

Seeking Synergy Solutions

The role of Knowledge, Data, and Cities in Accelerating Climate Action and SDGs

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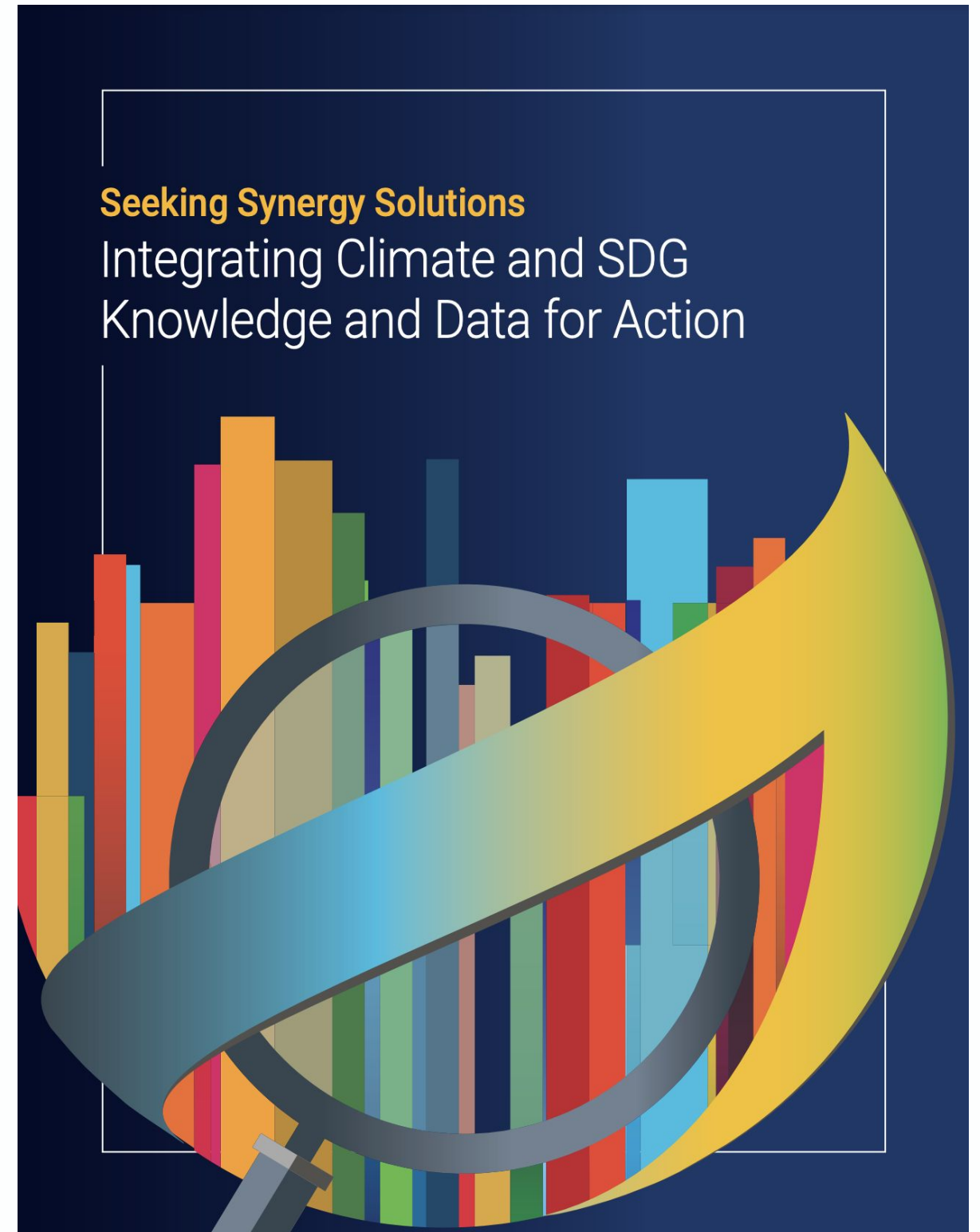


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Seeking Synergy Solutions Integrating Climate and SDG Knowledge and Data for Action





Key message 1: the knowledge-action gap

- ❑ Integrating climate action with sustainable development policies can **accelerate progress, enhance resource efficiency, and facilitate coherent policymaking.**
- ❑ However, **significant gaps exist between scientific evidence and policy implementation.** This knowledge/data and action gap needs to be bridged.





Key message 2: knowledge and data are key

- ❑ Fragmentation in institutional structures, climate finance, and sectoral knowledge hampers the integration of climate action and SDGs
- ❑ overcoming this requires enhancing the accessibility and relevance of knowledge and data for policymakers to support effective and synergistic decision-making and policy implementation





Key message 3: knowledge and data play crucial roles in multiple ways

- Knowledge and data (K&D) play a crucial role in guiding practitioners to adopt synergistic approaches to climate and sustainable development actions by
 - offering clarity on synergies,
 - helping navigate policy landscapes,
 - providing localized and contextualized strategies,
 - Facilitating knowledge sharing,
 - demonstrating interactions between policies,
 - engaging stakeholders, and
 - translating national commitments to local actions, especially in cities.





Key message 4: overcoming knowledge barriers

- ❑ Despite the potential benefits, policy-level implementation of synergies between climate action and SDGs is hindered by siloed approaches and insufficient consideration of co-benefits and trade-offs,
- ❑ necessitating the resolution of knowledge barriers such as lack of
 - ❑ research,
 - ❑ practical methods,
 - ❑ understanding of distributional impacts, and
 - ❑ skilled practitioners to
- ❑ effectively identify and implement not only the cross-sectoral opportunities but also the costs of pursuing them.





