (LCAs), which use EPD data to calculate a project's overall environmental footprint. These four models are highlighted in Figure 1 below:

Figure 1: Four Models to Aggregate Intra-City Demand for Green Cement and Concrete



Market Facilitation

Provide shared depots/facilities to aggregate green materials



Material-Based Mandate

Set regulation for minimum recycled/low-carbon in concrete; verify via EPD/LCA



Performance-Based Mandate

Set embodied emissions caps (based on baselines & targets); verify via EPD/LCA



Tender-Based Incentives

Add environmental criteria into scoring (e.g., 20-30%) & reward low-carbon bids

⁷ These models are developed for green cement and concrete but could, in principle, be adapted for purchasing materials and technologies in other sectors, such as energy, mobility, disaster-resilient infrastructure etc.

4.1 MARKET FACILITATION

In this model, the city serves as a market facilitator to address logistical challenges in sourcing and using secondary construction materials. This intervention is critical because it creates the reliable inventory needed to aggregate demand for recycled products such as crushed concrete.

CASE STUDIES:

- **Helsinki:** the city appointed a <u>Municipal Circular Land Mass Coordinator</u> in 2014 to manage and repurpose soil and crushed concrete between all city construction sites. The coordinator oversees master planning and construction projects to clean and repurpose up to 1.1 million tonnes of soil and crushed concrete per year, saving the city EUR 47 million and avoiding 17,100 tonnes of CO2e by 2020.
- Ahmedabad: the city established a long-term public-private partnership to operate a city-wide construction and demolition (C&D) waste recycling facility. The facility had a processing capacity of 1,000 tonnes per day (TPD) by 2018 to manage the 700 TPD of C&D waste generated in the city. Ahmedabad also introduced a preferential procurement policy requiring municipal departments to source up to 50% of their paving blocks and precast products from the recycled material supply. This approach has reduced landfill disposal, lowered demand for virgin aggregates, and mainstreamed the use of recycled concrete in public works.
- **Brussels:** the city is advancing urban mining and the concept of "buildings as material banks" through strong public-private collaboration. Since 2019, under new circular economy regulations, demolition has been prohibited unless accompanied by an urban mining plan, and new buildings must adhere to design-for-disassembly principles. The ZIN project, which repurposed the former WTC towers, exemplifies this approach—transforming 30,000 tonnes of rubble into high-grade concrete for the new floor slab.

4.2 MATERIAL-BASED MANDATE

A regulatory model where the city mandates material performance standards (e.g., minimum low-clinker cement or recycled concrete use), aligning specifications across public and private projects and creating consistent demand for lower-carbon materials.

CASE STUDIES:

- **Zurich:** the city instituted a <u>city-wide regulatory mandate</u> for all public buildings to use 25%+ recycled aggregates and low-carbon cement, creating a stable market that de-risked supplier investment. As a result, 90% of public concrete is now recycled (up to 50% recycled aggregates), and CO₂ emissions were reduced by 25–30% (7,430 tonnes CO₂ emissions saved) over six years. The mandate also enabled a market transformation through expansion into the private sector.
- **New York**: through its <u>2022 Clean Construction Executive Order 23</u>, the city requires its capital project agencies to implement a suite of actions, including specifying low-carbon concrete, requiring EPDs, incorporating low-emission equipment, and mandating LCAs for its projects. While data on impact is forthcoming, the intended long-term benefits include driving demand for low-carbon materials and technologies, thereby stimulating the green construction market and potentially leading to cost reductions over time.

4.3 PERFORMANCE-BASED MANDATE

A performance-based model where the city mandates embodied-carbon limits for construction projects, aligning procurement around climate outcomes while allowing suppliers flexibility to innovate in how they meet those targets.

CASE STUDIES:

- Oslo: the city is actively working to <u>reduce embodied carbon in construction</u> by requiring a 30% reduction in emissions from building materials compared to a reference pathway. To demonstrate emissions reductions, the <u>city requires at least two EPDs</u> for each of the ten largest categories of building materials, including concrete. This measure encourages prioritizing low-carbon materials, including bio-based and recycled materials.
- **Vancouver:** the city <u>mandates a 40% reduction in embodied carbon</u> by 2030, requiring developers to use LCA and EPDs to verify compliance, which drives the specification of low-carbon concrete.
- **San Francisco:** the city's Climate Action Plan sets an ambitious city-wide target to achieve a 40% reduction in embodied carbon from construction by 2030. As an initial testing step, the city's updated green building policy now mandates a 10% reduction in embodied carbon for new projects, verified through life cycle analysis (LCA).

