

# UNEP GEMS/ Air

ASIC India – 26<sup>th</sup> August 2022

## open Data Management System (oDMS)

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# UNEP Air Quality Programme

as a response to UNEA 3 Resolution 8

**Goal: *By 2025, 30% of the world's population lives in areas where WHO Air Quality interim Target 3 for outdoor PM2.5 is attained***

## Monitoring & Assessments



- Assessments on Policy action & integrated air and climate action
- Guidance on affordable air quality monitoring networks
- Synergies with national action planning

## Policy, Legislation & Technology Support



- Priority sector focus, national legislation & standards, clean air action planning, technology & infrastructure

## Advocacy & Awareness Raising



- BreatheLife Campaign
- UNEP Clean Air Patron
- Scaling up local Air Quality Campaigns
- Int'l Day of Clean Air for blue skies
- Global Platform on Air Quality (jointly with WHO)

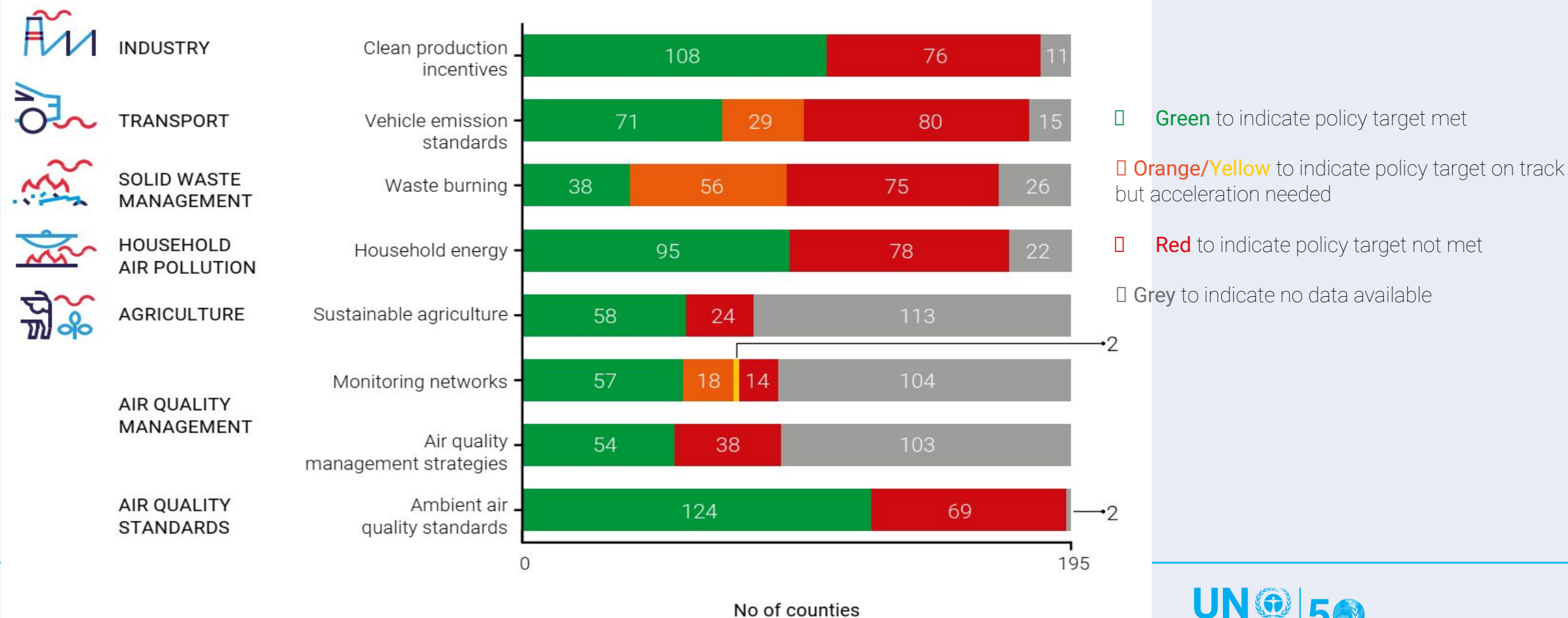
## International / Regional cooperation



- Environment and Health Fora (with WHO)
- Asia Pacific Clean Air Partnership
- Europe Air Convention (CLRTAP)
- LAC ministerial Forum
- Regional Communities of Practice

# Progress in adopting key actions on air quality

**Figure ES.1 Progress towards adoption of key actions that can significantly improve air quality**



# Key findings

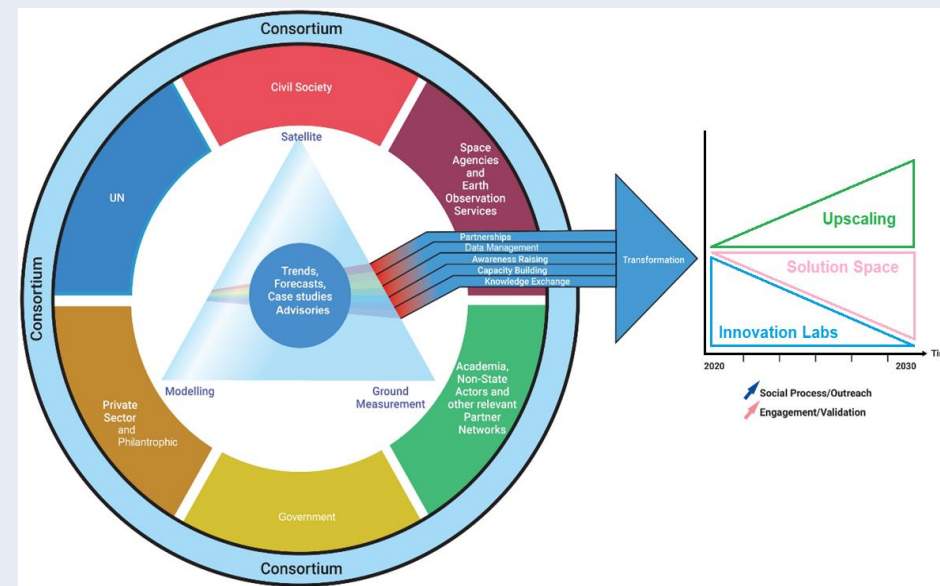
- ✓ Legal instruments containing ambient air quality standards increasing
  - **only 33% of countries impose obligations** to meet legislatively mandated Ambient Air Quality Standards
- ✓ National air quality management strategies
  - **approximately 75% of countries do not have an air quality management strategy**
- ✓ Increasing public demand for enhanced global action on air quality + low-cost sensors and the increase in access to air quality information
  - **~70% of countries do not have continuous monitoring at multiple sites**
- ✓ Countries are adopting policies and actions
  - **large systemic challenges such as financing gaps lead to an inability to invest in data analysis, and a lack of enforcement capacity**

# UNEP Air Quality Programme

Support to Developing Countries – Monitoring



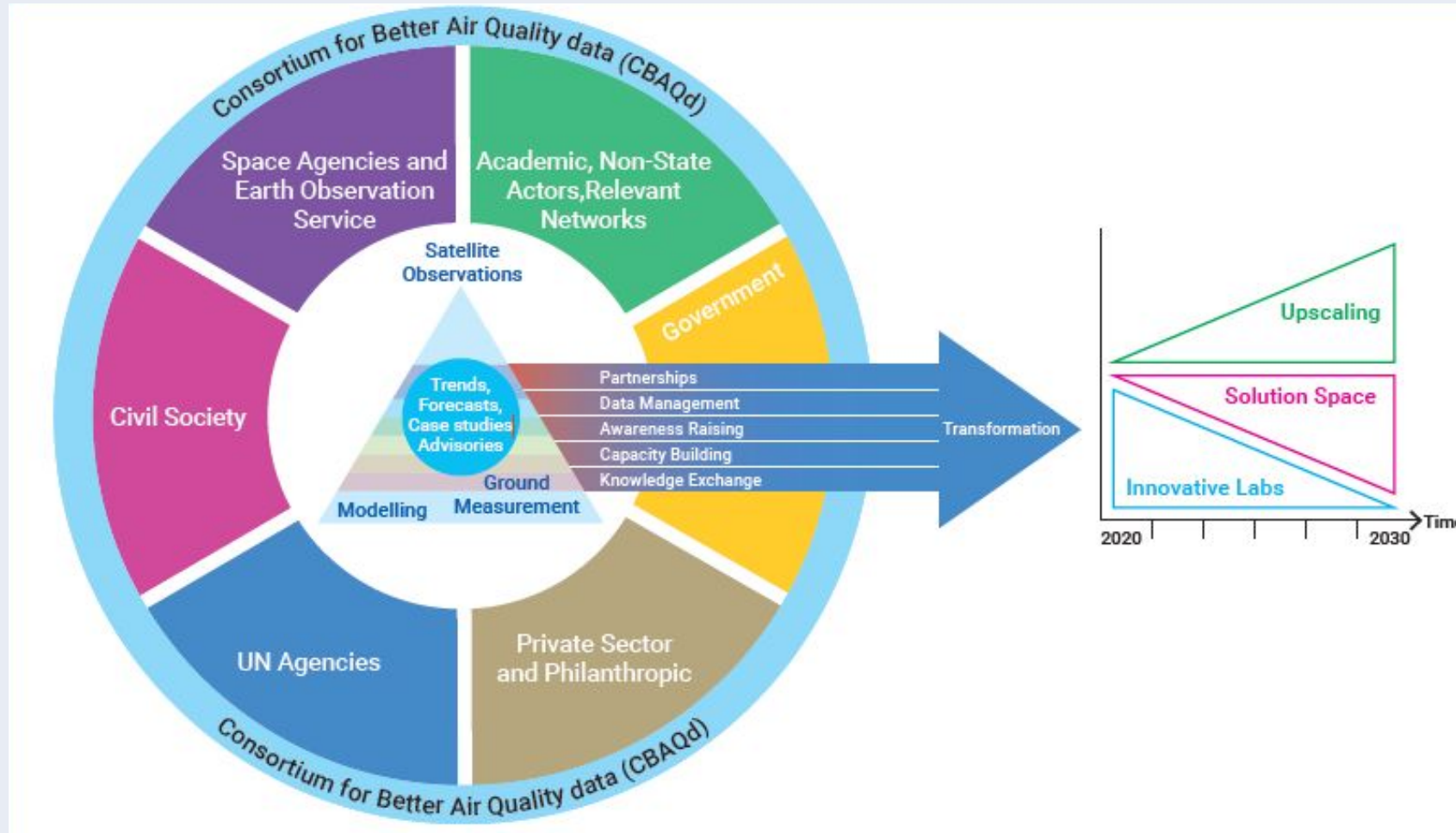
- GEMS/Air (re)established following UNEA Resolution 1/7 which requested strengthened capacity-building activities on air quality
- Responding to a significant data gap in the global South



