

Opportunities for leapfrogging air quality action

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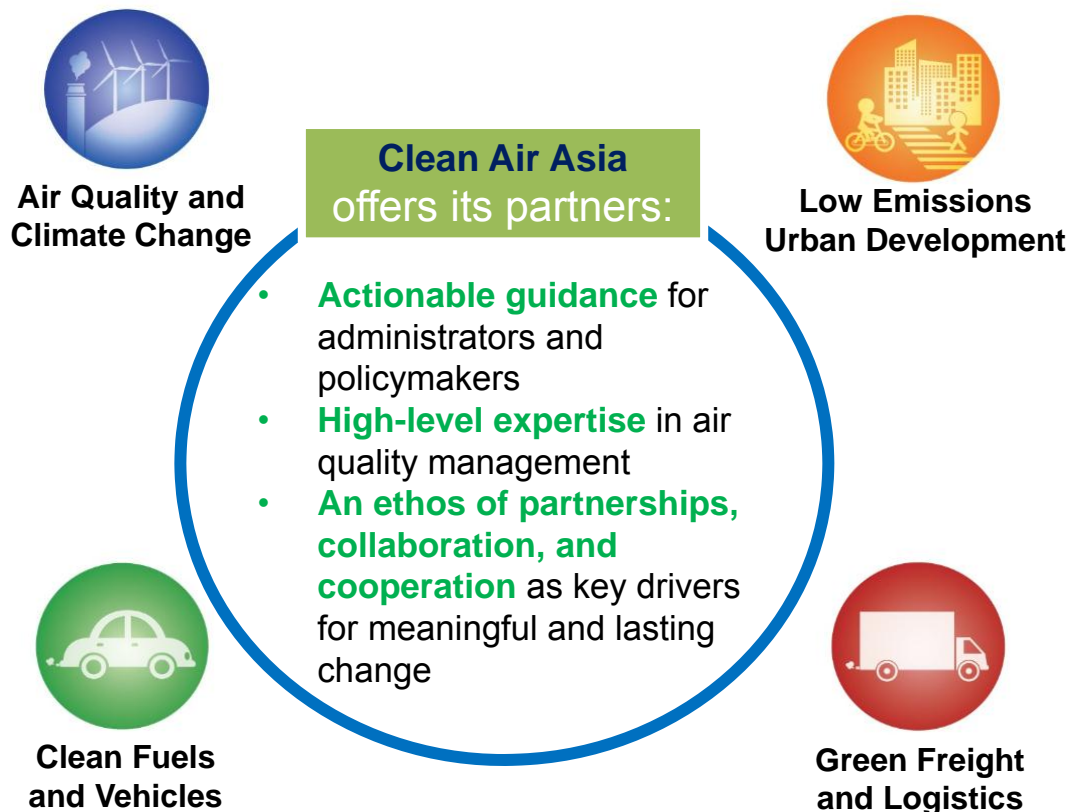
6th High Level Seminar on Environmentally
Sustainable Cities
9-10 February 2015
Johor Bahru, Malaysia



About Clean Air Asia



Clean Air Asia is an international NGO based in the Global South that promotes better air quality and livable cities by translating knowledge to policies and actions that enable Asia's 1,000+ cities to reduce air pollution and greenhouse gas emissions from transport, energy, other sectors.

