Transforming the Built Environment with a Systemic Lens



Sparkle School
Calenzano, Italy
5-6 May, 2026

Aimée Aguilar Jaber– Programmes Director

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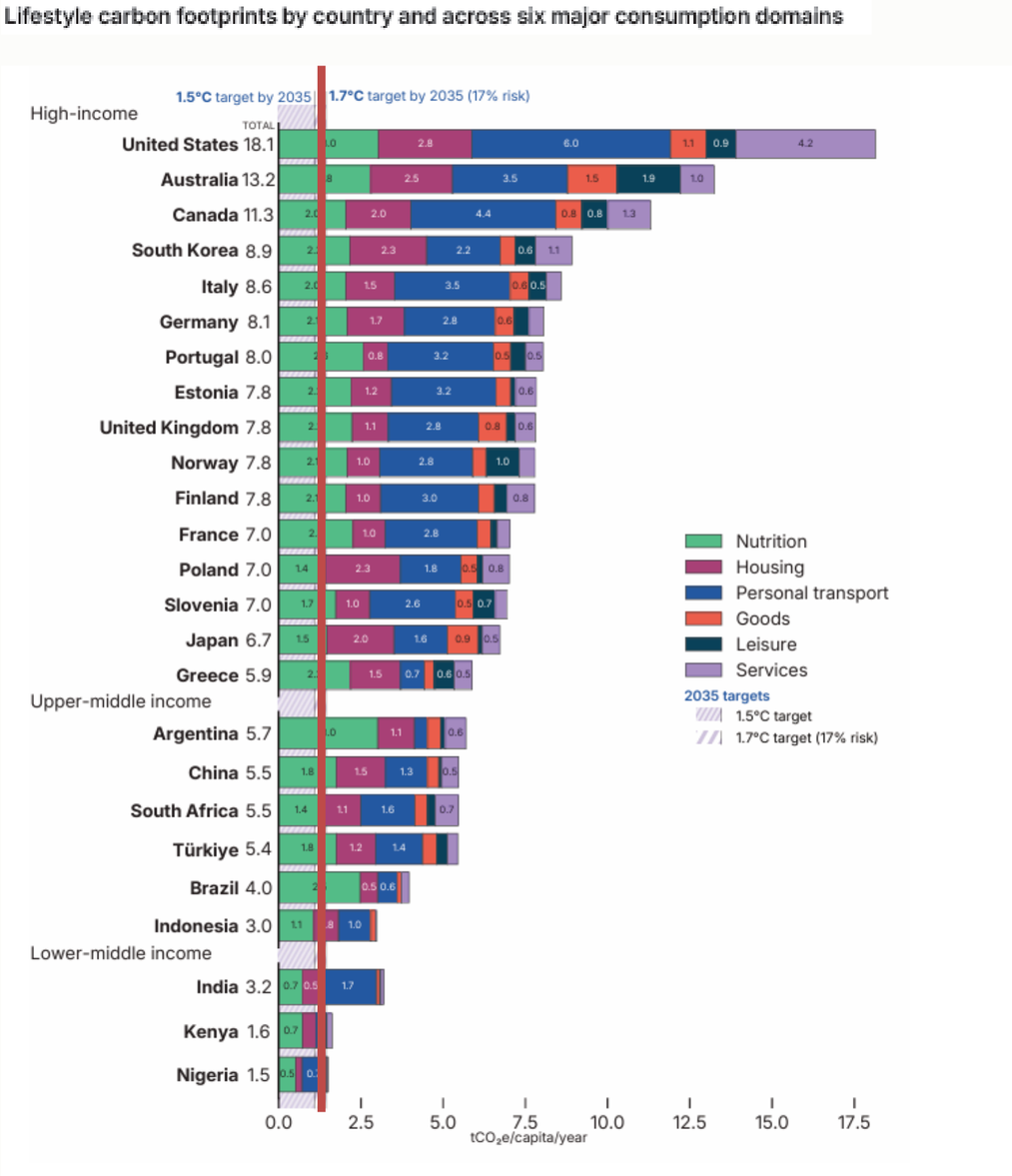
Agenda

- **Why do we need systems thinking for transitioning to sustainable cities?**
- **What does it mean to take a systems approach for the Built Environment?**
- **Challenges and Ways Forward**

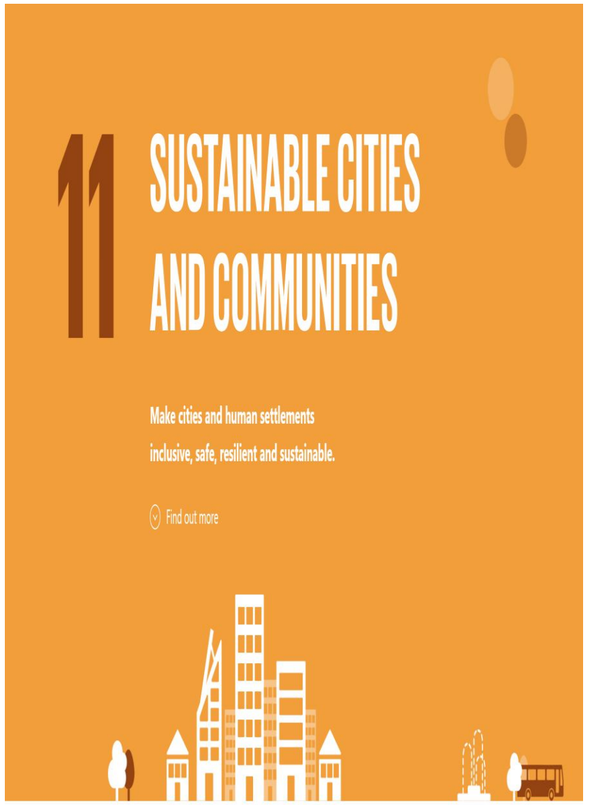
Why do we need a systems approach for transitioning to sustainable cities?