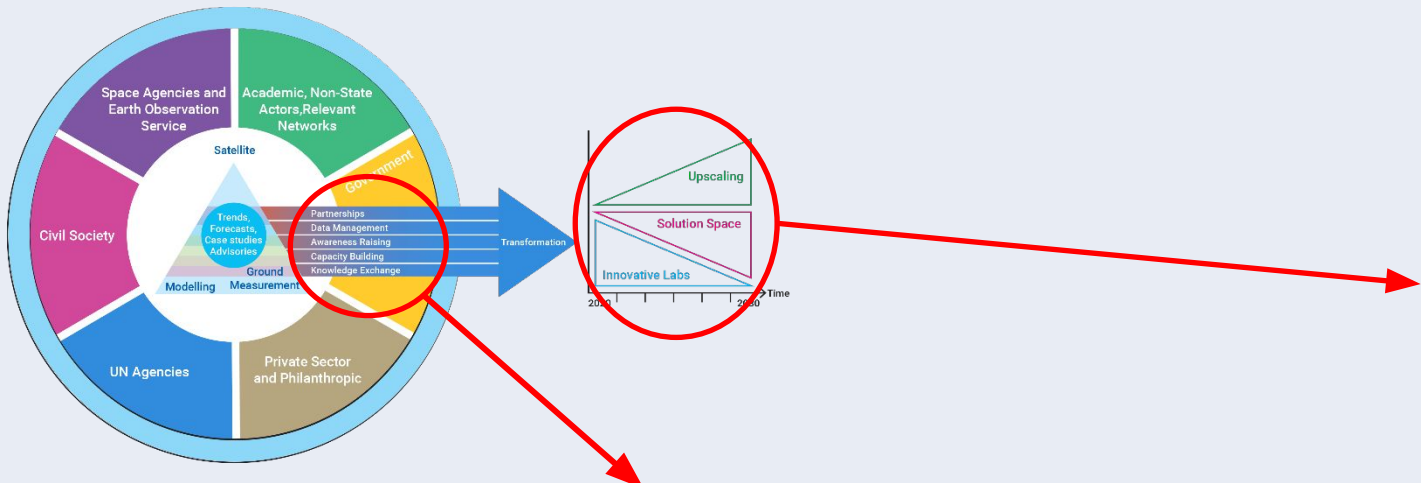
**~70% of countries surveyed did not have continuous monitoring at multiple sites**