4.4 TENDER-BASED INCENTIVES

A market-based model that uses innovative award criteria in competitive tenders to reward suppliers for offering lower-carbon solutions like green cement and concrete.⁸

CASE STUDIES:

- Oslo: in its construction tenders, the city <u>rewards environmental considerations</u> beyond just price and quality by mandating that the "Environment" criterion be weighted at a minimum of 20% (and as a rule, 30%) of the total score. The framework explicitly allows for environmental sub-criteria, including the use of low-emissions construction materials with favourable greenhouse gas emissions data derived from LCA/EPDs.
- **Paris:** uses a <u>tender framework for demolition work</u> where price is weighted at only 40%, while the methodology for material recovery is weighted at 35%. This incentivizes suppliers to compete on circularity, particularly on the recovery and reuse of high-value materials from construction and demolition waste. A key focus is maximizing recovery rates for materials such as crushed concrete, which can then be repurposed as recycled aggregates in new construction projects.
- **Stockholm:** to pilot a fossil-free construction model in its Meatpacking District project, the city utilized a <u>competitive dialogue tender</u>, moving beyond a lowest-price approach. The contract was awarded based on an innovative approach of engaging suppliers in dialogue to understand their offerings and negotiate more effectively. The evaluation criteria included suppliers' proposed carbon accounting and their ability to provide an electric excavator prototype. This innovative procurement enabled a 70% emissions reduction compared to a traditional tender, achieved by using fossil-free and electric machinery and reusing 153,000 tons of excavated material on-site, which covered approximately 72% of the project's needs.

Given that different cities have varying climate frameworks and regulations for the built environment, these models are not intended to follow a one-size-fits-all approach. Instead, they are flexible and adaptable—each can be tailored to a city's political and regulatory environment, procurement practices, and climate commitments. For example, the Market Facilitation model can focus on developing an inventory of crushed concrete in one city and sourcing low-clinker cement in another. Similarly, a Material-Based Mandate can begin with minimum requirements for low-carbon concrete in initial public projects and then scale up to a city-wide mandate. Further, a Performance-

⁸ It is noteworthy that aggregated procurement will include multiple harmonized RfPs/tenders, typically one for each buyer. This is distinct from pooled procurement, where a single joint RfP/tender is issued.

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Based Mandate can set stricter or looser embodied-carbon caps depending on the local market's maturity. Tender-Based Incentives can align environmental criteria with the city's political, financial, and climate priorities.

While these models primarily target emissions reductions from cement and concrete, which align with the focus of this concept note, they can also be adapted to advance urban resilience goals. A recent example comes from the city of Boston, which passed a new <u>ordinance</u> requiring all construction contracts to implement a comprehensive heat illness prevention plan to protect workers during periods of extreme heat.

5. ENABLING CONDITIONS FOR INTRA-CITY AGGREGATION MODELS

For intra-city aggregation models to work, certain enabling conditions need to be in place (Table 1).

- Market Facilitation will depend on logistical or financial capacity and multistakeholder coordination. To implement this model, governance arrangements may need to evolve through new public-private partnerships to allow suppliers greater flexibility to pre-reserve material volumes, align project timelines, and enable local exchange or reuse of materials between projects. It will be easier to implement this model in developed markets. Still, it can also be adapted to fasturbanizing cities in emerging economies with strong local capacities and increasing infrastructure demand.
- Material-Based and Performance-Based Mandates will rely on leadership, enforcement capacities, robust data and tools, and mature markets, so these might be better suited for advanced markets and be a bit ambitious for emerging markets.
- **Tender-Based Incentives** require strong political will to move beyond lowest-cost criteria, along with the technical capacity to design and evaluate multi-criteria tenders. Given its flexibility, this model is well-suited as an entry point for emerging markets.

