

The Working Group Meeting in 2024 (WG2024) on the
Acid Deposition Monitoring Network in East Asia (EANET)
20-21 August 2024, Virtual Meeting

CONSIDERATION OF THE DRAFT PARTNERSHIP AND RESOURCE MOBILIZATION STRATEGY

I. INTRODUCTION

1. The Twenty-fifth Session of the Intergovernmental Meeting (IG25) on the Acid Deposition Monitoring Network in East Asia (EANET), held on 29-30 November 2023, in Hanoi, Viet Nam, “*tasked the Secretariat and the Network Center to organize the Working Group Meeting in 2024 to review the 2025 Project Plans, among others.*” as stated in the Report of the Session (EANET/IG25/13, para 50).
2. In the approved Work Programme and Budget for Core Activities in 2024 (EANET/IG25/9), Activity 12 on the *Consideration on the future development of the EANET; Table 12.2 Accelerating the involvement of PCs and other organizations and explore fundraising opportunities for the EANET Project Fund*, the Secretariat for the EANET is tasked to support and consult PCs on accelerating their involvement in the submission and implementation of EANET Project Plans (EPPs). The Secretariat for the EANET is also tasked to consult with other organizations, develop partnerships and mobilize resources. In addition, the Secretariat is tasked to finalize a report on the development partnerships and mobilizing resources to support the EANET.
3. As such, the Secretariat for the EANET, with cooperation of the Network Center, has been consulting with PCs and other organizations to develop partnerships and mobilize resources. The Secretariat facilitated the recruitment of a consultant, following UNEP rules and regulations, in the last quarter of 2023, to support the EANET Project Fund activities and the development of the partnership and resource mobilization strategy. The Secretariat for the EANET consulted with PCs and other organizations to explore challenges and opportunities to support EANET activities and co-develop Project Plans.
4. The Draft Partnership and Resource Mobilization Strategy as shown in Attachment 1 is based on the consultations of the Secretariat for the EANET with various PCs and other organizations and as well as relevant literature review. The draft Strategy will still be improved leading to the 24th Session of the Scientific Advisory Committee Meeting on 29-31 October 2024 and the 26th Session of the Intergovernmental Meeting on EANET on 27-28 November 2024. UNEP and ACAP will be requested to review and provide suggestions to improve the document.
5. Depending on the guidance and decision provided by the IG26, the Partnership and Resource Mobilization Strategy of the EANET could be also integrated into the next Medium-Term Plan (2026-2030) of the EANET.

II. ACTIONS REQUIRED

6. The WG2024 is invited to review the document “Consideration of the Draft Partnership and Resource Mobilization Strategy” and may wish to discuss, consider, and provide guidance for further action to the 26th Intergovernmental Meeting (IG26) to be held in November 2024, as appropriate.

Attachment 1

DRAFT
PARTNERSHIP AND RESOURCE MOBILIZATION AND STRATEGY
FOR THE EANET

List of Abbreviation

AATHP	ASEAN Agreement on Transboundary Haze Pollution
ACAP	Asia Center for Air Pollution Research
ADB	Asian Development Bank
AFD	Agence Française de Développement
AMS	ASEAN Member States
APCAP	Asia Pacific Clean Air Partnership
AQIP	Air Quality Improvement Program
AQMx	Air Quality Management Exchange
ASEAN	Association of Southeast Asian Nations
AWGCC	ASEAN Working Group on Climate Change
AWGESC	ASEAN Working Group on Environmentally Sustainable Cities
CAA	Clean Air Asia
CAF	Clean Air Fund
CASA	Clean Air for Sustainable ASEAN
CCAC	Climate and Clean Air Coalition
CF	Co-financing/ co-financier
CITEPA	Technical Reference Center for Air Pollution and Climate Change
CRAES	Chinese Research Academy of Environmental Sciences
EANET	Acid Deposition Monitoring Network in East Asia
EPF	EANET Project Fund
FAO	Food and Agriculture Organization of the United Nations
GEMS	Geostationary Environment Monitoring Spectrometer
GIZ	Deutsche Gessellschaft fur International Zusammenarbeit
GMS	Greater Mekong Subregion
IAs	Implementing Agencies
IGES	Institute for Global Environmental Strategies
IIASA	International Institute for Applied Systems Analysis
JICA	Japan International Cooperation Agency
KOICA	Korea International Cooperation Agency
LCSs	Low-Cost Sensors
MTP	Medium-Term Plan
NC	Network Center of the EANET
NGOs	Non-Governmental Organizations
NIER	National Institute of Environmental Research
PAPGAPi	Pan-Asia Partnership for Geospatial Air Quality information
PCs	Participating Countries
PL	Project Lead