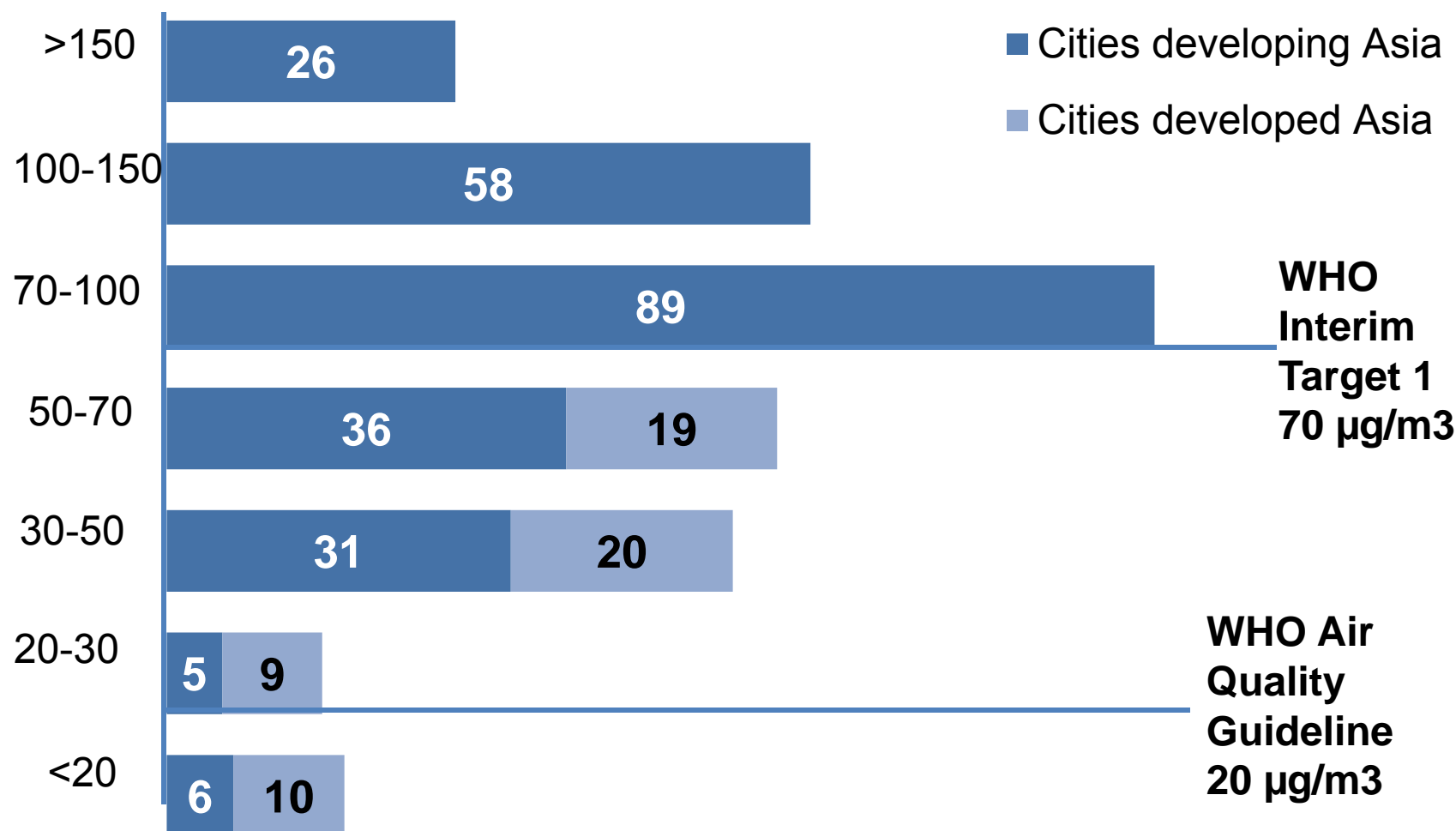


Clean Air Asia was established as the premier air quality network for Asia by the Asian Development Bank, World Bank and USAID in 2001, and operates since 2007 as an independent non-profit organization.

7 of 10 cities in developing Asia have poor air quality



**PM10 annual average
concentrations $\mu\text{g}/\text{m}^3$**



Source: Clean Air Asia, 2013.

Need to address air pollution



- 2013: Outdoor air pollution, specifically particulate matter, causes **cancer**
- 2014: **7 million premature deaths** annually linked to air pollution in 2012
 - **Asia** with the largest air pollution-related burden: 3.3 million deaths linked to indoor pollution and 2.6 million deaths linked to outdoor pollution
 - Now the single **largest environmental health risk**
- Source: World Health Organization

**IARC Scientific
Publication No. 161
Air Pollution and Cancer**



<http://www.iarc.fr/en/publications/books/sp161/index.php>

Opportunities for leapfrogging air quality action



1. Global recognition of importance of addressing air pollution
2. Co-benefits of addressing air pollution and climate change
3. Use of technology and new tools to bridge the gap for data – providing opportunity to engage general public
4. Available regional training systems on air quality and wealth in knowledge sharing platforms