Table 1: Key enabling conditions and adaptability considerations to implement the models

Model	Key Enabling Conditions	Adaptability Consideration	
Market Facilitation	 Financing/logistics capacity to develop and manage inventories Strong multistakeholder coordination 	 Suitable for developed markets Adaptable to urbanizing emerging markets with a large demand for cement and concrete 	
Material-Based Mandate	 Centralized city leadership Enforcement and monitoring capacity Mature supply markets 	 Strongest in mature markets with stable governance Harder in emerging markets unless higher-level policies support cities 	
Performance- Based Mandate	 Advanced technical expertise across public/private sectors Robust data and assessments (LCA/EPD) 	More suitable for cities in developed markets	

	Competitive local market with supplier innovation capacities	Ambitious for emerging markets (may require technical assistance)
Tender-Based Incentives	 Skill to design/evaluate multicriteria tenders Political will to go beyond "lowest cost" criteria Transparent evaluation methodology 	 Highly adaptable Strong entry point for emerging markets while also valuable for advanced markets

CROSS-CUTTING ENABLING CONDITIONS

Across all aggregation models, certain cross-cutting enabling conditions are required regardless of context:

- 1. Multilevel political leadership and commitment: city governments need leaders to understand the challenges of embodied carbon and be prepared to build and run the political machinery to address them. This requires complementary support from national or regional leaders to reform restrictive procurement laws and provide catalytic funds, creating an enabling environment for cities to be ambitious and innovative.
- 2. **City-level climate frameworks:** having city-level climate plans and green budgets can help city governments to align aggregation models with their climate priorities and justify climate-neutral purchasing decisions. Green budgeting, as used in <u>London</u>, links budget allocations to climate targets and can help shift procurement decisions based on life-cycle emissions and performance rather than only lowest upfront cost.
- 3. **Data availability and management:** robust data on project pipelines, material flows, life-cycle emissions, and public expenditures is critical for both design and monitoring of aggregation models. Without reliable data, cities cannot credibly set targets or track progress.
- 4. Procurement ownership and governance: cities can strengthen all aggregation models by creating ownership or partnership structures such as joint ventures or special purpose vehicles (SPVs) that manage resources and ensure robust governance. These structures can manage circular assets, support compliance with mandates, and coordinate procurement processes to enable a stable supply of materials.

6. RISKS AND BARRIERS TO IMPLEMENTATION AND THE ROLE OF DE-RISKING MEASURES

As cities begin implementing intra-city aggregated procurement, early pilots, particularly in developing economies, may face risks and barriers that could undermine market adoption of aggregation models. This could ultimately result in limited supplier participation in the procurement process. These risks may be faced by both cities and suppliers, often jointly, depending on whether they relate to financing, institutional capacity, or market readiness.

Targeted de-risking measures, spanning guarantees, blended finance, technical assistance, capacity building, data and tools, and market engagement are essential to mitigate these risks and enable successful implementation of the procurement approach.

Table 2 below summarizes key implementation risks and barriers across financial, institutional, and operational dimensions, alongside corresponding de-risking mechanisms that cities can deploy to enhance market confidence and ensure effective implementation.

Table 2: Implementation risks and barriers and corresponding de-risking measures.

Implementation risks/barriers **De-risking measures Financial** Offtake agreements or commitments to reduce • Volume risk (supplier-side): uncertainty over volume risks and assure suppliers of predictable whether projected demand from multiple revenues departments will materialize as planned Third-party guarantees provided by financial • Payment risk (supplier-side): potential delays institutions, donor funds, or national/state or defaults in payments to suppliers, especially governments to backstop municipal payment when procurement is spread across obligations and enhance supplier trust in city departments procurement Price risk (shared): higher upfront costs for Blended finance mechanisms that combine cities and price volatility for suppliers of green donor and public funds with commercial capital construction materials (i.e., cement and to absorb upfront costs and support viable price concrete), especially in less matured markets points for green materials Institutional

- Regulatory barriers (city-side): ambiguity in procurement rules or limited legal authority to aggregate demand at the city level, discouraging suppliers from providing green solutions if the market seems uncertain
- Governance barriers (city-side): short
 political cycles, competing mandates across
 city departments, or uneven buy-ins from
 private and public purchasers, undermining a
 unified market signal
- Technical capacity barriers (city-side): Lack of institutional capacities to structure and evaluate tenders and negotiate contracts
- Dedicated procurement governance units (SPVs/JVs) comprising senior city leadership or new types of public-private leadership roles, along with procurement teams to coordinate commitments and timelines across private and public sectors and maintain accountability and transparency
- Capacity-building programs to help city teams manage procurement pipelines, interpret regulations, and coordinate with suppliers
- Technical assistance or grants to support city procurement teams with structuring aggregated tenders, along with transaction advisory services