POs	Partner Organizations
RAPAP	Regional Action Programme on Air Pollution
ROK	Republic of Korea
SEACAI	Southeast Asia Clean Air Initiative
SEC	Secretariat of the EANET
SEI	Stockholm Environment Institute
SIDA	Swedish International Development Cooperation Agency
SIG	Seoul, Incheon and Gyeonggi Province
SLCP	Short-Lived Climate Pollutants
TICA	Thailand International Cooperation Agency
UNDP	United Nations Development Programme
UNEA	United Nations Environment Assembly
UNEP	United Nations Environment Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
VOCs	Volatile Organic Compounds
WHO	World Health Organization
WMO	World Meteorological Organization
WPB	Work Programme and Budget
WRI	World Resources Institute

1. Introduction

Mobilizing resources to support the implementation of activities has always been a priority in the EANET. In 2001, when EANET was established as an intergovernmental regional initiative to create a common understanding on the state of acid deposition problems in East Asia, provide useful inputs for decision making at various levels, and promote cooperation among 13 countries in Northeast and Southeast Asia, its initial activities have been supported by the generous contribution of a few Participating Countries (PCs). Eventually, most of the PCs have provided voluntary financial contributions to support its activities.

EANET became one of the few intergovernmental organizations working on atmospheric environment globally that finances its own activities. The monitoring activities, impact assessment, scientific research, and capacity building activities of the EANET have contributed to improving the capacity of national governments and experts in the region to better understand atmospheric environmental challenges and develop appropriate policies. However, the economies of Northeast and Southeast Asian countries have grown substantially over the last two and a half decades leading to a rapid increase in urbanization, motorization, energy use, agricultural productivity, among others, which in turn, contributed to more atmospheric environment challenges.

At the IG23 in 2021, EANET expanded its scope to cover other atmospheric environment-related substances with the adoption of [the Annex](#) to the [EANET Instrument](#), to adapt to growing concerns of air pollution in some countries. At the same time, the [EANET Project Fund \(EPF\)](#) was established to promote collaboration beyond the EANET network and mobilize more resources. The EANET Project Fund and Project Guideline became a new financial mechanism allowing EANET to build co-financed projects with partners in the region and beyond. Over the past three years since the EPF was introduced, there has been an increasing number of co-financed projects, and more in-kind contributions from PCs and as well as increasing involvement in project development and implementation. Despite this progress, most of the EPF comes from a limited number of PCs.

At the IG24 in November 2022, the approved [Work Programme and Budget \(WPB\)](#) in 2023 included activities for the Secretariat to support the acceleration of the involvement of PCs and other organizations and explore fundraising opportunities for the EANET Project Fund. At the IG25 in November 2023, the approved [WPB in 2024](#) included activities for the Secretariat to finalize the development of a Partnership and Resource Mobilization Strategy for the EANET. However, the recruitment of a consultant to support the EPF and the development of the Partnership and Resource Mobilization Strategy only took place in the 4th quarter of 2023 due to administrative delays.

The objective of this Strategy is to outline key actions to develop and strengthen partnerships with other organizations and raise additional resources to support project activities. The Strategy identifies opportunities to accelerate PC's involvement and actions to partner with other organizations to support EANET activities.

The Secretariat consulted several PCs and other organizations to explore cooperation with the EANET and support Project Fund activities from the 4th quarter of 2023 up to the present. The insights gained from these consultations are integrated in the following sections.

The Strategy is divided into three main sections: the current EANET core and project fund resources, a Partners and Resource Mobilization Mapping for Atmospheric Environment Management in the East Asia region, and the proposed Partnership and Resource Mobilization Strategy for the EANET.