Global recognition of importance of addressing air pollution



- **2014: UN Environment Assembly Resolution on AQ & Health**
 - UNEP to step up support to governments through capacity building, provision of data and assessments and reporting on progress made
- **2015: Adopt resolution on air pollution and health at 68th World Health Assembly**
 - Urges Member States to increase efforts to reduce air pollution of any kind across all levels and proposes a Comprehensive Program for Health and Air Pollution, with allocation of adequate resources
- **2015: Air quality related targets in the proposed Sustainable Development Goals**
 - Goal 3. Ensure healthy lives, promote well-being for all at all ages
 - Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable

Co-benefits of addressing air pollution and climate change



- Several air pollutants also contribute to **climate change**, including black carbon (a component of particulate matter or soot), methane and tropospheric ozone (**short lived climate pollutants - SLCPs**)
- **Climate and Clean Air Coalition (CCAC)**
 - Address short-lived climate pollutants
 - recognize that action on SLCPs complement and supplement, not replace, global action to reduce CO₂
 - Initiatives: Diesel, Oil & Gas, Waste, Bricks, HFCs, Cookstoves, Agriculture, SNAP, Finance, Regional Assessments, Urban Health
 - <http://www.ccacoalition.org/>

Use of technology and new tools to bridge gap for data - providing opportunity to engage public



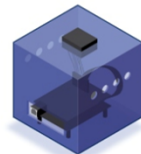
Low-cost sensors



<http://www.mytzoa.com/about-tzoa/>

SENSORS FOR THE PEOPLE

How polluted is your home or neighbourhood? Until recently, it was difficult to answer that question because data were available only from networks of expensive sensors in relatively limited locations. The do-it-yourself movement has led to the emergence of low-cost sensors that can be purchased or built from online instructions.



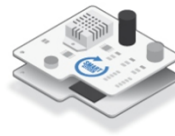
DUSTDUINO

Measures the concentration of pollution particles equal to or smaller than 10 micrometres (PM₁₀) and 2.5 micrometres (PM_{2.5}).



AIR QUALITY EGG

Measures nitrogen dioxide and carbon monoxide, humidity and temperature. Streams data online through a separate base station.



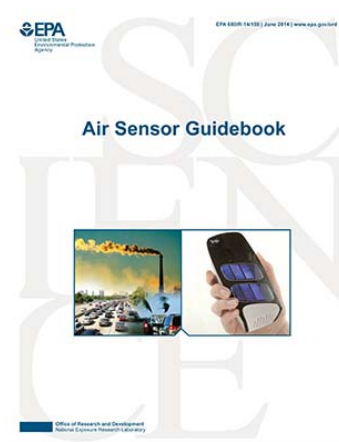
SMART CITIZEN KIT

Measures nitrogen dioxide and carbon monoxide, as well as light, humidity, temperature and noise pollution.

<http://www.nature.com/news/environmental-science-pollution-patrol-1.16654>



<http://www.psfk.com/2014/11/clarity-wearable-device-air-pollution-monitor.html>



<http://bit.ly/1iq9KQM>

Air Quality Indexes

<http://www.sem.gov.cn/aqi/home/English.aspx>

Real-time Air Index

17:00 05-February-2015

67

Moderate



Primary Pollutant
Health effects

PM_{2.5}

Air quality is acceptable; however, for some pollutants, there may be a moderate health concern for a very small number of unusually sensitive individuals.

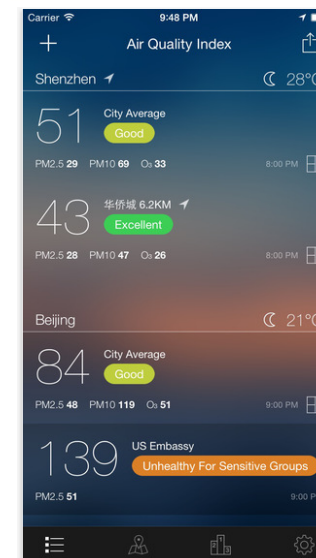
Cautionary Statements

The unusually sensitive individuals should consider reducing physical activity outdoors.

