



Karachi Climate Action Plan

*Advancing Green Growth, Waste Management,
Water Resilience, and Youth/Private Sector
Partnerships for Competitiveness*

By Mayor Karachi Mr. Murtaza Wahab Siddiqui

Overview of K-CAP



C40 is a global network of mayors of the world's leading cities.



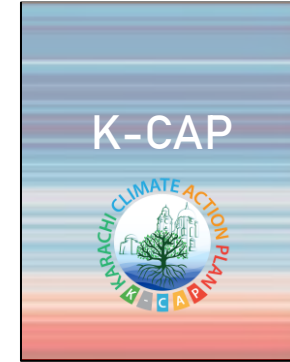
Climate Promise, UNDP's global flagship initiative calling for bold climate action.



The Urban Unit is executing the Karachi Climate Action Plan (KCAP) project.

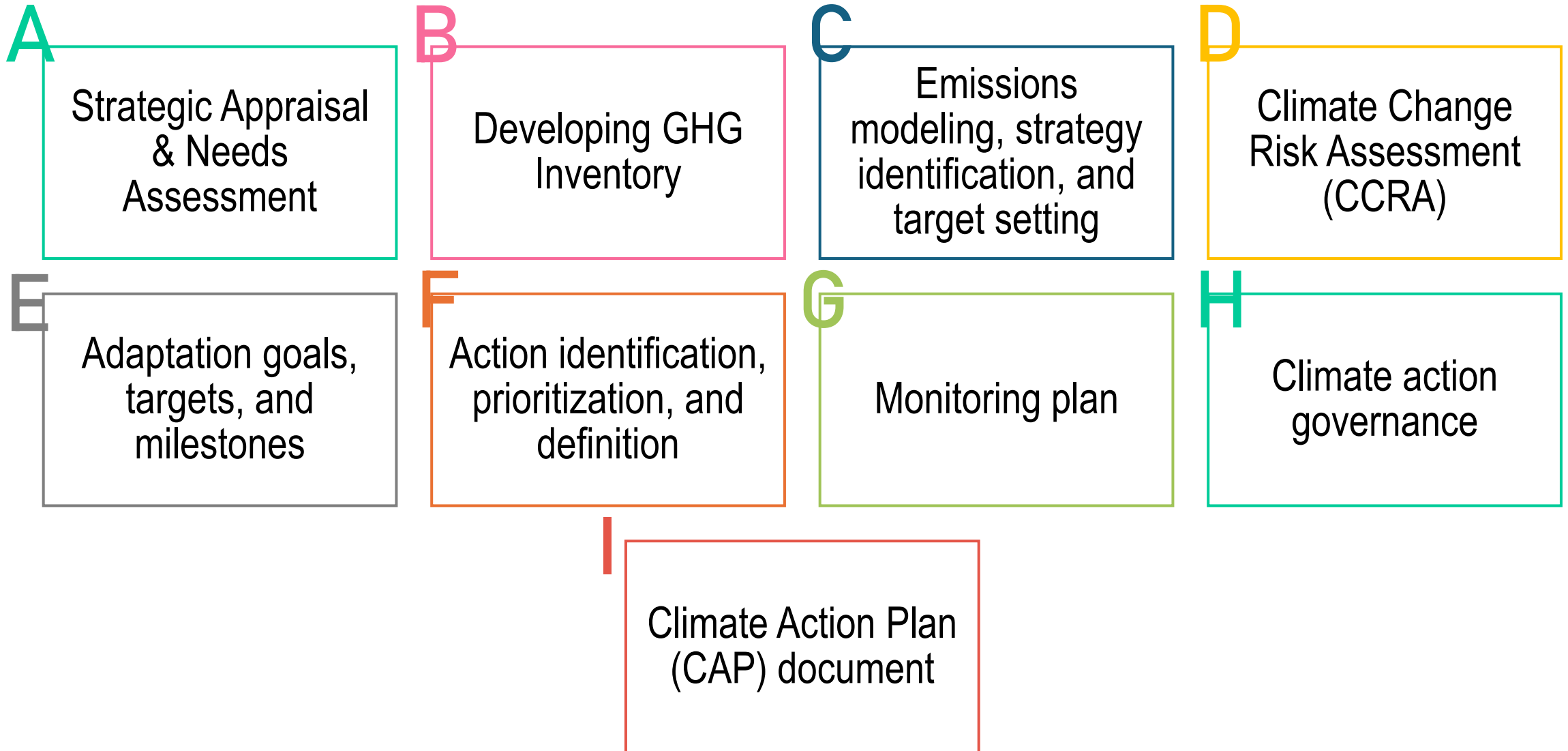


Mayor Karachi is the custodian of Karachi Climate Action Plan.



A dedicated Climate Action Plan for Karachi forms an integral part of Phase II of UNDP Pakistan's Climate Promise portfolio in collaboration with C40 Cities, KMC, and the Urban Unit.

K-CAP Project Deliverables



Karachi Climate Action Plan

Objectives

Develop a pathway to deliver an emissions-neutral city by 2050 at the latest and set an ambitious interim target for 2030

Detail the wider **social, environmental, and economic benefits** expected from implementing the plan, and improve the equitable distribution of these benefits to the city's population



Demonstrate how the **city will adapt and improve its resilience** to the climate hazards that may impact the city now and, in the future, (based on climate change projections)

Outline the **city's governance, powers, and the partners** who need to be engaged to accelerate the delivery of the city's mitigation targets and resilience goals

Karachi Climate Action Plan

Key Sectors



Building

- Resilience to adverse weather (such as heat and flooding).
- Reduction of energy and water consumption in new & existing buildings.