2. Current EANET Core and Project Fund Resources

EANET has been financially supported by the PCs themselves since its inception. The PCs provided voluntary financial contributions to the Secretariat, hosted by the United Nations Environment Programme (UNEP), and to the Network Center, hosted by the Asia Center for Air Pollution Research (ACAP) under the Japan Environmental Sanitation Center (JESC) to support Core and Project activities.

The indicative annual budget of the Secretariat and the Network Center is specified in the MTP for the EANET. The current MTP (2021-2025) specifies the annual voluntary financial contributions by PCs based on the UN assessment scale-based burden sharing starting in 2005. In addition, an annual WPB of the EANET Core Activities is prepared by the Secretariat and the Network Center and approved by the PCs at the IG meeting every November. There are discrepancies in the indicative annual budget specified in the [MTP \(2021-2025\)](#) to the approved annual WPB reflecting additional activities due to the expansion of scope approved at IG23 particularly starting in 2022.

The Financial Report of the Secretariat and the Network Center in 2021 and 2022, presented at IG24 and IG25 respectively, showed the estimated and actual voluntary financial contributions of the PCs and to the Core Budget of the Secretariat and the Network Center (see Table 1). In 2021, the Secretariat received 88% of the estimated annual voluntary financial contribution, and 78% in 2022. On the other hand, the Network Center received 80% of their estimated annual voluntary financial contribution in 2021 and 92% in 2022.

Table 1. Voluntary Financial Contribution to the Core Budget of the Secretariat and Network Center in 2021-2022 (in USD)

Participating Countries	SEC			NC		
	Estimated annual contribution	Actual annual contribution (2021)	Actual annual contribution (2022)	Estimated annual contribution	Actual annual contribution (2021)	Actual annual contribution (2022)
Cambodia	134	200	200	121	200	200
China	272,602	203,730	160,677	246,384	102,170	145,223
Indonesia	12,332	0	0	11,146	0	0
Japan	194,468	203,768	194,468	175,764	277,210	298,819
Lao PDR	115	0	0	104	0	0
Malaysia	7,742	7,742	7,742	6,997	0	0
Mongolia	115	200	200	104	200	200

Participating Countries	SEC			NC		
	Estimated annual contribution	Actual annual contribution (2021)	Actual annual contribution (2022)	Estimated annual contribution	Actual annual contribution (2021)	Actual annual contribution (2022)
Myanmar	225	225	225	203	203	183
Philippines	4,657	4,657	4,657	4,209	4,209	4,209
Republic of Korea	51,478	51,220	44,292	46,527	0	0
Russia	54,612	54,612	54,612	49,359	49,359	49,359
Thailand	6,971	6,971	6,971	6,300	4,829	4,829
Viet Nam	1,749	1,749	1,749	1,581	1,581	1,581
Total	607,200	535,074	475,793	548,799	439,961	504,603

Sources: Financial Reports of the Secretariat and the Network Center in 2021 and 2022

Table 2 shows the approved total budget of the Secretariat, the Network Center and the EPF for 2021 to 2023. The differences in the approved budget and expenditures are due to various reasons including savings on some activities due to the COVID-19 pandemic, and others.

Table 2. The Approved Budget of the Secretariat and Network Center for Core and the EANET Project Fund from 2022 to 2023 (in USD)

		2021		2022		2023	
		Approved Budget	Expenditure	Approved Budget	Expenditure	Approved Budget	Expenditure
Core	Secretariat	625,900	436,683	572,600	427,169	637,885	519,161
	NC*	711,581	602,031	634,581	597,782	626,130	NA
Total Core Budget		1,337,481	1,083,714	1,207,181	1,024,951	1,264,015	NA
EPF		[370,110]**	[195,943]**	329,392	310,276 ¹	489,700	NA
Total Core + EPF		1,707,591	1,234,657	1,536,573	1,335,227	1,753,715	NA

Sources: WPB in 2022 and 2023; and Financial Report of the Secretariat and the Network Center's Core Budget Activities in 2022

Notes:

*Including office rental fee that is covered by Niigata Prefecture, Japan

** In 2021, there were no EPF projects, however there were some projects and activities called non-core activities

¹ EANET, 'Annual Report of the EANET Projects and EANET Project Fund Since IG24' (2023)
<https://www.eanet.asia/wp-content/uploads/2023/12/EANET_IG25_4_3_Progress-Project-Activities.pdf>.