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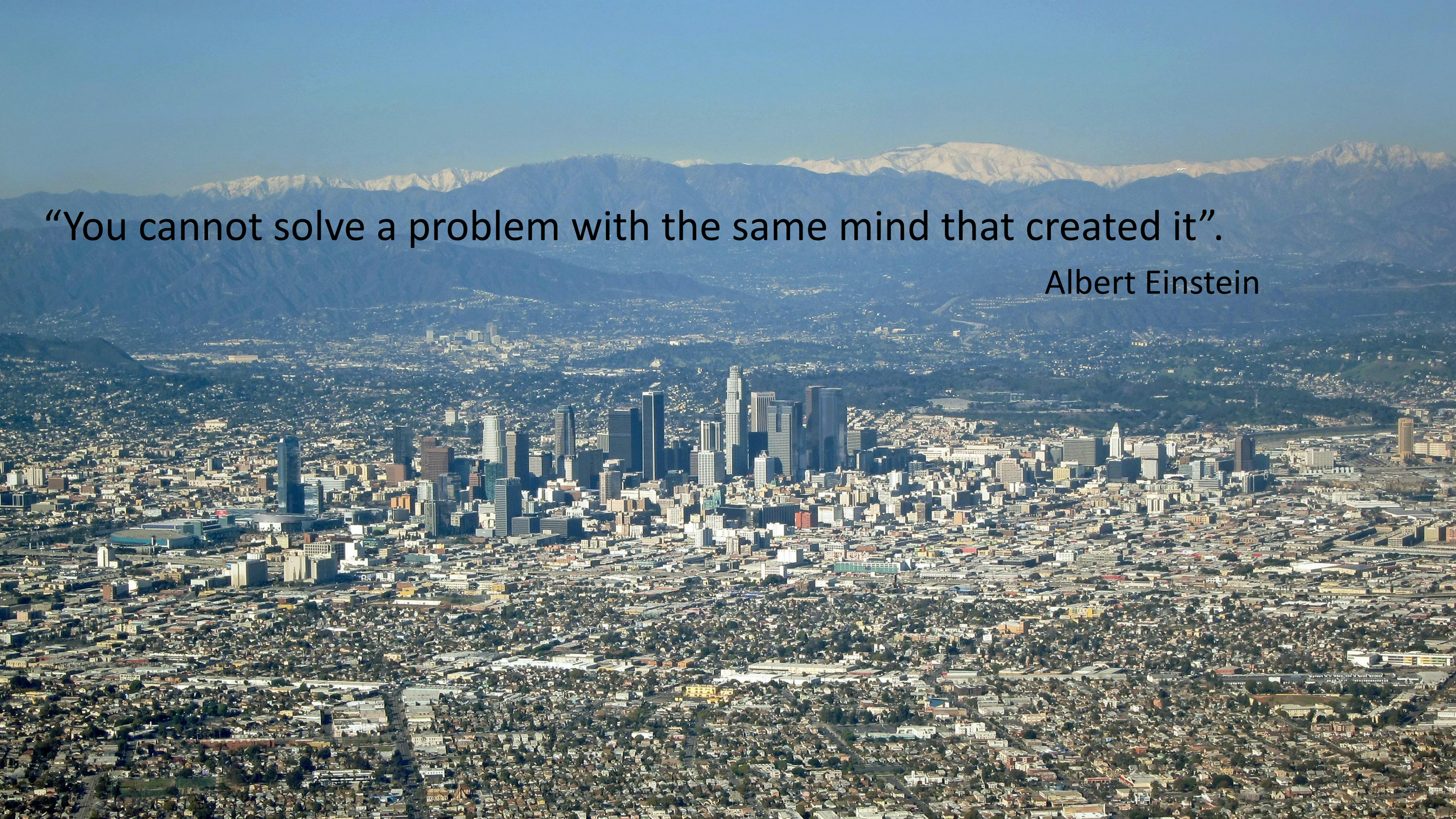
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How we organise the Built Environment is determinant to how and how much we consume.



Efforts to address urban sustainability have grown but we don´t really see deep transformation happening.


“You cannot solve a problem with the same mind that created it”.
Albert Einstein

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Our analytical thinking is ok for simple problems



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But is limited for dealing with complex problems!