# GEMS / Air Strategy - inclusive and collective



# GEMS / Air Strategy - Work packages



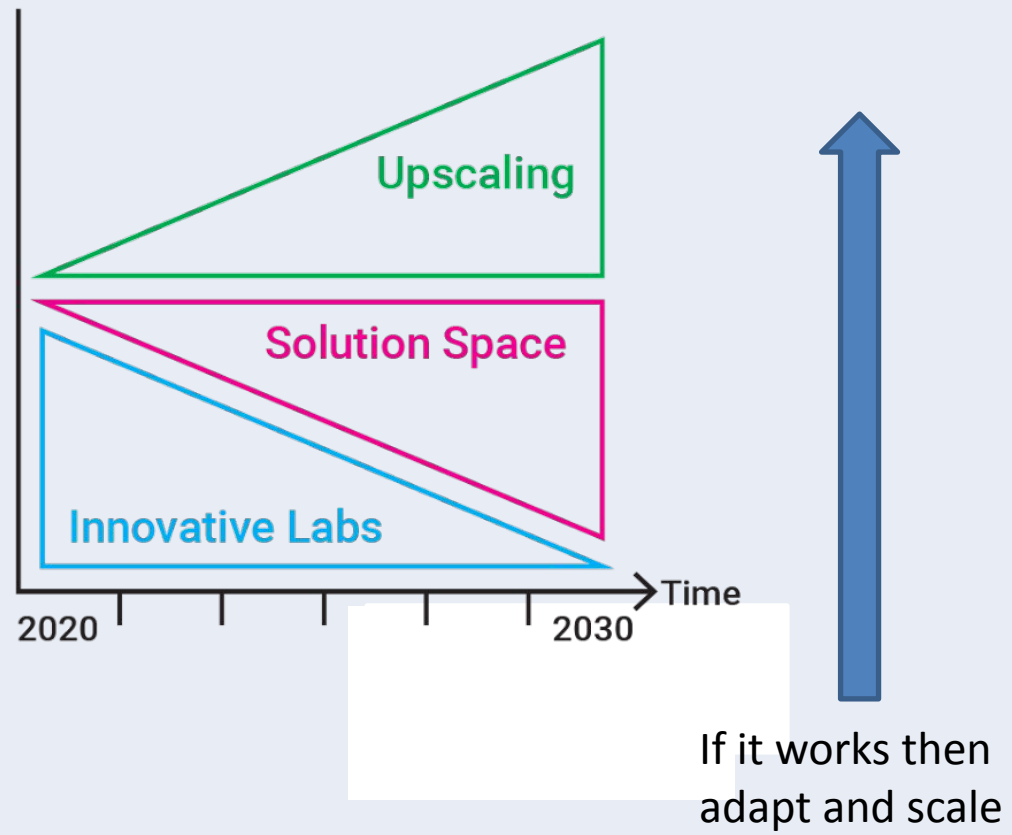
1. Partnerships

2. Data Management

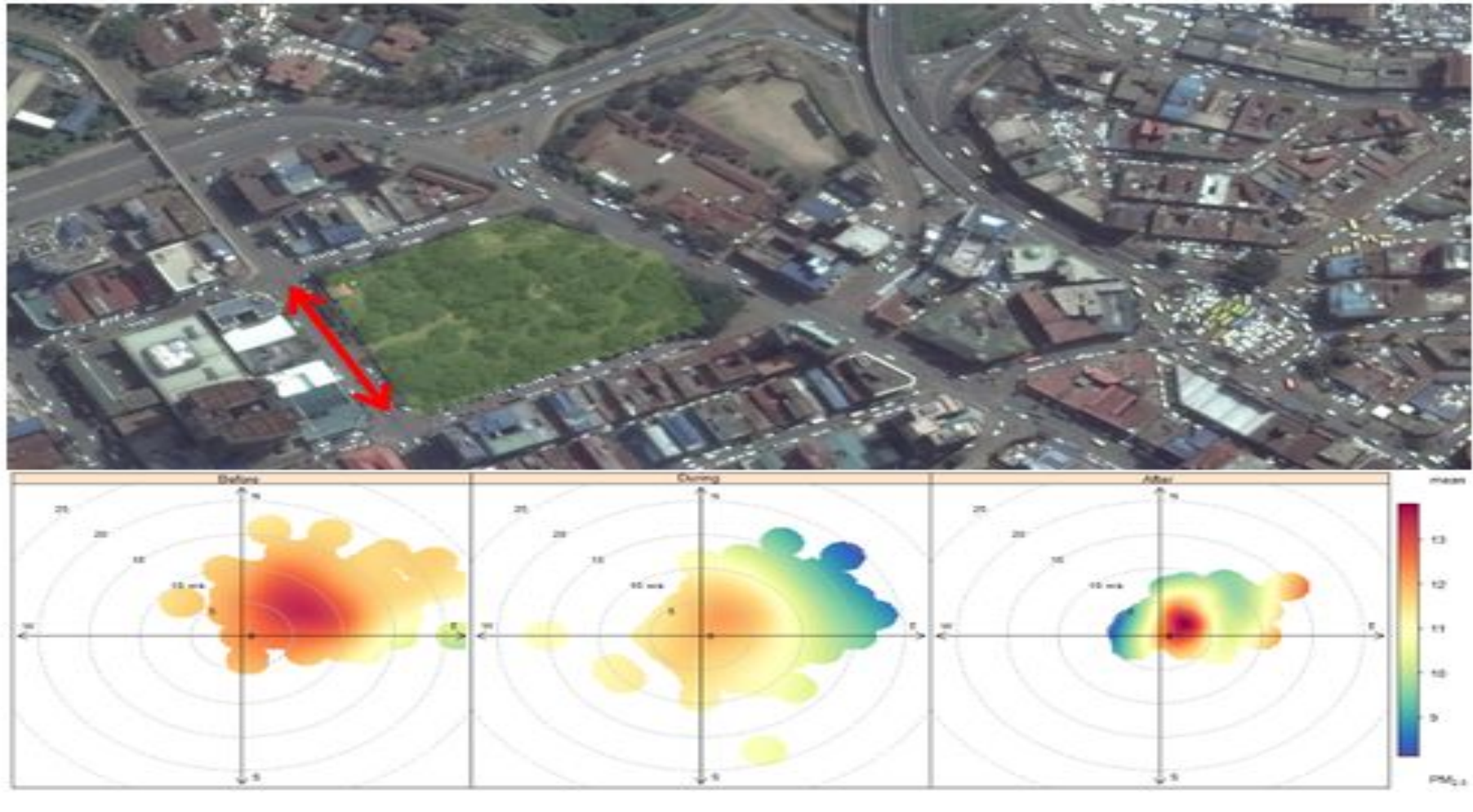
3. Awareness Raising

4. Capacity Building

5. Knowledge Exchange



# Street closures, Nairobi





# Sensitization

01 NOV 2018 GENERAL NEWS GENEVA, SWITZERLAND

## RADCLIFFE UNDERScores IMPORTANCE OF IAAF AIR QUALITY INITIATIVE AT WHO CONFERENCE IN GENEVA

IAAF Ambassador Paula Radcliffe underscored the importance of the IAAF's air quality initiative during a presentation at the First World Health Organisation Global Conference on Air Pollution and Health in Geneva on Wednesday (31).

"When we live in a world where seven million people a year die from polluted air related illnesses we cannot wait, we need to act now," Radcliffe said, speaking



Paula Radcliffe addressing the First World Health Organisation Global Conference on Air Pollution and Health (WHO) © Copyright

13 MAR 2019 PRESS RELEASE NAIROBI, KENYA

## IAAF AIR QUALITY PROJECT PRESENTED AT UNITED NATIONS ENVIRONMENT ASSEMBLY

The IAAF's innovative Air Quality Project was one of the key talking points at the United Nations Environment Assembly (UNEA) in Nairobi this week.

The project also featured on the second day of the Science Policy Business Forum held on 10 March prior to the opening of UNEA. It attracted stakeholders from the private sector, donor organisations, civil society and member states.

UNEA is a biennial gathering of high level delegates from heads of state and ministers of environment to stakeholders in environmental issues. Innovative



Sean Khan (UNEP), Stefanie Holtzwarth (UN Habitat), Nathan Palvoic (STI) and Miguel Escobedo (Kunak) at the Science Policy Business Forum in Nairobi (UNEP) © Copyright



# Low cost sensors in National Stadiums

02 NOV 2018 IAAF NEWS ADDIS ABABA, ETHIOPIA

## STADIUM AIR QUALITY MONITOR INSTALLED IN ADDIS ABABA, FIRST IN AFRICA



2 November, 2018: Athletics' icon Haile Gebrselassie, **ETH President** and **WHO Ambassador**, turns on the AQ device in Addis Ababa National Stadium



# Innovating with real-time hybrid networks – [iqair.com/unep](http://iqair.com/unep)





Air quality at Mbagathi Way now  
**Moderate**

PM2.5 27.9  $\mu\text{g}/\text{m}^3$

[@UNEP\\_Kenya](#)



alpha&jam



Safaricom



Dr Andriannah Mutheu  
[@AndriannahM](#)

Air quality impacts your health. Share for a  
[#HealthyAirHealthyPlanet](#)

7:30 PM · Aug 26, 2021









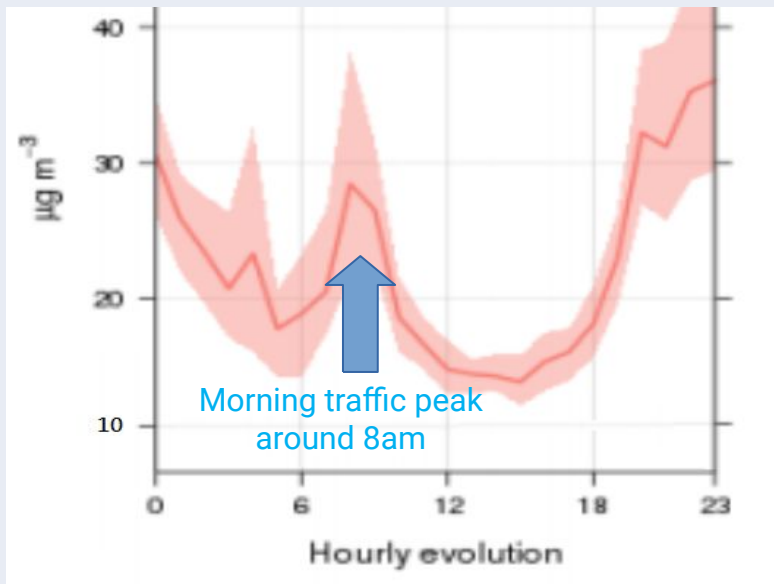




# Policy action support – Ethiopia, Addis Ababa June 2019

**Policy insights:** A city has imposed restrictions on Heavy-duty truck (3.5 tons or more) movement in the city between 6:30am and 8:00pm to reduce traffic in the capital

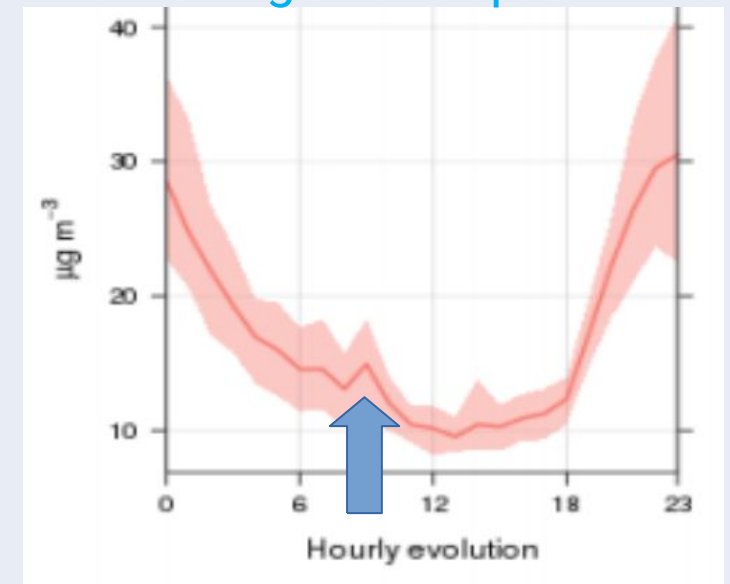
1 month data before “truck ban”  
1 Jun – 6 Jul 2019



PM2.5 Variations by  
“Time in a day”

(graphs showing each  
of the 24 hours of a  
day, averaged by each  
day in the  
1-month data)

1 month data after “truck ban”  
20 Aug – 20 Sep 2019



PRESS RELEASE 22 APR 2022

# World Athletics announces sustainability requirements for all sanctioned events

Leadership in sustainability (© Christel Saneh)

World Athletics has marked Earth Day by announcing that it will embed mandatory sustainability requirements into all the competitions that it owns or sanctions, in an effort to drive down the environmental impact of the sport.

Embedding principles of sustainability into event delivery is a core component of the [World Athletics Sustainability Strategy](#), a 10-year road map unveiled in April 2020 whose goals include transitioning to carbon neutrality across all of its operations and owned events by 2030.

To assist organisers in delivering more sustainable events, the organisation has developed two tools that work in tandem: a Sustainable Events Management System available in [English](#), [French](#) and [Spanish](#), which offers best practice guidance that covers 15 key areas of event planning and delivery, and the Athletics for a Better World Standard, a certification that measures and scores an event's achievement in sustainable delivery.