Table 2 shows that the EPF increased every year reflecting the scale and complexities of approved projects. In 2022, 11 EANET Projects (EPRs) were approved with a total budget of USD 329,392². In 2023, there were 8 EPRs approved with a total amount of USD 489,700³ and in 2024, there were 11 projects for a total of USD 600,136⁴.

In 2022, the sources of the EPF and Co-Financiers (CF) were Japan, the Philippines, and the Secretariat using the available cash balance from the voluntary financial contributions of the PCs in UNEP. In 2023 and 2024, additional financial contributions were received from China, Republic of Korea, and the Network Center’s available cash balance. Table 3 shows the funding sources of the EANET Projects from 2022 to 2024.

Table 2. Funding sources of EANET Projects 2022-2024 (in USD)

Year		SEC	NC	Japan	Philippines	Republic of Korea	China	Total (USD)
2022	EANET Project Fund (EPF)	0	0	160,500	0	0	0	329,392
	Co-Financing (CF)	0	0	160,500*	8,392	0	0	
2023	EANET Project Fund (EPF)	73,000	0	160,500	0	0	0	489,700
	Co-Financing (CF)	0	0	178,500*	2,630***	77,000	0	
2024	EANET Project Fund (EPF)	70,000	40,110	139,175	0	0	0	600,136
	Co-Financing (CF)	54,000	23,000	154,151*	0	77,000	42,000**	

Sources: Annual Report of EANET Project Fund (AREPF) in 2022 in Transition Period; Consideration of Draft EANET Project Plans in 2023; Consideration of Proposed Project Plans in 2024

Notes:

*Includes contribution from the Japan Society on Promotion of Sciences (JSPS)

**Contribution from Fudan University in Shanghai, China

***The contribution from the Philippines in 2023, USD 2,360, was acknowledged in the IG and will be included in the 2024 report

² EANET, ‘Annual Report of EANET Project Fund (AREPF) in 2022 in Transition Period’ (2022) <https://www.eanet.asia/wp-content/uploads/2023/01/EANET_IG24_4_1_3_Annual-Report-of-EANET-Project-Fund-AREPF-in-2022_14Nov2022.pdf>.

³ EANET, ‘Consideration of Draft EANET Project Plans for 2023’ (2022) <https://www.eanet.asia/wp-content/uploads/2023/01/EANET_IG24_10_REV_Work-Programme-and-Budget-2023_Project_After-IG24_Clean-1.pdf>.

⁴ EANET, ‘Consideration of Proposed Project Plans in 2024’ (2024) <https://www.eanet.asia/wp-content/uploads/2023/12/EANET_IG25_10_Consideration-of-Draft-Proposed-Project-Plans.pdf>.

Over the past three years, financial and in-kind contributions to the EPF from PCs have increased. This includes support from PCs that became Implementing Agencies (IAs), Partner Organizations (POs) and CFs, China, the Philippines, and the Republic of Korea becoming CFs. More PCs are becoming IAs and POs, providing financial and in-kind contributions and as well as becoming Project Lead (PL) such as the National Institute of Environmental Research (NIER) of the Republic of Korea (ROK).

The support of NFPs within the EPF mechanism has been instrumental in the implementation of EPRs. A prominent example is the EPR on “Promoting Volatile Organic Compounds (VOCs) related Capacity Building in the EANET”, attracting the participation of additional PCs and in-kind contributions. In 2023, pilot cities included Ulaanbaatar, Mongolia and Metro Manila (Pasig, Quezon and Valenzuela) with technical support from the Institute of Atmospheric Environment, Chinese Research Academy of Environmental Sciences (CRAES), China and Center for Environmental Science in Saitama (CESS), Japan. Two additional countries including Cambodia and Viet Nam joined in 2024.

In addition to in-kind contributions from PCs, the Secretariat and the Network Center have been successful in getting the participation of other organizations who have made in-kind contributions, like Clean Air Asia (CAA), International Institute for Applied System Analysis (IIASA), and Technical Reference Center for Air Pollution and Climate Change (CITEPA). IIASA has participated in the EPR#2024/12 Seminar on Sustainable Nitrogen Management and, together with CITEPA, contributed to the EPR#2024/10 Stocktaking and Methodological Assessment Emissions Inventories and Source Apportionment of Air Pollution in Southeast Asia. Both organizations took part in the project meetings and shared their experiences on CLRTAP and emissions inventories.

