

# Presenting the Results of the SUP



# **Aromar Revi**

Coordinating Lead Author Chapter 18, IPCC WG II Report Chapter 4, IPCC Special Report on 1.5°C

RESILIENCE

Director

Indian Institute for Human Settlements

The Summary for Urban Policymakers of the IPCC Sixth Assessment Report (AR6)

# Highlights of the Summary for Urban Policymakers Initiative

Aromar Revi













## The Summary for Urban Policymakers of the IPCC Sixth Assessment Report (AR6)

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RESILIENCE FIRST

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# **Highlights from the Summary for Urban Policymakers Reports**











**Everything is connected in an urban world.** In a world with over 4 billion urban residents; cities and towns, the economy, and human societies are strongly coupled with the climate system and ecosystems. A change in one system impacts the others.













Emissions driven by current policies will cause global warming to exceed 2°C by around 2050. Even with strong emissions reductions, the increase of cumulative  $CO_2$ emissions will result in global warming exceeding 1.5°C in the next 20 years.















Source: Change in the annual mean surface air temperature over the period 1958-2018 based on the local linear trend retrieved from CRU TS (°C per 68 years). This map has been amended from IPCC 2021, Climate Change 2021: The Physical Science Basis, Chapter 10: Linking Global to Regional Climate Change; United Nations, Department of Economic and Social Affairs, Population Division (2018); World Urbanization Prospects: The 2018 Revision, Online Edition.

#### Some large cities in Asia & small Arctic cities are experienced increased local temperatures above 2°C.







Figure 2: Cities are usually warmer than their surrounding areas due to factors that trap and release heat and a lack of natural cooling influences such as water and vegetation.



The combination of future urbanisation and frequent extreme climate events, such as heatwaves, will exacerbate heat stress in cities.



Figure Source: Derived from the IPCC AR6 WGI Chapter 10, FAQ10.2







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- Urban climate change mitigation has a crucial role in determining the future of the global climate.
- How cities and urban areas are planned, designed, built, retrofitted, managed and powered will influence urban GHG emissions.















There are multiple feasible mitigation options and synergies between mitigation action and sustainable development across key urban sectors and approaches.

	5	Feasibility	1 2 3 4 5 6 7 8 9	10 11 12 14 1
l	Solar Energy			+ +
l	Wind energy			
	Geothermal			
	Energy storage for low-carbon grids		T A AT T	T
	Demand side mitigation			<b>.</b> .
	System integration	ĕ		
	Urban land use and spatial planning			
	Electrification of the urban energy		+ * + + + + + + +	* + * * *
	system			
	District heating and cooling networks		+ * + + + + + + +	+ + * + *
	Urban green and blue infrastructure		* * * * * * *	+ + +
	Wasto provention, minimization and		* * * * * * * * *	* + + + +
	management			
	Integrating sectors strategies and		+ + * + * +	
	innovations			
		•		
•	Building design and performance		* * * * * * *	+ + + - +
	Change in construction methods and		· · · · · · · · · · · · · · · · · · ·	1 i i i i i i i i i i i i i i i i i i i
	circular economy	•		• •
	Envelope improvement		* + + + + + + + +	* * *
	Heating, ventilation and air	-		
	conditioning (HVAC)	•	* * * * * *	* + +
	Efficient Appliances		* * * * * * * * * *	* + * - +
	Change in construction materials			· · · · ·
	Demand Side management (active	•	* * + + + * * * *	* + + - +
	management operation, digitalization			
	and flexible comfort requirements)			
	Renewable energy production			
		•	* * * * * * *	
I	Demand reduction and mode shift	•	+ + + + + + +	+ + +
	Biotuels for land transport, aviation,	•	* * + + +	+ + +
	and shipping			
	Electric vehicles for land transport	•	* * +	+ * + *



Synergies

Trade-offs

★ Synergies and trade-offs

Blanks represent no assessment

Hiah

Medium Low

**Overall Feasibility** 

Enhanced mitigation action can deliver local adaptation benefits, like reduced flood risk, limiting urban heat island impact, and enhanced health because of reduced air pollution.















Enhanced mitigation can create new green job opportunities, raise incomes and reduce inequalities within and between countries.











Five simultaneous System Transitions are the key to successful climate action.

- Urban & Infrastructure systems
- Energy systems
- Industrial systems
- Land, coastal, ocean & freshwater ecosystems
- Societal choices and transitions











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**Enabling Conditions promote or advance systems transitions and ultimately Transformation** They play a critical role in enabling widespread, effective and accelerated implementation.













Cities and urban areas offer critical spaces to realize **Climate Resilient Development** by implementing adaptation and mitigation simultaneously with sustainable development.







climate resilient development



Cities can implement aggressive and ambitious climate policies, implement sustainable development, mitigation and adaptation actions simultaneously to move towards Climate Resilient Development, improve and enhance human and planetary health.