Complex systems

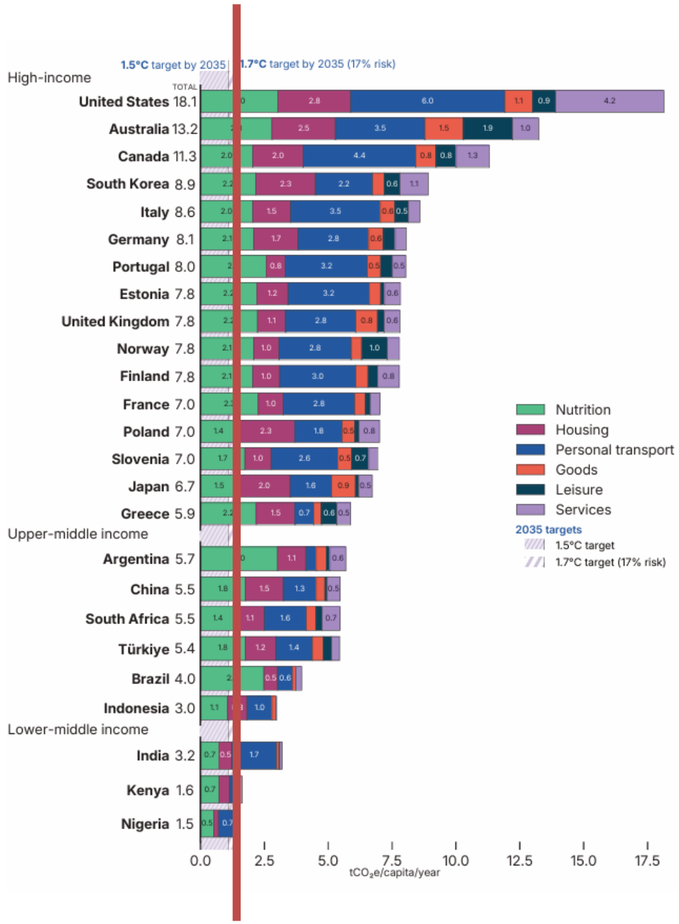
Feed-backs

Unintended consequences

Interconnections

Highest potential for change is in reorganising parts

We need to move from the tip to the bottom of the iceberg



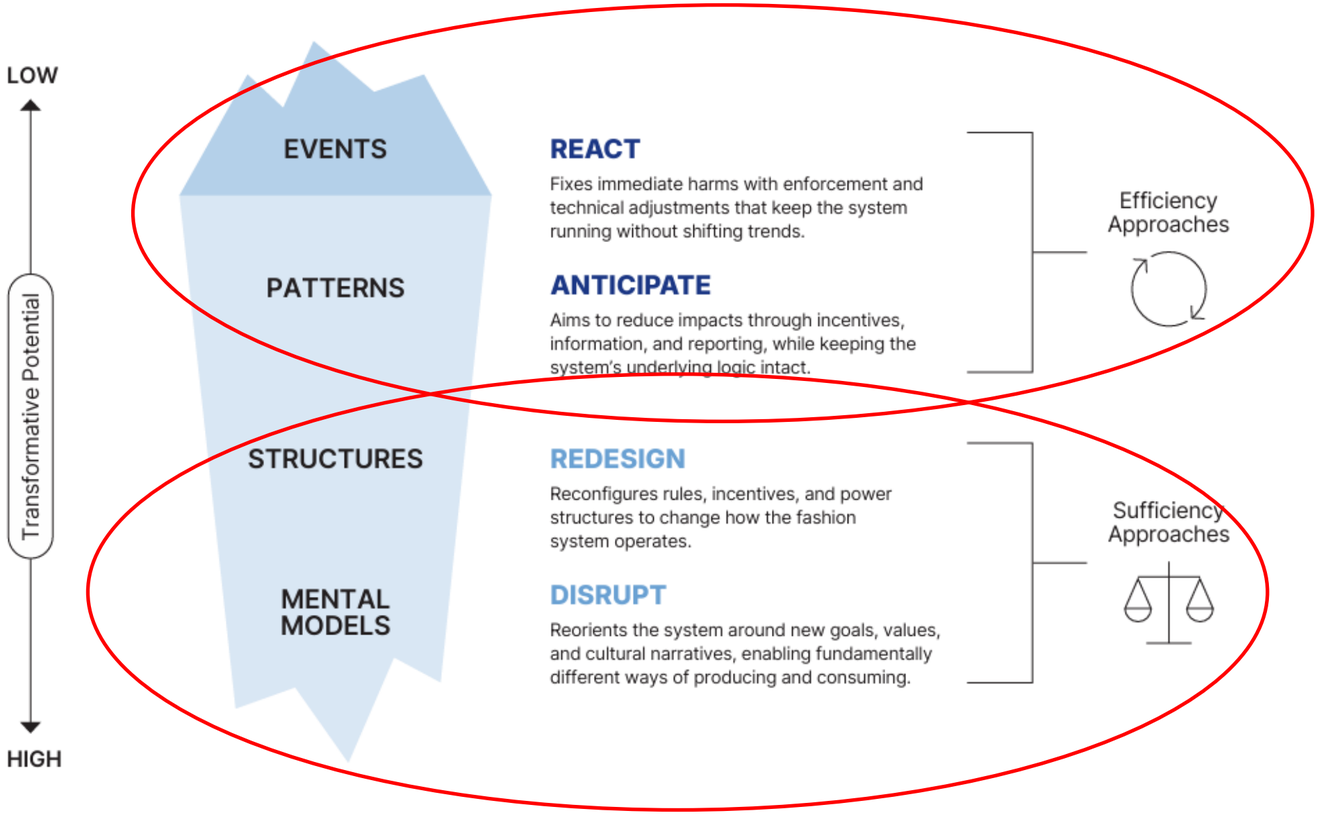