Health

- Monitoring and Action Plans for Air Quality Improvements, GHG Emissions Reduction, Heat waves, etc.



Energy

- Renewable energy generation
- distributed energy systems
- Emergency plans for supply disruption, e.g. during heatwaves



Waste

- Reducing, reusing & recycling waste
- Waste to energy
- Resilience of landfills to natural disasters.



Water

- Demand management
- Water reuse and recycling;
- Infrastructure resilience
- Energy efficient water treatment
- Emergency plans.



Transport

- Options for mass transit
- Cleaner fuels
- Climate-proofing transit infrastructure
- Active/non-motorized transport promotion

Stakeholders Engagement

100+

Consultation Meetings

Government
Departments

Non-Profit
Organizations

Academia

Local Community

Stakeholder
participation fosters
multi-level governance
— a core principle of
SDG localization

Stakeholder Consultations

Mayoral Commitment, Project Meetings and Stakeholder Consultations

**More than 100
consultations**



Signing Of Mayoral Commitment (23-11-2023)



Team Meeting (15-10-2023)



Stakeholder Consultations

A Approved Vision Statement

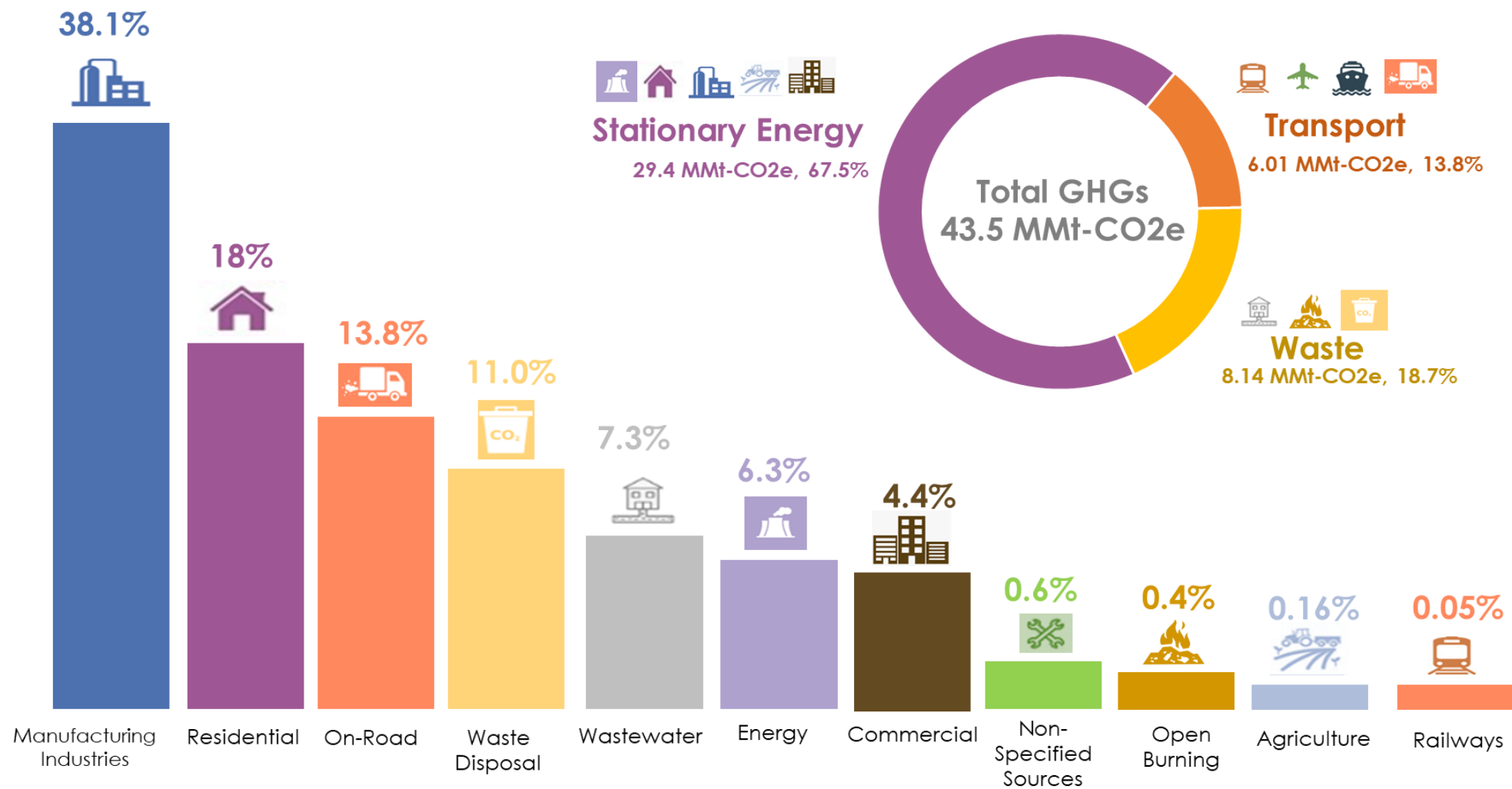


“

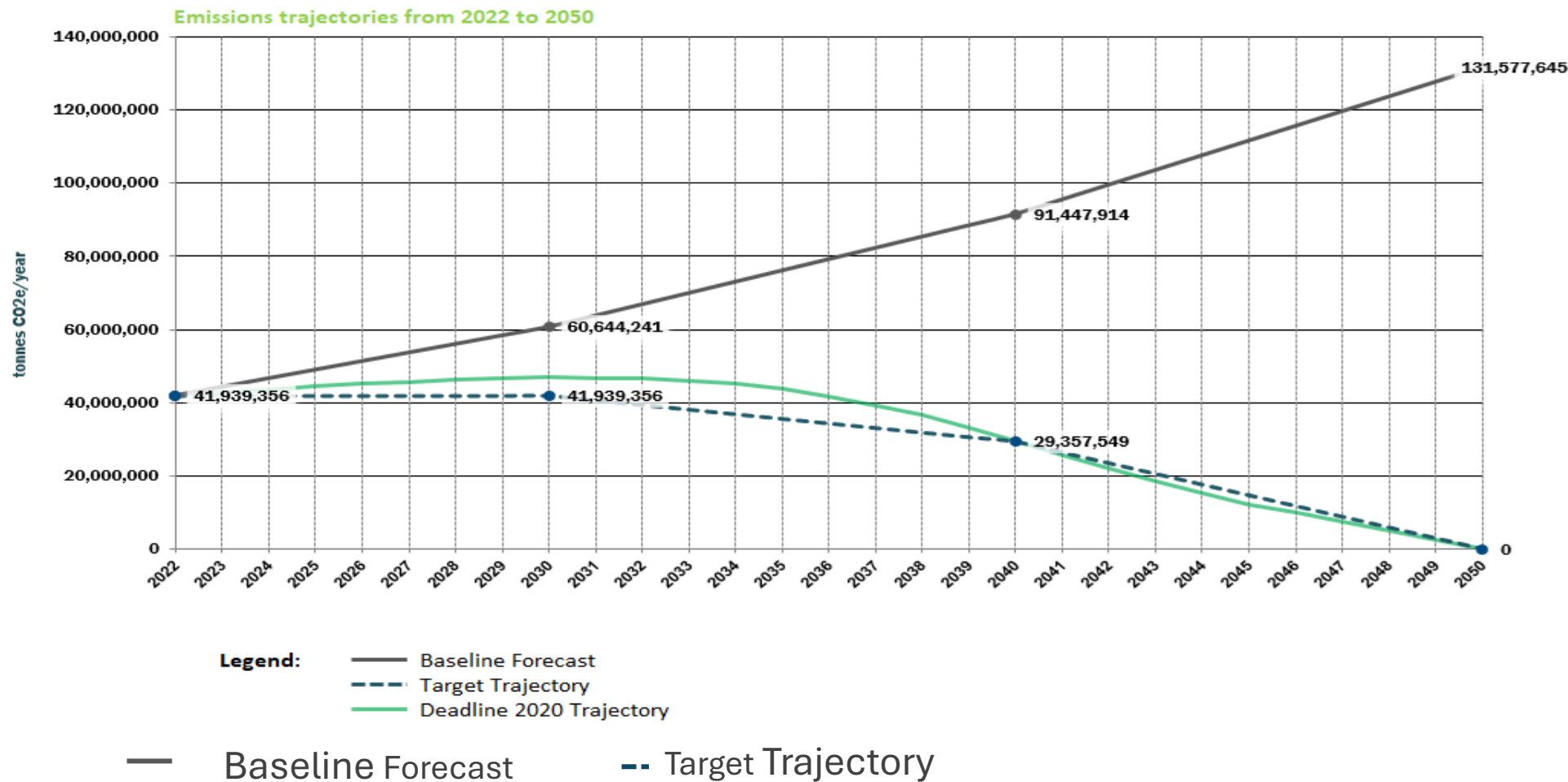