Operational

- Compliance risk (shared): limited data and expertise to verify and monitor the environmental performance of contracts
- Competition barriers (shared): established local suppliers, optimized for low-cost procurement and entrenched relationships, may hinder new competitors, resulting in a narrow supplier base for cities.
- Market capacity shortfalls (supplier-side): introducing aggregation models with stringent environmental mandates may create supplier capacity shortfalls
- Results-based payment to suppliers tied to verified climate outcomes (via EPDs and LCAs) to ensure accountability and measurable impact
- Grants to develop data, tools, and digital infrastructure to track environmental performance and ensure transparency in procurement processes
- Early market engagement to gather feedback, assess supplier capacities, and design aggregation regulations that incentivize existing suppliers and reduce barriers for new entrants⁹

⁹ Sánchez-Graells & Herrera Anchustegui (2014) show that aggregation benefits materialize when buyer coordination increases market efficiency without causing excessive concentration or monopsony.

PART B: PROGRAM TO IMPLEMENT INTRA-CITY AGGREGATED PROCUREMENT



7. PROGRAM DESIGN AND WORK PLAN

The program aims to establish intra-city aggregated procurement as a key tool for cities to accelerate their climate action. It seeks to create a globally recognized yet locally adaptable intra-city aggregated procurement approach that empowers cities to strategically shift their internal demand towards climate-smart solutions, starting with the FMC-aligned cement and concrete sector and expanding to other high-impact sectors like energy and transport in later phases.

PROGRAM OBJECTIVES:

- Develop a practical playbook that empowers cities to implement intra-city demand aggregation models (introduced in section 4) for cement and concrete. An outline of the playbook is provided in section 8.
- Pilot the playbook with a community of "First Mover Cities", in collaboration with FMC private-sector partners, to test the aggregation models through coordinated engagement in shared national and regional markets.
- Scale the program to new cities and other high-impact sectors (e.g., energy, transport) while engaging with national governments, DFIs, and the private sector to improve the enabling environment for intra-city aggregated procurement.

7.1 ALIGNMENT WITH SYSTEM DEMONSTRATORS AND OTHER KEY INITIATIVES

The program will draw learnings from the pioneering work cities like Stockholm and Lund are undertaking through the System Demonstrators initiative. Led by Viable Cities in collaboration with UN-Habitat and local partners, the initiative aims to achieve climate neutrality by transforming multiple dimensions of urban systems. These include governance and regulations, infrastructure, financing, procurement, and business models. The initiative brings together an ecosystem of actors that leverage cities as testbeds for a portfolio of interventions and captures lessons that can be scaled to establish a "new normal" for climate-neutral cities.

To support pilots in the "First Mover Cities", the program will also seek alignment with the **Viability Fund for Cities** - a catalytic financing mechanism spearheaded by Viable Cities.

The fund intends to blend donor funds, public, and private capital to de-risk investments through pilots and demonstrators, and scale promising initiatives.

Additionally, the program will build on and connect with several complementary initiatives that are advancing city climate action and market transformation for green procurement (Box 4). These alignments will create a systemic approach to climateneutrality, ensuring that cities participating in this program advance the actions already taken under these initiatives rather than starting anew.

Box 4: Program's Alignment with Complementary Initiatives

- First Movers Coalition (FMC) a global coalition of companies leveraging their purchasing power to accelerate demand for emerging clean technologies in hard-to-abate sectors such as cement and concrete. This program aims to operationalize FMC principles at the city level, expanding the coalition's market impact into urban public procurement.
- C40 Clean Construction program supports cities to shift towards clean
 construction practices to reduce embodied emissions in buildings and
 infrastructure. This includes a focus on leveraging municipal purchasing power
 to procure low-emissions construction materials and technologies. The
 program provides valuable methodologies and peer learning to support First
 Mover Cities.
- European Commission's Big Buyers Initiative (BBI) brings together large
 public procurers across Europe to jointly develop and scale strategic
 procurement solutions for sustainability and innovation. Lessons from BBI's
 collaborative procurement communities would guide the implementation of
 city-level aggregation models.
- Industrial Deep Decarbonization Initiative (IDDI) UN-led coalition of
 governments working to standardize carbon accounting, establish green
 procurement targets, incentivize investment in low-carbon product
 development, and design industry guidelines for low-carbon industrial
 materials, particularly cement and steel. Aligning the intra-city aggregated
 procurement program with IDDI's standards will bring consistency in data,
 metrics, and verification approaches.
- <u>Urban Transitions Mission's Net Zero Framework</u> helps cities strengthen their climate plans and strategies, prioritize actions, and reap the benefits of