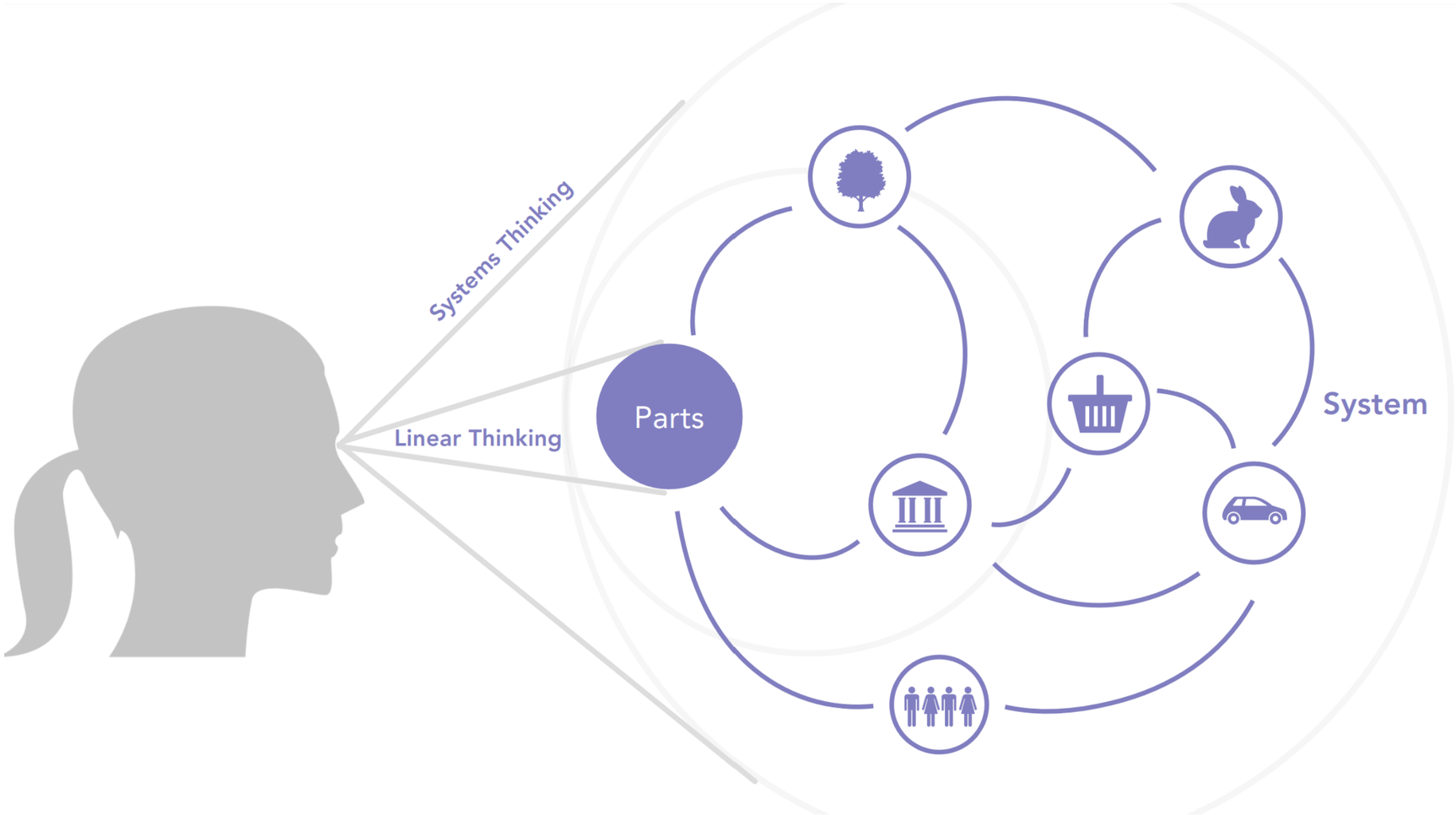
Figure 1. The Iceberg Model: A Systems Approach for Policy Making based on Donella Meadows leverage framework. (Hot or Cool)

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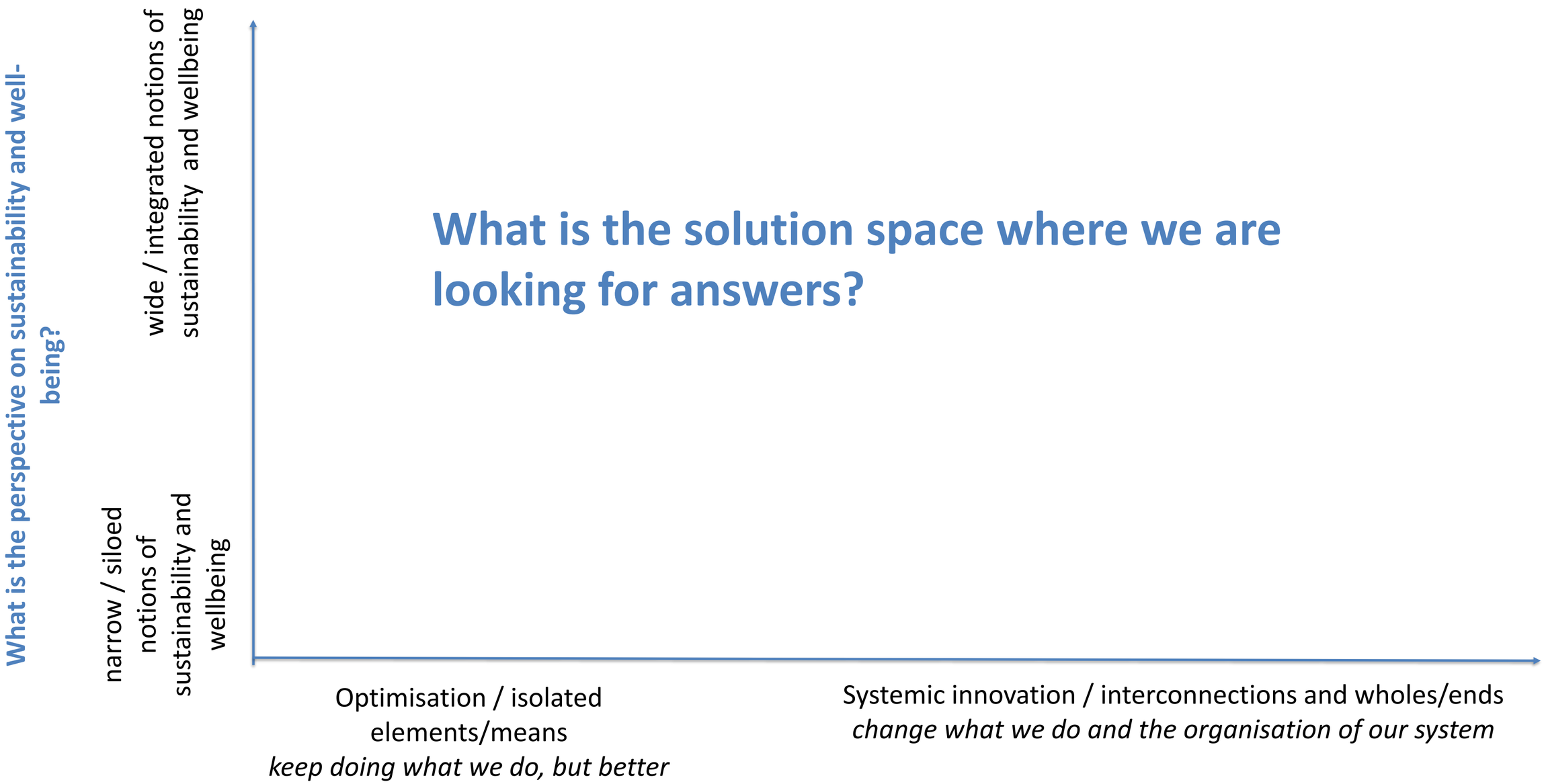
What does it mean to take a systems approach?