To be a sustainable yet competitive city contributing positively towards the local and the global climate by diminishing carbon emissions by 2050, through a knowledge-based governance system transforming into a green technology-based economy, leading to a sustainable, healthy and safe city as per principles of the Paris Agreement.

Actions Today for a Resilient Future', placing Karachi on the trajectory of localized SDG implementation.

GHG Inventory of Karachi- **KCAP identifies emissions hotspots to guide local SDG progress on climate, energy, and urban resilience.”**



BAU Scenario of Pathways Model



C40 cities have a target to be carbon neutral by 2050

Emissions from Karachi city will almost **double by 2040 and triple by 2050** without urgent mitigation actions.

Advancing green growth, waste management, water resilience

Priority Areas of Interventions



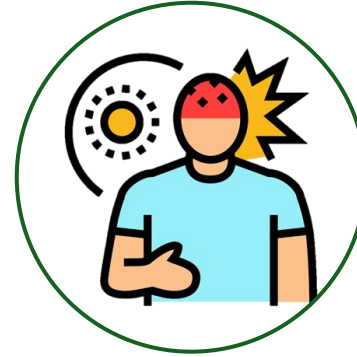
Floods- Coastal and Urban

- *Mangrove ecosystem nature-based solution*
- *Floodwater Storage & Drainage in Public Spaces*



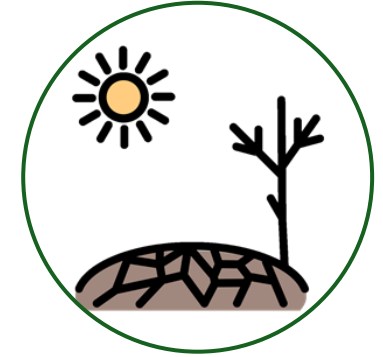
Sewage and Solid Waste Management

- *Drainage and coastal infrastructure*
- *River Catchment Management*



Heat Stress

- *Increase Urban Green Spaces*
- *Public Drinking Water Facilities*
- *Energy efficient fans*
- *Improved building insulation*



