

# Roadmap

## ReBuilt Cape Town

Advancing Regenerative Regional Systems  
through Local Materials, Building Practices,  
and Collaborative Governance



Federal Ministry  
for the Environment, Climate Action,  
Nature Conservation and Nuclear Safety



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CITIES

as part of:

# ReBuilt: Transformation Pathways Towards a Regenerative Built Environment

## Project Supported by

Federal Ministry for the Environment, Climate Action,  
Nature Conservation and Nuclear Safety

## Cooperation Partners

Bauhaus Earth, Germany  
African Centre for Cities, South Africa

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# List of Abbreviations

<b>ABM</b>	Alternative Building Materials	<b>IEA</b>	International Energy Agency
<b>ABT</b>	Alternative Building Technologies	<b>IMF</b>	International Monetary Fund
<b>ACC</b>	African Centre for Cities	<b>IOZ</b>	Incentive Overlay Zoning
<b>ACF</b>	African Climate Foundation	<b>ISUPG</b>	Informal Settlement Upgrading Partnership Grant
<b>CBAM</b>	Carbon Border Adjustment Mechanism	<b>MBA</b>	Master Builders Association
<b>CIFA</b>	Cape Institute for Architecture	<b>MPBL</b>	Municipal Planning By-law
<b>CLT</b>	Cross-Laminated Timber	<b>MTEF</b>	Medium-Term Expenditure Framework
<b>CoCT</b>	City of Cape Town	<b>NBR</b>	National Building Regulations
<b>COGTA</b>	Cooperative Governance and Traditional Affairs	<b>NBI</b>	National Business Initiative
<b>CPD</b>	Continued Professional Development	<b>NDHS</b>	National Department of Human Settlements
<b>CPUT</b>	Cape Peninsula University of Technology	<b>NGO</b>	Non-Governmental Organisation
<b>CSIR</b>	Council for Scientific and Industrial Research	<b>NHBRC</b>	National Home Builders Registration Council
<b>CSP</b>	City Support Programme	<b>NIMBY</b>	Not In My Back Yard
<b>CWP</b>	Community Work Programme	<b>PBSA</b>	Purpose-Built Student Accommodation
<b>DAG</b>	Development Action Group	<b>PCC</b>	Presidential Climate Commission
<b>DMRE</b>	Department of Mineral Resources and Energy	<b>RBE</b>	Regenerative Built Environment
<b>DTIC</b>	Department of Trade, Industry and Competition	<b>REIT</b>	Real Estate Investment Trust
<b>ECSA</b>	Engineering Council of South Africa	<b>R1 / SRI</b>	Single Residential Zoning
<b>EDF</b>	Environmental Defense Fund	<b>SACAP</b>	South African Council for the Architectural Profession
<b>EDP</b>	Economic Development Partnership	<b>SACPCMP</b>	South African Council for the Project and Construction Management Professions
<b>EPHP</b>	Enhanced People's Housing Process	<b>SAHRA</b>	South African Heritage Resources Agency
<b>EPWP</b>	Expanded Public Works Programme	<b>SANS</b>	South African National Standards
<b>ESG</b>	Environmental, Social, and Governance	<b>SAUFFT</b>	South African Urban Food and Farmers Trust
<b>EU</b>	European Union	<b>SEZ</b>	Special Economic Zone
<b>FLISP</b>	Financed Linked Individual Subsidy Programme	<b>SPLUMA</b>	Spatial Planning and Land Use Management Act
<b>FTE</b>	Full-Time Equivalent	<b>SPV</b>	Special Purpose Vehicle
<b>GB</b>	General Business Zoning	<b>SR2</b>	Single Residential 2 Zoning (for incremental upgrading)
<b>GBCSA</b>	Green Building Council South Africa	<b>STR</b>	Short-Term Rental
<b>GHGI</b>	Greenhouse Gas Inventory Report	<b>T-Lab</b>	Transformation Lab
<b>GR2</b>	General Residential 2 Zoning	<b>UCT</b>	University of Cape Town
<b>GR4</b>	General Residential 4 Zoning	<b>UDZ</b>	Urban Development Zone
<b>HSC</b>	Housing Support Centre	<b>WEO</b>	World Energy Outlook
<b>HSDG</b>	Human Settlements Development Grant		
<b>IDP</b>	Integrated Development Plan		

# Preface

The contemporary city stands as a profound testament to our collective priorities – a physical manifestation of our economic models, social contracts, and ecological footprints. Nowhere is this duality more starkly visible than in the urban landscapes of the Global South, where the legacies of historical injustice collide with the acute pressures of contemporary crises.

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## Cape Town,

a city of breathtaking natural beauty and profound human ingenuity, is also marked by deep-seated spatial inequality and an unsustainable reliance on carbon-intensive development pathways. This document, *ReBuilt Cape Town: A Collaborative Roadmap for the Transition to a Regenerative Built Environment*, emerges at a critical juncture. It addresses not merely a technical challenge of construction but a fundamental question of urban futures: How can a city reconcile the imperative for climate resilience with the urgent need for spatial justice?

Conventional approaches to sustainability in the built environment have often focused on mitigating harm, reducing energy consumption, and improving operational efficiency. While these efforts are necessary, they are insufficient. They fail to address the embodied carbon locked into our very walls and foundations, and they frequently overlook the systemic drivers that perpetuate inequality. This Roadmap represents a necessary and ambitious paradigm shift. It moves beyond a logic of ‘less harm’ to champion a vision of ‘more good’: a regenerative built environment that actively restores ecological systems, strengthens social fabric, and promotes equitable access to safe, dignified housing. The concept of regeneration, therefore, is not a mere buzzword but the central thesis of this work, positing that the only truly sustainable city is a just city.

The academic and practical rigour of this document is rooted in its participatory and transdisciplinary methodology. It is the product of a concerted co-creation process that synthesises the insights of policymakers, developers, architects, civil society activists, material innovators, and academics. This collaborative foundation ensures that the proposed interventions are not abstract ideals but are grounded in the complex realities of Cape Town’s regulatory frameworks, market dynamics, and social movements. The Roadmap does not shy away from inherent tensions and trade-offs; instead, it navigates them with a clear-eyed analysis of power, path dependency, and the potential for transformative change.

The four regional opportunities outlined herein – empowering self-builders, leveraging the short-term rental market, catalysing material

innovation, and transforming professional education – are not isolated solutions. They are interconnected levers of a systemic transition. They recognise that empowering a low-income household to build a carbon-sequestering home is intrinsically linked to reshaping the financial flows of the luxury short-term rental market, which in turn depends on fostering a new generation of built environment professionals equipped with the skills and ethos for regenerative practice. We consider these levers the most strategic, even though there are of course others that could be explored as well.

This document is, above all, a call to action. It is a propositional framework that challenges all stakeholders – from municipal officials and national ministers to private developers, university deans, and community organisers – to move beyond incrementalism. The scale of the intertwined housing and climate crises demands bold leadership, strategic investment, and unprecedented collaboration. The path forward will be complex and require sustained commitment, but the cost of inaction – entrenched inequality and escalating climate vulnerability – is unthinkable.

It is our hope that this Roadmap will serve not only as a strategic guide for Cape Town but also as an inspiring exemplar for cities across the globe grappling with similar challenges. The transition to a regenerative built environment is both an ecological imperative and a moral one. This document provides the foundational logic and the actionable strategies to begin that essential work.

*African Centre for Cities, ReBuilt Team*

# Executive Summary

Construction in Cape Town, much like the rest of South Africa, is entrenched in carbon-intensive materials and techniques. A complex array of building, planning and labour codes and policies – implemented by property developers, building material suppliers, insurance agencies, and built environment professionals – reinforce these carbon-intensive practices.

This stark reality is clearly visible in how and where people live: the wealthy in often low- to medium-density, well-located homes made of concrete and steel; and the poor in poorly located, high-density informal settlements and backyards, built with zinc and wood planks.

The City of Cape Town has several exclusive neighbourhoods with bespoke designer homes, whilst over 150,000 poor households continue living in the estimated 437 informal settlements. Over a million residents (nearly a quarter of the population) reside in poor-quality shelter and makeshift backyard homes. This juxtaposition is compounded by increasing pressure and demand for affordable housing, with over 400,000 households on the official waiting list.<sup>1</sup>

The housing crisis in South Africa is compounded by the severe impacts of climate change. Recent droughts in Cape Town, excessive flooding in Durban, and repeated forest and informal settlement fires pose serious risk to shelter and lives.

South Africa faces an acute energy crisis, marked – until recently – by frequent loadshedding due to an overreliance on coal and poorly maintained, ageing infrastructure. In response to climate change, rising public awareness, and international pressure from commitments to the Paris Climate Agreement, the government has launched the Just Urban Transition framework.<sup>2</sup> This policy promotes decarbonisation through significant investments in renewable energy and new revenue instruments such as a carbon tax and credit system. By and large, the business sector has responded positively to the broader Just Transition framework by recalibrating industrial production, benchmarks, and Environmental, Social, and Governance (ESG) targets.<sup>3</sup>

Within the business sector, construction is one of the industries where decarbonisation has become a key priority. While much of the decarbonisation in construction involves specific interventions that address the production of raw building materials – such as the development of low-carbon cement,<sup>4,5</sup> – and building operations, there is a clear intent within the sector to take a holistic and systemic view towards the climate crisis.<sup>6</sup>

The last decade has also seen several local actors and entrepreneurs

<sup>1</sup> City of Cape Town, Human Settlements Strategy (May 2021), [Link](#).

<sup>2</sup> Presidential Climate Commission, *A Framework for a Just Transition in South Africa* (Johannesburg: Presidential Climate Commission, 2022).

<sup>3</sup> Environmental Defense Fund, *Impact Report: A Breakthrough Year for Climate* (New York: Environmental Defense Fund, 2022), accessed November 20, 2025, [Link](#).

<sup>4</sup> CSIR, *Revolutionising South Africa's Construction Industry: Introducing the CSIR Developed Green Cement* (2024), accessed April 7, 2024, [Link](#).

<sup>5</sup> CSIR, *Science, Technology and Innovation for a Circular Economy* (2024).

<sup>6</sup> Green Building Africa, "Demand Changes Can Drive the Future of Zero-Carbon Concrete," *Green Building Africa* (2023), accessed April 14, 2023, [Link](#).

entering the construction market with low-carbon alternatives. While most of these alternatives offer significant promise, many have struggled to upscale beyond pilot projects. As a result, efforts remain somewhat disjointed and marginal. Contributing factors range from challenges posed by compliance with state policies to industrial production capability and supply, cost effectiveness, and end-user acceptability. In an attempt to overcome these challenges, this Roadmap sets out a pathway to bring strategic responses to these factors into closer alignment towards decarbonisations in the construction sector. This Roadmap envisions a future for the construction sector that is just, equitable, and regenerative, while taking into account the current and future housing context in Cape Town. Admittedly, the Roadmap is aspirational and will depend on a designated institution with public authority to drive the alignment. We do not delve into the design criteria and resourcing of such an institution in this report.

The process of producing the Roadmap was participatory, leveraging the insight and expertise of a wide range of development, construction, state, and civic actors, as well as in-depth policy research and literature review. Using this collective knowledge, the Roadmap identifies and presents high-impact, implementable interventions. The four key regional opportunities identified during the project are:

1. Empower the Builders: Enabling Regenerative Self-build in the Low-income Housing Market
2. Leveraging the Short-term Rental Market to Catalyse a Regenerative Transition
3. Establishing Incentives for the Innovation of Material Supply Chains
4. Integrating Material Transitions into Built Environment Education.

Each regional opportunity has its own set of findings that are explained in the Roadmap. However, a set of three crosscutting strategic findings emerges from the Roadmap overall, and these are:

- **Institutional incumbency and future alignment:** Much of South Africa's climate response is centralised, and local governments have limited authority to promote Alternative Building Technologies (ABTs). Addressing this regulatory constraint is essential for any genuine attempt to entrench and scale up the use of ABTs and regenerative approaches by city governments.
- **Igniting and catalysing private sector:** The private sector has a pivotal role to play, and once regulatory bottlenecks are resolved, it may catalyse new sets of investments into ABTs. These investments can support the decarbonisation of current materials and the develop-

ment and uptake of future ABT production. Promoting greater scope for action from the private sector, in partnership with local governments, can enable a Special Purpose Vehicle – such as a Green Equity Fund – to pool various public and private resources and create an institutional home for ABTs. Such interventions are crucial.

- **Moving beyond pilot projects:** Several alternatives to concrete and zinc exist, such as timber, hemp and rammed earth, but none have managed to reach scale. And despite the City of Cape Town having made strong commitments through its climate change strategy and internal targets, several roadblocks hinder delivery. By removing cost impediments, providing incentives for industrial production, resolving compliance issues, and creating an enabling regulatory environment, ABTs could be mainstreamed in the market, helping the City meet its targets. As uptake improves, so will production costs and user acceptability, breaking the current cycle of overreliance on carbon-intensive materials and practices.

The Roadmap sets out each of the Cape regional opportunities and presents a set of findings and associated interventions (see page 37-76). The potential impact of all interventions is outlined, and each intervention is assigned to relevant actors, positioned at an appropriate scale, given a timeline for implementation, and examined from the perspective of trade-offs. The proposals are intended as a starting point, not a definitive action plan. It is our hope that this work can serve as a meaningful indicative Roadmap for a city that works for the environment and for all its citizens.

# 1

## INTRODUCTION

- »» About ReBuilt
- »» Towards a Regenerative Built Environment
- »» Readers Guide
- »» ReBuilt Cape Town, South Africa
- »» About the Roadmap Process

# About ReBuilt

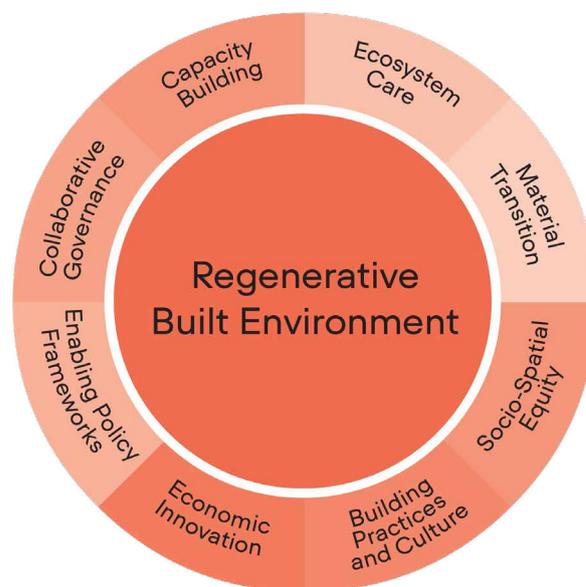
## Regenerative Construction as a New Paradigm

The ReBuilt project – Transformation Pathways Towards a Regenerative Built Environment – envisions a fundamental shift in the global construction sector: from a major contributor to climate change to a carbon sink and a catalyst for ecological restoration and social well-being. By advancing the concept of a regenerative built environment, ReBuilt explores how buildings and cities can be designed, built, and maintained to reverse environmental damage.

## Rethinking Materials and Practices

A central pillar of this transformation is the shift towards regenerative construction materials and practices. ReBuilt approaches this challenge by holistically engaging with bio-regional economies and their supply chains, considering their socio-spatial, ecological, and political contexts. The project advocates for the use of nature-based materials – such as wood, bamboo, hemp, and compressed earth blocks – as well as secondary materials like reused and recycled building components. These regenerative materials not only help lower carbon emissions but also support more circular, adaptive, and resilient construction systems worldwide.

Fig. 01:  
Regenerative System Change  
Framework including Key  
Intervention Fields.



## Project Timeline and Funding

ReBuilt is funded by the German Federal Ministry for the Environment, Climate Action, Nature Conservation and Nuclear Safety. The project runs from February 2023 to December 2025.

## Key Intervention Fields

Transitioning towards a regenerative built environment requires targeted interventions across multiple scales and sectors. Therefore, the methodology of the project consists of eight key intervention fields that are adaptable entry points for action.

### 1. Ecosystem Care

Managing and restoring natural systems (forests, soils, landscapes) to ensure regenerative material sourcing, biodiversity enhancement, and ecological-social balance.

### 2. Material Transition

Enables a shift towards low-carbon, nature-based, and circular construction materials. It emphasises reducing embodied carbon, optimising resource use, and enhancing circularity through reuse, recycling, and design for disassembly.

### 3. Socio-Spatial Equity

Ensuring just and inclusive access to resources, regenerative spaces, and urban development while addressing historic inequities and promoting cultural heritage in the built environment.

### 4. Building Practices and Culture

Designing and constructing buildings that actively contribute to environmental and human well-being, using low-carbon materials, circular design principles, and net-positive impact strategies.

### 5. Economic Innovation

Creating new financial models, markets, and business strategies that support the scaling of regenerative materials and equitable local economies.

### 6. Enabling Policy Frameworks

Developing supportive legal, financial, and regulatory structures to create incentives, enforce standards, and drive systemic change across sectors and communities.

### 7. Collaborative Governance

Establishing participatory decision-making processes that engage multiple stakeholders, ensuring transparency, shared responsibility, and co-creation of material transition policies.

### 8. Capacity Building

Supporting communities, professionals, and institutions through education, training, and cross-sector collaboration to drive and sustain the transition to a regenerative built environment.

## Scales and Systemic Transformation

A systemic and integrated approach across these four scales—global cooperation, regional bioeconomy, building adaptability, and material sustainability—is necessary for a transition towards a regenerative built environment.

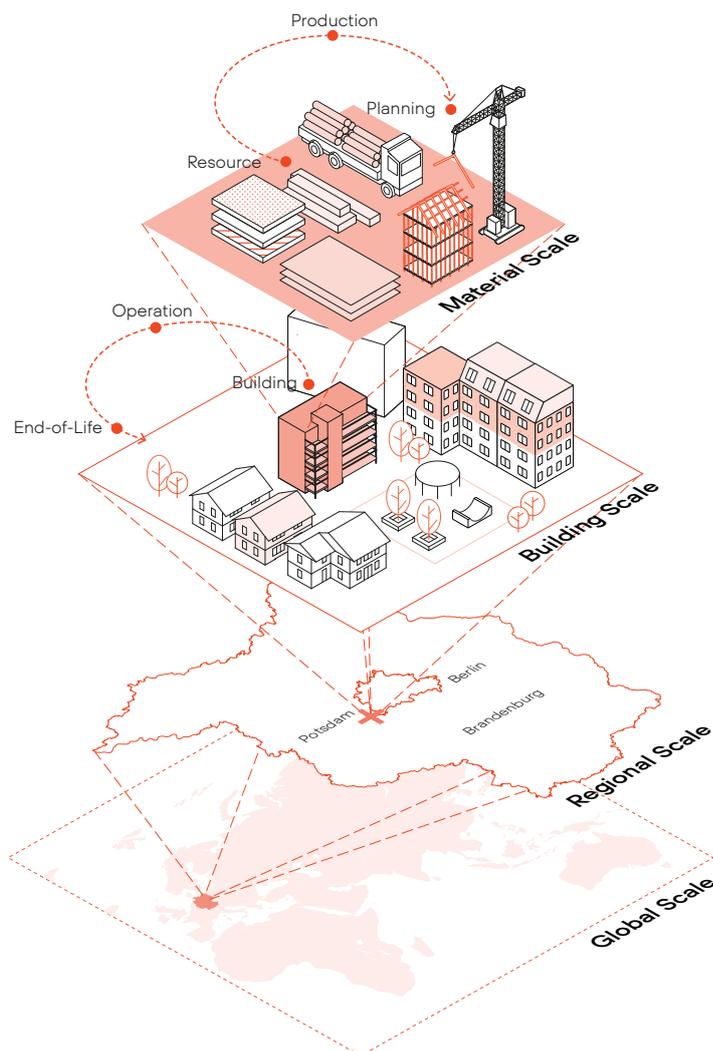
**1. Global Scale** Provides overarching guidance and alignment through international agreements (e.g. the Paris Agreement), influencing carbon reduction, biodiversity conservation, and ethical resource use.