3. Partners and Resource Mobilization Mapping for Atmospheric Environment Management in the East Asia region

This section provides an overview of the various stakeholders in the region that support activities to improve the atmospheric environment in Northeast and Southeast Asia, including financial and technical support provided to EANET.

3.1. Participating Countries (PCs)

The PCs, themselves, are the main sources of funding for various air quality management-related activities in their countries. The more developed and higher income PCs have invested substantially to address the air pollution problem, usually led by the Ministries of Environment supported by national governments. Provincial and city governments have also invested substantial resources for air quality management.

In UNEP’s review of air quality management efforts in Beijing, China published in 2019 showed the gradual establishment of a number of local environmental-economic policies, including subsidies, fees, pricing, and other financial practices, to provide economic incentives for the effective implementation of pollution control measures. Beijing has scaled up its financial funding on air pollution control from 1.7 billion Yuan (CNY) in 2009 to 18.22 billion CNY in 2017, an increase of nearly ten times in eight years.⁵ This has resulted to a 25% reduction of fine particulate

⁵ UNEP, *A Review of 20 Years Air Pollution Control in Beijing*, vol 01 (2019).

matter in the Beijing, Hebei, and Tianjin region. In 2023, UNEP published a review of the air quality management experience in Seoul, Incheon, and Gyeonggi Province (SIG) in the ROK. Similarly, the governments of SIG have also provided strong legal frameworks and substantial financial investment, approximately USD 9 billion from 2007 to 2020, to address the air pollution in SIG. This investment has enabled the effective implementation of mitigation measures in the SIG, with 56% of the total investment going towards the implementation of measures to reduce emissions from the transport sector.⁶

Several national research institutions and academic institutions in the PCs are also conducting research and other activities in support of acid deposition and air quality management in their countries. Some of these organizations have supported and/or cooperated in the EANET National Awareness Workshops and in the implementation of EANET Projects in their countries. Some examples include: (i) the University of the Philippines which hosted the EANET National Awareness Workshop together with the Department of Environment and Natural Resources of the Philippines in May 2023; (ii) Fudan University in Shanghai, China which hosted the National Awareness Workshop in China together with the Ministry of Ecology and Environment of China and the Chinese Research Academy of Environmental Sciences in October 2023, and (iii) Institute of Technology Cambodia that supported the program of the National Awareness Workshop hosted by the Ministry of Environment in April 2024. In addition, NGOs like Clean Air Asia have supported most of the Regional National Awareness Workshops of the EANET; the Global Green Growth Institute (GGGI) supporting the National Awareness Workshop in Cambodia as a resource speaker.

Other government institutions like the Chinese Research Academy of Environmental Sciences (CRAES), China; the National Institute of Environmental Research (NIER), ROK; National Research and Innovation Agency (BRIN), Indonesia, have also supported various EANET activities.

Exploring the potential support from PCs, financial or in-kind, was done prior to the EANET's expansion of scope. In 2018, and in line with Item 13, 3 of the Instrument, a feasibility study was conducted concerning the establishment of a new Network Center for the EANET, presented at [IG20 \(EANET/IG20/7_rev.1\)](#).

The study recommended that if there is no proposal or intention from the PCs to host a new NC, it might be possible for EANET to facilitate the establishment of an Open Laboratory. The Open Laboratory could facilitate joint research, training programs, and other related activities among PCs. However, since the study was conducted before the expansion of scope, the proposed potential activities overlapped with the current NC activities as stipulated in the Instrument. Therefore, it is difficult to clearly define the activities of the Open Laboratory and distinguish them from the current Network Center activities. To attract PCs to host a new NC, it is important to consider areas of new activities.⁷ Since EANET has already undertaken the expansion of scope,

⁶ UNEP, 'Achieving Clean Air for Blue Skies in Seoul, Incheon and Gyeonggi, Republic of Korea' (2023) <<https://wedocs.unep.org/20.500.11822/42432>>.