FORECAST of Health Risk

05-02-2015	Tomorrow A.M.	Tomorrow P.M.
General Stations	Low to Moderate	Low to Moderate
Roadside Stations	Moderate	Moderate to High

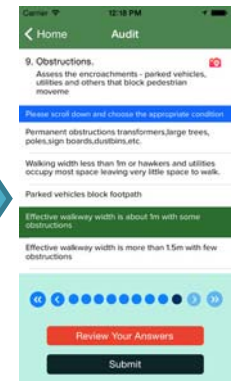
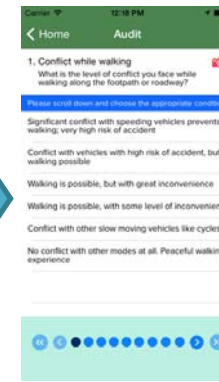
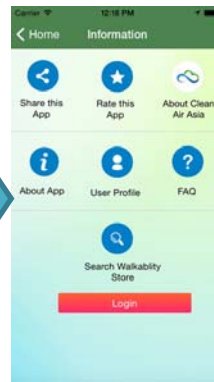
<http://www.aqhi.gov.hk/en.html>



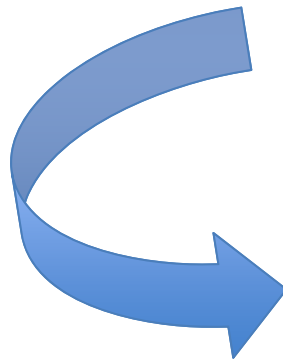
Use of technology and new tools to bridge the gap for data and opportunity to engage public - **Walkability**



Walkability App - <http://walkabilityasia.org/>



A campaign starter kit that can be applied by city administrators on their own cities, aiming to have long-term application, benefits and impact



Available regional training systems and wealth in knowledge sharing platforms



‘Train for Clean Air’ (T4CA)

Courses on Air Quality Management

Current course offerings:

- T4CA1. General AQM for Decision-Makers of Smaller Cities
- T4CA2. Air Quality Monitoring for Smaller Cities
- T4CA3. Emissions Inventories for Smaller Cities
- T4CA4. General AQM for NGOs, Media
- T4CA5. Effective Communication for NGOs on AQM
- T4CA6. Curbing Emissions from the Transport Sector
- T4CA7. AQM for Industry and Business Sectors

Knowledge sharing platforms on air quality

- Asia Pacific Clean Air Partnership
- Asian Co-benefits Partnership
- Climate and Clean Air Coalition
- Governmental Meetings on Urban Air Quality in Asia
- Joint Forum on Atmospheric Issues
- Better Air Quality conferences
- More



ASEAN – German Technical Cooperation
Clean Air for Smaller Cities in the ASEAN Region



Guidance Framework for Better Air Quality in Asian Cities



- **Guidance Framework** aims to provide a recognized guidance document for decision makers on how to address key issues in urban AQ management in Asia
- to be endorsed through Governmental Meetings on Urban AQ in Asia organized by Clean Air Asia and UNEP

Governmental Meetings on Urban Air Quality in Asia

- **Objective:** harmonize approaches between Asian countries in tackling urban air pollution and related areas
- Environment ministries
- Organized by UNEP and Clean Air Asia

1st: Yogyakarta
Dec 2006

Agree on objectives
Govt Meetings

2nd Bangkok
Dec 2008

Long Term Vision
on Urban Air Quality

3rd: Singapore
Nov 2010

AQM Priorities

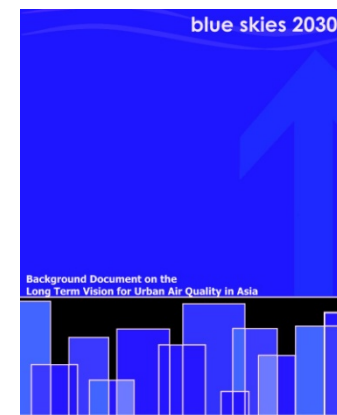
4th: Bangkok
Feb 2013

Guidance Framework
table of contents

5th: Colombo
Oct 2014

Guidance Framework
draft

Long Term Vision on Urban Air Quality in Asia



http://cleanairinitiative.org/portal/sites/default/files/documents/LTV_UAQM_Final.pdf

