

Sustainable S&T Clean Air Roadmap (2022-2028)

Overall Strategies

Overall Strategies

Human Resource

- Capacity building of institutions/LGUs on air quality sensors/equipment on air quality monitoring; use of satellite data for regional concentration of pollutants
- IEC/Info dissemination for collected data (I.e. for LGUs and industries; Fora/FGDs on air quality)

R&D Technologies

- Use of High-resolution MS and satellite data
- Upgrading of equipment for online monitoring of air quality (HPLC, Gas Chromatograph, AAS)
- Modelling techniques & approaches
- Real time portable analyzer/Test kits (XRF)
- Pollution exposure monitors
- Improvement of Indoor air quality
- GIS and AI for image analysis and information extraction
- System based measurement devices
- Enhanced methodology for Source apportionment (area based)
- Inclusion of other air quality indicators
- Deployment of developed technologies

Facilities / Services

- Center for air quality monitoring
- Calibration center for sensors
- Industry monitoring of air quality
- Update of data base for air quality/ Online emission inventory system
- Real time reporting of air quality
- Installation of air pollution treatment facilities in key areas (terminals, port areas)

S&T Policies

- Policy review on amendment of air quality measurement on concentration and equivalent guidelines on emission flow rate
- Policy on preparedness of Industry to capture the leaks of air pollutants
- Incentives for industries that apply pollution prevention/containment technology (e.g. bio-filters/air scrubbers, etc.)
- Updating of emission standards (every 2 years)

- 70M**
- Use of high-resolution Mass Spectrometers and satellite data for improvement of air quality (Baseline Data Gathering/ Technology Database)
 - Development of localized technology for Indoor air quality
 - GIS and AI for image analysis and information extraction
 - System based measurement devices

- 100M**
- Development of portable analyzer, localized data loggers, pollution exposure monitors, and upgrading of equipment for real-time monitoring (HPLC, AAS, Gas Chromatograph)
 - Use of predictive/smart technology for AQ monitoring
 - Containment technologies to prevent diffusion of pollutants/industrial gas leaks
 - Policy development on Local reference method for air quality monitoring

- 2022-2023**
- Technologies:**
 - Locally developed sensors (VOC sensors, IOT-wireless sensor platform, air quality, vulnerability and exposure maps, ROAM)
 - Modelling techniques & approaches
 - Deployment of developed technologies
 - Policy Review:**
 - Amendments of air quality measurement from concentration-base to equivalent emission rate
 - Updating of Joint Administrative Order for ETV of locally-developed / available sensors
 - Capacity Building**
 - Capacity building of institutions/LGUs on air quality sensors/equipment on air quality monitoring
 - IEC/Info dissemination for collected data (I.e. for LGUs and industries; Fora/FGDs on air quality)
 - Facilities:**
 - Industry monitoring of air quality

- 2024**
- Technologies:**
 - Real time portable analyzer /Test kits
 - Pollution exposure monitors
 - Improvement of Indoor air quality
 - GIS and AI for image analysis and information extraction
 - Deployment of developed technologies
 - Policy Review:**
 - Policy on preparedness of Industry to capture the leaks of air pollutants
 - Incentives for industries that apply pollution prevention/containment technology (e.g. bio-filters/air scrubbers, etc.)
 - Updating of emission standards (every 2 years)
 - Capacity Building:**
 - Use of satellite data for regional concentration of pollutants
 - Facilities:**
 - Center for Air Urban Environments
 - Update of data base for air quality/ Online emission inventory system
 - Real time reporting of air quality

Possible Solutions

- 110M**
- Establishment of Calibration centre for aerosol devices

- Modelling techniques and approaches, big data, databasing, etc

- Installation of air pollution treatment facilities

- 110M**
- Use of GIS and AI for image analysis and information extraction
 - Policy on application of bio-filters/ air scrubbers
 - Policy on preparedness of Industry to capture the leaks of air pollutants
 - Incentives for industries that apply pollution prevention/containment technology

Legend (Text Font):



Vision

Malinis na Hangin Dahil sa Akin

Upgraded the quality of air ecosystems in the country

2027-2028

Input in the formulation of guidelines/policies and standards on air quality

Overall Outcomes

- Human Resource**
- PhD, MS, BS students graduated
 - Established pool of experts
 - Trained personnel; stakeholders
- R&D Technologies**
- Clean Technologies for the prevention and control of air pollution
 - Commercialized technologies
- Facilities / Services**
- Established centers to address air pollution
- S&T Policies**
- Inputs to policies and updating of the Philippine Clean Air Act (RA 8749)
 - Incentives for industries that apply pollution prevention/containment technology

2026

- Technologies:**
 - Deployment of developed technologies
 - Enhanced methodology for Source apportionment (area based)
 - Inclusion of other air quality indicators
- Policy Review:**
 - Updating of emission standards (every 2 years)
- Capacity Building:**
 - Capacity building of institutions/LGUs on air quality sensors/equipment on air quality monitoring; use of satellite data for regional concentration of pollutants
- Facilities:**
 - Real time reporting of air quality Installation of air pollution treatment facilities in key areas (terminals, port areas)

Milestones

2025

2024

2022-2023