**2. Regional & National Scale** The regional level implements place-based solutions, activating bioeconomies and integrating historical, cultural, and ecological patterns into development. The national level enables this process through policy, regulation, and economic incentives.

**3. Building Scale** Buildings must shift from static structures to adaptive processes that interact with their surrounding socio-ecological systems.

**4. Material Scale** The selection of nature-based, circular materials is essential for regeneration. Sustainable sourcing, reuse, and recycling minimize environmental harm while supporting local economies and ecological restoration.

Fig. 02:  
The systemic interlinking of different scales is beneficial to put the concept of a Regenerative Built Environment into practice.



## Leading the Way for Regenerative Futures

The ReBuilt Project has two research strands: a global study and a series of regional case studies. The Global Study quantifies the supply and demand of bio-based materials for future urban construction worldwide. A scenario-based model compares regional availability of timber resources with projected residential needs, generating spatially explicit insights into material substitution potential and carbon storage capacity. The four Regional Case Studies – Berlin-Brandenburg (Germany), Cape Town (South Africa), Denpasar-Bali (Indonesia), Paro-Thimphu (Bhutan) – promote transformative actions by engaging with local stakeholders, identifying opportunities, and testing them through demonstration projects.

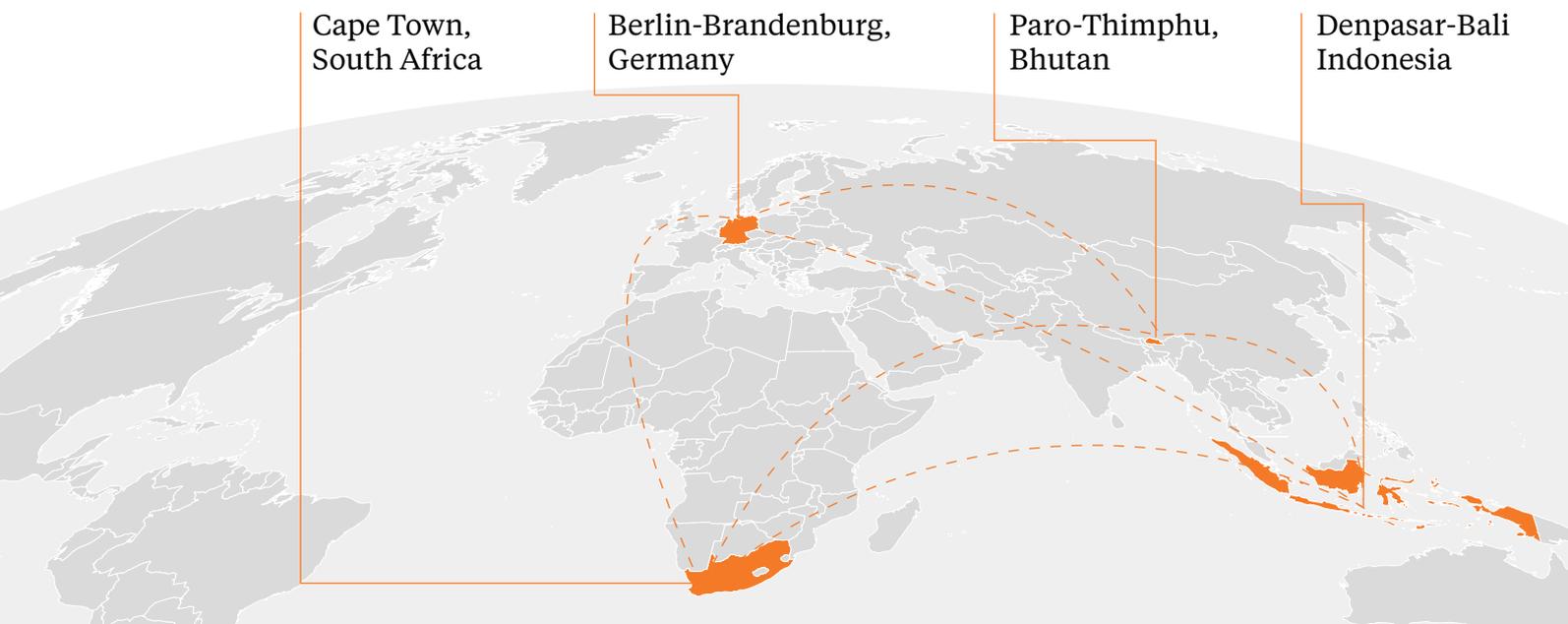
The project aims to advance the adoption of regenerative building materials by combining quantitative assessments with qualitative field research at multiple scales. Our interdisciplinary and international team employs a variety of methods including lifecycle assessments, spatially explicit resource assessments, transformation labs, and participatory engagement. The results are disseminated in various multi-media formats. The global and regional strands of the project are in continuous dialogue to ensure solutions are both locally grounded and globally relevant.

### Iterative and Integrated Research

Each case study explores region-specific opportunities and challenges for transitioning towards a regenerative built environment. In close collaboration with local stakeholders, ReBuilt develops actionable, context-sensitive pathways that inform policy recommendations, strategic roadmaps, and a digital toolkit to guide other city-regions undergoing similar transitions.

ReBuilt's regional case studies follow a three-phase methodology:

1. **Systems Analysis:** Assessment of local regenerative materials, construction sector structures, socio-spatial conditions, policies, and actor networks essential for enabling change.
2. **Transformation Labs:** Participatory platforms where stakeholders co-create and test alternative futures, practices, and systemic solutions.
3. **Strategic Roadmaps:** Co-developed with local partners, focus on scalable strategies for short-, medium-, and long-term transition pathways.



# Towards a Regenerative Built Environment

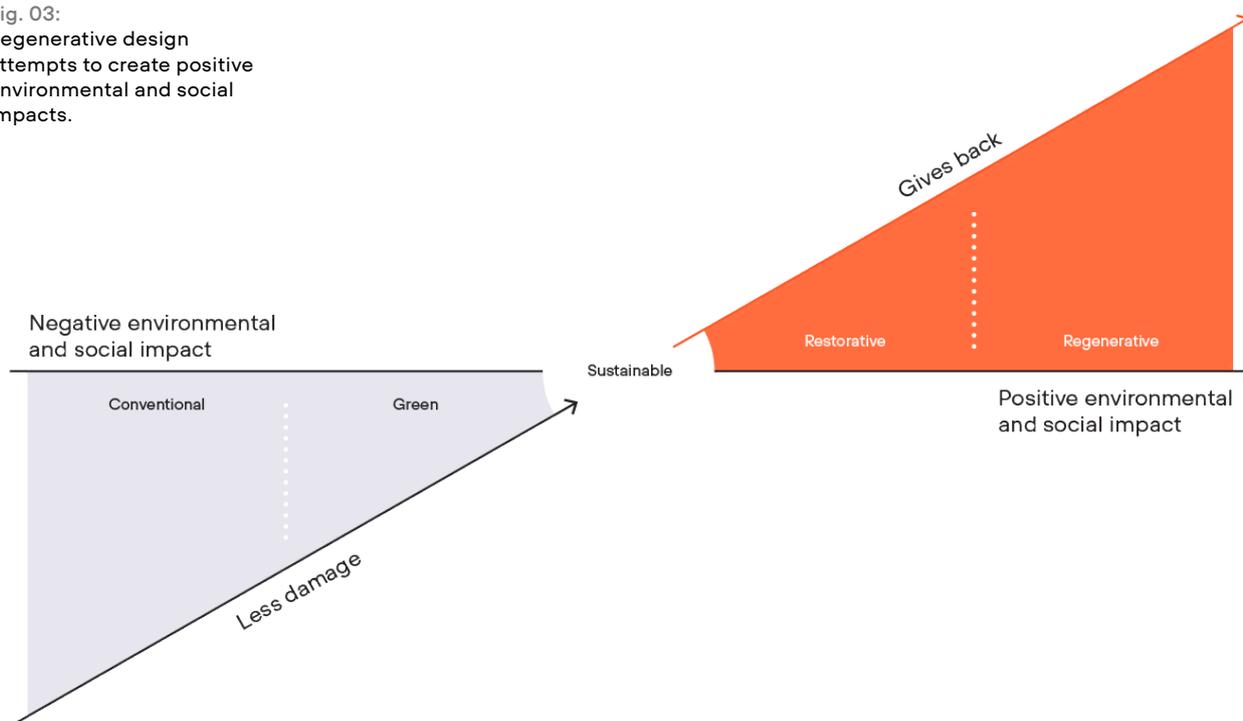
Rethinking construction from a climate liability into a force for positive change for planet and people

To meet future housing and infrastructure needs while helping to repair the ecosystems of our planet, we must move beyond sustainability ambitions towards regenerative development. Incremental improvements will not be enough. A fundamental shift is needed. The concept of a Regenerative Built Environment offers a guiding vision to support action and thinking that integrates socio-cultural and ecological systems – addressing both climate change and the broader polycrisis.

At its core, regenerative development seeks to create systems – buildings, neighbourhoods, and cities – that do more than reduce harm. These systems actively restore and regenerate natural environments, such as forests, soils, and landscapes. In this sense, a regenerative built environment promotes the synergistic co-repair of cities and ecosystems.

Regenerative development addresses the urgent need to limit extractive resource use while strengthening the capacity of socio-ecological systems to thrive. It goes beyond harm reduction, actively replenishing ecosystems and fostering more equitable, place-based futures. As such, regenerative construction can serve as a key driver of this shift – transforming the built environment from a carbon source into a force for positive change for both people and the planet.

Fig. 03:  
Regenerative design attempts to create positive environmental and social impacts.



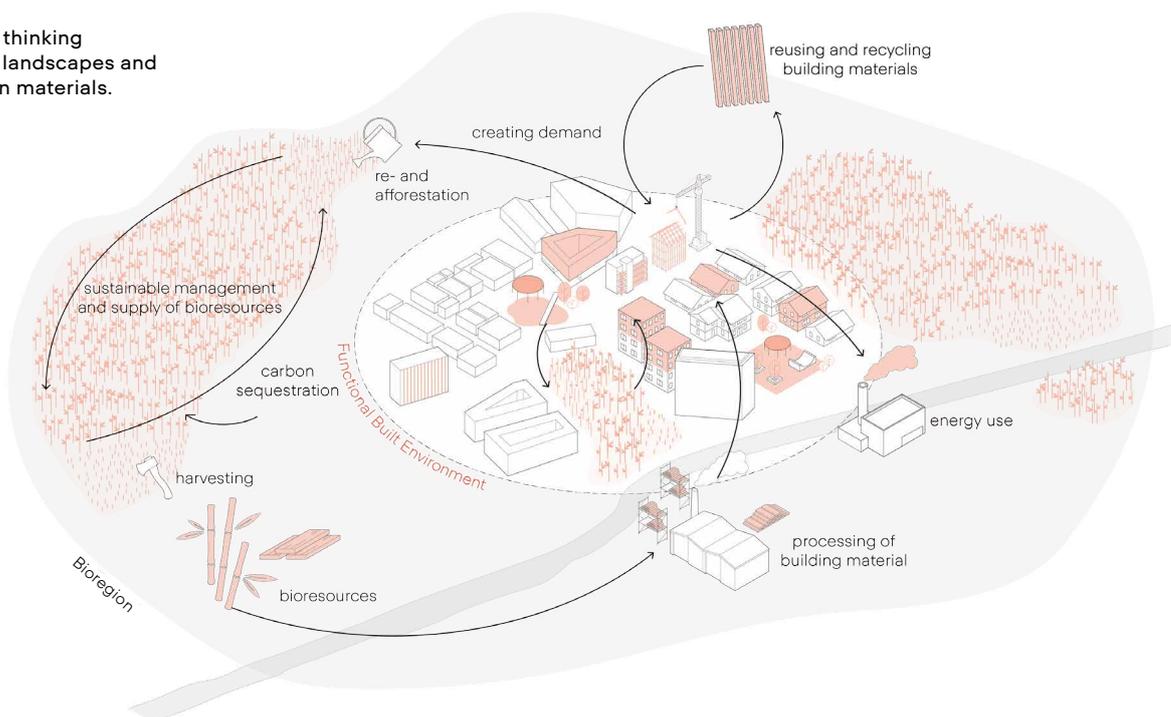
## Activating the Regional Bioeconomy for Construction

The regenerative process starts at the macro scale (bioregions or landscapes) and extends down to local contexts emphasizing the importance of a historical, cultural, ecological, and economic understanding of both the places of sourcing and construction. While many urban sustainability efforts operate within administrative or infrastructural boundaries, regenerative thinking invites a shift towards bioregional frameworks – aligning human activity with ecological systems. This means focusing on regional material value chains, including their processes, human and non-human actors, and infrastructure as well as development dynamics, regulatory frameworks, and political directions.

Efforts to merely decarbonise the current palette of urban construction materials will not be sufficient to reverse the building sector’s climate impact. While increasing the efficiency of steel and concrete production is important, this alone cannot achieve the deep reductions in both embodied and operational carbon emissions that are urgently needed. Regenerative construction, by contrast, prioritises regionally available, sustainably sourced, nature-based materials – including timber, bamboo, hemp, and earth – that offer

- **“Nature-based” solutions** grounded in carbon sequestration, substitution, and storage, transforming buildings and cities into long-term carbon sinks;
- The potential to **jump-start an economy** that channels investment into the restoration of forest ecosystems, enhancing their health, resilience, and broader ecological function;
- Support for **sustainable development** in both urban and rural areas by creating green jobs and delivering climate-adapted, healthy, and secure housing.

Fig. 04:  
Bioregional thinking  
connecting landscapes and  
construction materials.



## Localising the Regenerative concept

In the context of Cape Town, this means creating a city where the very process of building and living:

**Actively Sequesters Carbon:** It prioritises the use of bio-based and low-carbon Alternative Building Technologies (ABTs) that draw down atmospheric carbon, moving away from the entrenched reliance on carbon-intensive materials such as cement and concrete.

**Functions as a Circular System:** It mimics natural ecosystems by designing out waste. Materials are reused, recycled, and responsibly sourced, creating closed-loop cycles that reduce extraction pressures and landfill burdens.

**Fosters Socio-Spatial Equity and Justice:** It directly confronts the legacy of apartheid spatial planning by creating inclusive, well-located, and dignified human settlements. It empowers residents – particularly in the low-income market – through supported self-build and access to sustainable housing, breaking the cycle of informality and carbon-intensive zinc shacks.

**Enhances Ecological and Community Resilience:** It strengthens the city's ability to withstand climate shocks like droughts and floods, while building community capacity and improving human well-being through healthy, safe, and beautiful spaces.

# Reader's Guide

This Roadmap is designed as a practical and strategic guide for policymakers, practitioners, and stakeholders engaged in transforming Cape Town's built environment towards regeneration. It combines analytical insights, participatory research findings, and actionable recommendations to address the intertwined challenges of housing inequality, climate vulnerability, and carbon-intensive construction practices. The document is structured logically, progressing from contextual foundations to specific interventions and measurable outcomes. We recommend reading it sequentially for a holistic understanding, but it is also modular, allowing readers to navigate directly to sections of interest according to their role or focus area.

## Structure Overview

**Introductory Sections (Pages 5–27):** Begin with *the Foreword and Executive Summary* for a high-level perspective on the Roadmap's vision, key challenges, and cross-cutting findings. *The Introduction* sets the scene by outlining Cape Town's current built environment dilemmas. Subsequent sections – About ReBuilt, Regenerative Built Environment, About the Case Study, Identifying Levers of Transformation, and System Readiness – provide essential background, defining core concepts and assessing the city's readiness for change.

***Vision, Timeline, and Overview* (Pages 27–36):** The Vision and Goal articulates the aspirational future for a just and regenerative Cape Town. The Timeline: Reform Proposals at a Glance provides a visual summary of proposed actions across short-, medium-, and long-term horizons. The Overview of Key Intervention Fields introduces the four interconnected regional opportunities, serving as a quick reference to the document's core content.

***Core Content: Regional Opportunities* (Pages 37–76):** This is the heart of the Roadmap, detailing four high-impact areas for transformation. Each opportunity includes:

- A description of the context and rationale.
- Specific interventions, evaluated for potential impact, assigned actors, scale, timeline, and trade-offs.

Readers focused on implementation may prioritise these sections, using the cross-references to related opportunities for a systemic view.

*Conclusion* (Pages 77–80): The *Call to Action* synthesises the proposals and urges collaborative implementation.

## Navigation Tips

**Crosscutting Themes:** Throughout the document, look for recurring emphasis on institutional alignment, private-sector catalysis, and scaling beyond pilots. These themes connect the regional opportunities and highlight key synergies – for example, how material innovation supports self-build housing.

## Visual Aids

Timelines, tables, and diagrams (particularly in the Overview and Timeline sections) condense complex information into accessible formats. Refer to them for quick insights before engaging with the detailed narrative.

## Targeted Reading Paths

**For Policymakers and Municipal Officials:** Focus on the discussion of institutional incumbency discussions and interventions involving regulatory reform (e.g., Regional Opportunities 1 and 3).

**For Private Sector Actors:** Prioritise the sections on market leverage and incentives (e.g., Regional Opportunity 2 and crosscutting finding on catalysing investment).

**For Educators and Professionals:** Go directly to Regional Opportunity 4 on integrating material transitions into built environment education.

**For Civil Society and Community Organizers:** Emphasise empowerment-oriented content in Regional Opportunity 1, as well as the Conclusion's call for equitable action.

**Key Terms and Acronyms:** Terms like "Alternative Building Technologies (ABTs)" and "Just Urban Transition" are defined at their first appearance. While a list of abbreviations is included, concepts are explained throughout the text to ensure accessibility.

**Trade-Offs and Realism:** Each intervention includes a balanced assessment of potential challenges and benefits, encouraging readers to adapt proposals to local contexts.

This Roadmap is not intended as a prescriptive blueprint, but rather as a collaborative starting point, shaped by diverse voices and grounded in shared ambition. We encourage readers to engage critically, refine and adapt these ideas, and contribute actively to the ongoing dialogue on building a regenerative Cape Town.