Not about looking at everything at the same time



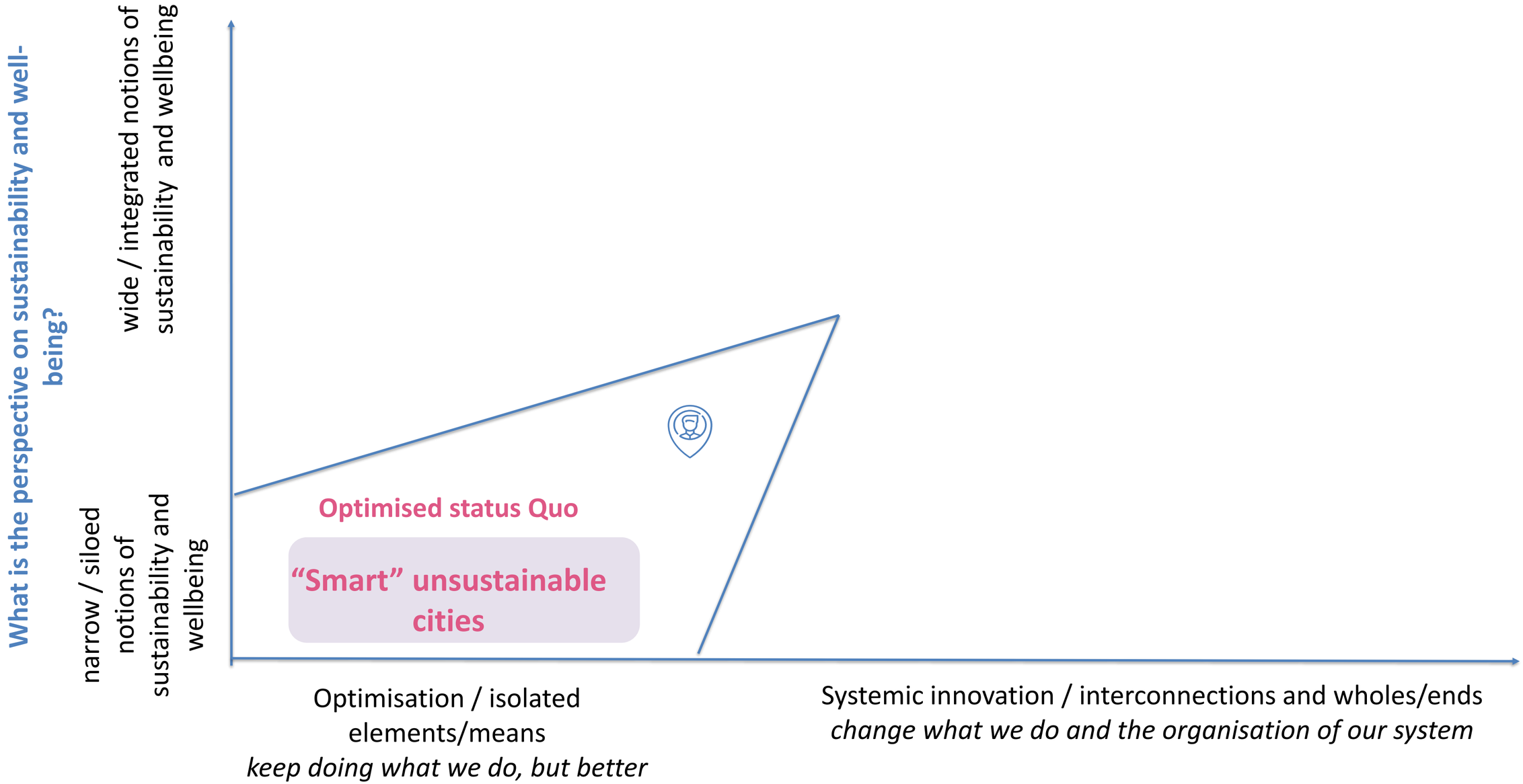


Source: Systems Innovation Network Guide series



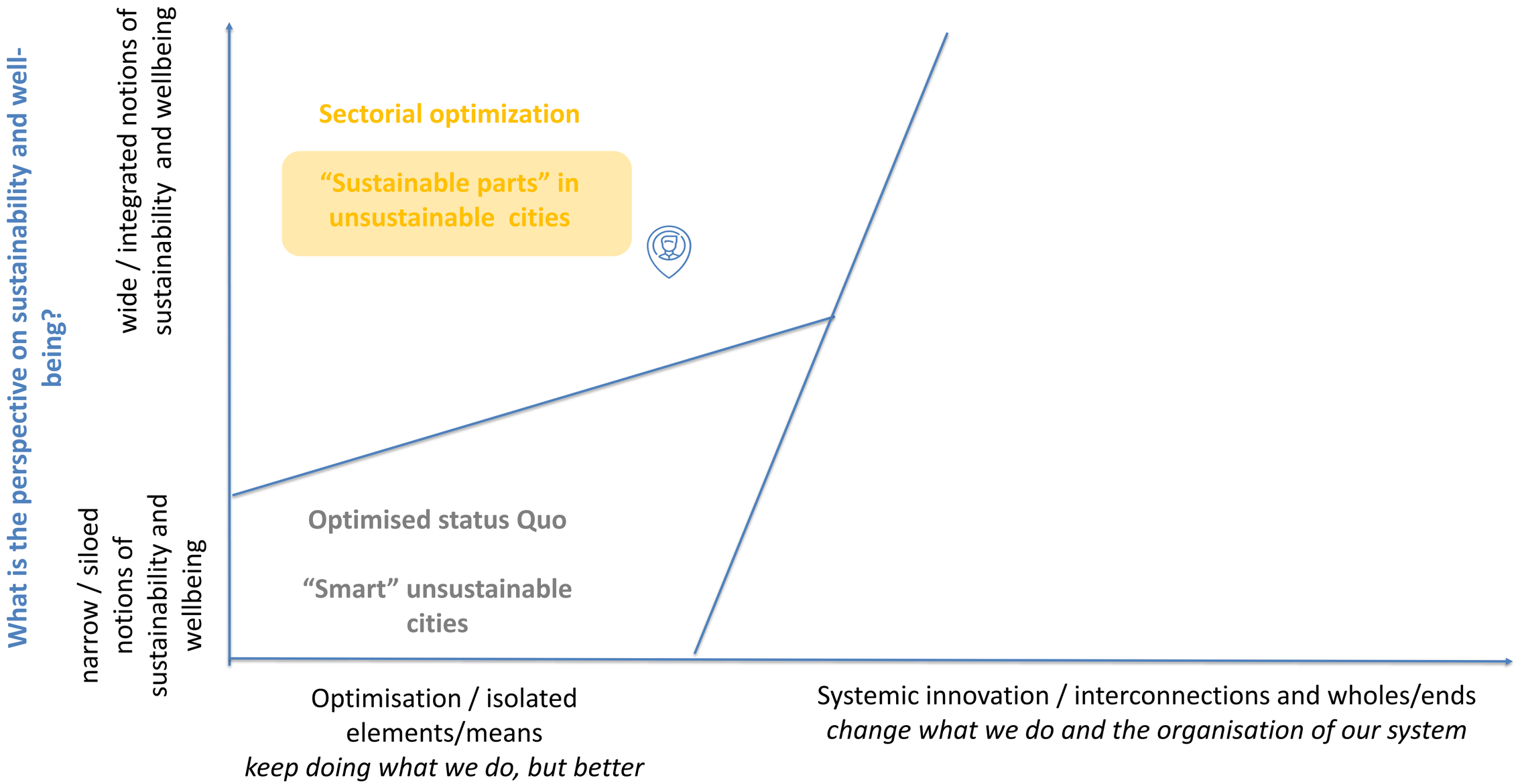
Aguilar et.al, 2025

We created unsustainable cities by thinking narrowly and linearly



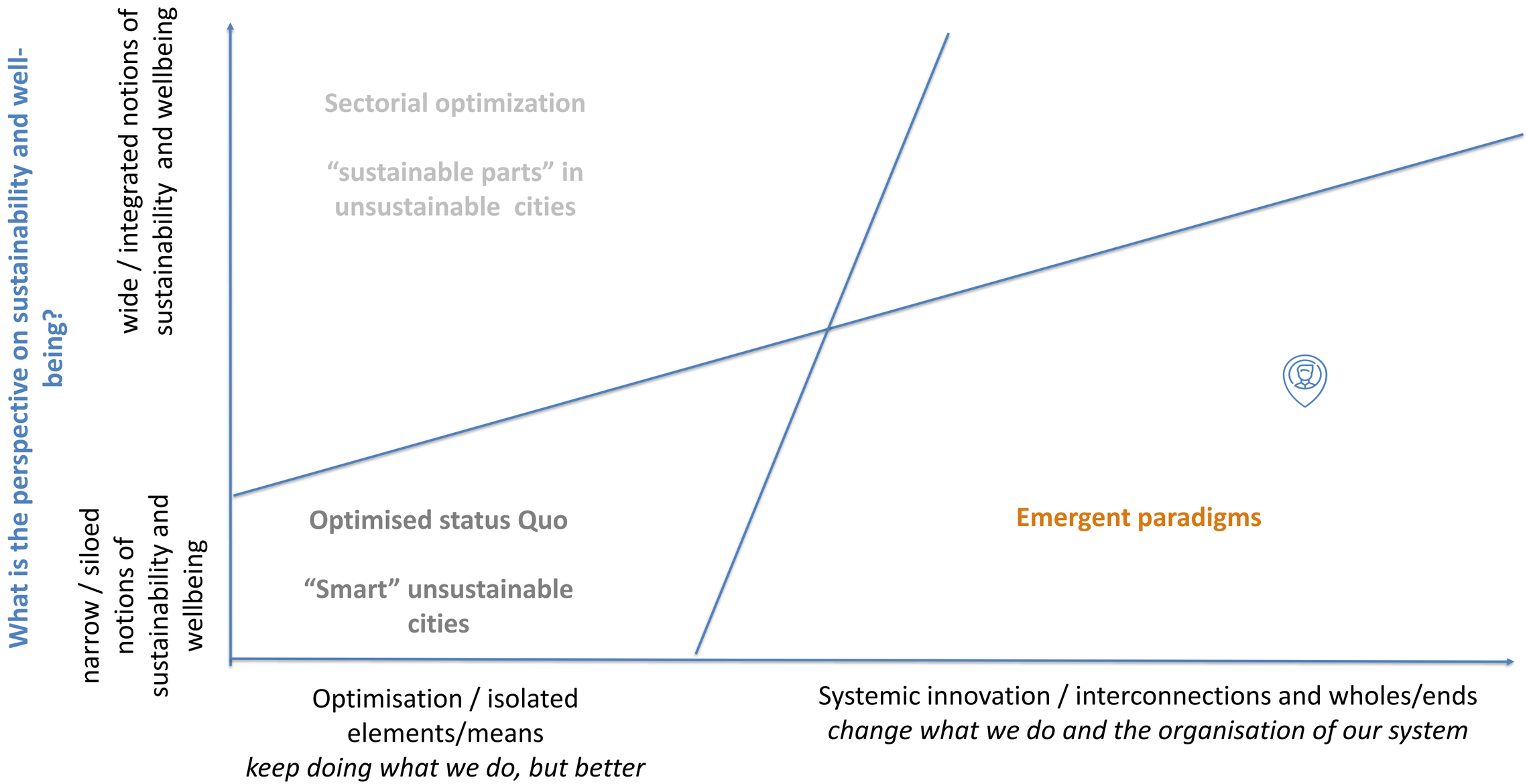


We become more aware of challenges but ignoring complexity keeps us badly equipped