## RELATED ARTICLES



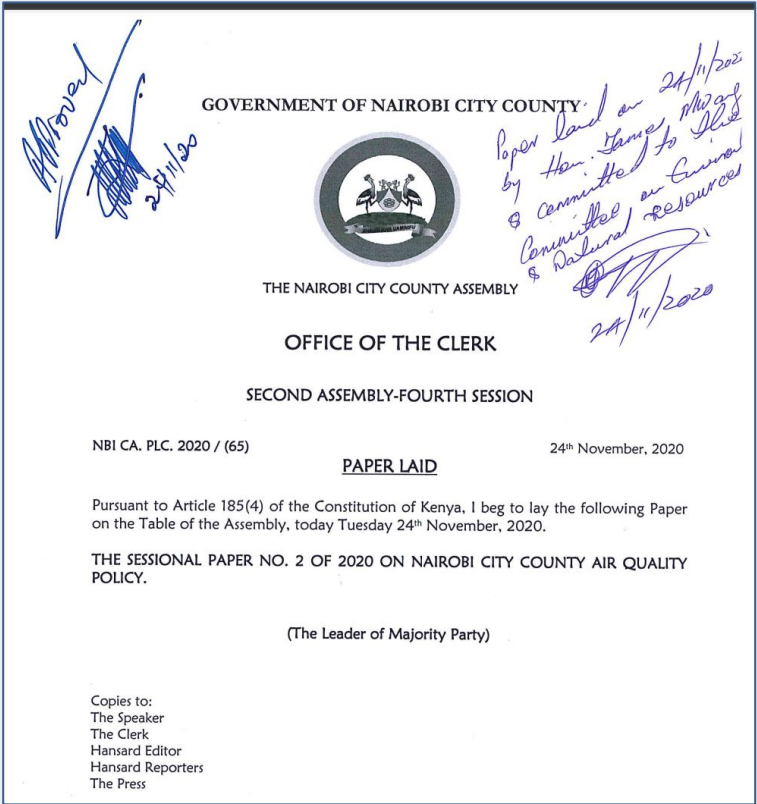
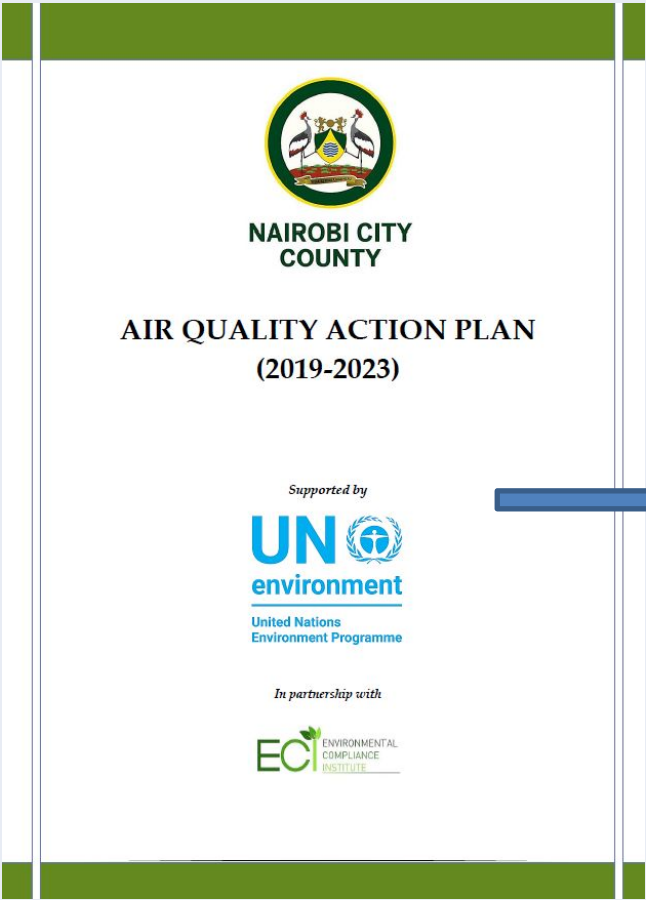
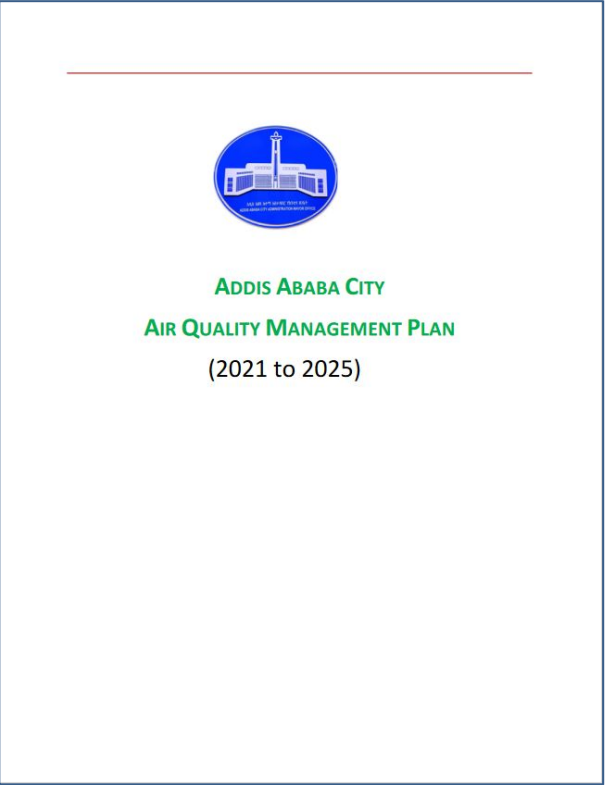
World Athletics marks return of Carifta Games...



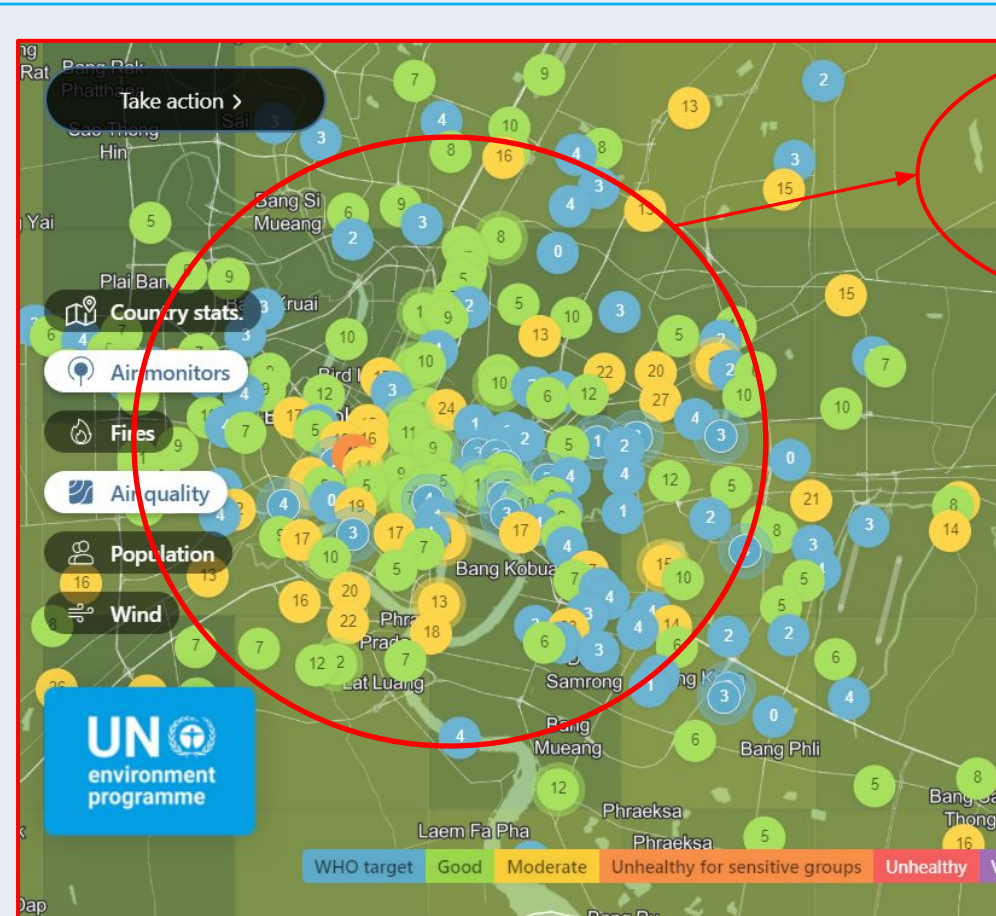
World Athletics makes commitment to a cleaner...



# Policy action support – Ethiopia, Kenya



# Targeted Advocacy - Thailand



11:34 AM

**IQAir**

Places Devices

**Support Thailand's Draft Clean Air Act**

Clean air is a human right. Thailand needs a law that helps to clear the air. Submit your comments in support of this bill.

[Learn More](#)

**Liangmao Road, Zuojia...**  
Chaoyang District, China

Moderate

68 US AQI

Mon	Tue	Wed
101-150	101-150	101-150
30° 17°	30° 18°	29° 18°

11:00 AM

[ADD PLACE](#) [MANAGE](#)

**Agricultural Exhibition Center**  
Beijing, China

Moderate

57 US AQI

Mon	Tue	Wed
101-150	101-150	101-150
30° 17°	29° 18°	29° 18°

11:00 AM

**Bangkok**

31°

My Air Map Statistics News & Ranking Shop

ระบบรับฟังความคิดเห็นต่อร่าง พ.ร.บ. ตามมาตรา 77 ของรัฐธรรมนูญ

ค้นหา

ร่างพระราชบัญญัติทำกับดูละการจัดการอากาศสะอาดเพื่อสุขภาพแบบบูรณาการ พ.ศ. ....  
นางสาวคณิศร ศรีบัวเอี่ยม กับผู้สิทธิเลือกตั้ง จำนวน 22,251 คน

