Clean Air Scorecard
A Clean Air Management Assessment Tool

Air quality management in cities have been traditionally evaluated using the good versus bad list analysis—*"100 Dirtiest Cities" or "Top 10 Cities with Best Air Quality"*. This provides a subjective and incomplete picture and does not provide guidance where cities can improve.

Aside from addressing traditional air pollutants (particulate matter, Sulfur dioxide, Nitrogen dioxide, Carbon monoxide, ozone, and Lead), cities are also pressed to reduce greenhouse gas (GHG) emissions (Carbon dioxide, methane, Nitrous oxide, among others).

There are co-benefits of integrating air quality management and climate change mitigation because air pollutants and GHGs are generally emitted together from same sources such as fuel combustion in transport sector and in power (energy) sector. Therefore policy or technological solutions overlap, for example, energy and fuel efficiency.

Clean Air Scorecard Tool

While tools exist to measure general environmental performance, there is no methodology for an objective and comprehensive assessment of a city's management of air pollutants and GHG emissions and identification of improvement areas. Recognizing this need, CAI-Asia developed the Clean Air Scorecard[1] that consists of three indexes.

Air Pollution and Health Index		Clean Air Management Capacity Index		Clean Air Policies and Actions Index		Overall Clean Air Score
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Overall Structure of the Clean Air Scorecard

1. **Air Pollution and Health Index** – which assesses air pollution levels of cities against World Health Organization (WHO) guideline values and interim targets (*i.e.,* a "good air" day in this index is in relation to WHO guidelines rather than the city's ambient air quality standards which are generally less stringent). Pollutants included are PM_{10}, $PM_{2.5}$, SO_2, CO, NO_2, Pb, and O_3. A city is required to have, at a minimum, monitoring data for PM_{10}.

2. **Clean Air Management Capacity Index** – which assesses a city's capacity to (i) determine sources of emissions and their contribution (through an emissions inventory), (ii) assess the status of air quality (includes monitoring, modeling, data analysis and reporting), (iii) estimate impacts on health, environment and economy, (iv) reduce air pollution and GHG emissions through an institutional and policy framework and financing

3. **Clean Air Policies and Actions Index** – which assesses the existence and enforcement of national and local policies and actions to address air pollutants and GHG emissions from mobile, stationary, area and transboundary sources.

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[1] Clean Air Scorecard Tool Version 1 was developed under the Sustainable Urban Mobility in Asia (SUMA) program with support from Swedish International Development Cooperation Agency (Sida) and Asian Development Bank (ADB).

Clean Air Scorecard Components

Each of the three indexes consists of relevant questions for which points can be allocated. Higher scores indicate better air quality levels, management capacity, and policies and measures. The three indexes contribute 33.3 points each to total Clean Air Score of 100. Cities are then categorized based on their overall score.

Score Bands for the Clean Air Scorecard

Air Pollution and Health Index Category	Score Band	Clean Air Management Capacity Index Category	Score Band	Clean Air Policies and Actions Index Category	Score Band
Excellent	81–100	Excellent	81–100	Excellent	81–100
Good	61–80	Good	61–80	Good	61–80
Moderate	41–60	Moderate	41–60	Moderate	41–60
Poor	21–40	Limited	21–40	Limited	21–40
Very Poor	11–20	Minimal	1–20	Minimal	1–20
Critical	1–10				

Score Bands and Category Descriptions for Overall Clean Air Score

Overall Clean Air Score Category		
Version 2.0	Score Band	Description
Fully developed I	91–100	Key components of clean air management complete. Strong mandate for air pollution and GHG management and strong sector-based and integrated policies, regulations and institutions to address major sources of pollution (*e.g.*, transport, industry, energy and area sources). Policies and actions contribute to achieving levels equivalent to prescribed WHO guidelines and interim targets for air pollution.
Fully developed II	81–90	
Maturing I	71–80	Key Components of clean air management complete and some integration with other major sectors (*e.g.*, transport, health and energy sectors). Policies and actions have achieved some success in reducing AP/GHG emissions but air quality levels still exceed healthy levels prescribed by the WHO. Management efforts in all sector sources need to be intensified to bring down emissions further.
Maturing II	61–70	
Emerging I	51–60	Majority of key components of clean air management are in place. Policies and actions to reduce emissions from identified major sources need to be enhanced. Sector-based institutions need to upgrade technical and management capacity.
Emerging II	41–50	
Developing I	31–40	GHG and AP emissions are increasing and air quality declining. Clean air management activities are scattered in different organizations with limited collaboration. Needs to invest in strengthening components of basic air quality management and collaboration between stakeholders.
Developing II	21–30	
Underdeveloped	0–20	*Ad hoc* clean air management; lack in emissions and ambient air quality standards; Needs to build capacity for basic air quality and GHG emissions management.

Clean Air Scorecard Report

The Tool automatically generates a Clean Air Scorecard report with results for each indexes and sub-index and overall clean air score) showing strengths and weaknesses of the city for the assessment year.

Additional information can also be generated:

- ✓ Introduction and Profile of City
- ✓ Recommended actions to improve capacity and policies/measures and to integrate air quality and GHG management, categorized into short and long-term actions
- ✓ Barriers to applying the co-benefits approach, lessons learned, and recommendations.

Snapshot of Clean Air Scorecard Report Page

Use of Clean Air Scorecard

Depending on the purpose, the Clean Air Scorecard results can be used to:

- ✓ **Help cities**
  - Have a comprehensive understanding of the status of their air quality management
  - Identify gaps in their air quality and GHG management strategies and activities
  - Benchmark air quality and GHG management developments over time
  - Identify concrete policies and measures to reduce emissions of air pollutants and greenhouse gases
  - Develop an integrated plan for air quality and GHG emissions management.

- ✓ **Help national governments, development agencies, donors, other stakeholders**
  - Understand where cities need help, which can be incorporated in national plans/policies, donor priorities and technical assistance projects / loans
  - Cluster cities/provinces according to capacity-building needs
  - Compare cities using comparable methodology
  - Create a platform for exchange of learning and experience between cities.

Clean Air Scorecard Application

Since its development in 2010, the Clean Air Scorecard has been applied in 19 Asian cities from nine countries. This includes Bac Ninh, Vietnam; Bangkok, Thailand; Cagayan de Oro, Philippines, Can Tho, Vietnam; Chiang Mai, Thailand; Colombo, Sri Lanka; Foshan, PR China; Guangzhou, PR China; Hangzhou, PR China; Hanoi, Vietnam; Iloilo, Philippines; Jakarta, Indonesia; Jinan, PR China; Kathmandu, Nepal; Korat, Thailand; Manila, Philippines; Quetta, Pakistan; Visakhapatnam, India; and Zhaoqiang, PR China. In 2014-2015, the tool is proposed to be applied in about 20 cities in Asia with support from various partners.