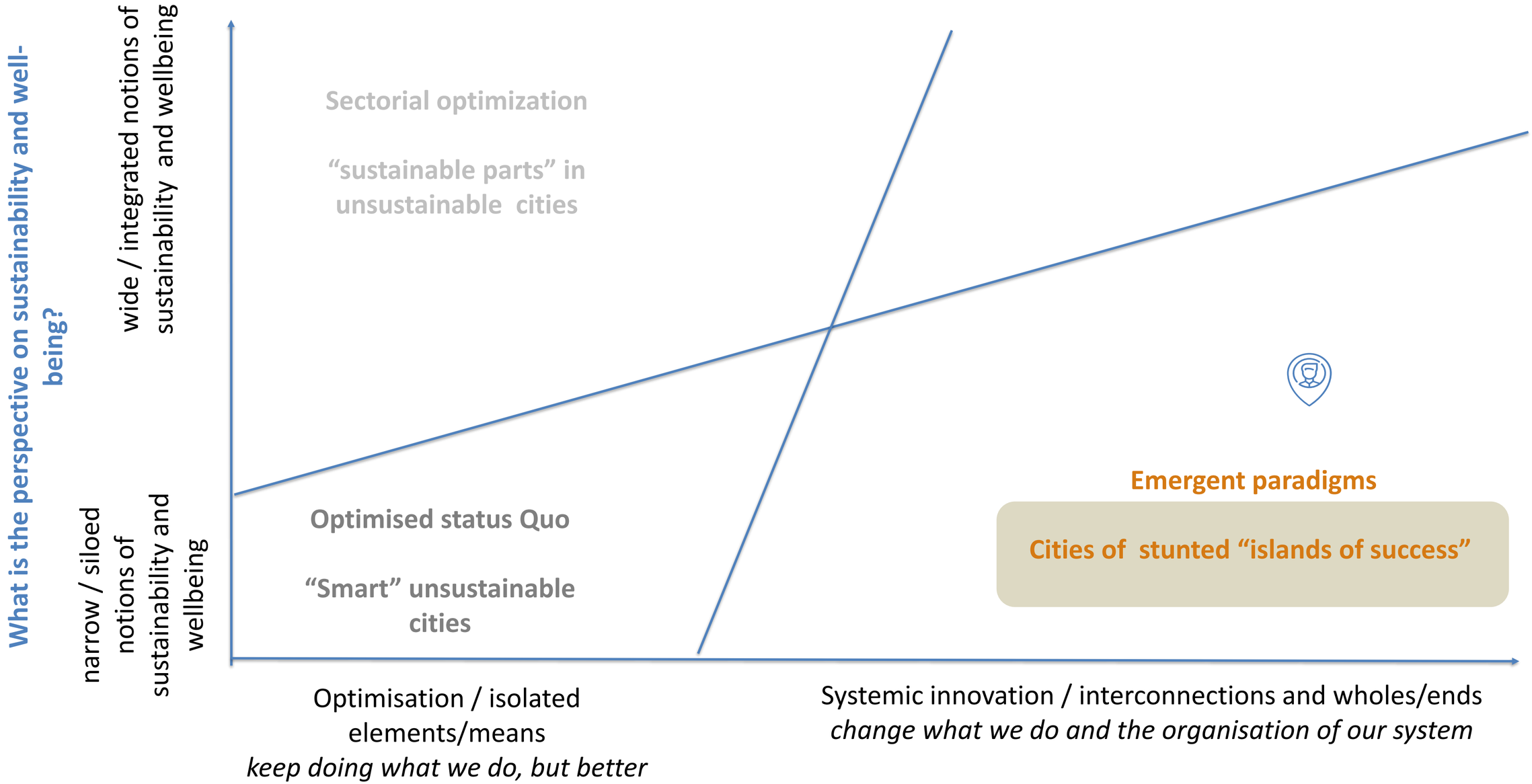



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First Bus
Leeds Bus Station
IT'S A LEEDS THING
SK68 TNX

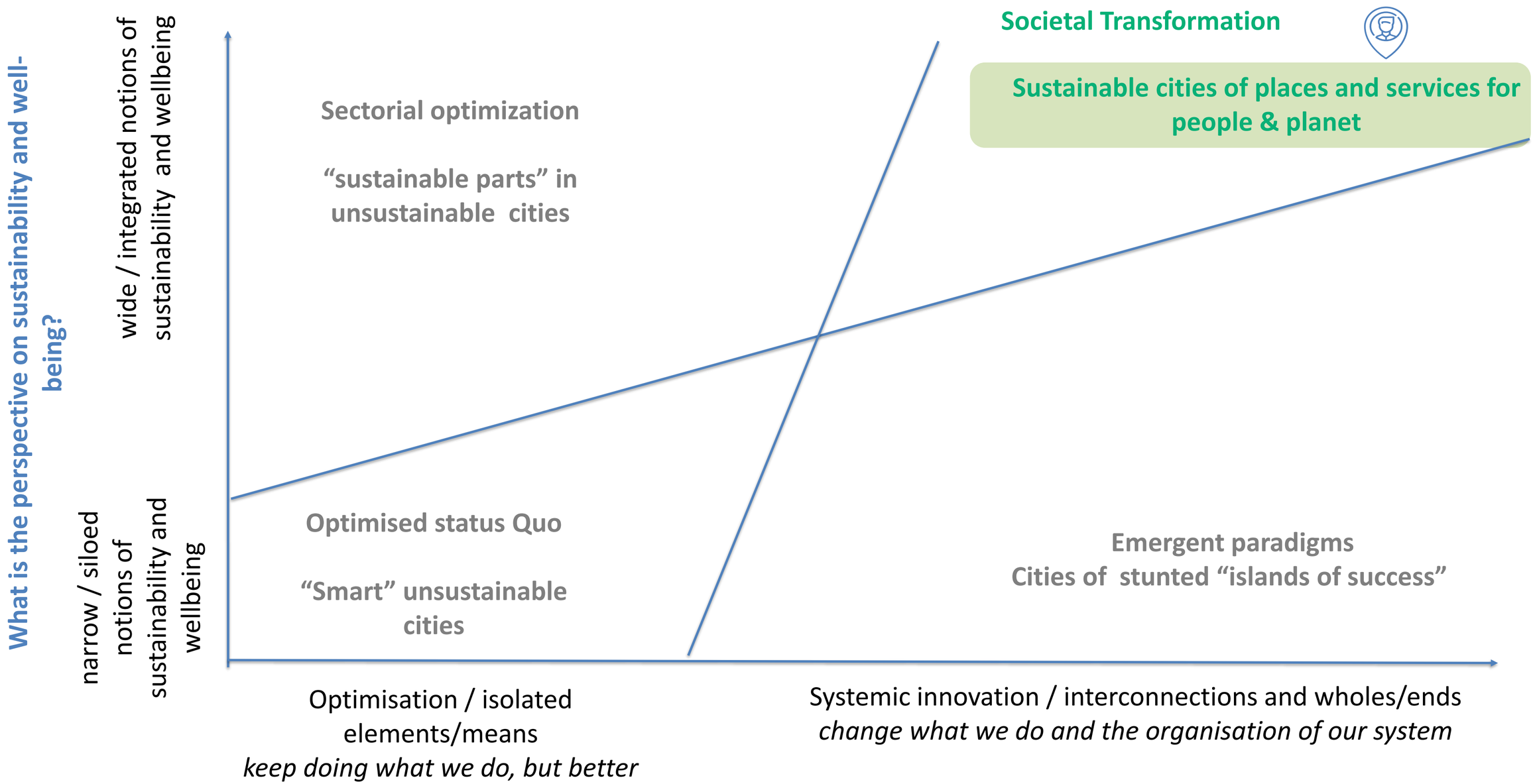
A mind set shift is necessary to come up with new “systemic” models



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Transforming the policy culture and social imaginaries as well as planning models



Superblock Model

- **Transformative mindset**: Mobility is no longer the end, but a means to enable higher-level goals like liveability and healthy urban ecosystems.

- **System integration:** Grouping multiple blocks into a cohesive urban unit that achieves the maximum complexity with the minimum use of energy and resources.

- **Leverage**: the superblock becomes an instrument that allows us to rethink spatial planning modifying key relations in the system with a transformative purpose.