รับฟังตั้งแต่วันที่ 12 เมษายน 2565 เป็นต้นไป

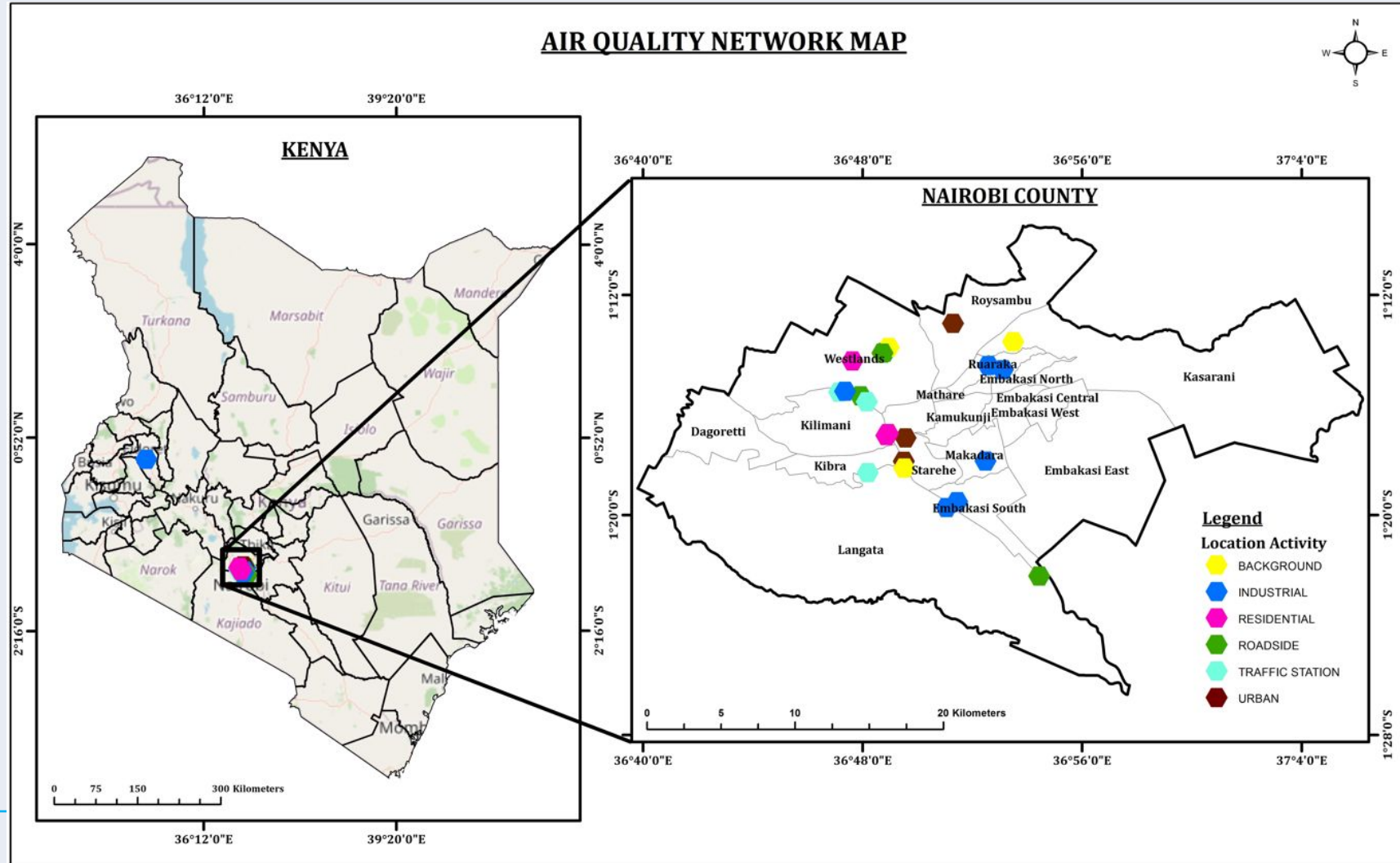
สถานะ: **เปิดรับความคิดเห็น**

ขณะนี้ มีผู้แสดงความคิดเห็นแล้ว 729 คน

ร่างพระราชบัญญัติทำกับดูละการจัดการอากาศสะอาดเพื่อสุขภาพแบบบูรณาการ พ.ศ. ....

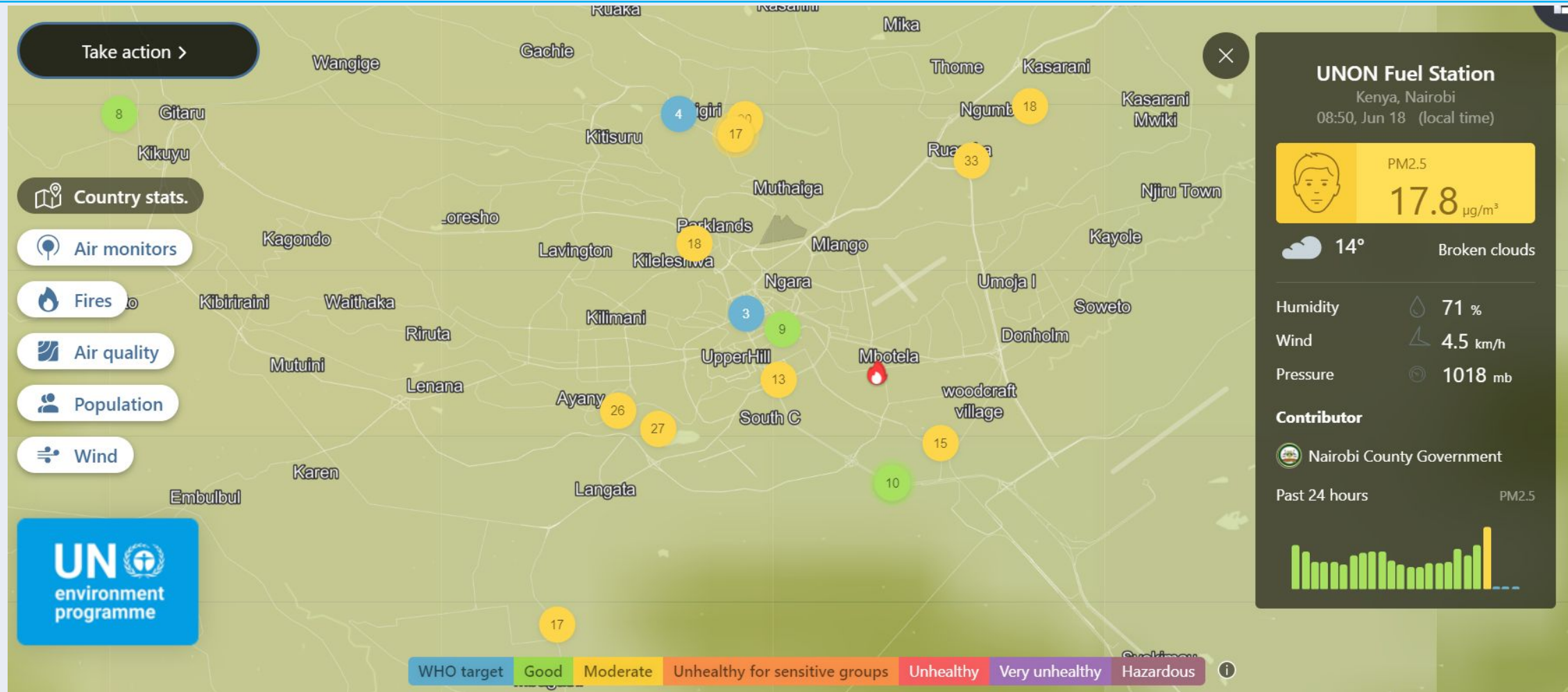
# openDataManagementSystem (oDMS)