Drought

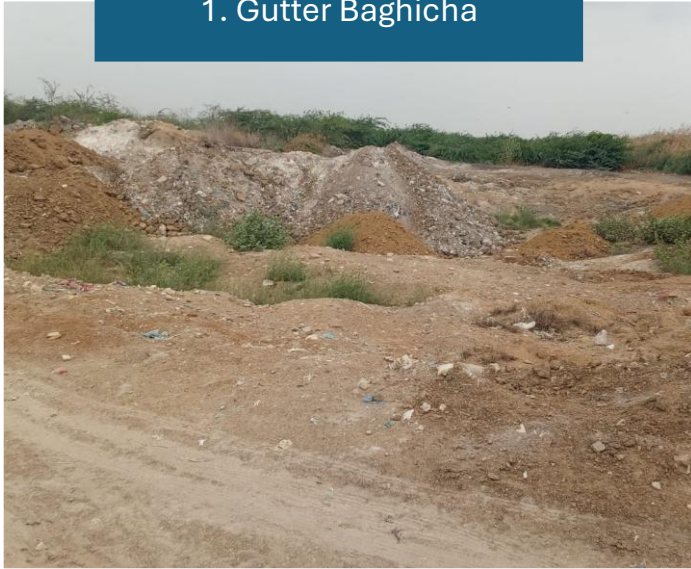
- *Groundwater Recharge, Water Conservation & Sewage Irrigation*

- *Green Growth* → Energy & Jobs transitions
- *Waste Management* → Circular Economy under Climate Transition
- *Water Resilience* → Climate & Biodiversity Transition

Advancing green growth, waste management, water resilience

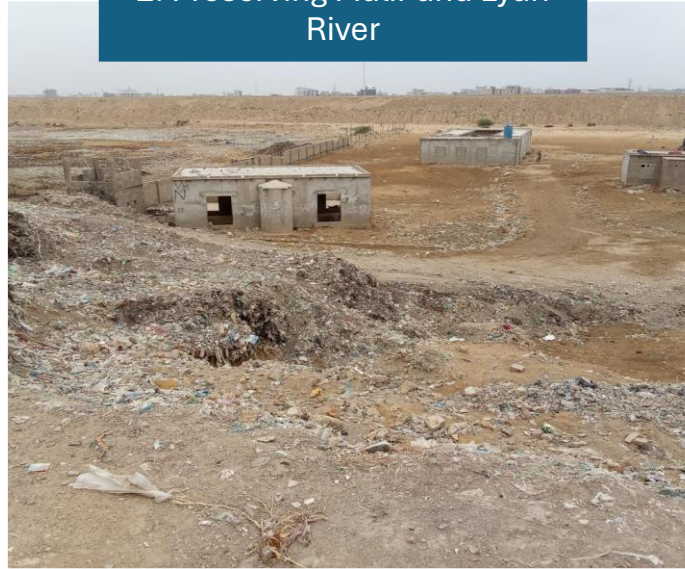
Priority Projects under KCAP

1. Gutter Baghicha



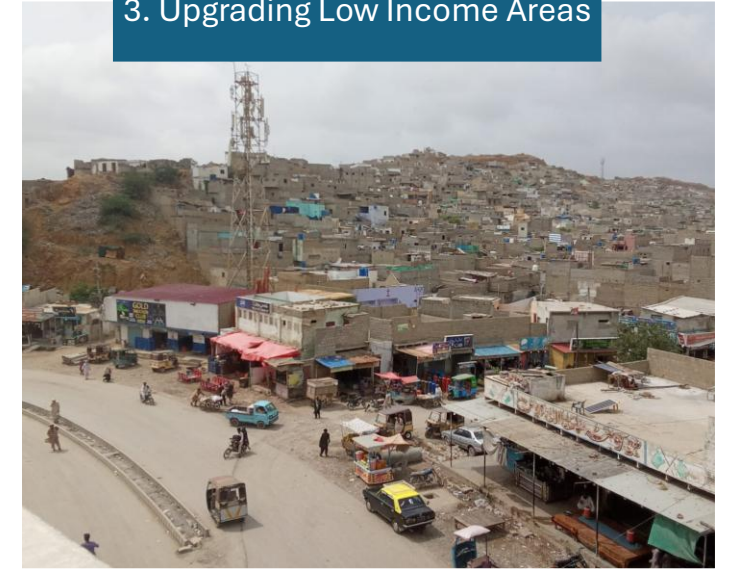
- Solar Parks
- Localized Treatment Plant

2. Preserving Malir and Lyari River



- Removal GTS-Qayyumabad (Imtiaz)
- Provision of wetlands

3. Upgrading Low Income Areas



- Nusrat Bhutto Colony

Localizing SDG 6, 11, 12, and 13 through integrated urban action.

1. Gutter Baghicha

- Gutter Baghicha, originally established during the British colonial era in Karachi as a sewage farm, evolved into one of the city's largest green spaces.
- Initially used to treat wastewater and irrigate nearby agricultural lands, the area transitioned into a public park, serving as a vital recreational space for local communities.
- However, as Karachi's urbanization accelerated, Gutter Baghicha became a contested site, with ongoing threats of encroachment and development.