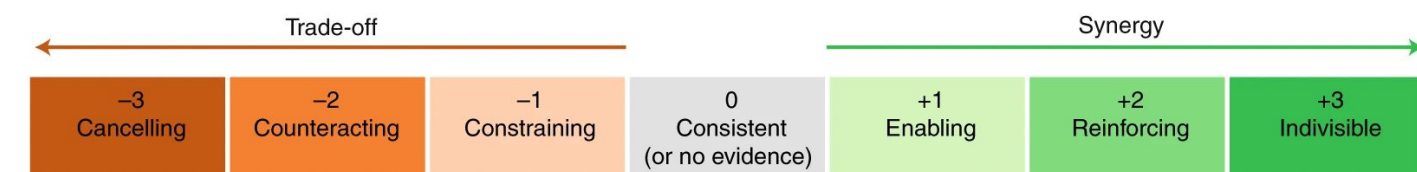
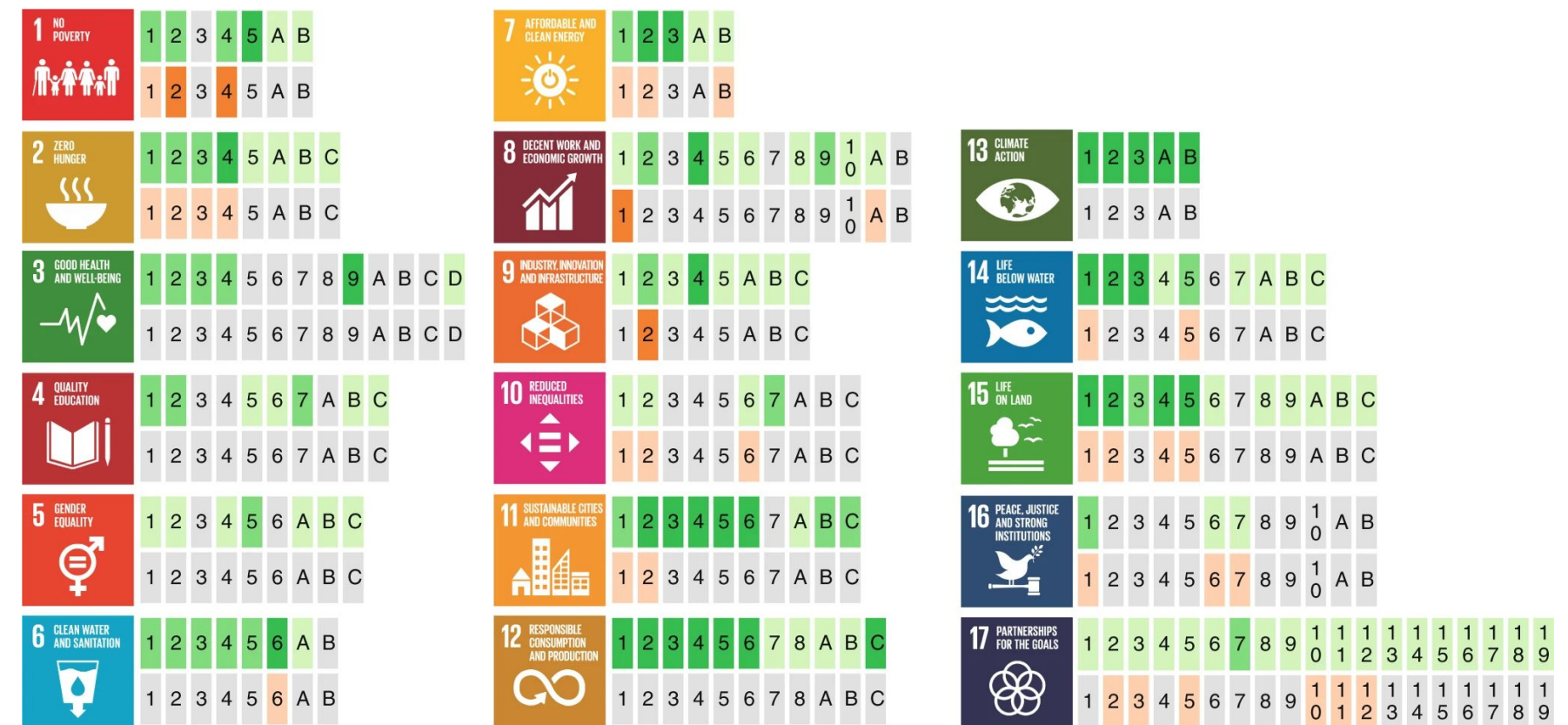
NUMEROUS CONTRIBUTIONS TO MAKE

Supporting Policymakers and Practitioners

- Navigating Political Constraints
- Developing Institutional Arrangements
- Resolving Policy Incoherence
- Localized and Contextualized Approaches
- Enhancing Knowledge Sharing