# Nairobi Network (June 22)

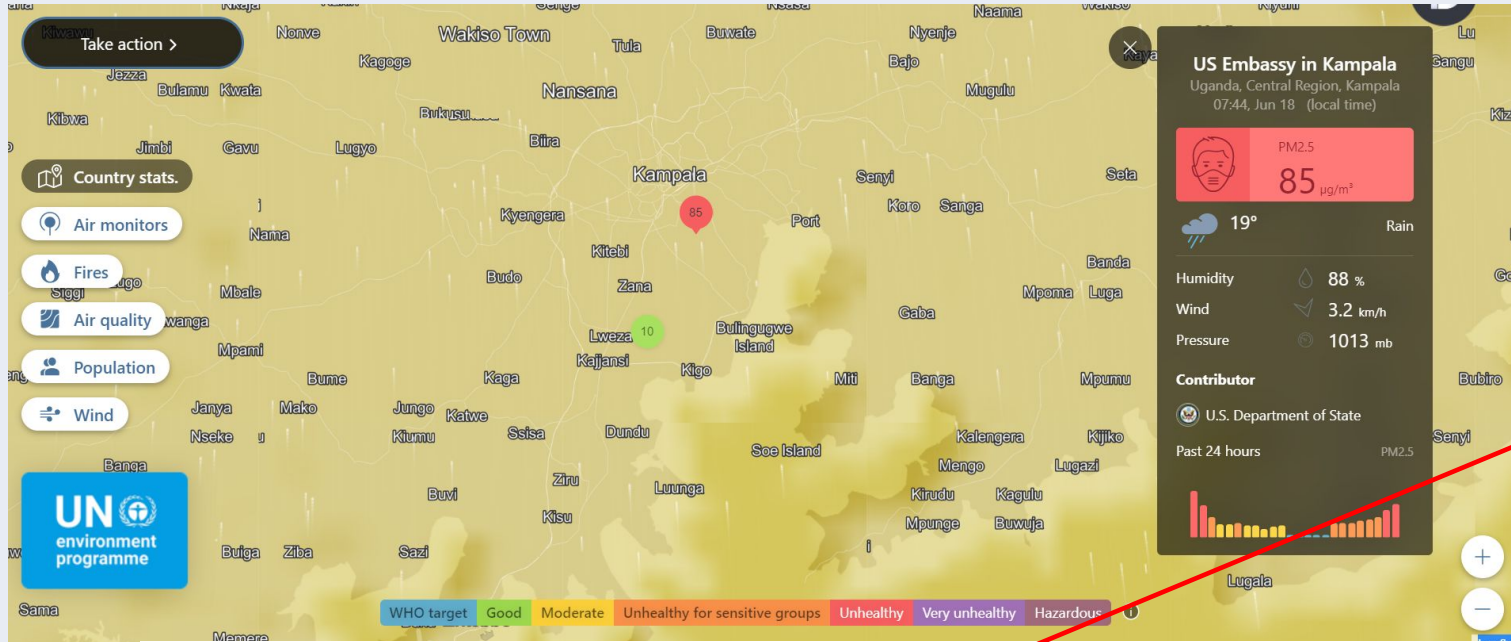




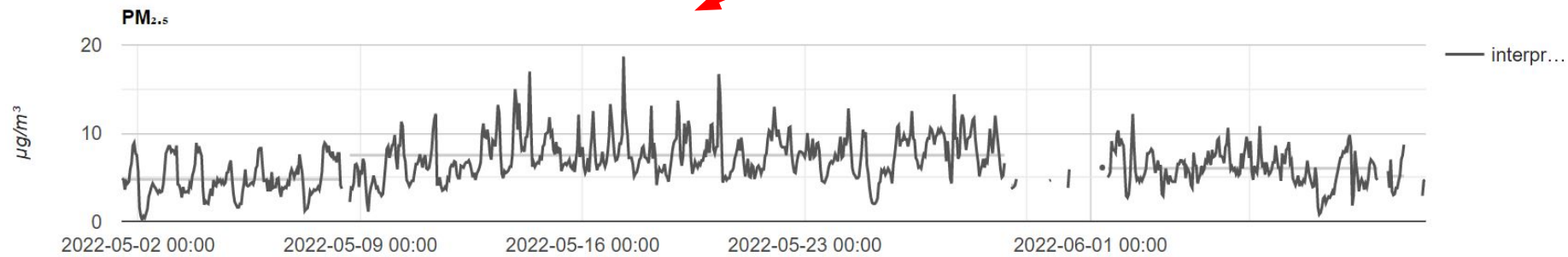
# Integrated real-time platform (Nairobi)



# Integrated real-time platform (Kampala)

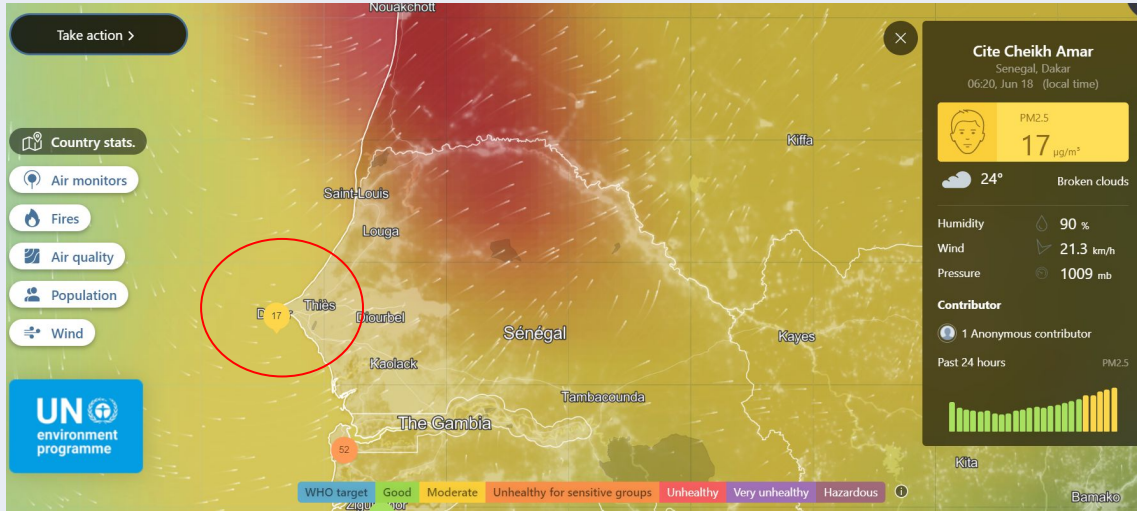


various  
types of  
instruments

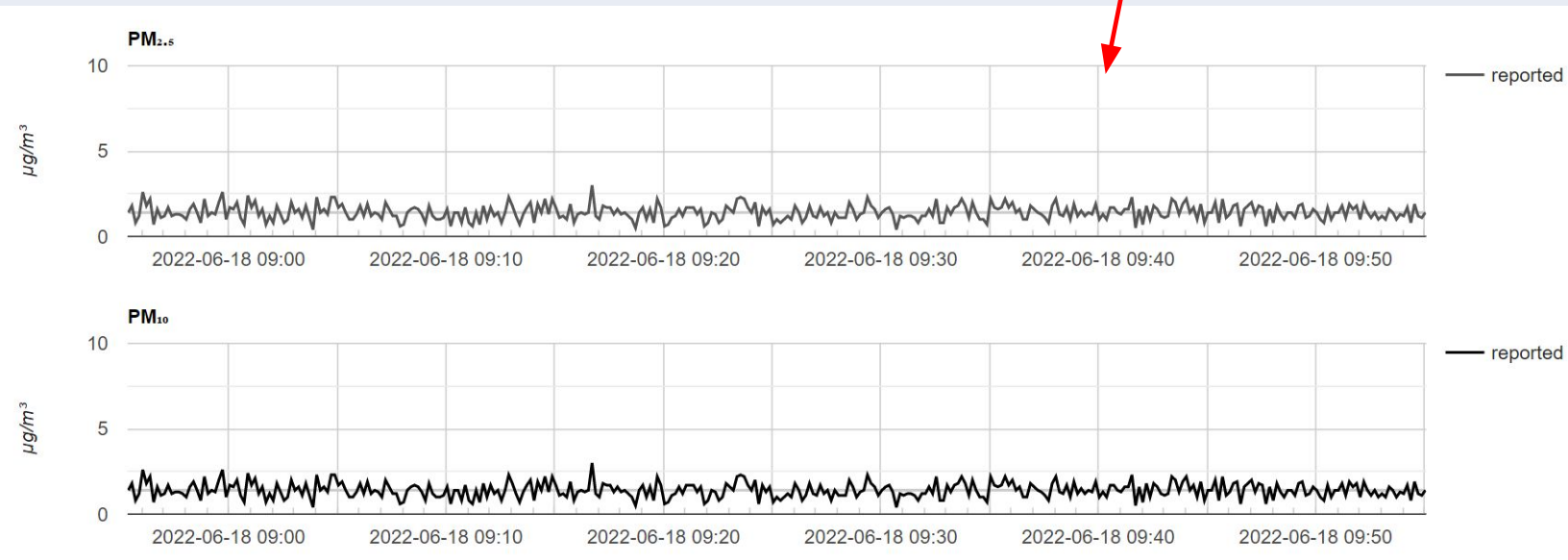




# Integrated real-time platform (Dakar)



Reference Infrastructure  
to be integrated



# Co-location and hybrid network design(Costa Rica)

Collocation sensor  
with the  
Volcanological and  
Seismological  
Observatory  
Reference Station in  
Costa Rica



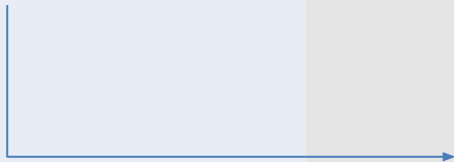


# here is the situation...

Multiple formats,  
propriety data access  
services, annual fees




Interoperability



Adapted from : Tim Dye, TD Environmental Services



  
**UNEP**

**DATA MANAGEMENT SYSTEM**

**USER LOGIN**

 please input account number

 please input a password

 please input verification code **7EXU**

**sign in**



# Highlighted Features of the Data Management System

June 2022

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**01**

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## **System Structure Overview**