0.5

1 Km



The Urban Unit



Gutter Baghicha - Project Concept Design

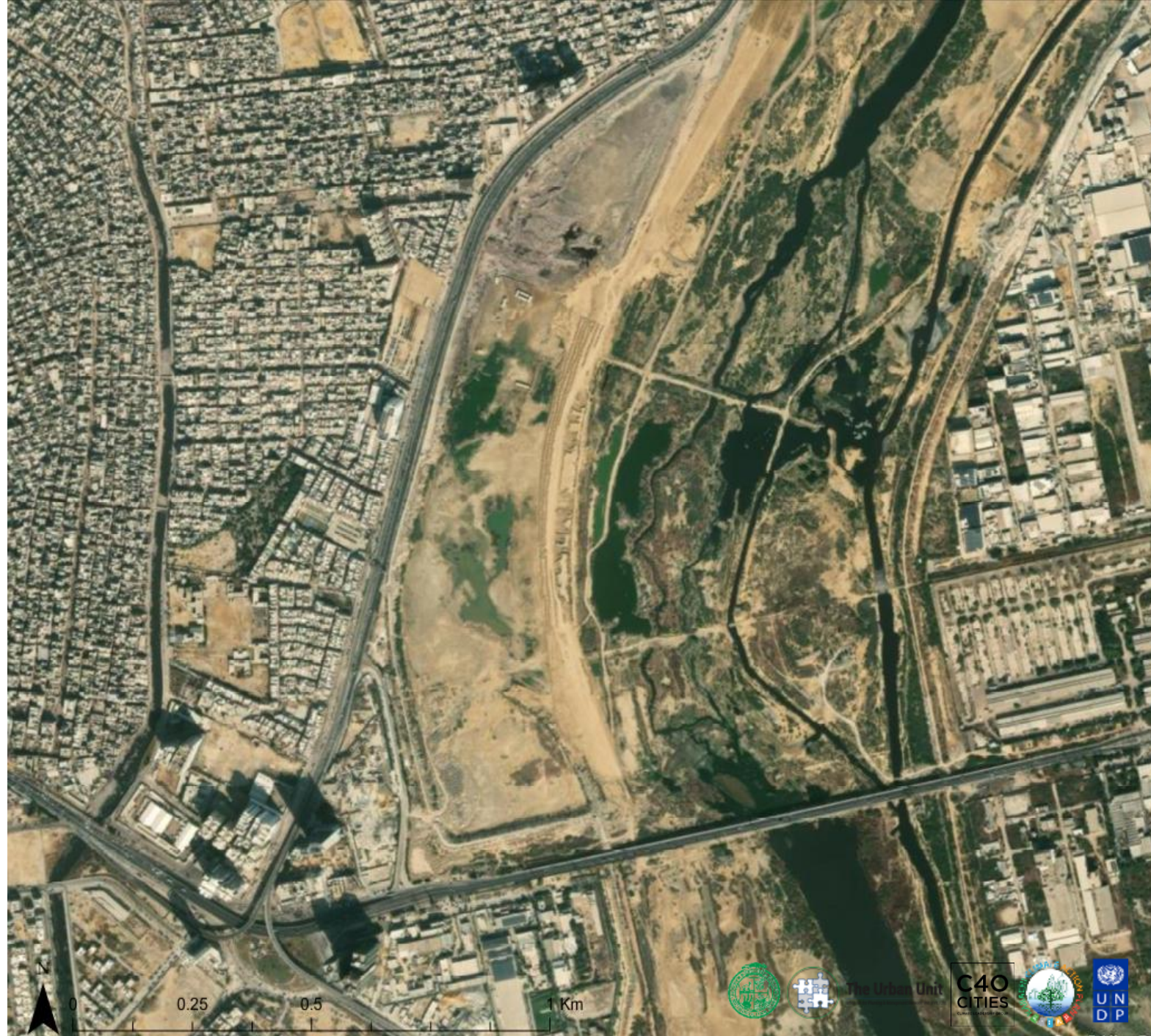


The Urban Unit
Urban Sector Planning & Management Services (USPMS)



2. Revitalization of Malir & Lyari Riverbed

- The revitalization project for the Malir Riverbed (1.6 Km) will commence with the removal of the Garbage Transfer Station (GTS) located at Qayyumabad, near Imtiaz Market.
- This area, currently operated by the Sindh Solid Waste Management Board (SSWMB), will be transformed as part of a broader initiative to restore the riverbed's natural ecosystem.

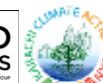


The Urban Unit





The Urban Unit
Urban Sector Planning & Management Services (USPMS)



3. Upgrading Low Income Areas

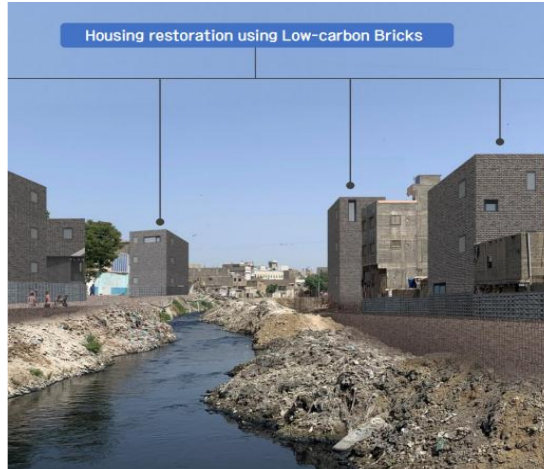
- Nusrat Bhutto Colony is a neighborhood in Karachi, Pakistan's Central district. The neighborhood's population is estimated to be almost one million, and spans over the area of 66 Acres.
- The area consists of Lower and Lower-Middle income group.