- systemic approaches to reach their net-zero target. The program will directly contribute to this framework's components, including making commitments, setting targets, implementing strategies, and monitoring results.
- Climate-Neutral Cities Alliance (CNCA) a network of leading cities
 committed to achieving carbon neutrality in the next 10-20 years. CNCA's
 support to cities includes governance tools, peer learning, collective influence,
 and other initiatives, funded through philanthropic support. The program will
 complement CNCA's efforts by helping cities shape markets for green cement
 and concrete.
- RMI's Sustainable Concrete Buyers Alliance (SCoBA) a buyers' group
 formed to collectively procure environmental attribute certificates for lowcarbon concrete, aiming to turn demand into real-world offtake agreements
 that enable producers to invest at scale in new infrastructure and pioneering
 technologies. The program will complement SCoBA by enabling cities to
 send similar market signals through coordinating the demand for green
 cement and concrete.
- Leadership Group for Industry Transition (LeadIT) a public-private initiative launched by Sweden and India to drive the global industry transition toward net-zero emissions through policy dialogue, technology co-development, and partnerships to support low-carbon industrial transformation. The program will complement the LeadIT mission by creating demand-side mechanisms in cities that complement national and industry-level transition pathways.
- Global Environment Facility Sustainable Cities Program (SCP) a GEF initiative supporting integrated planning and multi-level governance for urban sustainability across more than 90 cities. SCP's experience launching city-level pilots and helping cities adopt multilevel governance frameworks can inform this program, particularly in identifying pilot cities and enhancing multilevel coordination between public and private actors around common procurement standards and targets.

7.2 WORK PLAN

The program will comprise three core phases: 1) First Mover Cities cohort and playbook development, 2) pilots and market engagement, and 3) scaling and policy engagement. These phases, along with corresponding activities and outputs, are highlighted in Table 3 below.

Table 3: Tentative work plan for intra-city aggregated procurement.

Phase	Activities	Outputs
Phase 1 - First Mover Cities Cohort and Playbook (Months 1-9)	 Recruit First Mover Cities Cohort: Partner with FMC and C40 to identify and engage ambitious cities in Asia Pacific, North America, Europe, the Middle East, Latin America, and South Asia. ¹⁰ Engage the cohort on the program's value proposition and assess their interest, capacity gaps, and technical assistance (TA) needs for program implementation. Facilitate Convenings with Industry: Connect First Mover Cities with infrastructure developers (e.g., port developers), System Demonstrators, and private companies for peer learning and knowledge exchange on procurement and cement decarbonization topics. Develop the Intra-City Aggregated Procurement Playbook: Co-create the playbook with First Mover Cities and partners to guide collective action. Incorporate learnings from System Demonstrator cities (e.g., Sweden, Lund) on procurement and public-private partnerships. The expectation is to integrate this playbook into a broader CHAMP multilevel governance playbook to strengthen national-local coordination. The playbook will also explore inclusion models for small and medium-sized cities, ensuring adaptability across different capacities and enabling access to catalytic support through mechanisms such as the Viability Fund for Cities. 	 First Mover Cities cohort launched with at least 2 Letters of Intent (LoI) Playbook (v1) with learnings from System Demonstrators Best practice compilation
Phase 2 - Pilots & Market Engagement (Months 10-24)	 Launch Pilots: Recruit 3-5 interested cohort cities (with developing country representation) to pilot the program, utilizing the playbook as the implementation guide Provide Technical Assistance: Deliver tailored technical assistance (TA) and other required support to de-risk pilots (see Table 2) Facilitate Market Engagement: Connect pilot cities with innovative material suppliers and private sector partners to help them access low-carbon materials and 	 Commitment (via signed Lols) to pilot the program Pilots launched with 3-5 cities. Formalization of partnerships to provide TA during pilots