# ReBuilt Cape Town, South Africa

## A Proof of Concept

In Cape Town, ReBuilt serves as a multi-year collaboration testing this regenerative ambition in practice. Anchored in Langa, the Demonstrator Project, – situated between the 16 on Lerotholi Gallery and the Lerotholi Food Garden/Agrihub supported by the South African Urban Food and Farmers Trust (SAUFFT) – embeds research directly within community life. The site functions as both a Transformation Lab and a third space for experimentation, connecting culture, food, and regenerative design. Here, partnership is not a backdrop but a central methodology: community actors, designers, and researchers co-produce both process and outcome.<sup>7</sup>

## Key Innovations

- **Material Transitions:** The project pioneers the use of low-carbon, bio-based materials such as Cross-Laminated Timber (CLT), supported by a regional scan of sustainable material supply chains (Bauhaus Earth, 2024). This was done through a Demonstrator that serves as a prototype within a global network of test sites, advancing learning between cities and informing the development of locally grounded transition pathways (Bauhaus Earth, 2024). Additionally, through the Demonstrator, the pivotal shift to ground-screw foundations eliminated concrete from the substructure, minimised ground disturbance, and created a reversible, disassembly-ready system aligned with circular design principles.
- **Digital Avatar:** A public-facing digital twin functions as a civic mirror, allowing stakeholders to visualise and compare the carbon, cost, and comfort implications of design and material choices before construction<sup>8</sup>
- As a **Transformation Lab**, the Cape Town Roadmap extends the logic of the Transformation Lab from a physical site to a systems-level framework. It operates as an applied research platform – a living laboratory, where policy, practice, and participation converge.<sup>9</sup> Rather than treating research and implementation as separate stages, the Roadmap tests how regenerative principles can be embedded across governance, markets, and education to unlock systemic change. Through iterative cycles of analysis, engagement, planning, and implementation, the Roadmap translates lessons from the Demonstrator and broader stakeholder engagements into actionable strategies for citywide transition.<sup>10</sup> It treats Cape Town as both a testing ground and a teaching ground for regenerative urbanism, linking place-based experimentation to institutional transformation.<sup>11</sup>

<sup>7</sup> Edgar Pieterse, *Grasping the unknowable: coming to grips with African urbanisms*. (Social Dynamics, 2011). [Link](#)

<sup>8</sup> Philippa Tumubweinee, *Digital Twins and Regenerative African Urban Futures* (Unpublished manuscript, School of Architecture, Planning and Geomatics, University of Cape Town, 2025).

<sup>9</sup> Bauhaus Earth, *Transitioning Towards a Regenerative Built Environment: A Changemaker's Guide* (Berlin: Toni Piëch Foundation, 2024).

<sup>10</sup> Bauhaus Earth, *Regenerative Built Environment*.

<sup>11</sup> Edgar Pieterse, *Urban Innovation and Imagination in African Cities* (Cape Town: African Centre for Cities, 2024). [Link](#)

The Roadmap identified four Leverage Points for Systemic Change, informed by participatory research and multi-stakeholder engagement, to accelerate the transition to a regenerative built environment:

### **1. Empower the Builders**

With formal housing supply failing to meet demand and informality becoming the dominant urban condition, this pillar focuses on enabling regenerative self-build. It proposes reforming housing subsidies, establishing Housing Support Centres for technical and financial assistance, and streamlining regulations to empower residents to build safe, durable, carbon-sequestering homes using Alternative Building Technologies (ABTs).

### **2. Leverage the Short-Term Rental Market**

Cape Town's high-end property and short-term rental sectors can become drivers of equitable regeneration. The strategy introduces a licensing system, green levy, and Greenbnb accreditation to channel revenue from luxury markets into affordable, sustainable housing while incentivising climate-positive construction practices.

### **3. Catalyse the Material Transition**

To overcome high costs, limited supply, and low public acceptance of ABTs, this strategy combines carbon pricing mechanisms to pressure conventional material producers with financial incentives, fast-tracked certification, and support for circular economy initiatives, building a robust local market for sustainable materials<sup>12</sup>

### **4. Equip the Next Generation of Practitioners**

Recognising that built environment professionals shape material and design choices, this pillar targets the root of practice. It calls for integrating regenerative principles, material transitions, and embodied-carbon literacy into university curricula, CPD programmes, and industry training, reshaping the norms and values of the sector from within.<sup>13</sup>

## **Toward a Regenerative and Just Urban Future**

ReBuilt Cape Town presents a comprehensive and actionable framework for transforming how cities are built and governed. It argues that a regenerative transition is not only an environmental necessity but a prerequisite for a more just and spatially inclusive city.<sup>14</sup> By coupling place-based prototypes with a strategic, systems-level roadmap, ReBuilt demonstrates that the built environment can evolve from a source of harm into a driver of ecological repair and social well-being.<sup>15</sup> The initiative stands as a call to action for unprecedented collaboration across government, academia, industry, and civil society, to realise a future where buildings, neighbourhoods, and infrastructures actively contribute to the planetary and cultural health of the city.

<sup>12</sup> Bauhaus Earth, *Regenerative Built Environment*.

<sup>13</sup> Edgar Pieterse, *Urban Innovation and Imagination in African Cities* (Cape Town: African Centre for Cities, 2024). [Link](#)

<sup>14</sup> Edgar Pieterse, *City Futures: Confronting the Crisis of Urban Development* (London: Zed Books, 2008).

<sup>15</sup> Bauhaus Earth, *Regenerative Built Environment*.

# About the Roadmap Process

The development of the Cape Town Roadmap was informed by a diverse range of insights and extensive engagement throughout the project timeline. Over the year and a half, the research team undertook significant desktop research and actively engaged stakeholders to outline the main factors shaping the project's analysis. This included socio-spatial and materials research that directly informed the System Analysis. Complementing this research, the broader team, including the Economic Development Partnership (EDP), organised several Transition Arena events to map initial stakeholders and cultivate the Cape Town actor network.

The Cape Town Roadmap stems from the approach set out in *Transitioning Towards a Regenerative Built Environment: A Changemaker's Guide* by Bauhaus Earth (2024), which advocates for a relational and partnership-oriented approach to integrating regenerative construction practices. The insights from this guide highlight the need to shift from conventional sustainability – defined as doing less harm – to a regenerative mindset focused on actively restoring and enhancing social and natural systems, which aligns with the overarching objectives of this Roadmap.

## Identifying Levers of Transformation

The identification of opportunities within each sector presented in the Roadmap was underpinned by a multifaceted approach that encompassed extensive stakeholder engagement and thorough desktop research. This research focused on a range of policy documents, research reports, and planning bylaws, among other sources. Key national policy frameworks – such as the Just Transition framework, housing policy, and the National Building Code – were analysed alongside relevant Western Cape Government initiatives, including the Provincial Spatial Development Framework, the Climate Change Response Strategy, and the Energy Resilience Programme. Furthermore, the City of Cape Town's climate change policies and targets, municipal planning bylaws, business objectives related to economic decarbonisation, case studies of material innovators, and research from civil society regarding alternative building materials were all integral to this process. Adopting a systems-thinking approach, the research team engaged with stakeholders across various governance tiers to test research assumptions and identify pivotal transformation levers discussed in this Roadmap.

# 2

## OVERVIEW

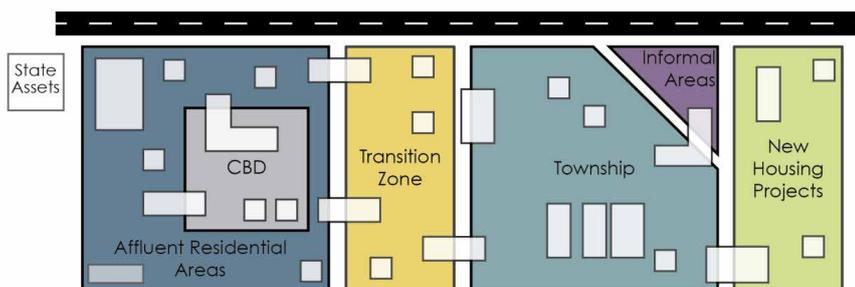
- System Readiness
- Vision and Target Goals
- Timeline
- Overview of Action

# System Readiness

## Overall Problem Statement

Cape Town, like all South African cities and towns, resembles the legacy of apartheid. Centuries of colonisation and decades of legal racial segregation under apartheid have produced a familiar pattern: a well-located city centre that predominantly caters to an affluent white minority, while most people live in peripheral townships in dormitory-style housing or informal settlements. As demonstrated in the Integrated Urban Development Framework,<sup>16</sup> since 1994, several legislative, fiscal, and policy measures have been introduced to overcome this segregation and entrenched inequality along racial lines. Despite these efforts, current planning has largely perpetuated the apartheid spatial dynamics and intensified racial and class segregation. Middle-class and elite residential areas have seen some desegregation, but working class townships remain racially homogenous.

**Fig. 05:**  
*Living Cape: A Human Settlements Framework*, Western Cape Government Human Settlement, 2019, [Link](#).



The stark planning reality is compounded by the material reality of housing in Cape Town. Affluent suburbs are built with concrete, steel, and glass, typically located within a bubble of exclusion, whilst a significant portion of working-class residents live in shacks made from zinc, wood planks, and various makeshift materials. This visual contrast plays out between concrete and zinc, rich and poor, black and white.

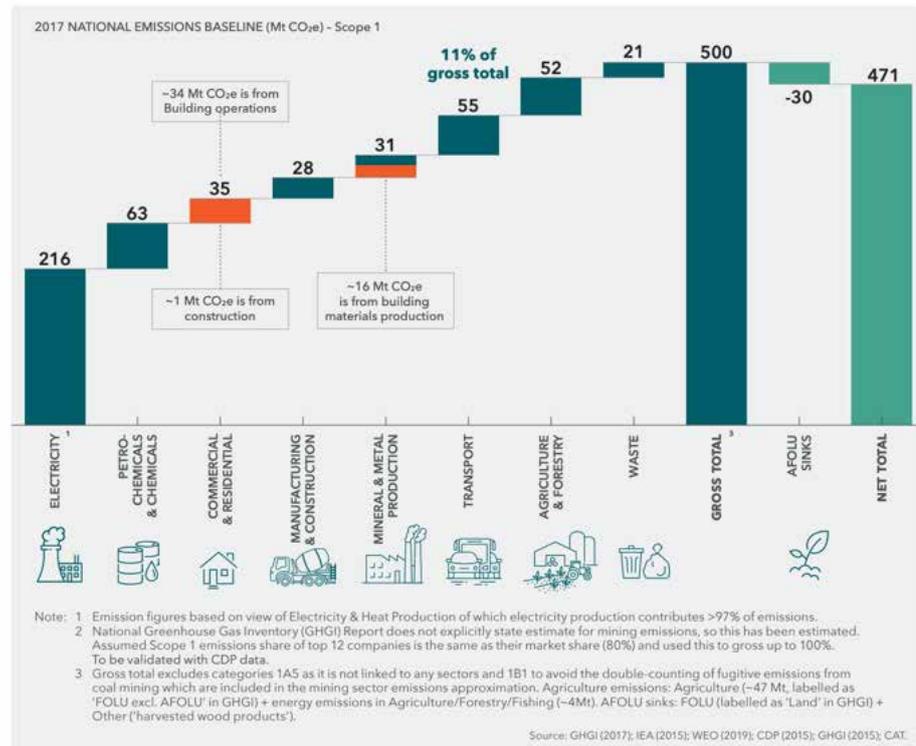
The use of concrete is entrenched in the development and construction value chain. In many ways, and as in many other Global South countries, it has become a symbol of modernity and development. The South African public housing programme has produced over four million housing opportunities since 1994, predominantly using cement blocks. Similarly, the luxury market is dominated by cement blocks and concrete. As a result, the value chain reproduces itself: architects, contractors, developers, insurance companies, and government regulatory bodies all accept this as the norm and seldom deviate towards alternative building practices and materials. The aspiration of a 'formal' house is often associated with the use of cement and concrete. Declining state delivery and the difficulty of self-build have meant that not only is there a reliance on carbon-intensive construction, but also a dire and growing shortage of affordable housing.

The construction sector in the country contributes over 35 metric tonnes

<sup>16</sup> Department of Cooperative Governance and Traditional Affairs. (2016). *Integrated Urban Development Framework: A new deal for South African cities and towns*. Government of South Africa, [Link](#).

of carbon emissions, with an additional 16 metric tonnes linked to building material production.<sup>17</sup>

Fig. 05:  
Decarbonising South Africa's  
Buildings and Construction  
Sector, National Business  
Initiative, [Link](#).



Despite the culpability of the construction sector in maintaining South Africa's dangerously high carbon emissions, there is little evidence of a concerted effort to transition towards alternative building materials. Macro efforts focus on making the limestone and zinc extractive industries rely more on renewable energy and decentralised water reticulation. Micro efforts mostly focus on energy efficiency, technological advancements in monitoring building performance, renewables, and decentralised infrastructure.

There are several alternative building materials on the market that comply with regulatory standards and are produced using zero- or low-carbon raw materials. However, these materials have been unable to reach scale for a variety of reasons, including limited market acceptability, high costs, and constrained supply chains across material suppliers.

A related issue is that neither academic training nor ongoing professional development for built environment professionals sufficiently engages with alternative materials and sustainable construction practices. As a result, Cape Town – and South Africa more broadly – have remained locked into carbon-intensive forms of building. These interlocking institutional preferences and behaviour patterns across the construction value chain can be summarised as institutional inertia.

This Roadmap is a sustained reflection on the different tensions that exist in alternative building material value chains. In Cape Town, a transition towards bio-based and regenerative construction practices cannot be embedded without a discussion about poverty, inequality, and exclusion. As a result, and in line with the *Changemakers Guide (2024)* and *Transitioning*

<sup>17</sup> City of Cape Town, *Human Settlements Strategy*.

*towards a RBE Report (2024)*, the Roadmap brings together perspectives from property developers, financiers, green building specialists, academics training built environment professionals, and housing experts that are directly involved in these debates. The Roadmap projects a trajectory of development for the next 20 years and examines tools, incentives, and measures that will open up new opportunities for the construction sector. The responsibility to bring about these changes and create this different trajectory is spread among many actors across both the public and private sectors, as well as residents themselves. It will require bold leadership and investment.

## Vision

**Towards a Just City: To cultivate a spatially inclusive urban environment where all residents inhabit safe, healthy, and carbon-sequestering human settlements, grounded in principles of ecological justice that enhance fairness, resilience, and transition towards a low-carbon urban future which is beneficial for all inhabitants, both human and non-human.**

At the core of a transformed and regenerative Cape Town lies a just and integrated urban environment, characterised by sustainable construction practices and materials. The projected Roadmap delineates a multi-scalar vision that knits together the public and private housing markets, alternative building materials, enabling policy mechanisms, regenerative construction methods, circular material cycles, and the empowerment of both residents and built environment professionals. This Roadmap seeks to disrupt entrenched institutional inertia in the construction sector through the strategic use of policy frameworks, taxation, incentivisation, and supply chain interventions, thereby facilitating a long-term vision for Cape Town. It aims to build homes that promote fairness, resilience, and a transition to a less carbon intensive future.

The official vision for the city of the City of Cape Town (CoCT) is encapsulated in the phrase “City of Hope for All”; a prosperous, inclusive, and healthy urban space where individuals can realise their aspirations for an improved future for themselves, their children, and their communities. This broad yet unequivocal vision presents numerous entry points for driving the necessary regenerative shift. This Roadmap posits that the realisation of a “City of Hope” is contingent upon systemic change. The aspiration to cultivate an inclusive, prosperous, and healthy city in which all residents can thrive necessitates an approach that responds effectively to the most pressing challenges confronting the city. In this context, we identify an acute housing shortage, spatial dislocation, and climate change as interrelated challenges that currently impede the city's capacity to fulfil its vision.

In light of this, the vision of the Roadmap encompasses the following objectives:

**Towards a Just City:** To cultivate a spatially inclusive urban environment where all residents inhabit safe, healthy, and carbon-sequestering human settlements, grounded in principles of ecological justice that enhance fairness, resilience, and transition towards a low-carbon urban future that benefits all inhabitants, both human and non-human. It is contended that this vision can be realised by unlocking the following four strategic regional opportunities:

- **Recentring Low-Income Housing:** Fostering self-build initiatives through alternative building materials within an enabling regulatory framework.
- **Leveraging the Short-Term Rental Market:** Harnessing the ongoing expansion of the short-term rental housing sector to catalyse transformation within the construction industry.
- **Reimagining the Construction Value Chain:** Re-evaluating and recentring construction practices to incorporate alternative methodologies and materials.
- **Educating Built Environment Professionals:** Empowering built environment professionals through education in regenerative practices, equipping them with the knowledge and skills necessary to effect meaningful change.

Through these strategic imperatives, the Roadmap aims to forge pathways towards an inclusive urban future, thereby advancing the vision of a just and regenerative Cape Town.