Project Concept Includes



Provision of Green Space



Housing with Low-Carbon Bricks



Water Purification

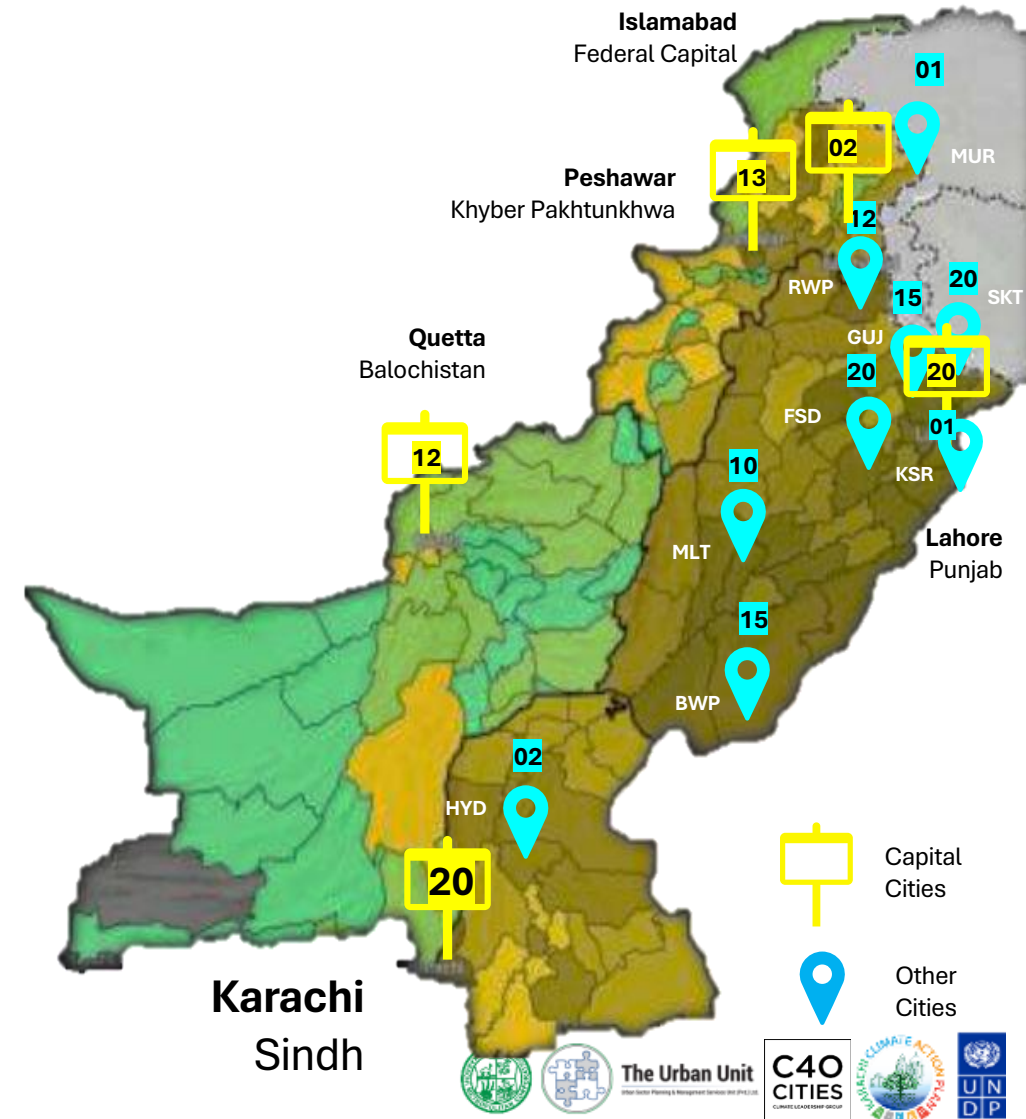


160 Low-Cost Monitors Across Pakistan

Total **14 Cities** [5 Capital Cities]



Goal: Achieve critical mass of data reporting so that National Ambient Air Quality Standards are demanded to be enforced.