Understanding Economic Synergies

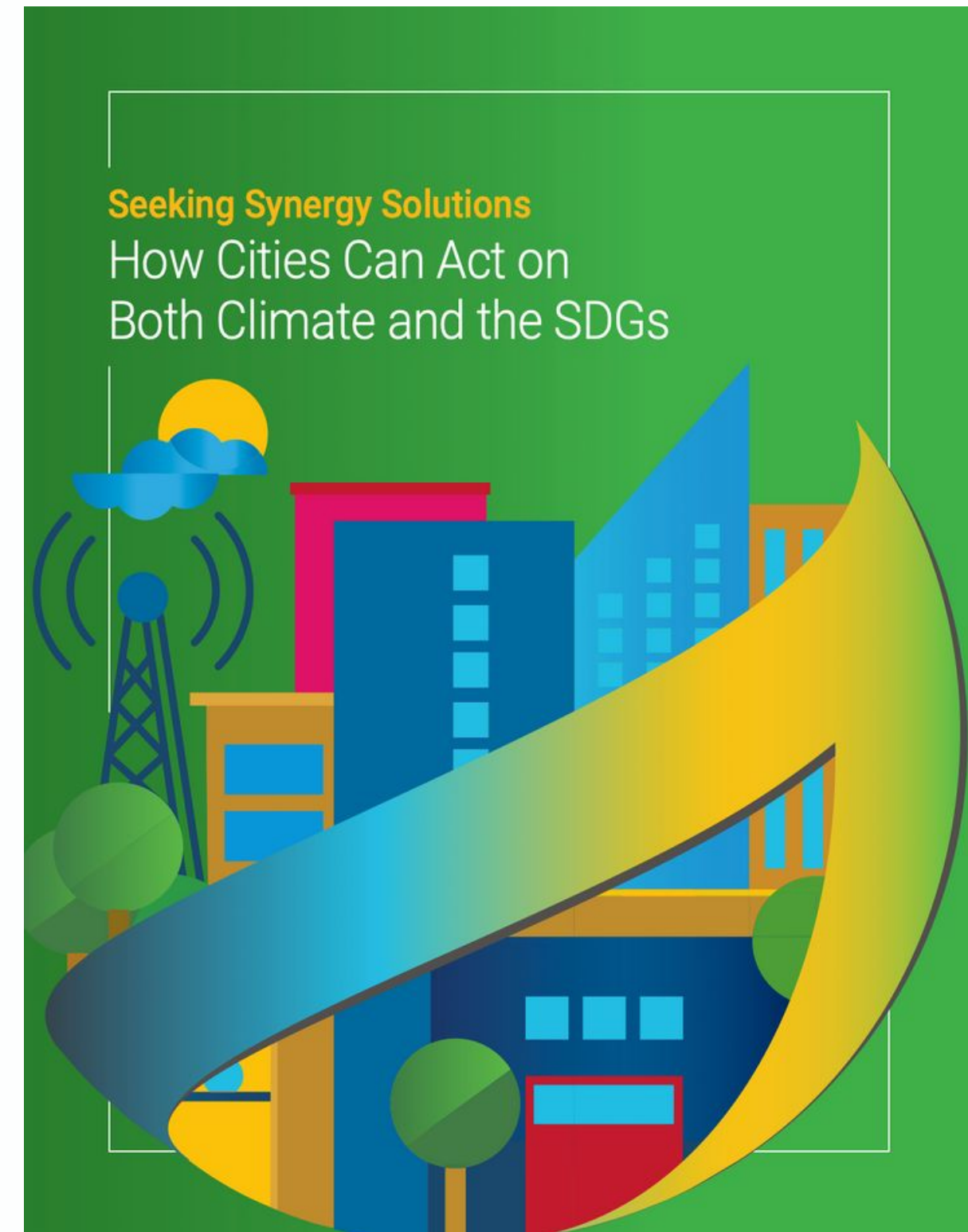
- Clarifying Climate and Development Finance
- Integrating Climate Risks in Investments
- Reinforcing Policy Coherence
- Making the Business Case for Adaptation and Resilience



Positive synergies (co-benefits) and trade-offs between climate action and the SDG targets.

Source: Fuso Nerini, F., Sovacool, B., Hughes, N. *et al.* Connecting climate action with other Sustainable Development Goals. *Nat Sustain* 2, 674–680 (2019). <https://doi.org/10.1038/s41893-019-0334-y>

Seeking Synergy Solutions How Cities Can Act on Both Climate and SDGs



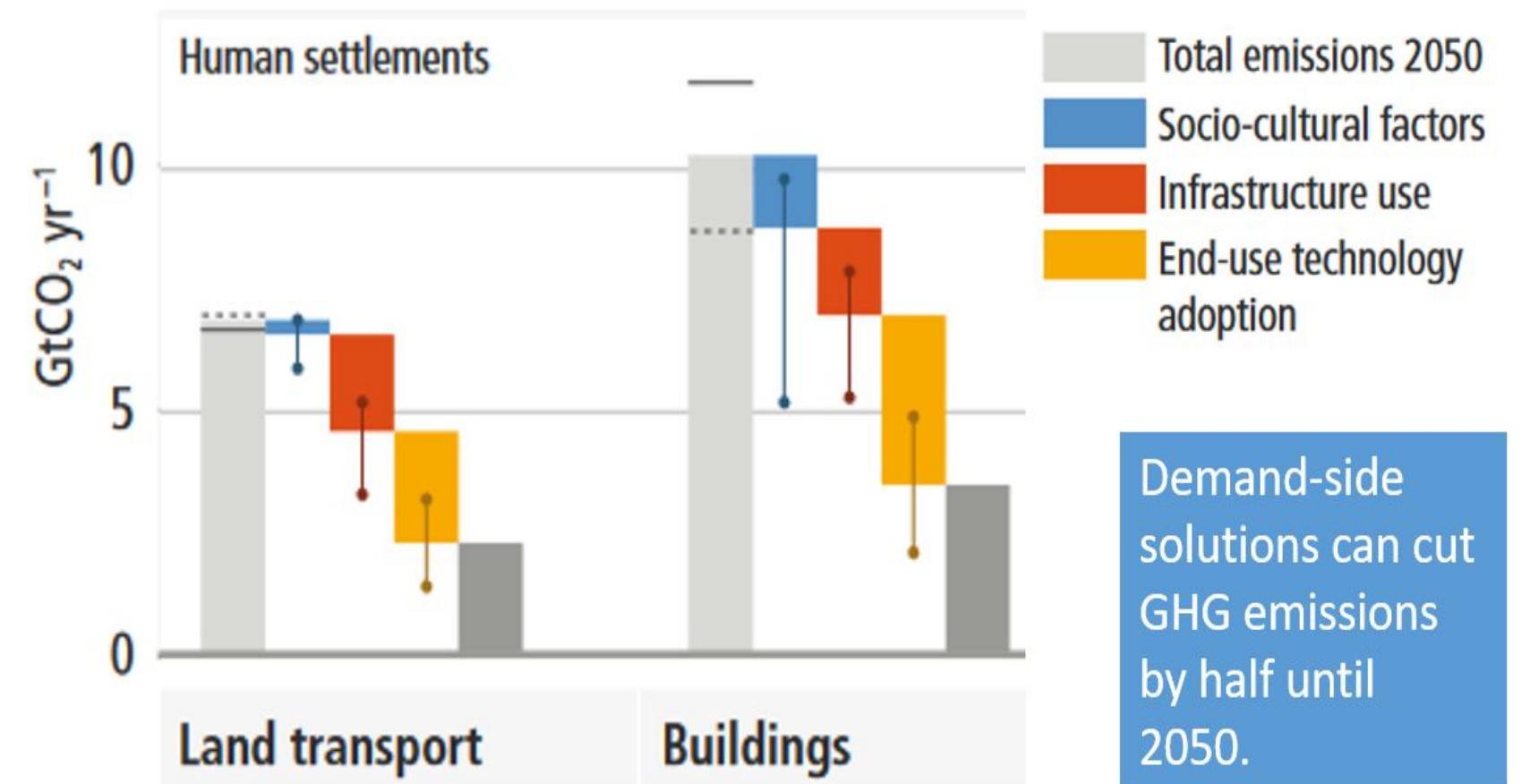


Demand Side Measures are a Focal Point for Synergistic Action in Cities

Demand-side measures promote

- Reduction of GHG emissions through dietary changes, low-carbon transportation systems, and adoption energy-efficient technologies and behaviours
- Alignment with virtually all other SDGs e.g., health and air pollution reduction (SDG 3), food (SDG 2), water (SDG 6), energy (SDG 7), and inequality reduction (SDG 10)
- Resource efficiency by focusing on the reduction and optimization of resource use,