# Target Goals and Regional Opportunities



# Timeline

Short Term

2030

Medium Term

2040

Long Term

2050

## Regional Opportunity 1

Empower the Builders: Enabling Regenerative Self-build in the Low-income Housing Market

- 1 Advocate for the creation of a dedicated self-build subsidy
- 2 Fast-track approvals for regenerative self-build projects
- 3 Pilot three regenerative housing support centres
- 4 Launch a programme of public demonstrators to institutionalise self-build in policy and practice

## Regional Opportunity 2

Leveraging the Short-term Rental Market to Catalyse a Regenerative Transition

- 1 Implement a mandatory licensing and registration system for short-term rentals (STRs)
- 2 Institute a Green Levy to fund a Regenerative Equity Fund
- 3 Develop and launch a 'Greenbnb' sustainability accreditation system

## Regional Opportunity 3

Establishing Incentives for the Innovation of Material Supply Chains

- 1 Strengthen carbon pricing mechanisms
- 2 Create an incentive package for alternative building technologies
- 3 Mainstream circular economy practices in material supply chains
- 4 Establish a Circular Economy Materials Hub

## Regional Opportunity 4

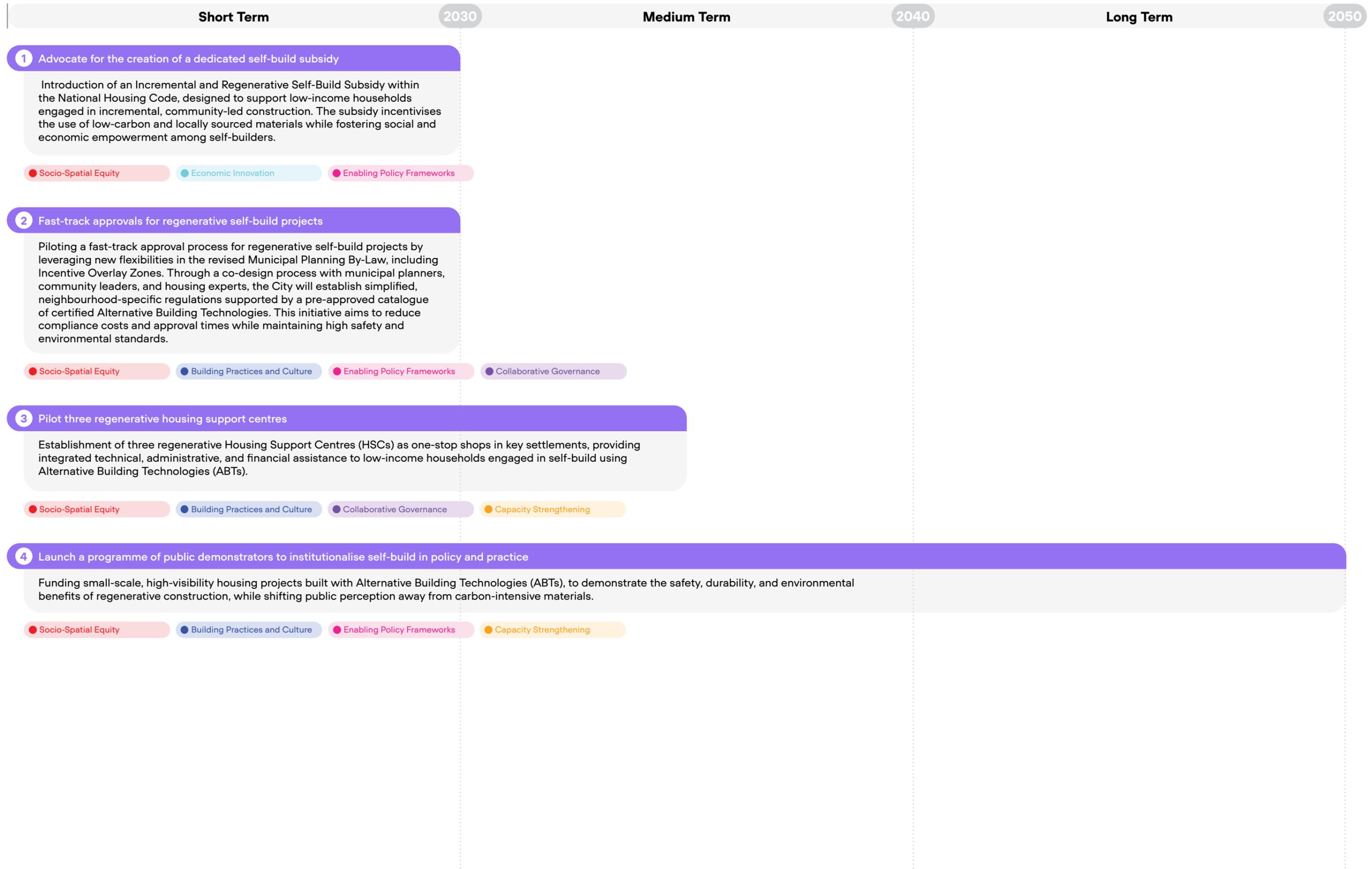
Integrating Material Transitions into Built Environment Education

- 1 Reform university curricula to include regenerative principles
- 2 Launch mandatory Continued Professional Development modules on ABTs
- 3 Update major industry training programmes
- 4 Establish a Regenerative Built Environment Forum

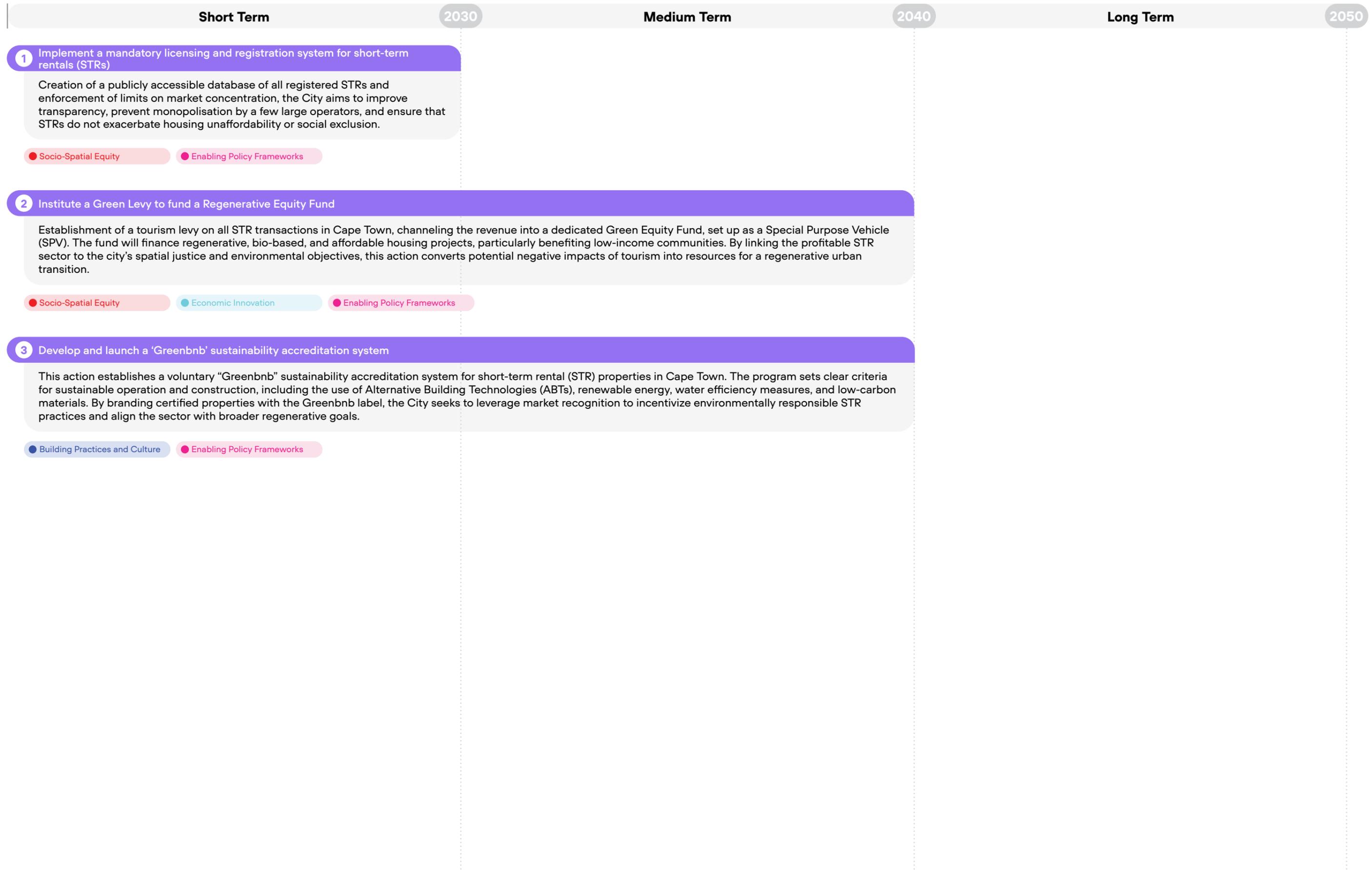
This timeline presents a series of significant actions planned over a 25-year period, organised into short-term, medium-term, and long-term initiatives. Although each regional opportunity will explore these actions in greater detail, this timeline serves as a concise overview of the proposed strategies. In line with the objectives of this Roadmap, which aims to support substantial transformations in the future, many of the recommended actions prioritise short-term initiatives. These initiatives are vital for establishing an enabling environment that promotes a regenerative shift, with a particular emphasis on key areas such as policy development, regulatory frameworks, and financial systems.

# Regional Opportunity 1

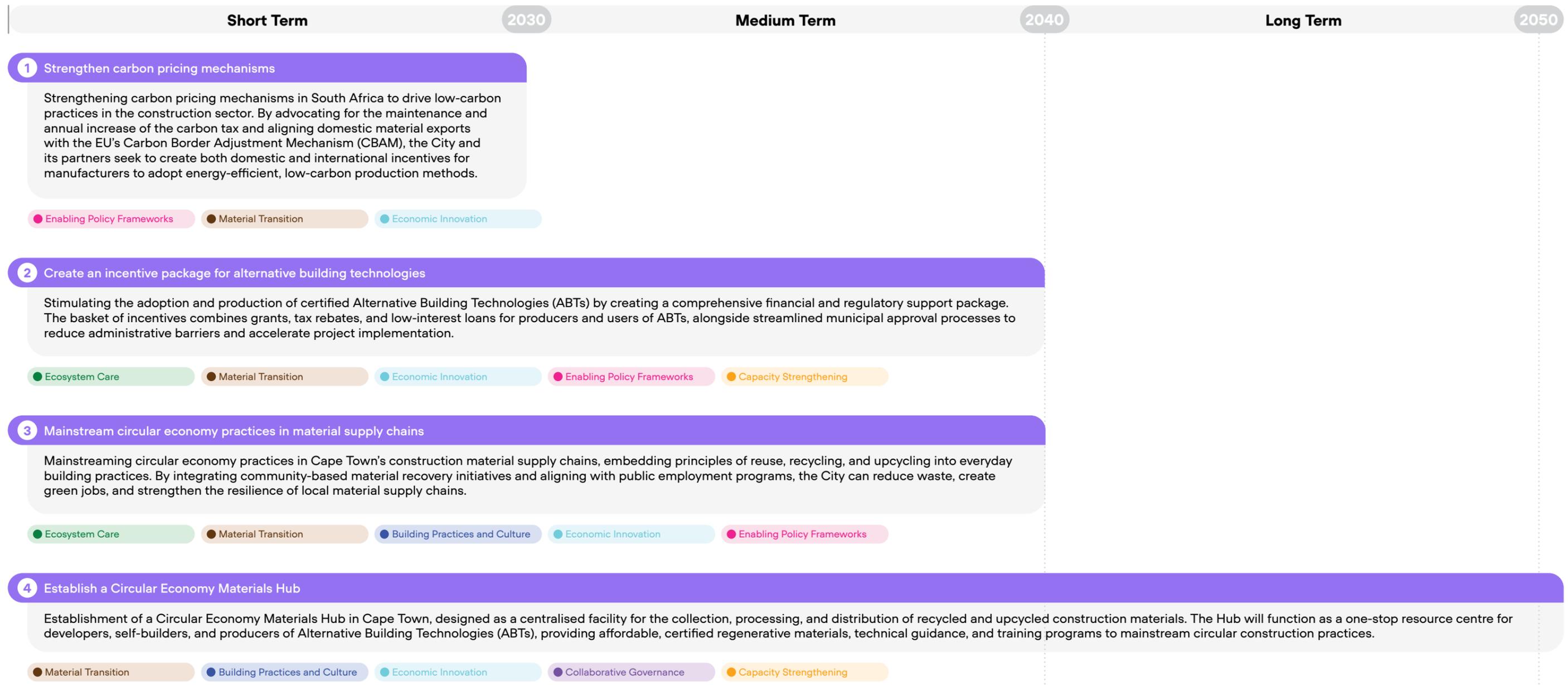
## Empower the Builders: Enabling Regenerative Self-build in the Low-income Housing Market



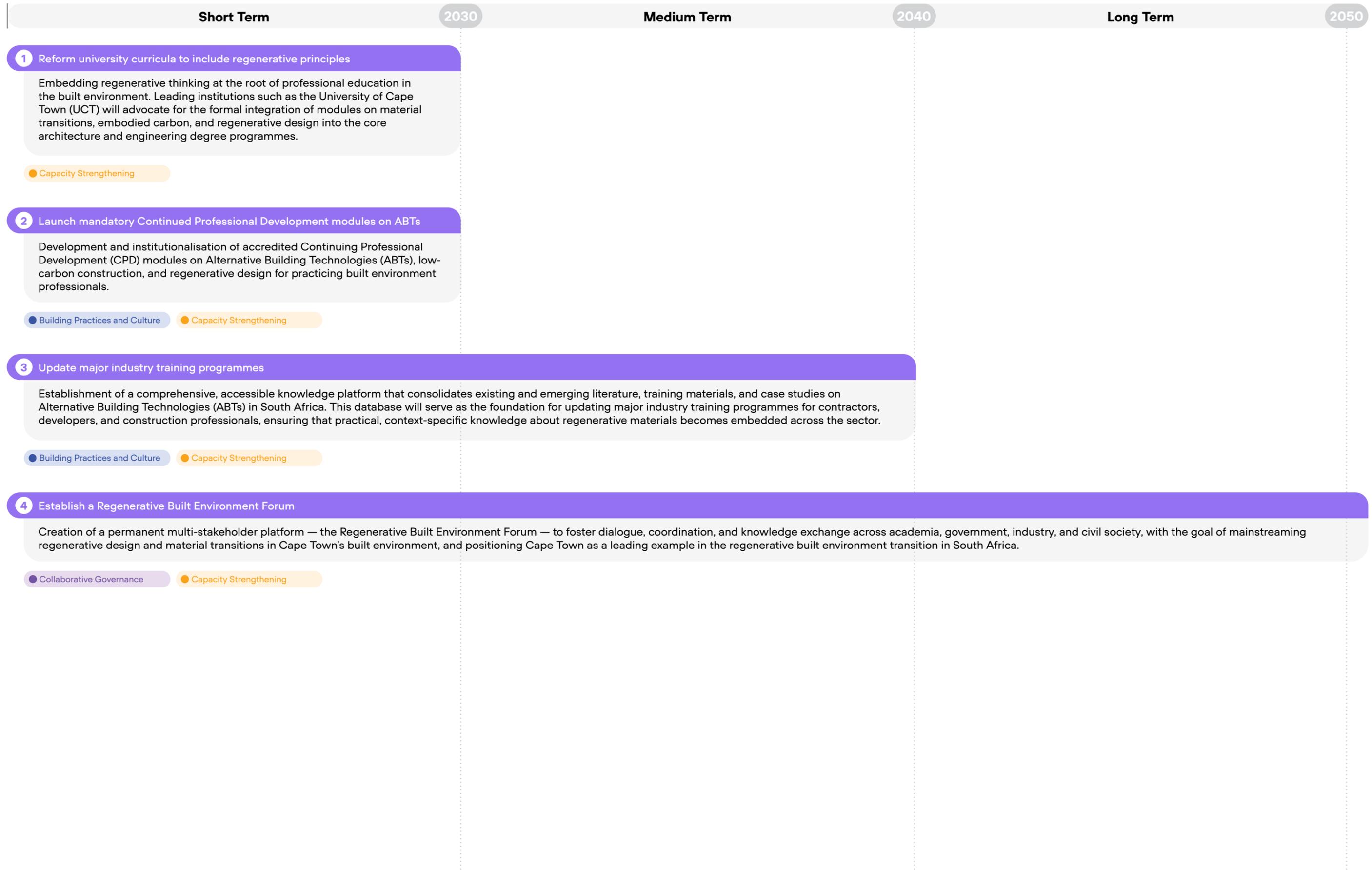
# Regional Opportunity 2



# Regional Opportunity 3



# Regional Opportunity 4



# Spider Diagram

The spider diagram shows how often each of the eight ReBuilt intervention fields (see page 13) appears across the actions proposed in the Cape Town Roadmap. The length of each axis reflects its relative priority: the more tags assigned, the more central that field becomes to the transition strategy.

The diagram clearly highlights a core group of priorities for the region. The frequency of Capacity Strengthening confirms the importance of building skills, institutional support, and cross-sector collaboration, a need significant enough to form its own Regional Opportunity (RO4). Enabling Policy Frameworks, Economic Innovation, Building Practices and Culture, and Socio-Spatial Equity also emerge as high priorities, signalling that the transition must simultaneously empower people, reform systems, reshape economic models, and transform how buildings are designed and delivered.

One of the key message carried through ReBuilt's *Changemakers' Guide*<sup>18</sup> is reflected strongly in the diagram: any regenerative transition in Cape Town must prioritise a just transition, addressing historic inequities and repairing the spatial and social damage caused by apartheid. This places socio-spatial equity at the heart of the roadmap.

The strong emphasis on Economic Innovation underlines the need for new financing models to compensate for limited public funding for housing and development. Meanwhile, the prominence of Enabling Policy Frameworks points to the persistent gap between policy and practice, reinforcing the need for targeted reforms that can unlock and scale the innovative approaches already emerging on the ground.

<sup>18</sup> Bauhaus Earth, *Transitioning Towards a Regenerative Built Environment: A Changemaker's Guide* (Berlin: Toni Piëch Foundation, 2024)

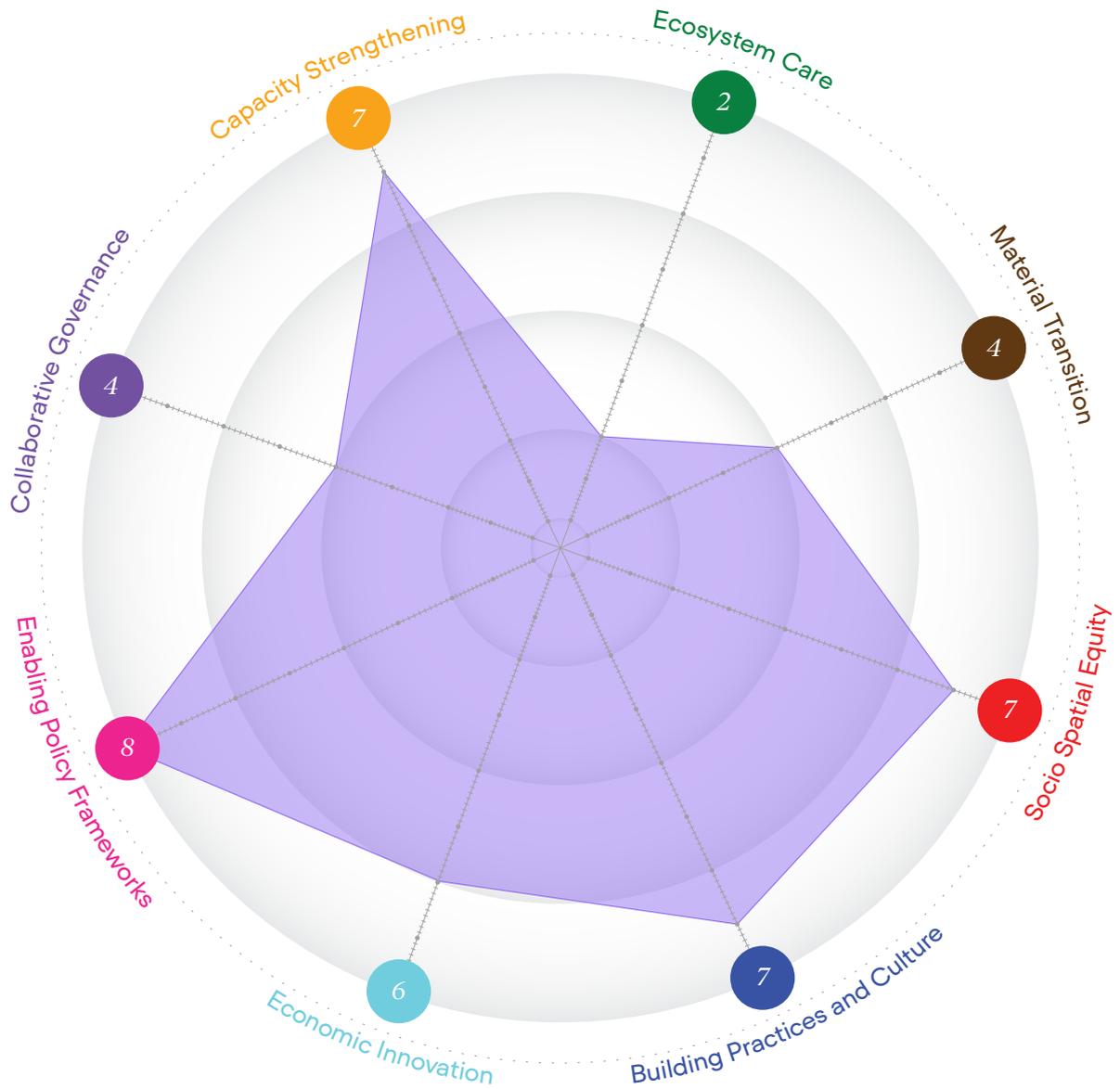


Fig. 06  
Cape Town Spider Diagram

# 3

## CONTENTS

- » RO 1: Empower the Builders: Enabling Regenerative Self-build in the Low-income Housing Market
- » RO2: Leveraging the Short-term Rental Market to Catalyse a Regenerative Transition
- » RO3: Establishing Incentives for the Innovation of Material Supply Chains
- » RO4: Integrating Material Transitions into Built Environment Education

# Regional Opportunity

1



## Empower the Builders: Enabling Regenerative Self-build in the Low-income Housing Market

### Background and Problem Statement

A significant disjuncture exists between Cape Town's formal property market and the city's housing demand. The formal market caters primarily to a wealthy minority, despite a substantial housing deficit, rapid urbanisation, and a growing population residing in informal settlements and backyard dwellings. With a declining provision of state-subsidised housing, most residents are compelled to self-build, often precariously and informally. Consequently, informality is the city's dominant housing trajectory, with a majority of new units built between 2020 and 2040 projected to be informal.<sup>18</sup>

This growth in informality has critical implications: it exacerbates socio-spatial inequity, locks in carbon-intensive building practices (e.g., zinc and concrete), and increases residents' vulnerability to climate change impacts. A consensus is emerging that the future low-income housing market will comprise serviced sites for self-build, upgraded informal settlements, and backyard rental units. However, this sector is constrained by inadequate finance and complex, expensive regulatory frameworks, which perpetuate unsafe, high-carbon housing typologies.