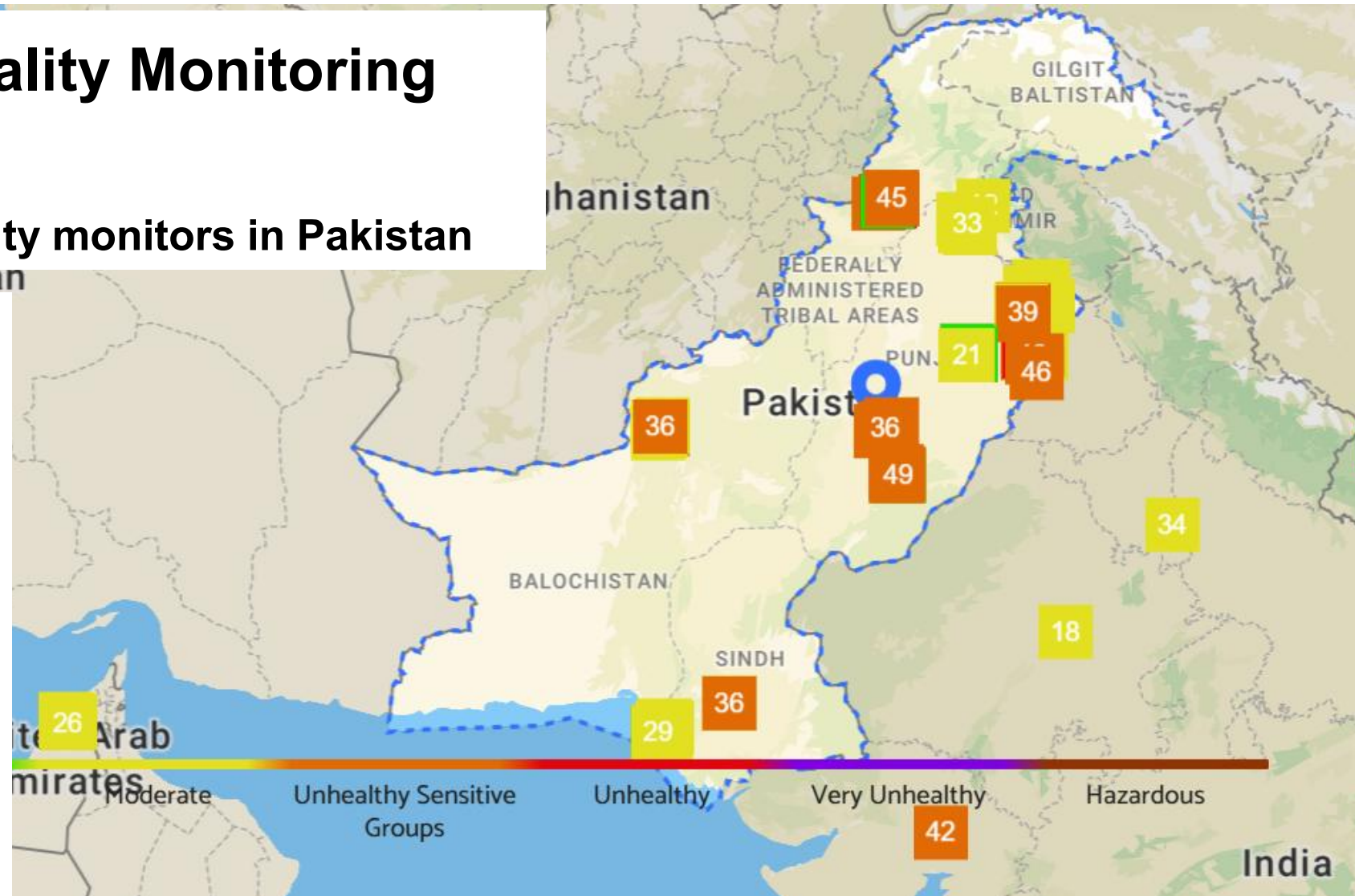


The Urban Unit Air Quality Monitoring Network

Installation of low-cost air quality monitors in Pakistan

All 160 successfully air quality sensors installed successfully in following cities:

1. Punjab – Lahore (20)
2. Punjab – Kasur (1)
3. Punjab – Sialkot (20)
4. Punjab – Gujranwala (13)
5. Punjab – Faisalabad (19)
6. Punjab – Rawalpindi (11)
7. Punjab – Murree (1)
8. Punjab – Multan (10)
9. Punjab – Bahawalpur (6)
10. Khyber Pakhtunkhwa – Peshawar (13)
11. Balochistan – Quetta (12)
12. Sindh – Karachi (10)
13. Sindh – Hyderabad (2)
14. Islamabad Capital Territory – Islamabad (2)



THE UNIVERSITY OF CHICAGO
EPIC ENERGY POLICY
INSTITUTE

Air Quality
Fund



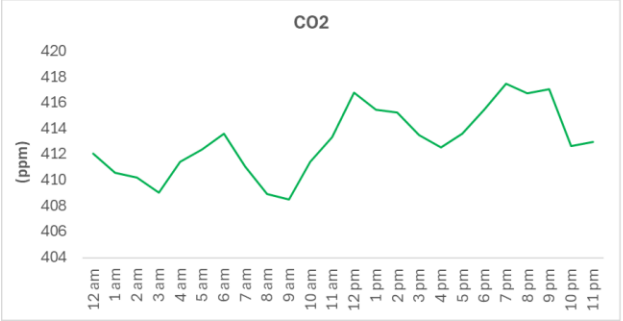
The Urban Unit
Urban Sector Planning & Management Services Unit (Pvt.) Ltd.



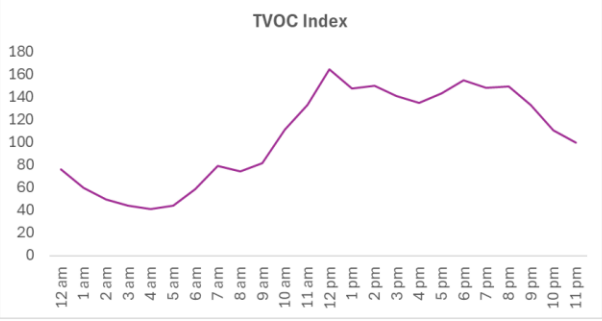
Air Gradient Outdoor
(Model: O-1PST)