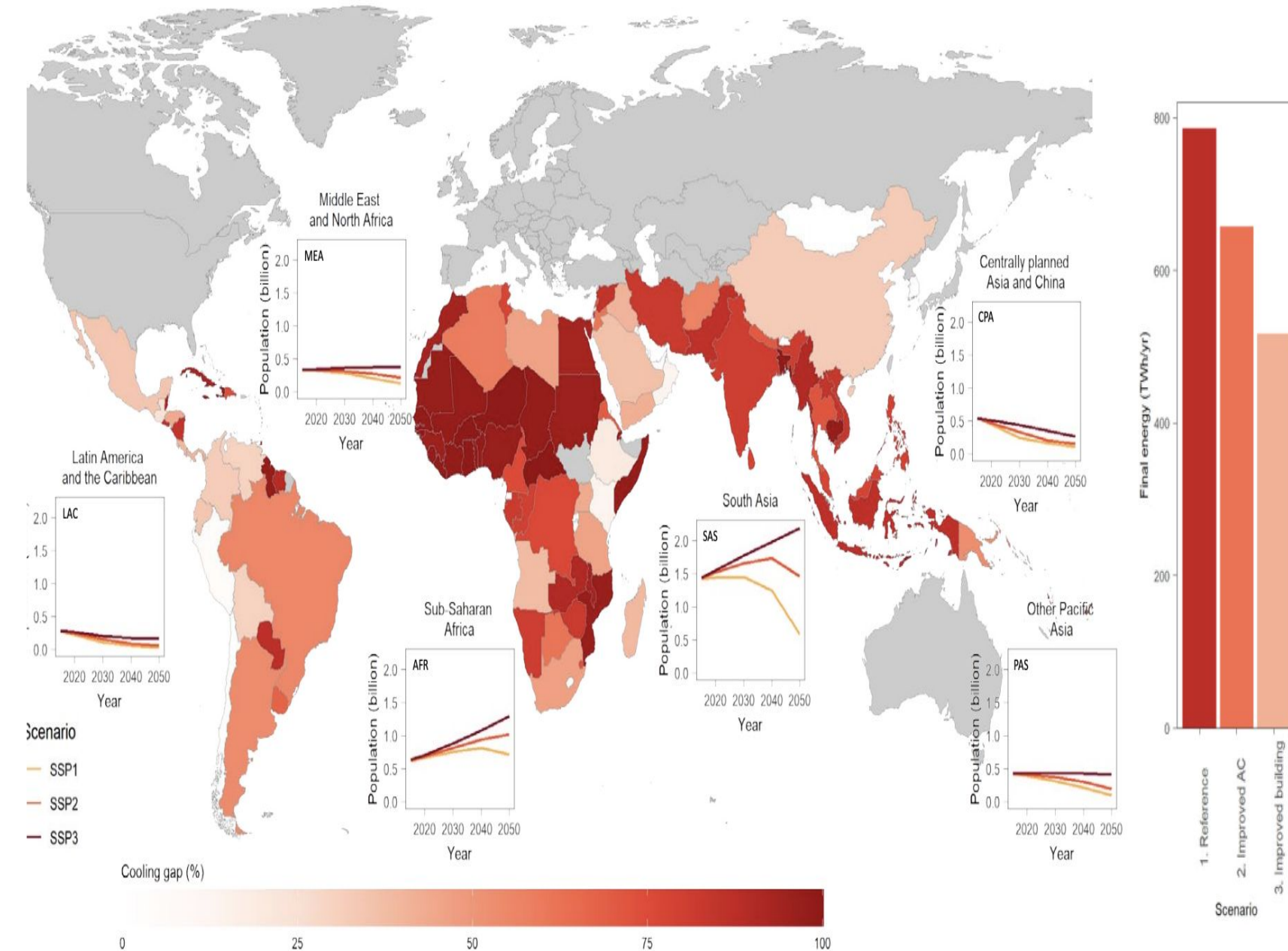
! 75% of all demand-side solutions improve human well-being in SDGs 1-9





Four Entry Points for Synergistic Action in Cities

- **Cooling:** Adoption of Blue-Green and cool infrastructures, energy-efficient cooling in buildings, and incorporating Indigenous Knowledge and Local Knowledge (IKLK)
- **Buildings:** Improve energy-efficiency in buildings through technological and behavioural approaches
- **Mobility:** Expand and modernise public transportation networks, shared mobility services, and non-motorised transport (NMT) infrastructure
- **Waste/Circularity:** Promote circular economy and lifestyle changes, develop neighbourhood composting centres, and sanitary landfills with energy recovery



Cooling access gap will increase by 2050.

Source: Mastrucci, A., Van Ruijven, B., & Pachauri, S. (2022). Closing cooling gaps in a warming world. Characterizing the cooling gap. May, 14–16.