This Roadmap argues that a regenerative shift must address these financial and regulatory instruments to create an enabling environment for just, equitable, and sustainable human settlements.

<sup>18</sup>  
City of Cape Town, *Human Settlements Strategy*.

### Thematic Vision

Just, equitable, and regenerative human settlements are developed by low-income residents who are empowered to construct decent, sustainable homes using alternative building technologies, supported by demand-side subsidies, technical assistance, and a streamlined regulatory framework.

#### The Goal

Transition low-income housing from informal, carbon-intensive construction to supported, regenerative self-build, reducing the sector's climate impact.

#### The Big Idea

The current system is failing. With over 400,000 households on the waiting list and formal housing unaffordable for 71% of residents, most Capetonians have no choice but to build their own homes, typically using carbon-intensive zinc and concrete. Instead of fighting this reality, we must support self-build and encourage the use of sustainable materials. By providing targeted funding, expert guidance through Housing Support Centres, and smarter regulations, we can empower residents to build high-quality, sustainable homes themselves, turning the growing informal sector into a driver of equitable, climate-resilient urban development.

- **Pilot Community Housing Support Centres (HSCs):** Establish and fund three one-stop-shop HSCs in key areas (e.g., Ilitha Park, Mitchells Plain, Delft) to provide technical, administrative, and financial assistance for self-builders using Alternative Building Technologies (ABTs).
- **Create a Dedicated Self-Build Subsidy:** Lobby the National Department of Human Settlements to amend the National Housing Code to include a new demand-side subsidy specifically for incremental, regenerative self-build, ring-fencing funding for ABTs.
- **Fast-Track Approvals for Sustainable Builds:** Leverage the new Municipal Planning Bylaw (MPBL) to create a fast-track approval pathway for projects using pre-approved ABTs, reducing waiting times and compliance costs.
- **Launch Public Demonstrations:** Fund public-facing pilot projects built with ABTs to build market confidence, demonstrate safety and durability, and shift public perception away from carbon-intensive materials.

### Who Needs to Act?

**Lead:** City of Cape Town (Human Settlements Directorate); National Department of Human Settlements (NDHS)

**Partners:** Western Cape Government; City Support Programme (CSP), NGOs (e.g., DAG, Isandla Institute); Community Organisations; Financial Institutions

**Support:** Built Environment Professionals; ABT Suppliers

## Project Findings

### 1. The Formal Market is Economically Inaccessible

**Demand for housing in low-income markets is high, but supply is low.**

**Consequently, the urban future is informal. There is a greater need now, more than ever, to enable new ways of building in low-income markets**

Cape Town's housing crisis stems from a formal market that completely disregards the economic reality of most residents. With 71% of households earning under R20,000 monthly, while minimum formal housing costs require that entire income, homeownership remains impossible for the majority.<sup>19</sup> This crisis deepens when considering transport costs, which consume up to 40% of low-income budgets.<sup>20</sup>

The market's focus on luxury properties – 43% of which are priced above R1.2 million – reflects systemic inequality rather than actual luxury. With only 16% of supply considered entry-level, the gap between what is built and what is needed becomes insurmountable.

This represents a permanent structural mismatch between supply and need, ensuring that the majority of residents remain locked out of the formal housing market.

### 2. Informality is the De Facto Housing Market

The affordability gap has driven a diversification of housing supply through informality. Between 1996 and 2016, informal settlements increased by 40% and informal backyard dwellings by 256%.<sup>21</sup> An estimated 53% of all new homes built by 2040 will be informal.<sup>22, 23</sup> This trend will inevitably fuel demand for cheap, carbon-intensive materials unless new pathways are created.

<sup>19</sup> City of Cape Town, *Human Settlements Strategy*.

<sup>20</sup> Veve Warby, "Cape Town's Poor Spend Almost Half Their Salaries Getting to Work, with Nothing Left for Housing," *IOL/Weekend Argus*, September 30, 2024, [Link](#).

<sup>21</sup> City of Cape Town, *Human Settlements Strategy*.

<sup>22</sup> Jared Cogger and Robyn Park-Ross, *Regulating the Private Sector: Case Studies of Inclusionary Housing Development in Cape Town* (Ndufuna Ukwazi, 2022),

<sup>23</sup> City of Cape Town, *Human Settlements Strategy*.

### 3. Public Housing Provision is Declining

**While human settlements programmes provide vital incentives and subsidies, the funding is declining. A targeted set of national fiscal instruments may be best suited to boosting private sector development and encouraging new ways of building in the low-income market.**

While the state has delivered over 4 million homes since 1994, the provision of low-income housing has declined steadily since the mid-2000s.<sup>24</sup> The formal market cannot and will not solve this deficit. The evidence demands radical policy change: abandoning failed market-led approaches and instead empowering self-build solutions through targeted subsidies and smarter regulations. Cape Town's housing future must be community-driven, sustainable, and built outside this broken system. The National Department of Human Settlements (NDHS) budget faces a 6.4% real-terms cut over the Medium-Term Expenditure Framework (MTEF). Key grants like the Human Settlements Development Grant (HSDG) and the Informal Settlement Upgrading Partnership Grant (ISUPG) have experienced significant baseline cuts, contradicting policy commitments to self-build and incremental upgrading.

### 4. Existing Demand-Side Subsidies are Ineffective

The First Home Finance (FHF) subsidy is the primary demand-side instrument, but it has negligible uptake due to a lack of affordable stock, inaccessible finance, complex administration, and poor institutional capacity.<sup>25, 26</sup> This demonstrates the need for a redesigned demand-side subsidy tailored to incremental self-build..

### 5. Support Systems are Underutilised

**Housing Support Centres (HSCs) play a crucial role in realising the potential of incremental self-build and the development of regenerative human settlements.**

The Enhanced People's Housing Process (EPHP), which established Housing Support Centres (HSCs) for technical and administrative aid, has declined significantly. Evidence from pilot programmes and international case studies (e.g., Brazil, India) indicates that institutionalised HSCs are crucial for successful, community-driven self-build.<sup>27, 28, 29, 30</sup>

Drawing upon the precedent of the Enhanced People's Housing Process (EPHP), the Isandla Institute and the Development Action Group (DAG) present a compelling critique of South Africa's housing policy, arguing that the current White Paper lacks the concrete mechanisms necessary to support incremental self-build housing at scale.<sup>31, 32</sup> Their research contends that without dedicated financial and technical assistance, households are forced to build within their limited means, thereby perpetuating substandard and unsafe living conditions. As an alternative to fiscally constrained state-led housing projects, they advocate for the establishment of municipally led Housing Support Centres (HSCs)<sup>33</sup> These centres are proposed to function as integrated one-stop shops, providing essential resources and administrative guidance to enable citizen-driven construction. The viability of this approach is empirically supported by international case studies from Brazil and India, as well as local pilot projects in Cape Town, such as the TSC and DAG's initiatives in Khayelitsha and Freedom Park, which demonstrate that well-

<sup>24</sup> Athi Tshangana and Lukhanyo Jubane, *Focus Note: Human Settlements in the 2024/25 Budget* (Centre for Affordable Housing Finance, 2024), [Link](#).

<sup>25</sup> Department of Human Settlements. (2021). Annual Report 2020/2021 (Vote 33). Government of South Africa, [Link](#).

<sup>26</sup> Athi Tshangana, *Invisible Realities, Untapped Potential: Enabling Backyard Housing in South Africa* (2023), [Link](#).

<sup>27</sup> Isandla Institute, *Enabling the Right to Build Through Housing Support Centres* (2022), [Link](#).

<sup>28</sup> Isandla Institute, *Institutionalising a Housing Support Centre Model to Enable Self-Build* (2023), [Link](#).

<sup>29</sup> Development Action Group, *A Place to Be Free: A Case Study of the Freedom Park Informal Settlement Upgrade* (2009), [Link](#).

<sup>30</sup> Development Action Group, *Unlocking the Khayelitsha People's Housing Process: A Case Study of the Pre-Construction Phase of 10 Blocked Projects in Khayelitsha* (2012), [Link](#).

<sup>31</sup> Isandla Institute, *Right to Build*.

<sup>32</sup> Tshangana, *Invisible Realities*.

<sup>33</sup> Isandla Institute, *Right to Build*.

supported self-build can lead to improved housing outcomes and significant community empowerment.<sup>34, 35, 36</sup>

However, the institutionalisation of HSCs, while critical for creating stability, predictability, and opportunities for scaling up successful pilots, carries an inherent risk of bureaucratisation that could stifle the same community-driven engagement it aims to foster. To mitigate this risk and harness institutionalisation as a tool for transformative change, a deliberate governance structure must be established. This involves embedding HSCs within cross-sector partnerships that incorporate robust community representation and clear accountability frameworks. Such a model promotes pluralism – creating multiple centres of power that encourage dynamic coordination across sectors and scales without centralising control. This vertical and horizontal collaboration facilitates both top-down support and bottom-up responsiveness, allowing for adaptive planning grounded in local contexts. Crucially, this approach intentionally accommodates the messiness and contestations of informal community engagement, thereby nurturing the trust-based relationships essential for preventing bureaucratic inertia and ensuring the HSCs remain flexible and effective.

#### 6. Local regulatory and administrative frameworks, coupled with high compliance costs, continue to hinder regenerative self-build initiatives.

**There is a pressing need to move away from a one-size-fits-all approach and adopt one that is responsive to the city's varied developmental contexts.**

While frameworks such as building regulations and municipal planning by-laws are essential, they are often complex, cumbersome, and misaligned with local realities, stifling both housing provision and material innovation. A case in point is the City of Cape Town's previous approach of rezoning informal settlements to SR2 status. Although designed to facilitate incremental upgrading by permitting additional dwelling units, this zoning still subjected self-builders to the same rigorous approval processes as affluent, formal developments, effectively curtailing the very agency, innovation, and incrementality that characterise informal settlement upgrading.<sup>37</sup>

The high cost of full compliance creates an impossible barrier for small-scale developers and self-builders operating on thin margins. Research indicates that full compliance can cost 2.5 times more than limited compliance, erasing any potential profit and thus any incentive to develop formally.<sup>38</sup> This creates a contradictory policy environment that encourages self-build in principle but imposes prohibitive restrictions in practice..

However, the recent gazetting of Cape Town's revised Municipal Planning By-law (MPBL) in August 2025 marks a significant shift and a potential pathway for reform. Key amendments include:

The introduction of a new 'affordable rental flat' additional use right within Residential Zoning (R1, formerly Single Residential), allowing up to 8-12 small-scale rental units in high-demand areas, subject to conditions.

The creation of Incentive Overlay Zonings (IOZs) in specific development focus areas, which assign enhanced development rights to reduce barriers and encourage investment.

These changes demonstrate a move towards a more context-sensitive and enabling regulatory approach. If applied thoughtfully to areas requiring

<sup>34</sup> Isandla Institute, *Right to Build*.

<sup>35</sup> Development Action Group, *A Place to Be Free*.

<sup>36</sup> Development Action Group, *Unblocking the Khayelitsha PHP*.

<sup>37</sup> Andreas Scheba, Ivan Turok, and Caitlin du Trevou, *Small-Scale Rental Housing: Moving from the Low to the High Road* (2022).

<sup>38</sup> Scheba, Turok, and du Trevou, *Small-Scale Rental Housing*.

incremental upgrading, mechanisms like IOZs and new additional use rights could be leveraged to significantly reduce the cost and complexity of compliance for self-builders and micro-developers.

Without such enabling reforms, high costs and intricate rules lead to two likely outcomes: non-compliance and the continued use of cheaper, high-carbon emitting materials. The revised MPBL provides a crucial opportunity to institutionalise the streamlining of regulations. By actively applying these new tools – such as expanding incentive zonings, developing prototype plans, and tailoring regulations to specific neighbourhood contexts – the City can unlock the potential for regenerative, incremental self-build. These reforms are essential for making demand-side subsidies effective and for fostering a housing market that is both affordable and sustainable.

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# 1. Advocate for the creation of a dedicated self-build subsidy

## Timestamp



Short Term  
(2030)

## Scale



City, Municipal



National

### Description:

The establishment of an Incremental and Regenerative Self-Build Subsidy within the National Housing Code is the first step to support low-income households engaged in incremental, community-led construction. A coalition comprising the City of Cape Town, civil society organisations such as the Isandla Institute and Development Action Group (DAG), and academic partners will lead the drafting of a comprehensive policy proposal. This proposal will clearly outline the necessity of the subsidy, the relevant legal and operational frameworks, and its alignment with national objectives, including the Just Transition and the broader National Human Settlements Strategy. Once drafted, the proposal will be formally submitted to the NDHS as a recommended amendment to the National Housing Code, proposing a dedicated chapter tentatively titled “Incremental and Regenerative Self-Build Subsidy.”

The coalition will then actively engage key decision-makers across government, presenting robust evidence from local pilot projects and international precedents, building political support, and negotiating the operational details to ensure the proposal is actionable and responsive to community needs. Should the NDHS approve the recommendation, it will initiate the formal regulatory process, including drafting the legal language, conducting impact assessments, and following governmental protocols for amending national policy.

Finally, the amendment will be gazetted, codifying the subsidy as official law and enabling municipalities to deploy targeted funding for regenerative self-build initiatives. The success of this action will be measured by the official publication of the amended National Housing Code in the Government Gazette, with a specific section recognising the new subsidy.

### Key Intervention Fields:

● Socio-Spatial Equity

● Economic Innovation

● Enabling Policy Frameworks

### Stakeholders:

● City of Cape Town

● Isandla Institute

● DAG

● Ndifuna UKwazi

● University of Cape Town  
(African Centre for Cities)

## Impact

- The introduction of a dedicated self-build subsidy will formalise incremental self-build as a legitimate and state-supported housing mechanism, expanding access to safe and decent homes for low-income households.
- It will increase access to safe, dignified housing and enable the participation of micro-developers and small-scale builders in the city’s housing market.

## Trade-offs

- Securing national policy change requires sustained advocacy and alignment across multiple levels of government, and redirecting subsidies from traditional housing programmes may face resistance from established beneficiaries.
- There is a risk that bureaucratisation could stifle the community-driven nature of self-build; this can be mitigated by decentralising implementation through Housing Support Centres (HSCs) that provide hands-on support and guidance to households.
- The administration of a new subsidy mechanism could strain municipal and national capacity if not adequately supported with technical assistance.

## 2. Fast-track approvals for regenerative self-build projects

### Timestamp



Short Term (2030)

### Scale



Material



City, Municipal

#### Key Intervention Fields:

● Socio-Spatial Equity

● Building Practices and Culture

● Enabling Policy Frameworks

● Collaborative Governance

#### Stakeholders:

● City of Cape Town

● Isandla Institute

● Local Communities

#### Description:

The fast-track approval process builds on the City of Cape Town's recently revised Municipal Planning By-Law (MPBL), which introduces new instruments – such as Incentive Overlay Zones (IOZs) – to promote more flexible and context-sensitive development regulations. By strategically leveraging these provisions, the City can establish simplified, neighbourhood-specific regulatory frameworks that reduce compliance costs and shorten approval timelines for regenerative self-build projects.

The process begins with a detailed legal and regulatory mapping exercise to identify which clauses of the MPBL – including those governing overlay zones and use-right variations – can be operationalised to streamline approvals. This review will produce a short legal memorandum specifying the procedural flexibilities that can be activated to enable a fast-track pathway without compromising safety, quality, or environmental standards. Following this, the City, together with its partners, will design a pilot framework that defines the scope, eligibility, and governance of the programme, culminating in a formal City Council resolution or by-law that officially mandates the pilot.

Once the legal foundation is established, the City will convene a co-design process with a working group composed of municipal planners, Housing Support Centre (HSC) representatives, community leaders, and experts in Alternative Building Technologies (ABTs). At the core of this framework is the development of a Pre-Approved ABT Catalogue – a vetted list of alternative materials and building systems (such as sandbag walls and hempcrete) that meet structural and environmental standards. By allowing these technologies to bypass lengthy certification or repeated technical verification, the City can reduce procedural friction and provide certainty for both officials and applicants.

### Impact

- Lowered compliance documentation and fewer revision cycles should reduce direct approval costs and overheads for small builders (estimated saving to be measured during pilot).
- Pre-approval performance specs and HSC oversight will maintain structural safety and environmental standards.
- A successful pilot provides an IOZ-aligned operational model for other priority areas, accelerating citywide incremental upgrading.
- By removing technical uncertainty and paperwork obstacles, the pilot should demonstrate measurable increases in ABT uptake within pilot areas (tracked via the ABT catalogue entries in approved applications).
- Reduction in plan approval lead times for pilot projects compared with standard processes. This will reduce holding and transaction costs for households and micro-builders.

### Trade-offs

- Administrative resource demand: Fast-track processing requires dedicated staff time and training; it will add short-term resourcing needs. A phased scale-up could leverage secondments from universities or NGOs to cover early stages.
- There's a risk that better-connected households access the fast track while marginal groups remain excluded. HSCs (see Action 1.3) could run outreach sessions and allocate quotas or priority slots for the lowest-income households.
- Perception of lowered standards: "fast-track" could be interpreted as lowering safety or environmental safeguards. Publishing the pre-approval performance criteria, maintaining third-party verification for critical elements, and introducing risk-based inspections could mitigate this perception.