¹⁰ Priority countries to recruit the First Mover Cities in phase 1 include Australia, Brazil, Canada, China, Colombia, Denmark, Germany, India, Indonesia, Italy, Japan, Kenya, Norway, Saudi Arabia, Singapore, Spain, Sweden, United Arab Emirates, United Kingdom, United States and Vietnam.

	 solutions. Leverage the WEF First Suppliers Hub to help cities engage with innovative suppliers. Document and Share Learnings: Collect data, capture pilot experiences, and integrate further insights into the playbook. 	Documentation and case studies of pilot results
Phase 3 - Scaling and Policy Engagement (Months 25+)	 Expand Global Reach: Grow the First Mover Cities cohort to new regions, especially in Africa Broaden Sectoral Scope: Extend the approach beyond cement/concrete to sectors like energy, adaptation, and transport Establish a Knowledge Hub: Host the final playbook, case studies, and resources Showcase Results: Leverage key events and fora (e.g., COP, NYCW, Davos) Develop Policy Briefs: Provide targeted recommendations to governments, the private sector, and DFIs to scale the approach 	 Expanded Playbook (multi-sector) Global cohort of First Mover Cities Knowledge Hub Policy briefs for governments, DFIs, and the private sector

Note: The FMC will support the program by hosting the First Mover Cities cohort and convening multi-stakeholder engagements with private sector partners and innovative suppliers. Discussions with partners such as C40 Cities are underway to coordinate on delivering targeted technical assistance and de-risking support for cities. During Phase 1, TA and catalytic funding needs will be assessed for cities interested in pilots. The delivery of funding and TA support will be arranged in Phase 2 through existing partnerships, the Viability Fund for Cities, or new fundraising as needed. While FMC already supports some components in Phase 1, additional funding and implementation partners may be required for pilots and scaling activities. Joining the First Mover Cities cohort does not automatically commit cities to piloting the approach; Phase 1 focuses on cohort formation and convenings, while interested cities will pursue pilots in Phase 2.

8. OUTLINE: THE INTRA-CITY AGGREGATED PURCHASING POWER PLAYBOOK

This section outlines the content for the future Intra-City Aggregated Purchasing Power Playbook, which will guide cities in implementing intra-city aggregated procurement. The playbook will be developed in Phase 1 of the program and will be utilized by pilot cities in Phase 2 (see Table 3; Section 7).

The playbook is expected to form part of the broader *CHAMP Playbook for Multilevel Governance for Climate Finance*, led by Viable Cities in collaboration with CHAMP partners. Integrating it into the CHAMP playbook would help ensure alignment with CHAMP's objectives, strengthen multilevel coordination, and enhance subnational access to climate finance. The playbook would also draw on best practices and learnings from key initiatives under the *Climate-Neutral and Smart Cities 2030 Mission*, including the governance tools such as the Climate City Contract and examples on how instruments such as System Demonstrators and the Viability Fund for Cities can de-risk aggregated procurement.

Below is the outline of the playbook modules:

PLAYBOOK INTRODUCTION

How to use the playbook: This playbook is structured into three sequential modules designed to guide cities from planning to implementation.

- **Module 1 Establish foundations:** This module will provide a common foundational assessment for cities to evaluate their context and capacities.
- **Module 2 Choose models:** This module will help cities to choose the right demand aggregation model based on the results of their foundational assessment.
- Module 3 Deliver through aggregated procurement: This module will provide a step-by-step process for executing the chosen model.

¹¹ The CHAMP Playbook is expected to explore synergies with the GEF Sustainable Cities Program (see Box 4) to incorporate lessons on multi-level governance and cross-agency coordination from SCP projects.