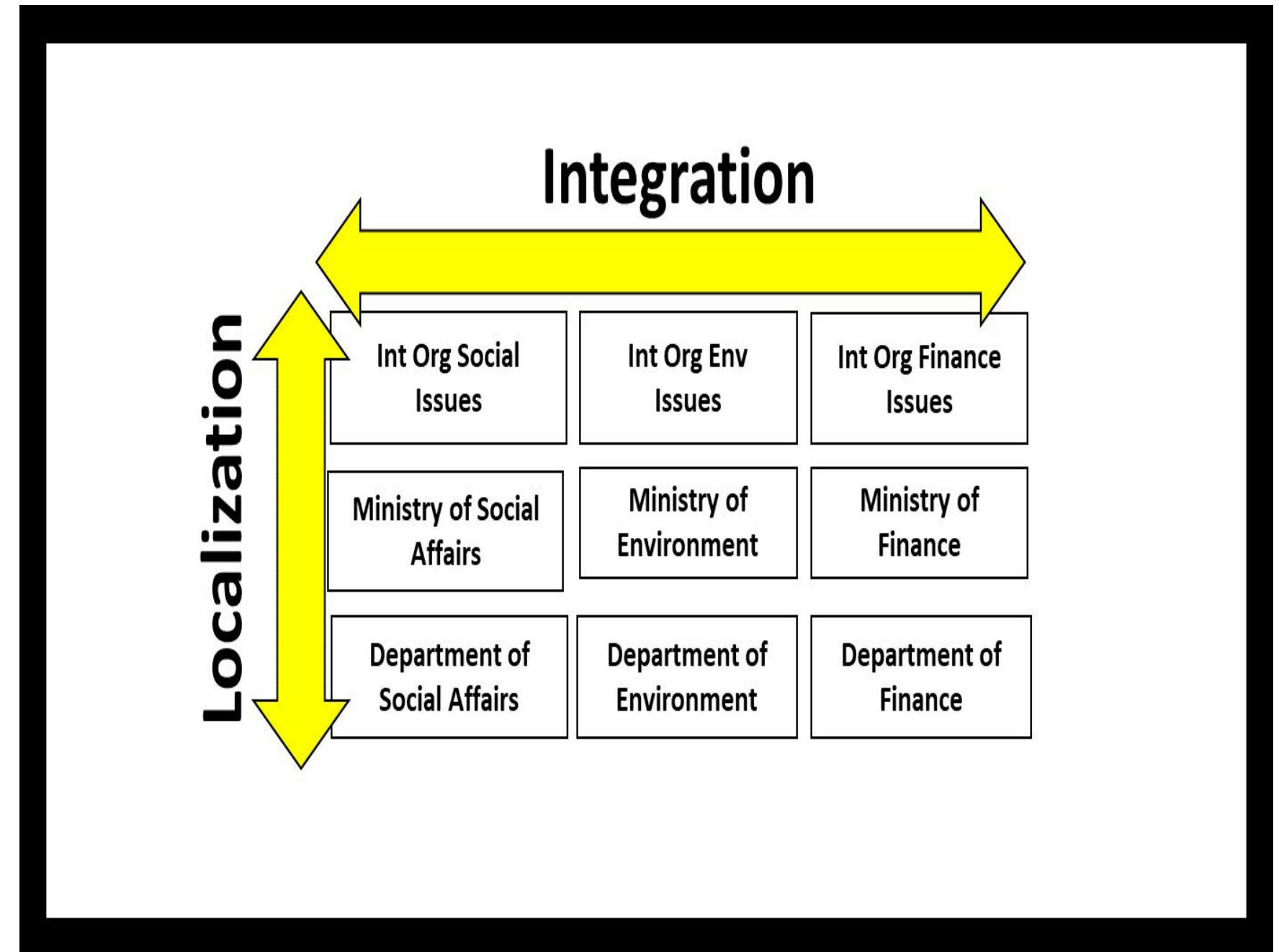
Actions/ SDG	Blue-Green			Buildings	Mobility			Waste	
	Blue-Green and Cool Infrastructure	Energy-efficient Cooling	Indigenous Knowledge and Local Knowledge	Building Energy Efficiency	Compact Cities	Public Transport	Electric Vehicles (EVs)	3Rs	Sanitary Landfills with Energy Recovery
8	<p>Provides job opportunities by employing gardeners, park authorities etc. (8.3)</p> <p>Promotes access to natural cooling, reducing artificial cooling demand to conserve resources (8.4)</p> <p>Enables resource efficiency by minimizing health-related expenditure through improved environmental quality (8.4)</p>	<p>High-efficient air conditioners enable economic productivity through technological upgrades (8.2)</p> <p>Demand for skilled labor in upgrading the efficiency of cooling-related technologies (8.3)</p> <p>Improves resource efficiency by reducing consumption of energy-related resources (8.4)</p>	<p>Demand for skilled labor to incorporate vernacular materials in construction (8.3)</p> <p>Improves resource efficiency by reducing consumption of energy-related resources for cooling (8.4)</p>	<p>Improved labor productivity through enhanced indoor air quality enables economic growth (8.1)</p> <p>Demand for skilled workers to renovate or construct high-efficient buildings provides employment opportunities (8.3)</p> <p>Lower government expenditure on health care improves resource efficiency (8.4)</p> <p>High-efficiency buildings create safe working environments by reducing indoor air pollution (8.8)</p>	<p>Walkable and compact, mixed neighborhood provides more access to diverse employment opportunities also for the poor (8.3)</p>	<p>Modernizing and scaling public transportation systems provide employment opportunities (e.g., construction workers, bus drivers, subway operators) (8.3)</p> <p>Promotes resource efficiency by minimizing consumption of transport-related resources (e.g., diesel, petrol) (8.4)</p>	<p>Provides employment opportunities in the engineering, manufacturing and services industries (8.3)</p> <p>Promotes resource efficiency by minimizing consumption of transport-related resources (e.g., diesel, petrol) (8.4)</p>	<p>Remanufacturing provides opportunities for economic productivity through lower material and energy consumption (8.2)</p> <p>Offers Job opportunities associated with repair, renting, and waste (collection, sorting, and recycling) (8.3)</p> <p>Recycling, remanufacturing, and reuse (thrift stores) promote resource efficiency in production (8.4)</p>	<p>Technological upgrades on landfills increase economic productivity through energy resource recovery (8.2)</p> <p>Upgrading landfills provides job opportunities associated with constructing, depositing, and operating sanitary landfills (8.3)</p> <p>Sanitary landfills promote safe working environments by reducing workers' exposure to air pollution (8.8)</p>
9	<p>BGI are sustainable infrastructures that enable well-being through ecosystem services (9.1)</p> <p>Retrofitting industries to incorporate green infrastructures can enable resource efficiency by reducing cooling loads (9.4)</p>	<p>High-efficient ACs minimize energy use and function as sustainable infrastructure (9.1)</p> <p>Energy-efficient windows and ACs contribute to upgrading infrastructures for sustainability (9.4)</p>	<p>Vernacular materials (e.g., bamboo) aid the development of resilient infrastructure (9.1)</p>	<p>High-efficient buildings function as sustainable infrastructures (9.1)</p> <p>High-efficient buildings enable resource efficiency and promote clean energy adoption by integrating renewables (9.4)</p>		<p>Public transportation promotes sustainable and inclusive infrastructure by providing affordable and equitable access (9.1)</p>	<p>EVs promote the development of sustainable infrastructures (9.1)</p> <p>EVs contribute to upgrading transport-related infrastructures for sustainability (9.4)</p>		<p>Landfills with energy recovery systems promote the development of sustainable infrastructures (9.1)</p> <p>Advances sustainable infrastructural upgrade and promotes resource use efficiency through resource recovery (9.4)</p>