### 3. Pilot three regenerative housing support centres

Timestamp

Medium Term (2040)

Scale

Building City, Municipal

Key Intervention Fields:

- Socio-Spatial Equity
- Building Practices and Culture
- Collaborative Governance
- Capacity Strengthening

Stakeholders:

- City of Cape Town
- Isandla Institute
- Development Action Group (DAG)
- Local architects and engineers
- Community savings groups
- Micro-builders
- ABTs product developers

Description:

This action proposes piloting three regenerative Housing Support Centres (HSCs) as one-stop shops in key settlements with high housing demand, such as Ilitha Park, Mitchells Plain, and Delft. These centres will provide integrated technical, administrative, and financial assistance to low-income households engaged in self-build using Alternative Building Technologies (ABTs) and incremental construction. The success of the pilots should provide the necessary evidence to lobby the national government to amend the

Housing Code to authorise and fund Housing Support Centres (HSCs) at scale. By centralising support services, the centres will lower the barriers to safe, regenerative, and community-driven housing solutions.

The process begins with a comprehensive needs assessment to identify target settlements and define the service scope. Funding could be secured through municipal allocations (see Action 1.1), NGO partnerships, and potential private-sector contributions (see Regional Opportunity 2).

At each location, the City of Cape Town will partner with NGOs, universities, community savings groups and local micro-builders. The HSCs will be staffed with specialists in alternative materials, building plan and regulatory compliance, self-build finance, and community facilitation. They will act as the first port of call for self-builders: offering orientation sessions on regenerative construction, linking households to subsidies and financing, pre-screening building plans using the pilot ABT catalogue, and submitting applications to the fast-track approval channel developed under Action 1.2.

The pilot period, spanning years 1–4, will include a strong outreach and capacity-building component: each centre will host regular workshops and demonstration builds on site so that local builders and residents become familiar with ABTs such as compressed earth blocks or hemp-based walls.<sup>39</sup> The centres will also provide administrative assistance – helping with land-use applications, building plan submissions, and coordination with municipal services – and will link households to technical inspection and quality-assurance pathways.

As the pilot progresses, each HSC will collect data on uptake: the number of households served, number of building plans submitted and approved under the self-build regime, volume of ABT used, cost and time savings achieved, and resident satisfaction. Based on this evidence, the City will refine the HSC model, develop standard operating procedures, and prepare for citywide scaling so that HSCs become a permanent feature of Cape Town’s housing ecosystem.

<sup>39</sup> Isandla Institute, *Right to Build*.

Impact

- Empowers households to build safe, sustainable homes using regenerative materials.
- Accelerates uptake of ABTs and low-carbon building practices.
- Enhances local skills, job creation, and community cohesion.
- Creates a replicable model for municipal self-build support.

Trade-offs

- Significant upfront investment is required for staffing, infrastructure, and training.
- Risk of uneven service provision without robust operational oversight.
- Potential bureaucratisation if centres are overly centralised; this can be mitigated through community participation and adaptive governance.

# 4. Launch a programme of public demonstrators to institutionalise self-build in policy and practice

## Timestamp

 Long Term (2050)

## Scale

 National  City, Municipal

### Description:

This action involves launching a programme of public demonstration projects to institutionalise self-build in both policy and practice. By funding small-scale, high-visibility housing projects built with Alternative Building Technologies (ABTs), the City aims to demonstrate the safety, durability, and environmental benefits of regenerative construction while shifting public perception away from carbon-intensive materials. These pilots will serve as tangible proof of concept, building confidence among residents, builders, and municipal decision-makers.

The first step will be the institutionalisation of regenerative Housing Support Centres at the national scale, lobbying the national government to authorise and co-fund HSCs. Once the amended National Housing Code is published in the gazette centres will recruit personnel with expertise in ABTs, planning, construction, and financial guidance. Operational workflows will be established to provide technical assistance for regenerative self-build methods, administrative support for approvals and fast-track procedures, and access to subsidies and financial planning tools.

During implementation, HSCs will collect data on service uptake, user satisfaction, and housing outcomes, enabling iterative refinement. Successful pilots will form the basis for expanding the HSC model across additional settlements, ensuring long-term sustainability and impact.

By embedding HSCs within the broader self-build subsidy framework, regulatory reform, and material innovation agenda, the City can expect to achieve multiple impacts: greater rates of safe self-build, accelerated housing delivery for underserved households, stronger local skills and builder networks, and increased use of low-carbon materials. Moreover, the community-based model fosters agency and inclusion – treating self-build as a process rather than a product, which is a key principle highlighted in Isandla’s research.<sup>40</sup>

Establishing these HSCs as the operational backbone of the self-build and regenerative housing strategy, Cape Town aims to convert regulatory and material innovation ambitions into grounded, community-driven outcomes, enabling a just, inclusive, and low-carbon housing transition.

### Key Intervention Fields:

- Socio-Spatial Equity
- Building Practices and Culture
- Enabling Policy Frameworks
- Capacity Strengthening

### Stakeholders:

- National Department of Human Settlements NDHS
- City of Cape Town
- NGOs
- Communities

<sup>40</sup> Isandla Institute, *Right to Build*.

## Impact

- Builds public and market confidence in regenerative self-build methods.
- Encourages adoption of low-carbon, alternative materials.
- Reduces approval times and streamlines municipal processes for self-builders.
- Institutionalises self-build practices in municipal planning and national housing strategies.

## Trade-offs

- Requires upfront investment in pilot construction and technical support.
- Limited scope initially may lead to high expectations that cannot be met immediately.
- Success depends on effective communication and community engagement to influence public perception.

# Regional Opportunity

# 2



## Leveraging the Short-term Rental Market to Catalyse a Regenerative Transition

### Background and Problem Statement

Cape Town's luxury property market (defined as properties valued above R1.2 million) is one of the fastest-growing globally. This market segment, driven by wealthy domestic and foreign buyers, property investors, and tourism, is characterized by speculative investment and the proliferation of micro-apartments designed for short-term rentals (STRs). This activity inflates housing prices, reduces the availability of long-term rental stock, and entrenches socio-spatial exclusion. Furthermore, its reliance on conventional, carbon-intensive construction practices contributes significantly to environmental degradation. Currently, no policy mechanisms effectively mitigate these social and environmental impacts or harness the market's capital flows to encourage regenerative, bio-based construction. This presents a critical opportunity to implement targeted interventions.

### Thematic Vision

Cape Town's short-term rental market adopts best practices in sustainable construction and operation and catalyses social inclusion by channeling funds towards the regenerative transition through strategic licensing, taxation, and accreditation mechanisms.

#### The Goal

To transform Cape Town's dynamic short-term rental and luxury property market from a driver of exclusion and carbon-intensive construction into a key funder and adopter of regenerative, affordable housing.

#### The Big Idea

The rapid growth of short-term rentals (like Airbnb) and luxury developments is reshaping the city, fueling a boom in micro-apartments that are unaffordable for locals and built with carbon-intensive materials. This speculative market generates significant profit for a concentrated group of owners while exacerbating the housing crisis and environmental impact. Instead of simply restricting it, we can strategically harness its financial power. By implementing a licensing system, a targeted levy, and a sustainability accreditation, we can ensure this market contributes its fair share – funding a 'Green Equity Fund' that supports regenerative, affordable housing and incentivises developers to build sustainably from the start.

- **Implement a Mandatory Short-Term Rental Licensing System:** Require all short-term rentals to register. Use this system to cap the number of properties per owner to prevent market concentration and to collect crucial data on construction materials and practices.
- **Legislate a 'Green Equity' Levy on Short-Term Rentals:** Institute a tourism levy (similar to the hotel tax) on all short-term rental income. All revenue

generated must be directed into a dedicated 'Green Equity Fund' to finance regenerative, affordable housing projects and material innovation.

- **Launch a 'Greenbnb' Sustainability Accreditation:** Create a city-run certification programme that awards a recognisable label to properties built and operated sustainably (e.g., using ABTs, renewable energy, water conservation). This allows owners to market to eco-conscious tourists and creates a market incentive for green construction.

#### Who Needs to Act?

**Lead:** City of Cape Town (Finance & Urban Planning Directorates); Cape Town Tourism

**Partners:** National Treasury (for levy approval); Short-Term Rental Platforms (e.g., Airbnb); Property Developers; Construction Industry

**Support:** Community Housing Activists; Sustainable Material Suppliers

### Project Findings

#### 1. Homes are significantly more expensive closer to the inner city, and development is increasingly focused on producing small apartments geared towards short-term rentals rather than accommodating local families.

This section does not include student housing, which has its own funding stream and a unique 12-month tenure, with far less speculation than the short-term rental market. There is a need to more clearly segment what constitutes the luxury market, as the current inclusion of any property worth more than R1.2 million, as demonstrated in the table below, is too broad. Because the category is so wide, it becomes difficult to assess, research, or even intervene in its direct social and impacts. The current broad categorisation combines middle-class single-family homes with ultra-luxury properties and investment Airbnb units, obscuring both research and action. To better understand the impacts of the luxury market and propose targeted interventions, we conducted an assessment of over 800 properties valued at R1.2 million and above that were on sale in three neighbourhoods in Cape Town at the time of data collection.<sup>41</sup>

Each of the chosen neighbourhoods is distinct in its characteristics. Firstly, the Cape Town CBD is a major attraction for tourists, a hub for economic activity, and currently possesses the largest number of new apartment blocks being developed and sold. These units are mostly destined to single or short-term occupancy, with very few being adequate for family housing.

Secondly, Woodstock has been a centre of property speculation, gentrification, and housing activism for several decades. Despite significant efforts by social movements and activist organisations to maintain its racial and economic diversity and resist gentrification, the area remains in high demand for micro-unit Airbnb rentals as well as expensive business properties.

Finally, the neighbourhood of Observatory, characterised by Victorian-era single-family and semi-detached homes, has recently experienced a surge of high-value apartments for a growing student population, alongside an expanding Airbnb and short-term rental markets. Observatory is also home to the new Amazon headquarters commercial development, a major site of contention.

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City of Cape Town. (2024, March). *Integrated human settlements five-year sector plan 2022/23 – 2026/27: 2024/25 review*. Retrieved from City of Cape Town website: [Link](#).

These neighbourhoods were selected due to their geographical organisation and social and historical significance. The City Centre represents social exclusion, given its central location, accessible public transport, and inaccessible prices. Woodstock, adjacent to the city centre, has a long history of segregation, gentrification, and erasure. The suburb of Observatory serves as a buffer between the highly urban inner city and the affluent Southern Suburbs. Together, these areas offer insight into how property dynamics shift in relation to proximity to the inner-city, with the central business district at the core, followed by Woodstock, and finally Observatory.

**Table 01**  
Property sale values above 1.5M ZAR in the CBD, Observatory and Woodstock. Analysis of data from Property24.

TOTAL PROPERTIES	1.5M+	HOUSES	APARTMENTS
<b>OBSERVATORY</b>	147	51 (34.6%)	96 (65.3%)
<b>WOODSTOCK</b>	181	69 (38%)	112 (61.8%)
<b>CAPE TOWN CBD</b>	485	6 (1.2%)	479 (98.7%)

The findings from the above table were developed through online observation of the property listing website Property24, using publicly available data. This data was manually collected through the website's filters and individual unit analysis – examining images and property descriptions – based on what was available for sale on the date of data collection, March 18th, 2025. These figures can change daily due to the dynamism of the property market, but analysing a snapshot of which properties currently on sale in different neighbourhoods nevertheless provides useful insights into market dynamics.

Most notably, it became evident that in the inner city and in the two adjacent neighbourhoods evaluated, most available properties fall between R1.2 million and R3 million. Properties below R1.2 million account for only 20% of all listings in the three areas. In comparison, 57% of all properties in Cape Town are valued at less than R1.2 million. This reinforces the findings of other analyses showing that housing becomes increasingly expensive the closer it is to the inner city. Therefore, the location of these neighbourhoods strongly shapes their pricing dynamics. The more central a neighbourhood is, the higher the number of properties valued at R1.2 million and more – in other words, the closer one gets to the city centre, the less affordable housing becomes.

Additionally, the table above (see Table 01) demonstrates that most of the available properties are apartments in all three observed neighbourhoods. Further observation (see Table 02) shows that most apartments are designed for single and short-term occupancy due to their size and layout. The small number of houses available are mostly older, historical builds, where sales tend to be transactional rather than speculative.

**Table 02**  
Concentration of housing typologies for sale in the CBD, Observatory and Woodstock. Analysis of data from Property24.

APARTMENTS	MICRO APARTMENTS (0.5 BED)	1 BEDROOM	2 BED +
<b>OBSERVATORY</b>	96 (65.3%)	11 (7.4%)	67 (45.5%)
<b>WOODSTOCK</b>	112 (61.8%)	35 (19.3%)	58 (32%)
<b>CAPE TOWN CBD</b>	479 (98.7%)	165 (34%)	167 (34.4%)

When zooming in on available apartments, it becomes noticeable that the more central the neighbourhood is, the fewer apartments are destined for family occupancy. Often, larger apartments become owner-occupied and are subject to stringent heritage regulations guiding renovations, similar to the free-standing family homes referenced above. This segment and typology is not a core focus of this project.

The focus is on the rise of the micro-apartment typology, speculative economic activity, and an urban planning and development model that caters for wealthy groups, tourism, and investment opportunities rather than the provision of affordable and just housing for most of the population.

**3. Short-term rental markets are increasingly concentrated and commercialised. They entrench social exclusion by removing homes from the long-term housing market and contribute to environmental degradation through reliance on traditional construction methods. There are currently limited frameworks that encourage social inclusion and environmental considerations in this sector, necessitating strong intervention.**

Emerging from the data is the rapid development of micro-apartments – 0.5 bed studio units – primarily destined for short-term rental. Micro-apartments are now the main form of housing provided in many new developments, and there is little doubt that this typology is chosen at least partly because of its suitability for the short-term rental market. The short-term rental sector is not only shaping existing housing dynamics but is also exerting a major influence on the form of urban development in Cape Town, with implications that will extend far into the future.

It has not been possible to identify examples of other cities where short-term rentals are having such a profound impact on the built environment and the type of apartments being developed. Conversations with several experts – including property developers, town planners, and city officials – make it clear that the underlying motivation is to maximise investment, profit, and revenue generation. All three evaluated areas included a considerable number of micro-apartment units, accounting for 7% of available properties in Observatory, 19% in Woodstock, and 34% in the city centre. Within the context of Cape Town’s housing crisis, the growth of micro-apartments perpetuates deep social inequality and exclusion, as they are both too expensive and too small to house the average Cape Town family. Additionally, the review of property listings indicates that micro-apartments are growing in popularity and are especially sought after in more central areas.

A recently published opinion piece in the local news outlet Daily Maverick analyses the rise of commercialised Airbnb rentals in the inner city, often found in high-income areas marked by histories of forced removals and spatial injustice. The authors mention a seeming willingness from the City to regularise full-time short-term rentals. However, the number of available properties on Airbnb has been steadily rising since 2022, and no policy has been implemented. These rentals are mostly concentrated in the inner city – where forced removals were extensive during apartheid – and in the Atlantic Seaboard region, where the fight for social housing is currently ongoing.<sup>42</sup>

The fact that there are very few Airbnbs in historically black or coloured neighbourhoods speaks to the stark inequality found in Cape Town’s housing

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Stephen Payne, “Digital Nomads Row — Cape Town Mayor Suggests Tax on Short-Term Rentals to Protect Locals,” *Daily Maverick*, February 13, 2025, [Link](#).

markets and demonstrates that increasing amounts of well-located, already exclusive housing stock are being removed from the market. The concentration of rental properties in the hands of a few hosts also highlights the increasingly commercial nature of the market. The top 10% of hosts operate 42% of all listings, the top 5% operate 32% of listings, and the top 1% (just 112 hosts) operate 20% of all listings – making clear that Airbnb and other similar platforms are not primarily used by individuals renting out spare rooms, but are instead increasingly dominated by individuals and companies that control most listings and effectively act as unregulated hotels.<sup>43</sup> Critics argue that Airbnb and other platforms contribute to spatial inequality and intensify the ongoing housing crisis by removing existing stock, encouraging new stock that is unsuitable for typical families, and accelerating commercialisation of short-term rentals.

In the context of this project, the surge of such exclusionary and speculative developments is directly associated with high environmental damage and carbon emissions. The high and rapid turnover of these buildings – from design, planning, and permitting to construction, sales, and letting – relies on the most conventional construction practices due to market expectations and a massive inflow of investment. In addition, speculative activity often results in “investment frenzies,” where large numbers of property developments are built simultaneously, ensuring that the demand for cement and other conventional construction materials rises, making them more available and affordable in the construction market. For developers to not miss the timing for speculation, relying on readily available materials, traditional construction methods, and reliable supply chains is key for profit generation. In such developments, the developer, contractor, homeowner, and short-term tenant all bear certain costs and responsibilities for the associated harmful impacts.

So, while there are currently no data specifically analysing the environmental impact of short-term rental developments, they generally follow the carbon-intensive approaches typical of the wider construction sector. When one considers how many new developments are geared towards short-term rental, it becomes clear that interventions are needed to minimise environmental impact. Unfortunately, there are presently no mechanisms that encourage short-term rental developments to use ABTs or follow regenerative construction approaches. Given that short-term rental developments are expanding rapidly – and carry significant social costs – there is a clear need for intervention.

#### 4. Financial Viability and Policy Gap:

**Despite ongoing conversations, no policy action has been taken to reduce the negative impacts of the short-term rental market on residents. Furthermore, the existing taxation landscape does not provide sufficient opportunities for the City to generate revenue from this growing market.**

The profoundly profitable nature of the short-term rental (STR) market in Cape Town provides a compelling economic justification for robust regulatory intervention. As the financial analysis demonstrates, even a modest micro-studio can generate approximately R100,000 in annual profit after bond repayments, with profits rising to nearly R250,000 for owned properties.<sup>44</sup> This indicates that the industry possesses significant fiscal capacity to

<sup>43</sup> Selene Pillay, “Unpacking Your Cape Town Holiday: The Unequal, Concentrated Impacts of Airbnbs,” *Daily Maverick*, March 27, 2025, [Link](#).

<sup>44</sup> Airtbics, “Cape Town, Airbnb Market Statistics & Data, South Africa,” March 11, 2025, [Link](#).

absorb levies designed to mitigate its externalities. Consequently, the Mayor’s proposed policy revision presents a critical opportunity to move beyond discussion and implement concrete fiscal instruments. A targeted tourist levy, aligned with the existing 1% charge on hotels, could be applied to STR transactions. The revenue generated should not be absorbed into general municipal coffers but ring-fenced within a dedicated ‘Green Equity Fund’, a Special Purpose Vehicle (SPV) mandated to finance regenerative, bio-based affordable housing projects. This approach directly tackles key barriers to sustainable construction – such as high initial costs – by using surplus revenue from tourism to cross-subsidise inclusionary and ecological transitions in the built environment, particularly in low-income communities.

Furthermore, an effective regulatory framework must be grounded in the foundational principles of the Spatial Planning and Land Use Management Act (SPLUMA), particularly spatial justice and spatial sustainability.<sup>45</sup> The work of housing activists has already shown that pressure can secure concessions from developers, such as inclusionary housing quotas,<sup>46</sup> This precedent must be expanded to explicitly include environmental sustainability. A comprehensive policy should therefore be twofold: it must impose a mandatory financial contribution from STR operators to offset their social displacement and carbon-intensive footprint, while also creating a voluntary system of sustainability accreditation to leverage consumer demand from environmentally conscious tourists. By rewarding developers who use bio-based materials with marketable credentials, the policy can stimulate supply-side innovation. Ultimately, institutionalising this cross-subsidisation model through a dedicated SPV ensures that the STR market is not only regulated but transformed into a direct financier of a more spatially just and sustainable urban future for Cape Town.