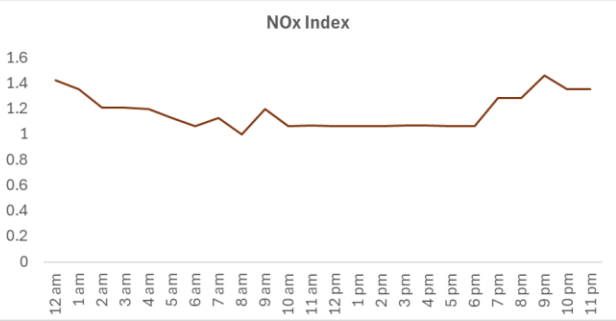
Bridges Karachi's climate action with the Digital Connectivity Transition, enabling data-driven governance resilience



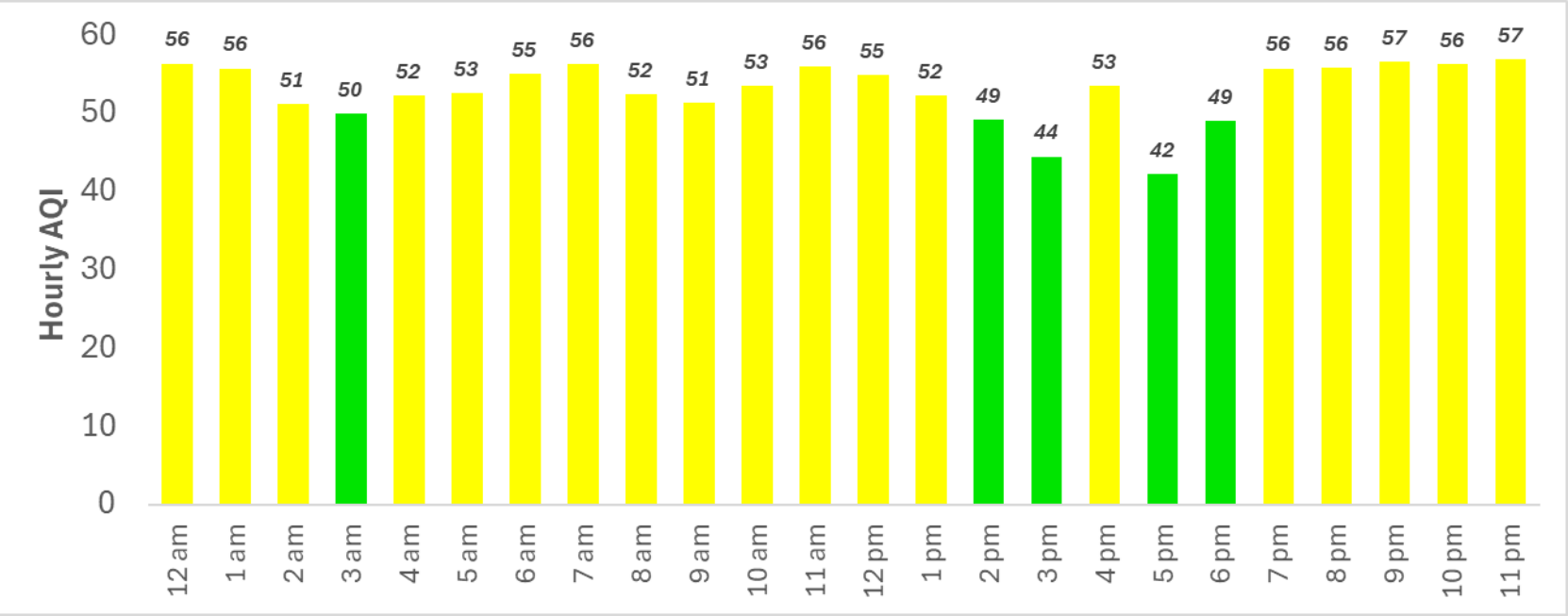
CO2 (ppm) – Hourly Average for AQ sensors in Karachi



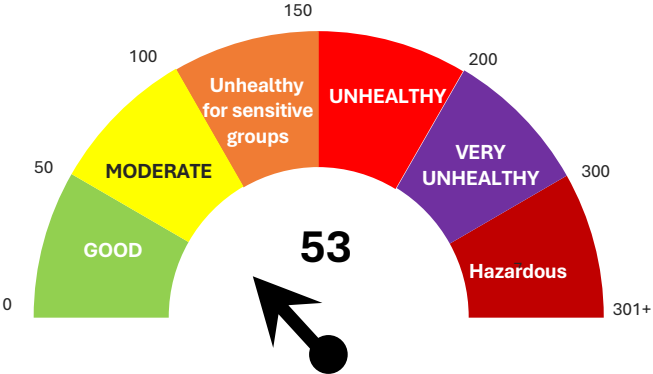
TVOC Index – Hourly Average for AQ sensors in Karachi



Nox Index– Hourly Average for AQ sensor in Karachi



AQI– Diurnal Cycle for avg of AQ sensor in Karachi



AQI Breakpoints defined by USEPA

0-50	51-100	101-150	151-200	201-300	301+
Good	Moderate	Unhealthy for sensitive groups	Unhealthy	Very Unhealthy	Hazardous

Way Forward

- Embed KCAP priorities into Sindh Annual Development Plan and KMC budgets, creating a dedicated "**KCAP Implementation Fund**" for cross-departmental projects.
- Utilize **multilateral technical assistance** for feasibility studies of high-impact projects.
- Create a **public MRV dashboard** to track progress and develop bankable projects to attract international climate finance and private sector investment.

- **Short-term (1–2 years):** pilots, community engagement, capacity building
- **Medium-term (3–5 years):** scaling projects, monitoring frameworks
- **Long-term (10+ years):** net-zero transition, adaptive systems

*Thank
You!*