Governance for Synergies in Cities

Implementing demand-side through highlighted four entry points require governance arrangements and reforms that ensure:

1. Interagency coordination mechanisms that break down siloes and incentivize cooperation across sectors
2. Stakeholder inclusion to ensure socially just solutions and boost accountability for implementation
3. Multi-level governance through support from national governments to scale synergistic solutions
4. Urban-rural partnerships



THANK YOU FOR YOUR ATTENTION

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Supplementary slides



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READ THE FOUR THEMATIC REPORTS



For further information, please contact:

Climate and SDG Synergy Secretariat, United Nations

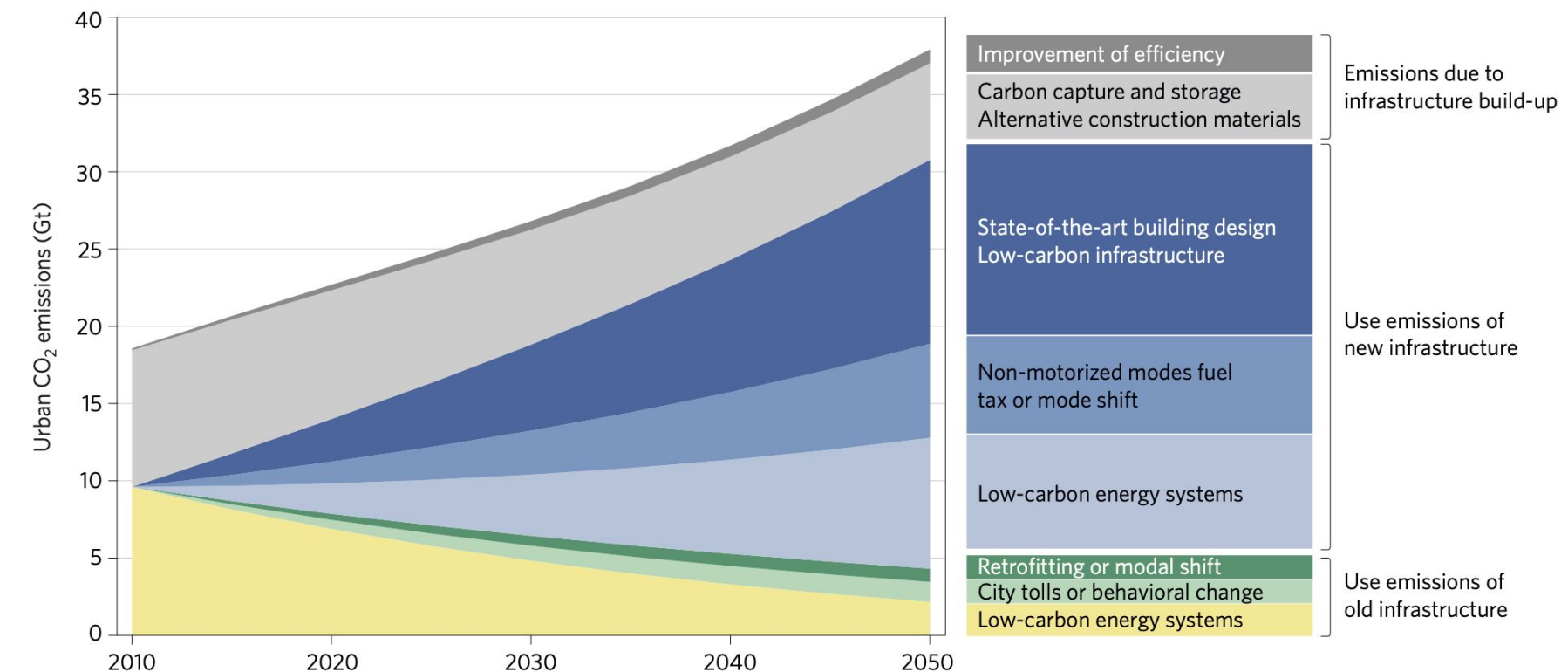
 Website: sdgs.un.org/climate-sdgs-synergies

 Email: climate-sdgs-synergies@un.org



WHY SYNERGIES IN CITIES?

- Cities are home to 70% of GHGs and more than 50% of the population
- Cities and human settlements are the places where CO₂ emissions in land transport and buildings can be tackled, and where adaptation measures are implemented
- Cities are hubs of innovation, face real time crises and respond flexibly
- Cities can start contagions and spur replication effects



CO₂ emissions can be reduced by adapting existing urban infrastructures (yellow), by planning new low-carbon urban developments (blue), and by reducing emissions from construction (grey).

Source: Creutzig, F., Agoston, P., Minx, J. *et al.* Urban infrastructure choices structure climate solutions. *Nature Clim Change* **6**, 1054–1056 (2016). <https://doi.org/10.1038/nclimate3169>



Close Links Exist between Climate Actions and SDGs in Cities

 Sustainable Cities and Communities	1	2	3	4	5	6	7	8	9	10	12	13	14	15	16	17
Target 11.1: Safe and affordable housing												✓				
Target 11.2: Affordable and sustainable transport systems												✓				
Target 11.3: Inclusive and sustainable urbanization												✓				
Target 11.4: Protect the world's cultural and natural heritage												✓				
Target 11.5: Reduce the adverse effects of natural disasters												✓				
Target 11.6: Reduce the environmental impacts of cities												✓				
Target 11.7: Provide access to safe and inclusive green and public spaces												✓				

SDG 11 (sustainable cities and communities) demonstrates close links between climate action and SDGs illustrating the **potential to achieve synergies by advancing progress on SDG 11**