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Republic of South Africa, *Statement by Minister Mmamoloko Kubayi on the Occasion of a Media Briefing on Policy Changes to Accelerate Performance in the Sector, 31 March 2023*, Imbizo Media Centre, Parliament of RSA, Cape Town (Cape Town: Imbizo Media Centre, 2023).

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Ndifuna Ukwazi, *Regulating the Private Sector: Case Studies of Inclusionary Housing Developments in Cape Town* (Cape Town: Ndifuna Ukwazi, November 2022), [Link](#).

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# 1. Implement a Licensing and Registration System for STRs

Timestamp

 Short Term (2030)

Scale

 Building  City, Municipal

Description:

This action establishes a mandatory licensing and registration system for short-term rental (STR) properties in Cape Town, addressing the social and spatial inequities created by an increasingly concentrated and speculative market. By creating a publicly accessible database of all registered STRs and enforcing limits on market concentration, the City aims to improve transparency, prevent monopolisation by a few large operators, and ensure that STRs do not exacerbate housing unaffordability or social exclusion.

A municipal by-law will be drafted requiring all STR operators to register their properties. The City will develop a public registration portal to collect detailed information on each property, including ownership and operational status. Regulations will be introduced to limit concentration, such as capping the number of units per host or establishing tiered licensing fees. An outreach and awareness campaign will inform operators about the new requirements and encourage compliance. The City will monitor registration rates and enforce penalties for non-compliance. Data from the registration system will be used to assess market concentration trends and guide further policy adjustments to maintain a diverse and equitable STR sector.

Key Intervention Fields:

- Socio-Spatial Equity
- Enabling Policy Frameworks

Stakeholders:

- City of Cape Town
- Short-term rental platforms
- Hosting agencies

Impact

- Enhances transparency and oversight of the STR market.
- Provides a platform for linking STRs to sustainability incentives, such as ABT adoption or regenerative construction standards.
- Reduces speculative accumulation and promotes more equitable access to housing.

Trade-offs

- Enforcement may require significant municipal resources.
- Balancing regulation with tourism and investment interests could create political tension.
- Some STR operators may resist compliance or attempt to bypass the system.

## 2. Institute a Green Levy to Fund a Regenerative Equity Fund

### Timestamp



Medium Term (2040)

### Scale



National



City, Municipal

#### Key Intervention Fields:

● Socio-Spatial Equity

● Economic Innovation

● Enabling Policy Frameworks

#### Stakeholders:

● City of Cape Town

● National Treasury

● Developers

#### Description:

This action establishes a tourism levy on all STR transactions in Cape Town and channels the revenue into a dedicated Green Equity Fund, set up as a Special Purpose Vehicle (SPV). The fund will finance regenerative, bio-based, and affordable housing projects, particularly benefiting low-income communities. By linking the profitable STR sector to the city's spatial justice and environmental objectives, this action converts potential negative impacts of tourism into resources for a regenerative urban transition.

The City will legislate a 1% tourism levy on all STR transactions, ensuring clear legal authority for collection. Simultaneously, a Green Equity Fund will be established as a legally recognised SPV with a robust governance charter that specifies accountability, operational procedures, and fund allocation criteria. Revenue from the levy will be collected, deposited, and disbursed to finance sustainable housing projects, prioritising low-income communities and the use of Alternative Building Technologies (ABTs). The fund's performance will be closely monitored, with the first pilot projects aimed at delivering at least 25 regenerative housing units within the first year. Lessons learned will guide scale-up and future policy refinements.

#### Impact

- Generates dedicated, predictable financing for regenerative housing initiatives.
- Enables cross-subsidisation of low-income housing and sustainable construction.
- Provides a mechanism for linking the profitable STR sector to spatial justice and environmental stewardship.

#### Trade-offs

- STR operators and tourism stakeholders may resist the levy, creating potential political and enforcement challenges.
- Effective fund management requires strong governance to prevent misallocation or inefficiencies.
- Initial pilot projects may face scrutiny regarding impact and accountability, emphasising the need for transparency and public reporting.
- Short-term political pressures may challenge long-term sustainability of the SPV.

### 3. Develop a 'Greenbnb' Sustainability Accreditation System

Timestamp

 Medium Term (2040)

Scale

 National  City, Municipal

Key Intervention Fields:

-  Building Practices and Culture
-  Enabling Policy Frameworks

Stakeholders:

-  City of Cape Town
-  Green Building Council South Africa (GBCSA)
-  Developers & Investors
-  Luxury Brands & Marketers
-  Architects, Designers & Engineers
-  Local Community & NGOs

Description:

This action establishes a voluntary “Greenbnb” sustainability accreditation system for short-term rental (STR) properties in Cape Town, designed to incentivise the adoption of regenerative building practices and environmentally responsible operations. The system will be voluntary but structured to provide market recognition and tangible benefits for participants, including enhanced visibility on booking platforms and eligibility for preferential municipal incentives.

The first step in implementation is designing the accreditation framework, which will define clear eligibility criteria, technical standards, and compliance requirements. Criteria will focus on key sustainability dimensions, including the use of Alternative Building Technologies (ABTs), energy-efficiency measures such as solar power, water-saving infrastructure, waste-reduction strategies, and adherence to low-carbon operational practices. Standards will draw on international best practice, including Green Key, LEED, and BREEAM frameworks, while being adapted to local materials, construction practices, and climate conditions.

Once the criteria are finalised, the City, in partnership with agencies such as the Green Building Council of South Africa (GBCSA) and industry associations, will develop the application and certification process. This will include guidance documentation, checklists, and an online portal for submissions. A verification mechanism will be implemented, combining self-assessment, supporting documentation, and optional on-site inspections to ensure compliance with accreditation standards.

Following the launch, the programme will include a marketing and engagement campaign to attract STR operators, highlighting both the environmental and commercial benefits of accreditation. Partnerships with online booking platforms will enable participating properties to display the “Greenbnb” label, providing visibility to environmentally conscious tourists. Additionally, the City may link accreditation to other municipal incentives, creating integrated benefits for sustainable operations.

To support long-term adoption, a management and monitoring system will be established to track participating properties, maintain the accreditation database, and provide regular updates to operators on standard revisions, training opportunities, and compliance verification cycles. Through these steps, “Greenbnb” becomes a formalised, operational mechanism for driving the sustainability transition in Cape Town’s short-term rental sector.

Impact

-  Provides an incentive for STR operators to adopt low-carbon, regenerative building practices.
-  Builds consumer awareness and demand for sustainable STRs.
-  Supports the City’s broader environmental and housing goals by leveraging the STR market to drive regenerative practices.

Trade-offs

- Voluntary nature may limit initial adoption.
- Certification requires administrative capacity for auditing and verification.
- STR operators may face additional upfront costs to comply with sustainability criteria.

# Regional Opportunity

3

## Establishing Incentives for the Innovation of Material Supply Chains

### Background and Problem statement

The South African construction sector is dominated by carbon-intensive materials, primarily cement and concrete, which account for approximately 8% of global CO<sub>2</sub> emissions.<sup>47</sup> Cement production alone emits roughly 0.9 tonnes of CO<sub>2</sub> per tonne of material produced.<sup>48</sup> This reliance is entrenched in established supply chains, regulatory standards, and cultural perceptions of these materials as symbols of modernity and permanence. Conversely, Alternative Building Technologies (ABTs) and materials face significant barriers to adoption, including high costs, complex certification processes, limited production capacity, and low social acceptability. A strategic intervention is required to disrupt this status quo and incentivise a transition towards a regenerative, circular construction economy.

47

Kate Ramsden, "Cement and Concrete: The Environmental Impact," *PSCI Princeton*, November 3, 2020, accessed April 24, 2025, [Link](#).

48

The Conversation, "Green Cement Production Is Scaling Up – and It Could Cut the Carbon Footprint of Construction," *The Conversation*, 2024, accessed April 24, 2025, [Link](#).

### Thematic Vision

Existing supply chains for the construction sector are completely decarbonised, and a new set of regenerative approaches is mainstreamed through incentives for bio-based and alternative building technologies, as well as the integration of circular economy principles into material production and waste management.

#### The Goal

To overcome the three core barriers such as cost, production capacity, and market acceptability, that prevent Alternative Building Technologies (ABTs) from competing with carbon-intensive materials like cement and zinc.

#### The Big Idea

Cement and zinc dominate not because they are better, but because their production is optimised, supply chains are entrenched, and they are perceived as the norm. This locks us into a high-carbon future. Breaking this cycle requires a dual strategy: applying pressure on the conventional industry through carbon taxes and international mechanisms like the EU's CBAM, while simultaneously building up the ABT market with a strong package of financial incentives, industrial support, and streamlined regulations. By leveraging Cape Town's Atlantis Special Economic Zone for green manufacturing and formalising the city's vibrant informal recycling sector, we can build a new circular economy for construction materials that is both sustainable and equitable.

### Who Needs to Act?

**Lead:** National Treasury (Tax Incentives); Department of Trade, Industry and Competition (DTIC - SEZ support); City of Cape Town (Urban Planning & Waste Management); WESGRO

**Partners:** CSIR & Agrément SA (Certification); ABT Manufacturers; Major Retailers (Builders Warehouse, etc.); Waste Reclaimers & Recycling Cooperatives

**Support:** Financial Institutions; Industry Associations (GBCSA, MBA)

## Project Findings

### 1. The Dominance and Environmental Impact of Conventional Materials

The construction sector is a major contributor to South Africa's carbon footprint. The production of cement and concrete is highly energy-intensive, involving calcination at high temperatures (~1,450°C) and relying on fossil fuels. The lifecycle emissions of concrete are estimated at 300-400kg of CO<sub>2</sub> per cubic meter.<sup>49</sup> Zinc production, while less prevalent, also carries a significant emissions burden through its energy-intensive extraction and processing.

### 2. Regulatory and Market Barriers to ABT Adoption

The transition to ABTs is hindered by a complex regulatory architecture:

**Stringent National Standards:**

The National Building Regulations (NBR) and South African National Standards (SANS) create high compliance hurdles.

**Costly Certification:**

The Agrément South Africa certification process is time-consuming and expensive, often taking up to two years.

**Local Implementation Challenges:**

Municipal building plan approval and inspection processes are not optimised for alternative materials, creating uncertainty and delays for developers and self-builders.

### 3. Emerging Pressures for Decarbonisation

**External pressures are beginning to incentivise change within traditional material industries:**

**Carbon Tax:**

South Africa's carbon tax is pushing manufacturers (e.g., PPC, AfriSam) to improve energy efficiency, incorporate alternative fuels (e.g., biomass), and use supplementary cement materials such as fly ash.

**Carbon Border Adjustment Mechanism (CBAM):**

The EU's CBAM will impose costs on carbon-intensive imports, including cement and zinc, affecting South African exports valued at an estimated USD 200 million and accelerating the need for greener production methods.

### 4. The Immaturity of the ABT Market

Despite some successful pilot projects (e.g., sandbag housing, hempcrete), ABTs remain a niche market due to three core constraints:

**Acceptability:**

A pervasive societal and professional bias towards conventional materials

<sup>49</sup> Guang Zheng, "Carbon Emission of Recycled Concrete-Based Integrated Pre-Fabricated Structure: Case Study from Perspective of Entire Materialisation," *E3S Web of Conferences* 385 (2023): 1005, [Link](#).

that are perceived as safer and more reliable.

**Production and Supply:**

Limited industrial-scale production capacity and underdeveloped supply chains for ABTs, compared with entrenched cement and zinc networks.

**Cost:**

Higher upfront costs for ABTs due to a lack of economies of scale, R&D expenses, and insurance premiums.

**5. The Circular Economy Opportunity**

Significant potential exists to integrate circular principles:

**Material Reuse:**

A robust informal market already exists for repurposing materials like zinc sheeting.

**Waste Recycling:**

The construction sector generates substantial waste streams (metals, plastics, concrete) that could be diverted from landfills and recycled into new building products.

**Employment Linkages:**

Public employment programs (e.g., Expanded Public Works Programme) could be strategically aligned to support waste picking, alien invasive clearing (producing biomass for construction), and community-based material recycling initiatives.

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# 1. Strengthen carbon pricing mechanisms

## Timestamp



Short Term (2030)

## Scale



National

### Description:

This action seeks to enhance carbon pricing in South Africa's construction sector – specifically targeting cement, concrete, and zinc production – to incentivise a shift toward low-carbon and regenerative materials and processes. The first step involves policy advocacy and coordination with national government bodies, with the goal of securing a commitment to gradually increase the existing carbon tax while aligning domestic industry practices with emerging international regulations such as the European Union's Carbon Border Adjustment Mechanism (CBAM).

The implementation process begins with data collection and sectoral analysis, gathering emissions data from key construction material producers, including Portland cement, ready-mix concrete, and zinc suppliers. This baseline informs both the design of an updated carbon tax trajectory and guidance for compliance with CBAM, ensuring South African exports meet global low-carbon requirements.

Concurrently, a consultative process with industry stakeholders will be initiated to co-develop feasible decarbonisation pathways. This involves workshops, roundtables, and technical advisory groups with major producers, industry associations, and research institutions, to evaluate energy efficiency upgrades, alternative fuel usage, and the incorporation of supplementary cementitious materials.

Following consultation, a policy proposal and regulatory guidance document will be drafted, outlining the planned annual increases in the carbon tax, compliance timelines, and technical guidance for aligning exports with CBAM requirements. The proposal will be submitted to Parliament for approval and integrated into the annual fiscal framework.

### Key Intervention Fields:

- Material Transition
- Economic Innovation
- Enabling Policy Frameworks

### Stakeholders:

- National Treasury
- DTIC
- Material Manufacturers
- Industry Associations

## Impact

- Strengthens the financial incentive to reduce carbon emissions in the construction sector.
- Encourages innovation in low-carbon material production.
- Increases the commercial competitiveness of alternative building materials by reducing price gaps.
- Enhances the international competitiveness of South African exports in a carbon-constrained global market.

## Trade-offs

- Higher carbon taxes may increase domestic production costs, potentially affecting local housing affordability.
- Manufacturers may resist compliance without additional support or incentives.
- Careful policy coordination is required to avoid unintended economic impacts on small producers.

## 2. Create an incentive package for alternative building technologies

### Timestamp



Medium Term (2040)

### Scale



National



City, Municipal

#### Key Intervention Fields:

● Ecosystem Care

● Material Transition

● Economic Innovation

● Enabling Policy Frameworks

● Capacity Strengthening

#### Stakeholders:

● City of Cape Town

● NDHS

● Manufacturers

● Developers

● Certification Agencies

● University of Cape Town

#### Description:

This action aims to accelerate the adoption of Alternative Building Technologies (ABTs) in Cape Town by creating a comprehensive incentive package for both producers and users of certified low-carbon materials, bridging existing supply chain gaps in what is currently a highly fragmented innovation arena. The first step involves policy design and stakeholder consultation. The City, in collaboration with national departments such as Human Settlements and Trade, industry associations, material manufacturers, and research institutions, will co-develop the incentive framework. This process will build on the analysis undertaken by ReBuilt in mapping the existing ABT supply chains, identifying barriers to adoption, and defining priority interventions such as financial incentives, tax rebates, and expedited permitting.

The next step focuses on financial instruments and grant programmes. The City will establish a basket of incentives, which may include partial grants for pilot projects, tax rebates for developers and manufacturers, and concessional loans for ABT procurement and production. These instruments will be designed to lower the upfront cost of ABTs, encourage experimentation with bio-based and regenerative materials, and reduce financial risk for small-scale producers and self-builders.

Concurrently, regulatory streamlining measures will be implemented. Municipal building plan approval and inspection processes will be adapted to facilitate ABT projects, including the creation of pre-approved designs, compliance checklists, and fast-track application procedures. Training and guidance materials will be developed for municipal officials to ensure consistent understanding and application of the new processes.

The incentive package will also include technical support and knowledge sharing. The City will coordinate with Housing Support Centres (HSCs), universities, and industry networks to provide workshops, guidance documents, and case studies demonstrating the use of ABTs in practice.

Finally, an administrative and monitoring system will be established to manage applications, track uptake, and ensure compliance with technical standards. This system will also support reporting and continuous improvement of the incentive package.

#### Impact

- Increases the adoption of ABTs, reducing the carbon footprint of new construction.
- Encourages production scale-up of regenerative materials.
- Enhances the competitiveness of regenerative construction in Cape Town.

#### Trade-offs

- The action requires upfront fiscal commitment from the City or national government, which could be supported by the Green Fund proposed in Action 2.2.
- Conventional material producers may resist and lobby against the new incentives.
- Monitoring and compliance mechanisms are necessary to prevent misuse of incentives.

### 3. Mainstream circular economy practices in material supply chains

Timestamp



Medium Term (2040)

Scale



City, Municipal

Description:

This action aims to embed circular economy principles within Cape Town's construction material supply chains, reducing waste, promoting resource efficiency, and supporting a regenerative construction economy. Implementation will begin with a citywide baseline assessment of material flows, identifying key waste streams, high-impact materials, and existing informal reuse and recycling networks. This mapping exercise, conducted with academic and industry partners, will expand on the research conducted by ReBuilt and provide the evidence base for targeted interventions.

A key focus will be increasing the upcycling of construction and demolition waste. The activities of sorting, crushing, and repurposing construction and demolition waste into usable secondary material (such as aggregates, compressed earth blocks, and upcycled components) will be elevated from isolated innovations to valuable economic activities for the construction industry, and will be linked to local employment programmes (e.g., the Expanded Public Works Programme), creating green jobs while diverting waste volumes from landfills. The City will also work with universities and design institutes to showcase circular building prototypes and demonstrate the market viability of upcycled materials.

In parallel, the City will promote the use of agricultural byproducts and other biomass sources – such as hemp, straw, and invasive alien vegetation – as renewable inputs for bio-based construction materials. This will involve coordinating with existing pioneers and innovators in the Western Cape to secure sustainable biomass supply chains, supporting R&D for material innovation, and facilitating cross-sectoral cooperation.

Parallel to regulatory reforms, new forms of partnerships will be required to stimulate innovation in material recovery and reuse. The City will incentivise private firms and social enterprises to establish pilot facilities for sorting, processing, and upcycling construction and demolition waste.

Key Intervention Fields:

- Ecosystem Care
- Material Transition
- Socio-Spatial Equity
- Building Practices and Culture
- Economic Innovation

Stakeholders:

- City of Cape Town
- Construction Companies
- Material Manufacturers
- NGOs
- University of Cape Town
- Private Investors

Impact

- Diversification of material supply at the regional level through the provision of reliable, low-carbon alternatives for regenerative construction.
- Stimulating the creation of sustainable jobs at the regional scale.
- Reducing waste production across different sectors.

Trade-offs

- Significant initial investments and ongoing operational costs must be sustained until sufficient market uptake is achieved.
- Successful implementation depends on active engagement from developers, suppliers, and the community.
- Regulatory compliance and coordination with municipal authorities may be complex and could be mitigated through Action 3.2.