MODULE 1: ESTABLISH THE FOUNDATION FOR AGGREGATION (GET READY)

Leadership and mandate:

- Secure high-level commitment
- Develop a steering group and appoint a procurement officer

Readiness assessments:

- Confirm legal/regulatory requirements to implement intra-city aggregation models
- Conduct an early-stage market engagement to assess supplier capacities and potential volumes across public and private projects

Who buys together:

- Agree on procurement group formation (centralized/federated/third-party)
- Agree on roles of each party within the group (i.e., who will be the leading agency, what will be the shared evaluation criteria) and sign a Letter of Intent

Data, standards & low-carbon pathways:

- Calculate embodied emissions baselines and emissions reduction targets
- Choose verification and quality assurance methods, such as EPD/LCA tools
- Define low-carbon pathways (e.g., clinker reduction, recycled aggregates, re-use of concrete)

Institutional capacities:

 Build institutional capacities to identify demand aggregation models and implement the procurement process showcased in the playbook. This will include training programs, digital tools, and accountability mechanisms

Project pipeline:

- Identify 2-3 years of construction projects aligned with city-level climate action plans across public and private sectors; utilize green budgeting, if in place, for the identification
- Tag concrete-intensive projects and develop bundles based on project timeframes
- ✓ Supporting resources: sample stakeholder mapping framework, a sample Letter of Intent, a questionnaire to guide decision making on establishing a procurement structure; legal/regulatory review checklists, political briefing template, organizational structure flowchart, and training module examples

MODULE 2: DETERMINE THE MARKET-SHAPING MODEL (CHOOSE ONE OR COMBINE MULTIPLE MODELS)

Market Facilitation:

- Provide shared depots/facilities to aggregate and store low-carbon materials
- Set acceptance and quality assurance (QA) rules

• Prefer or require the use of these facilities in Request for Proposals (RfPs)

Material-Based Mandate:

 Set regulation on minimum recycled or low-carbon content in cement and concrete; verify via EPD/LCA

Performance-Based Mandate:

• Set embodied carbon limits (based on baselines and targets); verify via EPD/LCA

Tender-Based Incentives:

- Add environmental criteria into scoring (e.g., 20-30%)
- Reward low-carbon bids (verified via EPD/LCA)
- ✓ Supporting resources: detailed case studies of cities implementing one or multiple models

MODULE 3: DELIVER THROUGH THE AGGREGATED PROCUREMENT CYCLE (MAKE IT HAPPEN)

Step 1. Plan & Prepare

- Confirm approvals from the mayor/steering group
- Finalize buyer commitments and the aggregated demand
- Set evaluation team, specifications, criteria, and risk assessments.
- ✓ Supporting resources: buyer commitment documentation template, aggregated demand template (spreadsheet), concept note/pitch deck formats

Step 2. Engage the Market

- Hold market engagement sessions to gauge market readiness and insights into the chosen procurement models
- Be clear on scoring, material specifications, emissions caps, or depot rules
- ✓ Supporting resources: market engagement call template, supplier engagement questionnaire, workshop facilitation guide, supplier eligibility scorecard template to assess capacity

Step 3. Tender and Award

- Issue harmonized RfPs or tenders for each department 12
- Set the harmonized award criteria, moving beyond the "least cost" criteria, and including climate-related characteristics, life-cycle costs, and desired co-benefits
- Hold market engagement sessions discussing the RfP/tender; this should include a Q&A session
- Evaluate bids against the award criteria and select suppliers offering the best value

¹² It is noteworthy that aggregated procurement will include multiple harmonized RfPs/tenders, typically one for each buyer. This is distinct from pooled procurement, where a single joint RfP/tender is issued.

✓ Supporting resources: model aggregated procurement RfP/tender and technical specifications, life-cycle costing tools, sample award criteria, guiding questions on identifying co-benefits

Step 4. Negotiate and Finalize Contracts

- Negotiate the contracts on behalf of each buyer¹³, including terms such as incentive triggers, material specifications, embodied carbon caps, or purchasing requirements from the city facility/depot
- Secure final authorization from the steering committee and sign the contracts
- Tie payments to evidence of compliance (via EPD/LCA)
- ✓ Supporting resources: sample harmonized contracts with climate clauses, negotiation checklists

Step 5. Monitor, Report, Improve, and Scale

- Track KPIs, including reduced emissions, cost savings, supplier participation ratespub, and cost variance; implement a dashboard for monitoring KPIs
- Adjust concrete specifications, embodied carbon caps, or incentives, if needed, based on KPIs & feedback
- Communicate the deal and report progress publicly to signal to the national government, private sector, and other local governments
- ✓ Supporting resources: case examples of KPI monitoring systems, supplier compliance checklist, communications toolkits

¹³ Since this is an aggregated procurement process, negotiations will be conducted on behalf of multiple buyers. This is distinct from a pooling approach, where typically a single buyer negotiates with suppliers.