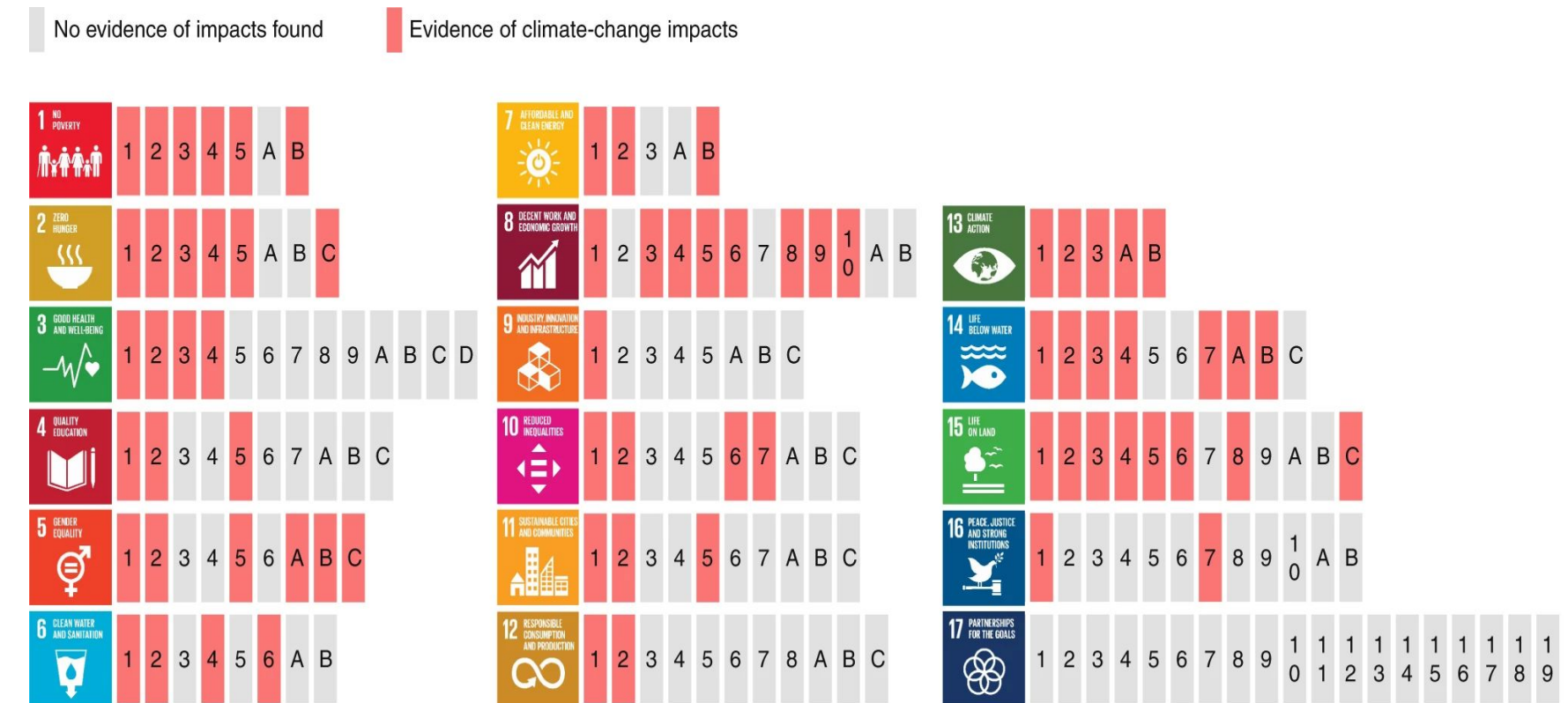
Background to Synergies

Climate change's broad and unprecedented effects on social, economic, political, and environmental dimensions makes it one of the biggest threats to sustainable development.

Given this overlap, addressing sustainable developmental goals and climate change requires integrated and synergistic policies.

Combining climate and sustainable development actions provide opportunities to maximize co-benefits and mitigate trade-offs, enabling win-win results that advance both agendas.

Pursuing synergies will accelerate progress in combating interconnected challenges, enhance resource efficiency, and facilitate coherent policy making and integration.



Impacts of climate change on the achievement of the SDG targets. Each rectangle to the right of the relevant SDG represents a target.

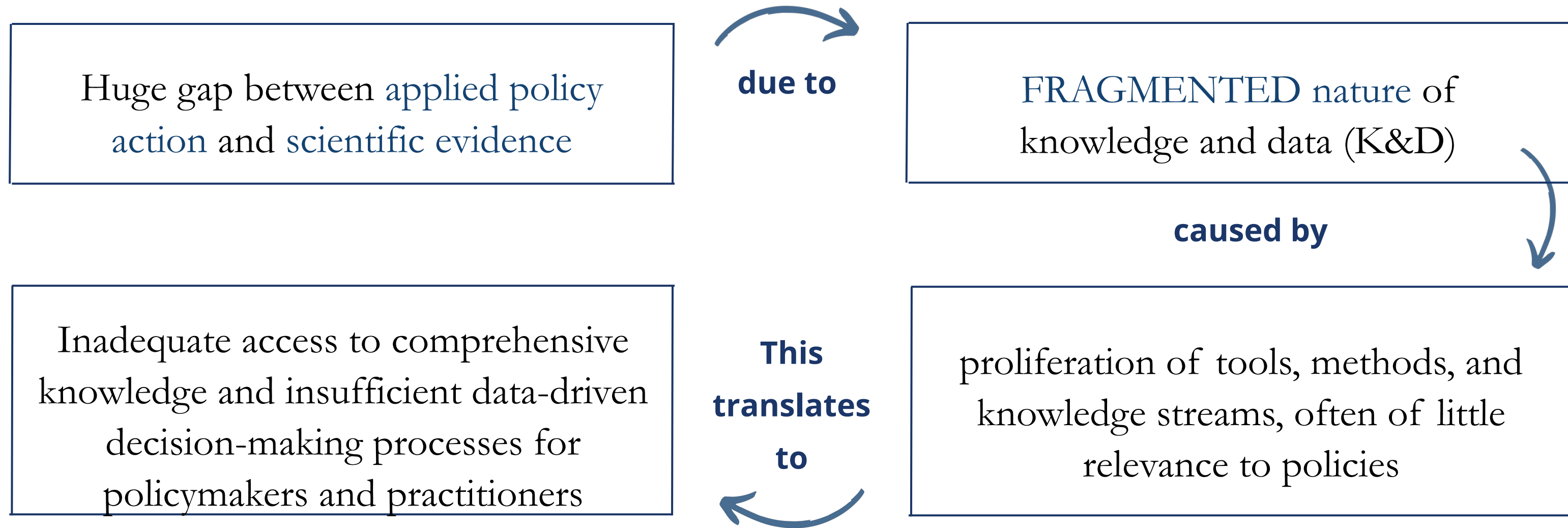
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The role of Knowledge, Data, and cities in Accelerating Climate Action and SDGs