# 4. Establish a Circular Economy Materials Hub

## Timestamp

 Long Term (2050)

## Scale

 City, Municipal

### Description:

As a long-term intervention to further establish cross-sectoral practices, the creation of a Circular Economy Materials Hub is proposed as a city-supported innovation centre that will anchor Cape Town’s regenerative transition into a circular construction economy. Conceived as both a physical and institutional platform, the Hub will connect government departments, research institutions, manufacturers, informal recyclers, and private developers to drive material innovation, industrial symbiosis, and large-scale reuse and recycling within the construction sector.

The first stage of implementation will involve a detailed feasibility and site selection study to identify a strategically located site within Cape Town’s existing logistics infrastructure. This process, undertaken in collaboration with the Western Cape Industrial Symbiosis Programme (WISP), will assess operational models, governance options, and potential partnerships.

Once operational, the Hub will function as an integrated facility dedicated to material recovery, innovation, and distribution. Its core operations will include the sorting, storage, and pre-processing of construction and demolition waste, transforming this material into high-value secondary resources such as recycled aggregates, compressed earth components, and modular building blocks. In parallel, an innovation and prototyping laboratory will support SMEs in research, testing, and small-scale production of low-carbon and bio-based materials.

The Hub will also serve as a marketplace and training centre, offering technical guidance and accredited workshops. By linking builders, architects, and community-based enterprises with suppliers of reclaimed and recycled materials, the centre will create a transparent and accessible marketplace for circular construction products. Furthermore, the Hub will collaborate with local agricultural cooperatives and waste-to-value initiatives to integrate biomass-based resources into the production of regenerative building materials.

### Key Intervention Fields:

-  Material Transition
-  Building Practices and Culture
-  Economic Innovation
-  Collaborative Governance
-  Capacity Strengthening

### Stakeholders:

-  City of Cape Town
-  Construction Companies
-  Material Manufacturers
-  NGOs
-  Investors

## Impact

- Significantly decreasing the volume of construction and demolition waste sent to landfill by diverting materials into reuse and recycling streams.
- Reducing embodied carbon in construction through the uptake of reused materials and substitution with low-carbon or biomass-based alternatives.
- Stimulation of cross-sector collaboration and industrial symbiosis by connecting stakeholders and companies across various supply chains.
- Creating demand and supply infrastructure for reclaimed, recycled, and bio-based materials, strengthening local supply chains and improving market competitiveness.
- Generating employment through waste collection, material processing, innovation and training programmes, creating sustainable job opportunities also for low-income and informal workers.

## Trade-offs

- Substantial upfront capital for infrastructure, equipment, and operational capacity before achieving financial self-sufficiency, requiring engagement with the private investment sector.
- Adoption of recycled or bio-based materials may face initial resistance from the construction industry due to perceptions of risk, variable quality, or lack of standards.
- The reduction of regulatory barriers and certification hurdles relies on the implementation of Action 3.2 for successful long-term implementation.
- Improperly managed recycling or biomass-processing operations could generate emissions, dust, or noise impacts, requiring strong environmental controls.

# Regional Opportunity

# 4

## Integrating Material Transitions into Built Environment Education

### Background and Problem statement

The specification of construction materials is predominantly determined by architects, engineers, and quantity surveyors. Their professional training – shaped by university curricula and ongoing professional development – fundamentally influences material choices. Consequently, transforming these educational pathways is critical to mainstreaming Alternative Building Technologies (ABTs) and fostering a regenerative built environment.

### Thematic Vision

The next generation of built environment professionals, including architects, planners, engineers, and contractors, are equipped with the knowledge and skills to champion material transitions, embedding principles of regenerative design and carbon literacy into the core of architectural education and practice.

### The Goal

To ensure that every architect, planner, engineer, and contractor in Cape Town is equipped with the knowledge and skills to specify, design, and build with low-carbon, regenerative materials as standard practice.

### The Big Idea

Professionals build what they know. The current education and training system for built environment experts is rooted in 20th-century practices, heavily favoring carbon-intensive materials like concrete and steel. This creates a systemic barrier to innovation, as graduates and practitioners lack the exposure and confidence to use Alternative Building Technologies (ABTs). By fundamentally reshaping the curriculum – from university through lifelong professional development – we can create a powerful wave of change agents. This involves embedding principles of embodied carbon, the circular economy, and material innovation into core learning, ensuring that the next generation does not simply design for aesthetics and function, but for the future of the planet.

### Who Needs to Act?

**Lead:** University of Cape Town (UCT) & Cape Peninsula University of Technology (CPUT) Faculty Deans; South African Council for the Architectural Profession (SACAP).

**Partners:** Professional Bodies (GBCSA, Cape Institute for Architecture); Industry Associations (Master Builders Association, Property Developers Forum); NGO Training Academies (e.g., DAG).

**Support:** City of Cape Town; Pioneering ABT Suppliers and Manufacturers

## Project Finding

### 1. Professional Accreditation Lacks Emphasis on Material Impacts

The South African architectural curriculum is structured by the accreditation criteria of the South African Council for the Architectural Profession (SACAP), which aligns with the international Canberra Accords. While these frameworks cover ten outcome areas (e.g., design, construction technology, environmental relationships), they lack an explicit, mandatory focus on the carbon emissions of construction or the specification of low-carbon materials. This represents a significant oversight given the construction sector's contribution of approximately 35% of South Africa's carbon emissions.

The character of our future city is conceived long before ground is broken; it is born in the minds and designs of its architects. As the primary authors of the built environment, architects occupy a uniquely influential position at the nexus of design, planning approval, and – most critically – material specification. Their decisions ultimately determine the very substance of our urban fabric and its ecological footprint. Therefore, to instill the ethos of regenerative construction at the earliest possible stage, a fundamental intervention within the architectural curriculum is not just beneficial but imperative.

This Regional Opportunity is founded on the conviction that empowering architects with this knowledge is a powerful lever for systemic transformation, ensuring that the drive for sustainable, community-led housing becomes the foundational principle of all design thinking.

### 2. Current Curricula Offer Limited Exposure to ABTs

A review of the University of Cape Town's (UCT) architecture curriculum confirms this gap, with minimal integration of material lifecycle analysis or regenerative principles. A notable exception is the pilot seminar "Material Matters," which introduces first-year students to concepts of embodied carbon, the circular economy, and ABTs like Cross-Laminated Timber (CLT) and hempcrete. This initiative offers a viable model for broader curriculum reform but remains an outlier rather than the standard.

### 3. Continuing Professional Development (CPD) is an Underutilised Lever

CPD is a mandatory requirement for maintaining professional registration. However, the current CPD landscape, offered by bodies such as the Green Building Council of South Africa (GBCSA) and the Cape Institute for Architecture (CIFA), is fragmented and prioritises themes like energy efficiency and project management over material innovation. This represents a missed opportunity to update the skills of practicing professionals.

### 4. Industry Training Programmes Focus on Compliance Over Innovation

Numerous training initiatives exist for contractors and developers (e.g., the Master Builders Association Western Cape, the Contractor and Developer Academy). However, their curricula are predominantly focused on business development, tender compliance, and regulatory accreditation, with little to no content on sustainable construction methods or material alternatives.

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# 1. Reform university curricula to include regenerative principles

## Timestamp

 Short Term (2030)

## Scale

 Building  City, Municipal

### Description:

This action seeks to embed regenerative thinking at the root of professional education in the built environment. Architectural learning sites (ALS's) at leading institutions such as the University of Cape Town (UCT) will advocate for the formal integration of modules on material transitions, embodied carbon, and regenerative design into core architecture and engineering degree programmes.

The initiative will begin by engaging university leadership and faculty members in the creation of a dedicated curriculum, ensuring content relevance and practical orientation. Pilot modules will be co-developed with faculty, drawing on the Material Matters seminar as a blueprint, and featuring case studies, field visits, and knowledge exchange with regenerative construction practitioners and material innovators.

Over time, the initiative aims to institutionalise carbon literacy and regenerative design principles across all built environment disciplines, ensuring that the next generation of professionals becomes a driving force in the regenerative transition.

### Key Intervention Fields:

- Capacity Strengthening

### Stakeholders:

- Professional associations and bodies
- Higher Education Institutions
- Architectural Learning Sites (ALS's)

### Impact

- Curriculum Integration: ABT content is formally integrated into core architecture programmes.
- Develop a database of literature, textbooks, and resources for ALSs, on ABTs, including detailed analyses and explanations of case studies in Africa more broadly and in South Africa in particular.

### Trade-offs

- Curriculum change is directly linked to accreditation cycles that fall within 3–5 year period. Architectural Learning Sites (ALS's) tend to minimise curriculum changes during this time. Proposals for curriculum reform can generally only be made immediately prior to, or after, accreditation.
- Because there is a lack of literature, textbooks, and resources about ABT – with detailed analysis and explanation of case-studies in Africa more broadly, and in South Africa in particular – curriculum change, database development, and capacity-building on ABTs would need to occur in parallel. This may create contradictory expectations from, and within, the ALS.

## 2. Launch mandatory Continued Professional Development modules on ABTs

### Timestamp

 Short Term (2030)

### Scale

 National  City, Municipal

#### Key Intervention Fields:

-  Building Practices and Culture
-  Capacity Strengthening

#### Stakeholders:

-  South African Council for the Architectural Profession (SACAP)
-  Green Building Council South Africa (GBCSA)
-  Engineering Council of South Africa (ECSA)
-  Cape Institute for Architecture (CIFA)
-  City of Cape Town

#### Description:

Develop and institutionalise accredited Continuing Professional Development (CPD) modules on Alternative Building Technologies (ABTs), low-carbon construction, and regenerative design for practicing built environment professionals.

This action targets architects, engineers, and builders, whose continuing education directly shapes material choices in the built environment. The City of Cape Town, in collaboration with the South African Council for the Architectural Profession (SACAP), the Engineering Council of South Africa (ECSA), and leading professional bodies such as the Green Building Council of South Africa (GBCSA) and the Cape Institute for Architecture (CIFA), will design and launch accredited Continuing Professional Development (CPD) modules centred on the regenerative transition.

These CPD courses will provide both theoretical grounding and practical expertise, including site visits to regenerative pilot projects and case studies of certified ABT applications. The modules will address technical design, life-cycle analysis, and regulatory compliance, empowering professionals to integrate new materials into mainstream practice with confidence.

As a medium-term objective, the courses will be recognised as part of mandatory CPD requirements, ensuring that every registered professional maintains up-to-date knowledge on sustainable construction and regenerative design.

#### Impact

-  Practicing architects, engineers, and contractors gain the technical and regulatory knowledge required to design and implement ABTs.
-  The professional community becomes a key driver in normalising regenerative design across Cape Town's construction sector, accelerating the transition.

#### Trade-offs

→ Mandatory CPD reform may face resistance due to the time and cost burdens it places on professionals and training providers. Offering co-funded modules and online options can help ensure broader accessibility and compliance.

### 3. Update major industry training programmes

Timestamp

 Medium Term (2040)

Scale

 National  City, Municipal

Key Intervention Fields:

- Building Practices and Culture
- Capacity Strengthening

Stakeholders:

- South African Council for the Architectural Profession (SACAP)
- Green Building Council South Africa (GBCSA)
- Engineering Council of South Africa (ECSA)
- Cape Institute for Architecture (CIFA)
- City of Cape Town

Description:

The action aims to establish a comprehensive, accessible knowledge platform that consolidates existing and emerging literature, training materials, and case studies on Alternative Building Technologies (ABTs) in South Africa. This database will serve as the foundation for updating major industry training programmes for contractors, developers, and construction professionals, ensuring that practical, context-specific knowledge about regenerative materials becomes embedded across the sector.

This action begins with a coordinated effort led by the City of Cape Town, in partnership with academic institutions, the Council for Scientific and Industrial Research (CSIR), and professional bodies such as the Master Builders Association (MBA) and the Green Building Council South Africa (GBCSA). The first phase involves creating a curated database as an open-access digital repository that compiles research papers, technical manuals, standards, and design guides on ABTs. This database will include in-depth analyses of local and regional case studies – such as the use of rammed earth, compressed earth blocks, and hempcrete, in pilot projects across South Africa.

The repository will also feature annotated teaching resources, video demonstrations, and downloadable toolkits for builders, engineers, and educators. In collaboration with industry partners, the City will integrate these resources into existing training curricula, ensuring that contractor and developer programmes (e.g., the Master Builders Association and the Western Cape Property Developers Forum) adopt modules directly informed by the database. Continuous updates and peer-reviewed contributions will maintain the platform's relevance, while a feedback mechanism will allow practitioners to document lessons learned and upload new examples of successful applications.

Impact

- The construction workforce – including developers and contractors – gains practical and regulatory insights into implementing ABTs and regenerative building methods.
- Strengthening industry capacity to adapt to the regenerative transition will accelerate the mainstreaming of ABTs.

Trade-offs

- Curriculum reform may require negotiation with training providers and additional instructors.
- Short-term cost implications for creating the database may pose a barrier, but these should be outweighed by the long-term benefits of a more resilient and competitive workforce in a decarbonising market.

# 4. Establish a Regenerative Built Environment Forum

## Timestamp

 Long Term (2050)

## Scale

 National  City, Municipal

### Key Intervention Fields:

- Collaborative Governance
- Capacity Strengthening

### Stakeholders:

- City of Cape Town
- Western Cape Government
- Green Building Council of South Africa (GBCSA)
- University of Cape Town
- Bauhaus Earth
- Master Builders Association
- Property Developers Forum
- NGOs
- Multilateral Agencies

### Description:

This action proposes the establishment of a Regenerative Built Environment Forum as a permanent cross-sectoral platform dedicated to transforming how Cape Town designs, builds, and educates for the future. Because no single actor can drive systemic change alone, this initiative aims to strengthen cooperation across existing networks and practices by bringing together academia, industry, government, and civil society to mainstream regenerative principles across the built environment. Through sustained reflection and mutual learning across experiences and sectors, the Forum will help cultivate the cultural shift required for systemic transition.

Biannual convenings will provide a space for dialogue, joint strategy development, and the presentation of emerging projects, creating a feedback loop between education, regulation, and implementation.

The Forum will operate under a shared governance structure with four main pillars: policy alignment and advocacy; education and professional development; industry innovation and pilot projects; and data and knowledge sharing. It will also maintain an open-access digital repository documenting best practices, pilot outcomes, and policy recommendations to support replication and transparency.

Institutionally anchored through partnerships with existing organisations such as the Green Building Council of South Africa, the Forum will avoid duplication and instead reinforce collaboration across ongoing initiatives. Its success will be measured through the consistent delivery of biannual meetings and reports, and the active participation of institutional members across key sectors in shaping the programme of events leading to each convening.

The Forum will function as both a knowledge platform and a coalition for action, ensuring that the principles of regenerative urbanism – ranging from material transitions to socio-spatial equity – are embedded in Cape Town’s development trajectory and shared with cities across South Africa.

## Impact

- Creates a shared governance structure that aligns fragmented initiatives and fosters cooperation between academia, industry, and government.
- Establishes a community of practice where innovators, educators, and policymakers collaborate to scale regenerative housing and urbanism initiatives.
- Enables continuous professional learning by linking research outputs with pilot experiences.
- Positioning Cape Town as a leading example in the regenerative built environment transition in South Africa.

## Trade-offs

- Ensuring equitable participation between large institutional actors and smaller community organisations will be critical to avoid reproducing existing hierarchies in the built environment.
- Translating academic research into actionable industry standards and policies will require ongoing mediation and capacity-building.
- Establishing and sustaining the Forum will require a hybrid financing strategy, potentially combining private investment, membership contributions, and research grants.

# 4

## CONCLUSION

- » Call to Action
- » Acknowledgements

# Call to Action

This Roadmap outlines a compelling and actionable framework for transforming Cape Town, addressing both the urgent crises of spatial inequality and carbon-intensive construction. By transcending compartmentalised thinking, it advocates for a systemic transition in which investments in the luxury property sector help fuel innovations that uplift low-income communities, and where the next generation of built environment professionals is equipped with the skills and knowledge to redefine our urban landscape.

The four regional opportunities presented in this Roadmap are not isolated initiatives; together, they form the interconnected pillars of a unified and regenerative vision:

- **Opportunity 1:** empowers the majority of Cape Town's residents with secure, sustainable housing, shifting away from informal and precarious living conditions.
- **Opportunity 2:** harnesses the financial power of the luxury and short-term rental markets, ensuring that they contribute meaningfully to social inclusion and environmental sustainability rather than deepening existing inequalities.
- **Opportunity 3:** tackles the root causes of carbon-intensive construction by cultivating a robust ecosystem for alternative building materials – supporting their production, enabling their uptake, and normalising their use across the industry.
- **Opportunity 4:** drives a cultural and professional transformation, embedding regenerative design and material transition into the core values, practices, and education of future built environment professionals.

The challenges before us are substantial, yet the cost of inaction is far greater. Persisting along our current trajectory will entrench carbon-heavy infrastructure for generations, deepen spatial inequalities, and heighten our vulnerability to climate crises. This Roadmap is a clarion call to disrupt that cycle and collaboratively forge a city that is not only less harmful, but fundamentally regenerative, just, and equitable.

## **Our Call to Action:**

This transformation demands unprecedented collaboration across all sectors. We urge the following stakeholders to take immediate, decisive actions:

### **City of Cape Town and Western Cape Government:**

**Champion Regulatory Innovation:** Form a dedicated task force to pilot context-sensitive regulatory reforms for self-building and Alternative Building Technologies (ABTs), beginning with the new MPBL tools.

**Initiate the Green Equity Fund:** Prioritise feasibility studies and engage stakeholders to establish the legal and operational framework for the proposed Special Purpose Vehicle, including the associated short-term rental levy.

**Lead by Example:** Require the use of low-carbon, locally sourced ABTs in all new city-funded housing and infrastructure projects.

**To National Government Departments (Human Settlements, Trade & Industry, Treasury):**

**Reform Subsidies:** Urgently amend the National Housing Code to introduce a dedicated demand-side subsidy for regenerative, incremental self-building.

**Incentivise Innovation:** Broaden the array of fiscal incentives for the industrial production of alternative building technologies, as well as for circular economy initiatives that repurpose construction waste.

**Private Sector Developers, Investors, and Material Suppliers:**

**Embrace Voluntary Leadership:** Move beyond compliance by adopting ‘Green-bnb’ accreditation principles, investing in low-carbon material research, and piloting regenerative projects as demonstrative examples.

**Engage Constructively:** Collaborate with the City and communities on inclusionary housing initiatives, and contribute expertise to the design and governance of the Green Equity Fund.

**To Universities and Professional Accreditation Bodies (SACAP, SACPCMP, ECSA):**

**Revise Curricula and CPD:** Integrate modules on embodied carbon, life-cycle assessment, and regenerative material use into core degree programmes and mandatory Continuing Professional Development.

**Civil Society, NGOs, and Community Organisations:** Advocate for equitable, sustainable development. Use this Roadmap to hold powerful actors accountable and actively participate in the co-design of programmes like Housing Support Centres.

**Community Members:**

**Engage and Inform:** Participate in public consultations on new bylaws and policies. Seek out – and demand – accessible information on sustainable building options for your homes and communities.

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## ReBuilt Cape Town Roadmap

Advancing Regenerative Regional Systems through Local Materials, Building Practices, and Collaborative Governance

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Bauhaus der Erde gGmbH  
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