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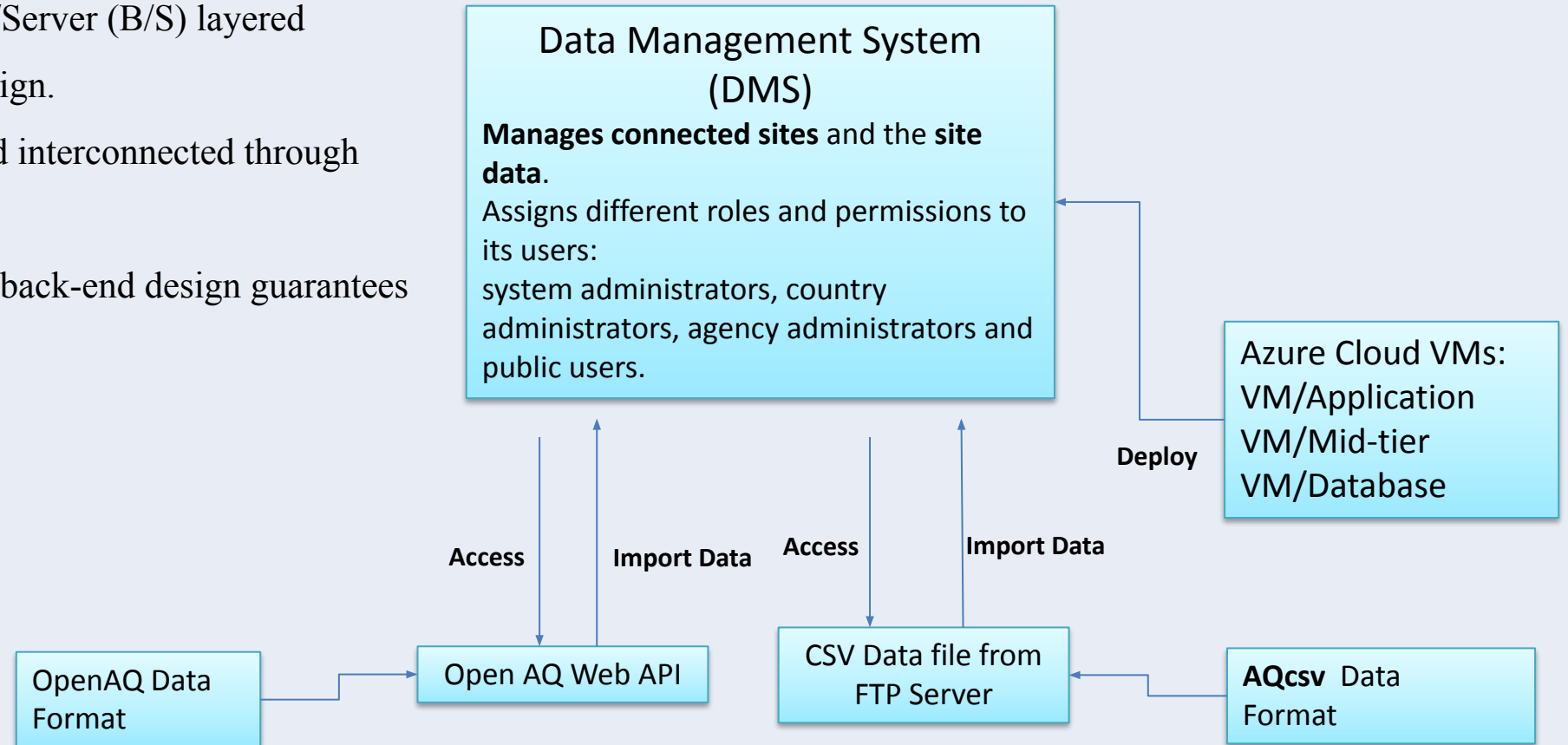


# System Structure

This system adopts Browser/Server (B/S) layered structure development & design.

Modules are coupled and interconnected through Web service.

Separated front-end and back-end design guarantees a strong scalability.



# 02

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## User Management

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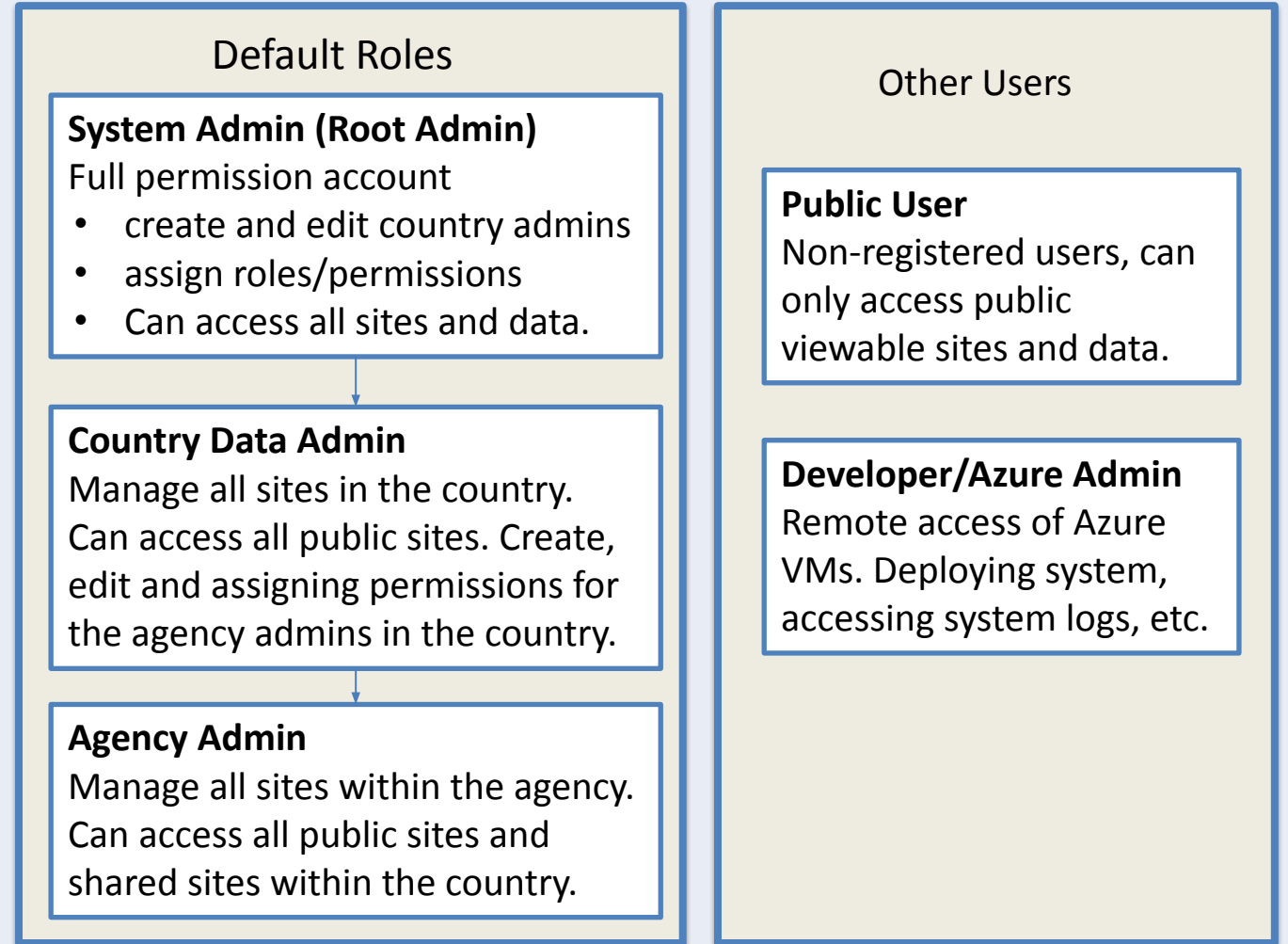


# Roles

Users of the DMS are assigned roles:

- **system admin** (UNEP root admin)
- **country data admin** and
- **agency admin**

Non-registered users can access the **public data** without logging into the DMS – data custodian manages data accessibility.



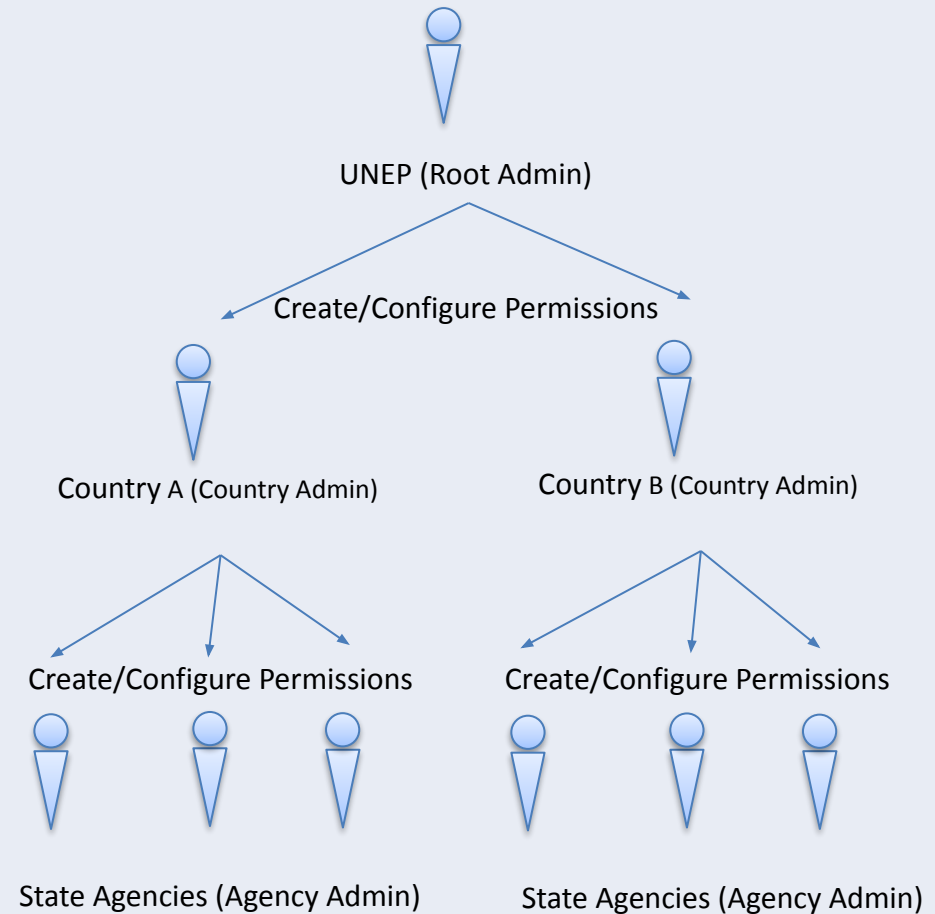


# User and Permission Management

Users are only allowed to access the authorized resources determined by their permissions. A supervisor account can create and configure the permission of a subordinated role (for all accounts under that role) or a single subordinated account.