Challenges and Ways Forward

Shortermism & Technofixation

Built-environment perceived as “too difficult to change”

Not getting to critical adoption:

-lack of evidence

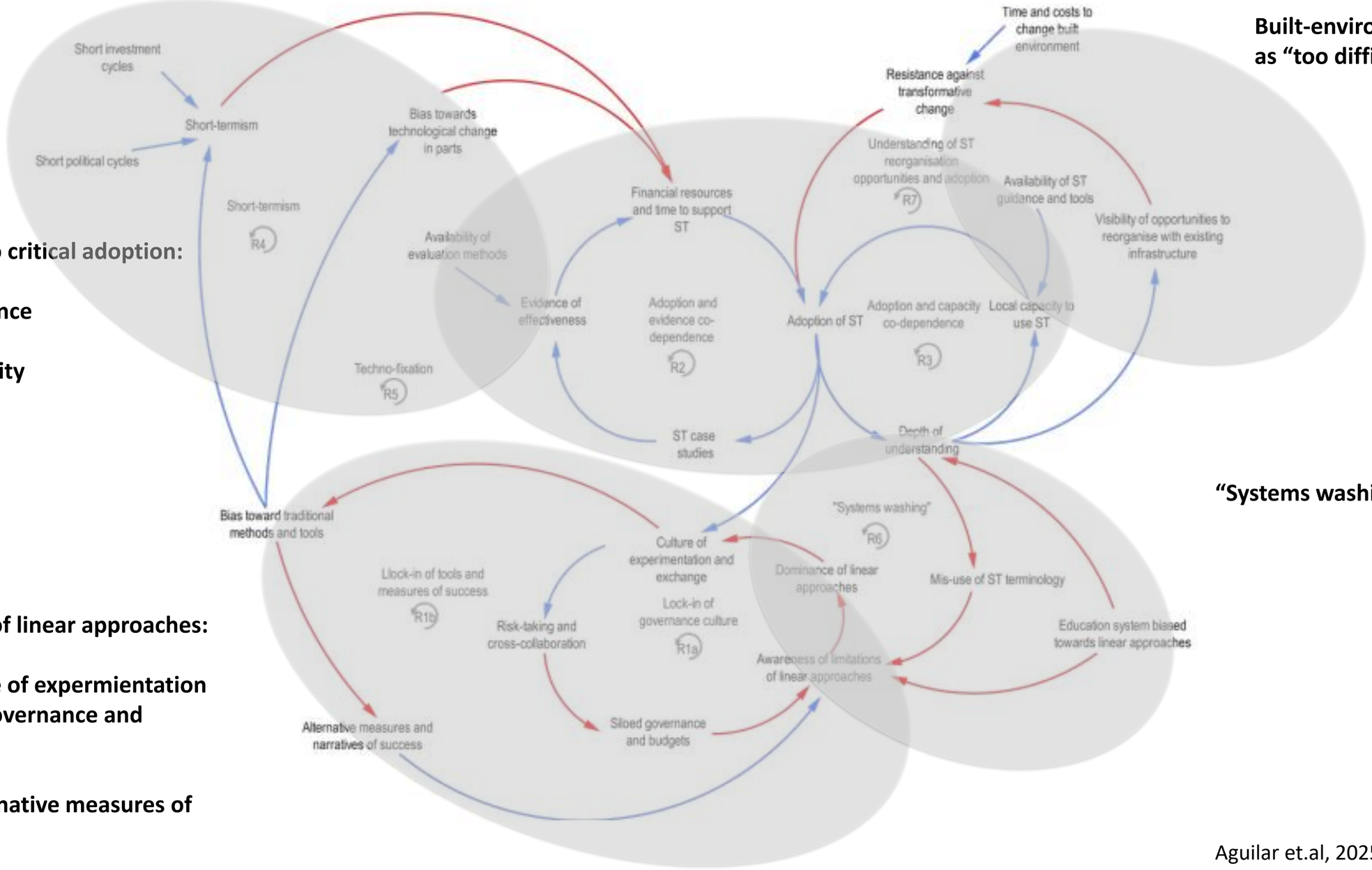
-lack of capacity

“Systems washing”

Dominance of linear approaches:

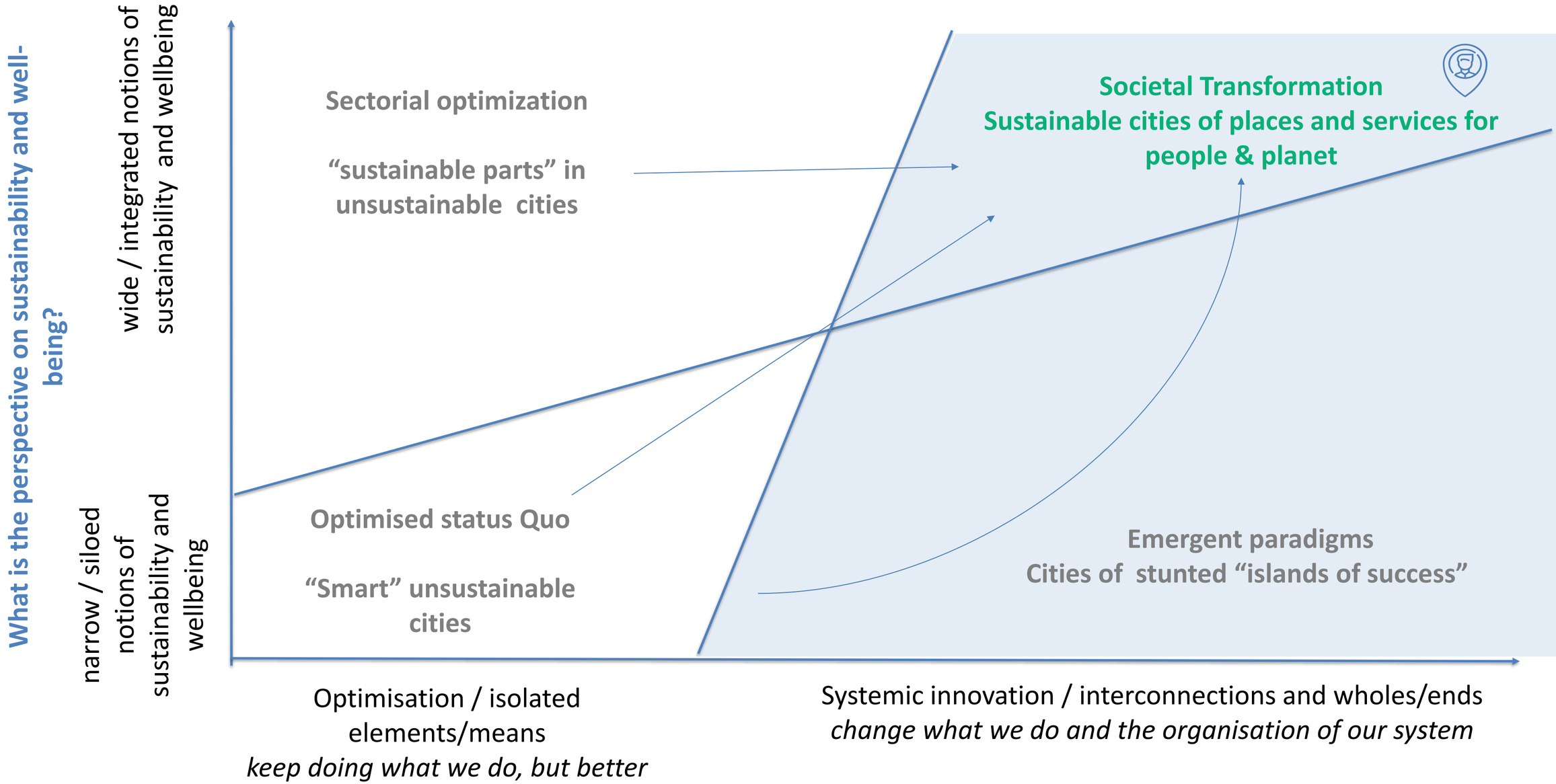
-poor culture of expermientation and siloed governance and budgets