Guidance Framework for Better Air Quality in Asian Cities



Guidance Area 1: Ambient AQ standards, monitoring systems
Guidance Area 2: Emission inventory and source apportionment
Guidance Area 3: Health and other impacts
Guidance Area 4: Communicating AQ, health and co-benefits
Guidance Area 5: Clean air plans, policies and measures
Guidance Area 6: Governance, compliance and enforcement, financing, institutional frameworks

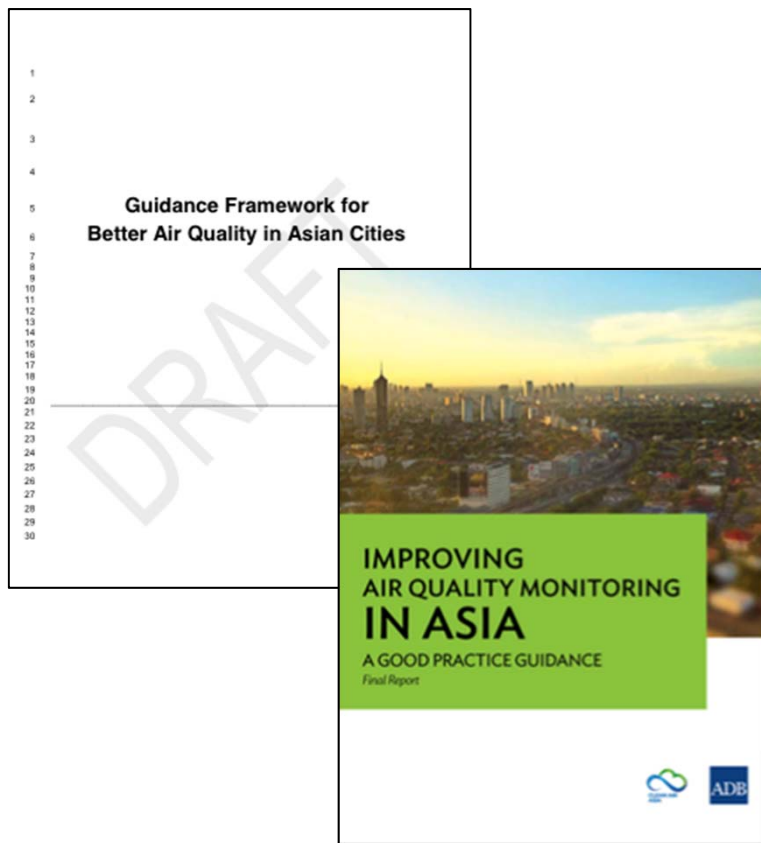
Implementing the Roadmaps

Guidance Framework implementation is complemented by

- Implementation support to develop and implement local action plans for improving air quality
- Facilitation for regional collaboration
- Capacity building and development
- Technical support for PM_{2.5} monitoring
- Communication and awareness raising

*Call for Reviewers –
Draft Guidance Framework for
Better Air Quality in Asian Cities*

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India

Clean Air Asia Country Networks

China • India • Indonesia • Nepal • Pakistan • Philippines • Sri Lanka • Vietnam

Clean Air Asia Center Members



250 Clean Air Asia Partnership Members

- Cities
- Environment ministries and government agencies
- Development agencies and foundations
- Non-government organizations
- Academic and research institutions
- Private sector companies and associations

Donors in 2013

Asian Development Bank • AECOM • China Road Transportation Association (CRTA) • Civic Exchange • Climate and Clean Air Coalition (CCAC) • ClimateWorks Foundation • DHL/IKEA/UPS • Energy Foundation • Fredskorpset Norway • Fu Tak lam Foundation • German International Cooperation (GIZ) • Institute for Global Environmental Strategies (IGES) • Institute for Transport Policy Studies • Institute for Transportation and Development Policy • MAHA • Pilipinas Shell • Rockefeller Brothers Fund • Shakti Foundation • Shell Foundation • Sida • UNCRD • United Nations Environment Program Partnership for Clean Fuels and Vehicles (UNEP PCFV) • UNEP DTIE • UN Habitat • USAID CEnergy • World Bank