Permissions include:

- Data access
- Site configuration
- Parameter setting
- Alarm setting and notification
- Maintenance records
- Creating accounts/roles
- etc.

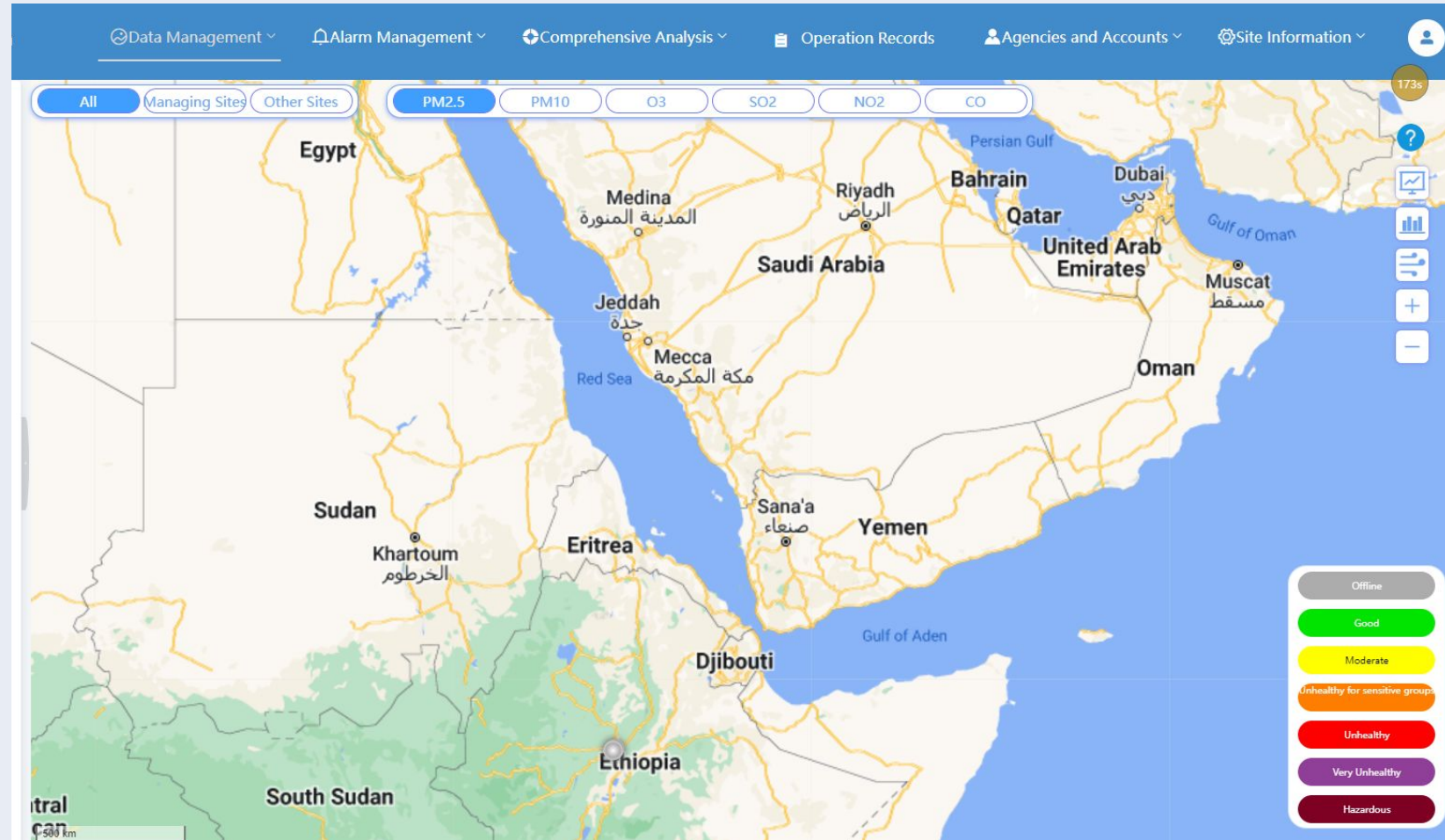


# Real-time Data

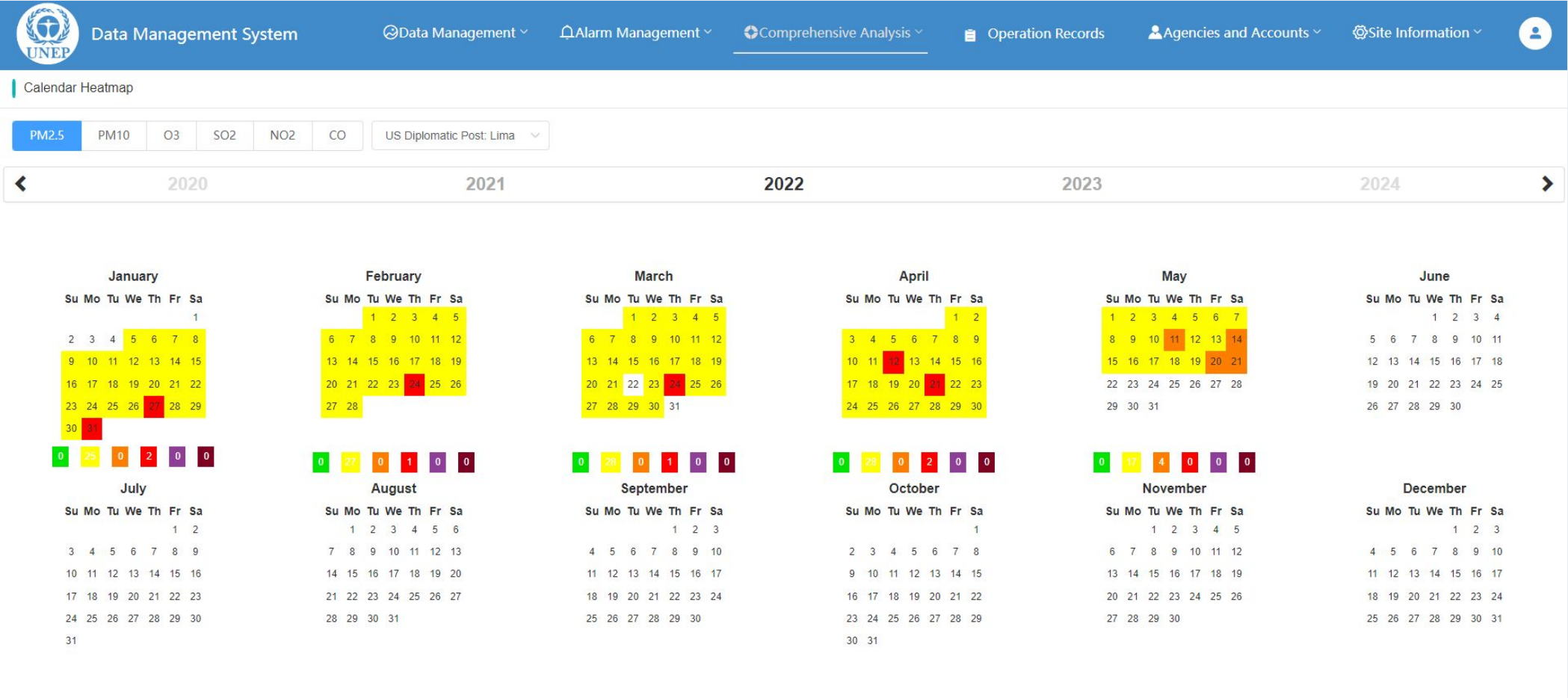
The real-time data with default zooming to the country/agency associated with the user account.

The real-time measurement and status of each managed site is displayed & listed

The color-coded air quality index (USEPA)



# Visualization and Analysis





# Alarm Management - Historical Alarm



2020年07月01日-2020年07月30日各报警类型统计图

2020年07月01日-2020年07月30日超标次数最多站点 (top10)

序号	站点名称	报警次数	占比
1	路南尚德村，景庄子村棚户改造项目一标段 9055	395	18.25%
2	路南南湖中央商务区核心项目一期A-01地块8041079	361	16.68%
3	迁西津西钢铁 18092	230	10.63%
4	乐亨德龙钢铁 18055	225	10.4%
5	丰南开滦钱家营矿业 1652	208	9.61%
6	滦州市科学技术局正南 3905	167	7.72%
7	遵化建龙特钢 18071	153	7.07%
8	路南南湖生态城中央商务工地 8041071	145	6.7%

2020年07月01日-2020年07月30日超标倍数 (top50)

序号	站点名称	时间	指标	监测值	预警值	超标倍数
1	遵化地税局南 3895	2020-07-23 15:30	CO	16.795	0.025	670.80
2	丰南开滦钱家营矿业 1652	2020-07-07 20:30	PM10	1047	4	260.75
3	丰南开滦钱家营矿业 1652	2020-07-07 20:00	PM10	1047	4	260.75
4	遵化地税局南 3895	2020-07-23 17:00	CO	8.201	0.032	255.28
5	丰南开滦钱家营矿业 1652	2020-07-15 10:30	PM10	2648	12	219.67

- **What do you need ?**
- **What can you bring ?**

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