-lack of alternative measures of success



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Collaborative System Thinking to Facilitate the Shift

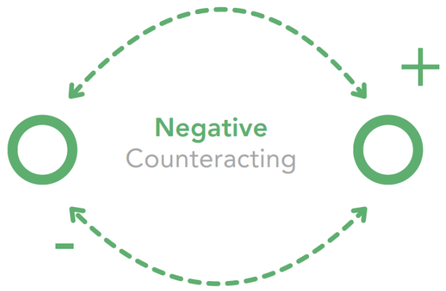


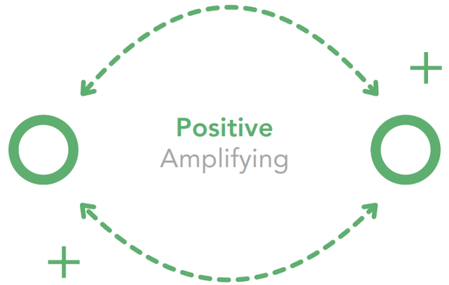
Some key systems thinking tools:

Iceberg model and Meadow's leverage points framework



Systems mapping, causal-loop diagrams and systems dynamics model

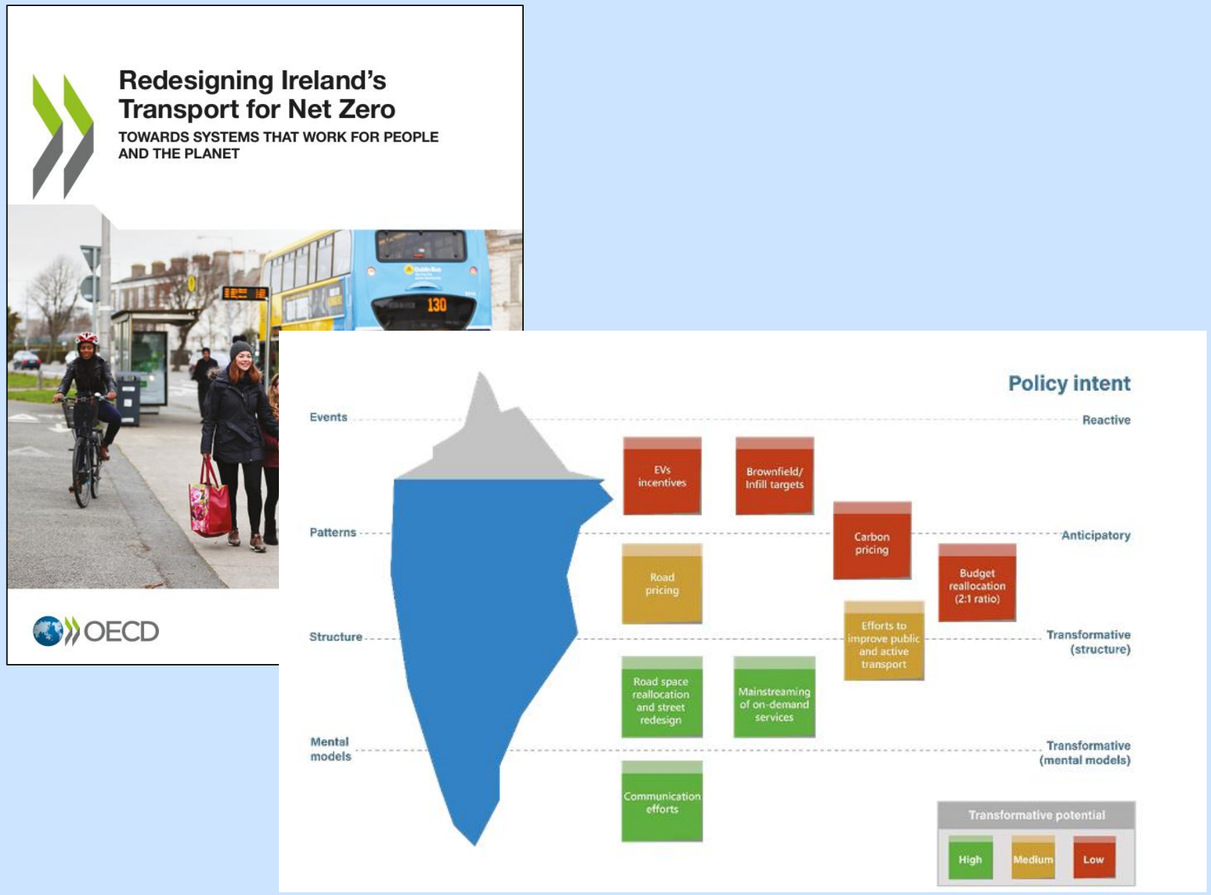




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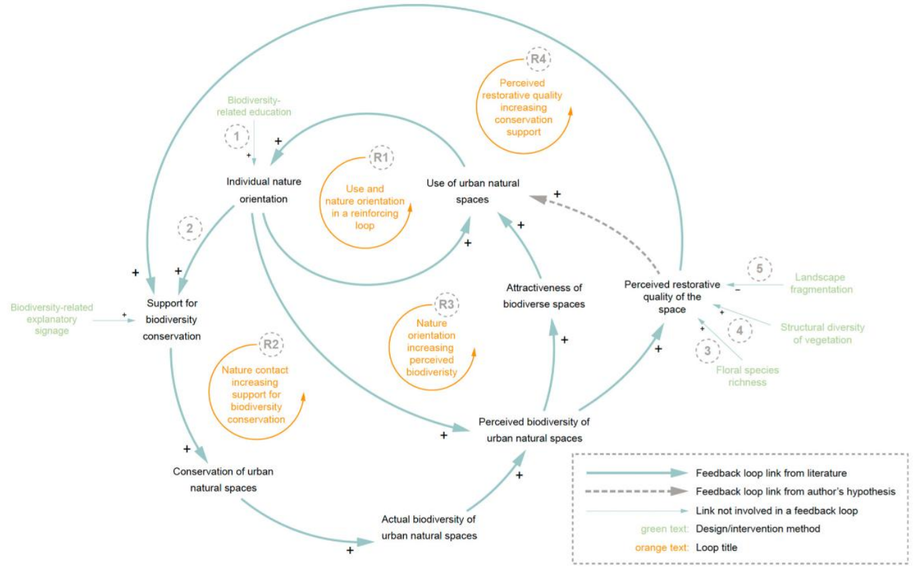
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Ireland´s Climate Action Plan 2023



OECD (2022)

Thamesmead regeneration project- Peabody Social Housing Association



Prioreschi, E., Zimmermann, N., Davies, M., & Pluchinotta, I. (2024).

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Systems Innovation for Health and Climate in Monterrey



HotorCool | London School of Hygiene & Tropical Medicine | Pathfinder Initiative | OECD Better Policies for Better Lives | dev Development Centre

Shared agenda for inclusive decarbonization in housing renovation in the Barcelona metropolitan region

Generalitat de Catalunya | Unió Europea



Bringing it to the ground: key take aways

- No one-fit all solutions, but shared systemic structures mean there is scope for exchange and scale- up

- Developing shared visions brings surprise and enthusiasm

- Working with system thinking tools helps reconcile perspectives and ask new questions about the actions and policies people have been advocating for

- In general people want to learn more and use the tools



Thank you!

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