THE KNOWLEDGE-ACTION GAP





KNOWLEDGE AND DATA GAPS

Addressing Data and Research Gaps

- Scarcity of Quality Data and Indicators
- Challenges in Managing Trade-offs

Practical Methods and Tools

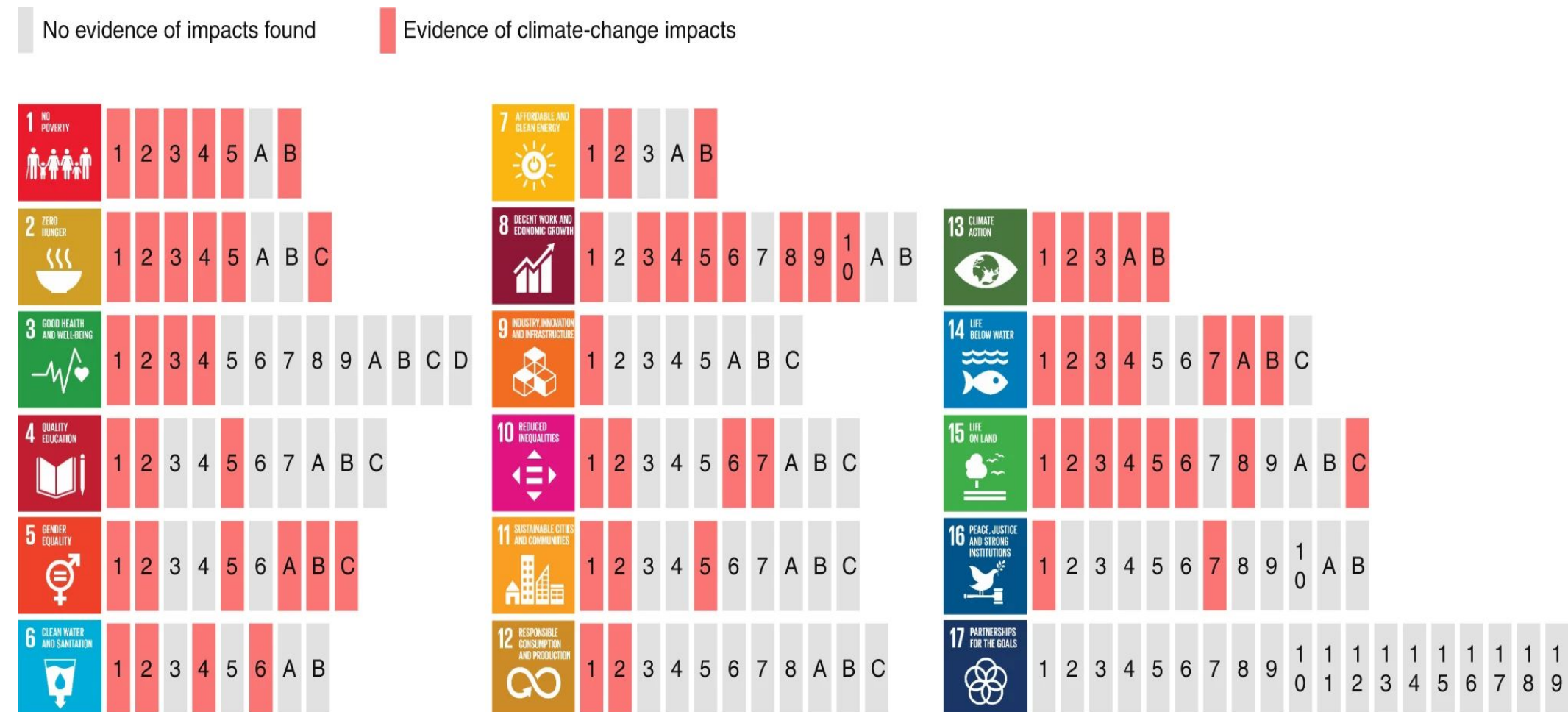
- Interaction Mapping
- Limitations of Quantification Methods

Understanding Distributional Impacts

- Challenges in Assessing Impacts
- Ensuring Just Transition

Skill Development and Education

- Shortage of Skilled Practitioners
- Multidisciplinary and Systems Approaches



Impacts of climate change on the achievement of the SDG targets. Each rectangle to the right of the relevant SDG represents a target.

Source: Fuso Nerini, F., Sovacool, B., Hughes, N. *et al.* Connecting climate action with other Sustainable Development Goals. *Nat Sustain* 2, 674–680 (2019). <https://doi.org/10.1038/s41893-019-0334-y>



RECOMMENDATIONS

1. A Global Platform for Knowledge and Data on Climate and SDG Synergies
2. More vulnerability, justice, and inclusionary data for assessing distributional impacts and future synergies
3. More appropriate and policy-relevant tools, methods, and approaches
4. AI for knowledge management at the interface of climate change and SDGs
5. Better assessment of investment risks and returns
6. Contextualization of synergies through local capacity building and collaboration
7. More ambitious NDCs, policies, and knowledge that are cognizant of synergies



INTRODUCTION

Integrating climate action with sustainable development policies can **accelerate progress, enhance resource efficiency, and facilitate coherent policymaking.**

Then why is it still not happening to scale?

- Fragmentation** in institutional structures
- Fragmentation** in climate finance
- Fragmentation** in sectoral and multi-level knowledge

Overcoming this requires enhancing the accessibility and relevance of knowledge and data for policymakers to support effective and synergistic decision-making (ie knowledge-action gap).