⁷ EANET, 'Draft Report of Elaboration of the Feasibility Study on the Establishment of a New Network Center for the EANET' (2018) <https://www.eanet.asia/wp-content/uploads/2020/04/13_IG20_7_Elaboration-of-Feasibility-Study-of-a-New-NC_modified_rev1_NC2_web.pdf>.

the possibility of establishing the Open Laboratory could be encouraged and beneficial for the implementation of EPRs.

This establishment of additional technical centers was also recommended by the Mid-Term Review of the Medium-Term Plan (MTP) of the EANET (2021-2025). With the expansion of the scope of the EANET, the question of the possible need for additional technical support through additional network center(s) was raised. The use of additional network centers could have benefits beyond technical support in terms of dissemination and outreach of EANET results.

3.2. Bilateral and Multilateral Development Agencies

Bilateral and Multilateral Development Agencies provide technical assistance, loans and grants to support air quality management-related projects and activities in the region. Based on the consultations conducted by the Secretariat accessing funds from bilateral and multilateral development agencies commonly entail competitive tendering processes like bidding and/or submitting expressions of interest (EOI) to implement their projects or certain elements of the projects. Co-development of technical assistance projects (grants) may be possible on a case-by-case basis. This means that for EANET to access such funds, an entity within EANET would have to submit the EOIs and/or bid for the projects for implementation.

Within the EANET, there are bilateral agencies that are significantly supporting air pollution reduction projects in the region, such as the Japan International Cooperation Agency (JICA), the Korea International Cooperation Agency (KOICA) and Thailand International Cooperation Agency (TICA).

The **Japan International Cooperation Agency (JICA)** has been involved in the EANET since its early development including supporting air quality monitoring activities. Through the JICA Training Course, JICA has supported the early capacity building for monitoring of EANET.⁸ It had supported projects in Cambodia, China, Indonesia, Lao PDR, Malaysia, Mongolia, Myanmar, Philippines, Thailand and Viet Nam. In 2024, JICA contributed as Partner Organizations (POs) under the EPR#2024/4 (PM_{2.5} source apportionment in pilot cities of EANET for recommendations on feasible reduction policy) under the Japan-Thailand Clean Air Partnership (JTCAP). Currently, air quality management is being addressed under the JICA Clean City Initiative (JCCI) Project that is implemented in Cambodia, Mongolia and Thailand. In Cambodia, JICA is also implementing SATREPS (Science and Technology Research Project), which focuses on the academic aspect of air quality management. The project will run from 2022 to 2027, in collaboration with Kanazawa University and the Institute Technology of Cambodia with the objective to establish an air pollution risk management platform. In Mongolia, the project focusses on strengthening Ulaanbaatar's air pollution capacity development that will be implemented until 2024. Project in Thailand on sustainable management of PM_{2.5} prevention and reduction measures, that will run until 2025. Under this project, the capacity of Pollution Control Department (PCD), Ministry of Natural Resource and Environment Thailand and relevant organization for PM_{2.5} prevention and reduction measures are being supported.

The **Korea International Cooperation Agency (KOICA)** operates in Cambodia, Indonesia, Lao PDR, Mongolia, Myanmar, Philippines, and Viet Nam. In 2020, KOICA funded the Pan-Asia

⁸ EANET, 'Training Programs for EANET in the Regular Phase (Draft)' (2001) <<https://www.eanet.asia/wp-content/uploads/2020/04/IG3-10-2-Training-Programs-for-EANET-in-the-Regular-Phase.pdf>>.

Partnership for Geospatial Air Quality information ([PAPGAPi](#)) Project implemented by NIER, ROK; United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) and the Korea Environment Corporation (KECO). The project that implemented until 2023, aims to share data on air quality (air pollutants and climate change inducing gases) from Geostationary Environment Monitoring Spectrometer (GEMS) satellite in 13 Asian countries. GEMS is the world's first satellite sensor that observes air pollutants (fine dust, sulfur dioxide, nitrogen dioxide, ozone, formaldehyde, etc). Twenty Pandora (ground-based remote sensing instrument with the similar data retrieval mechanism to spaceborne atmospheric chemistry sensors, can be used both air quality monitoring and satellite data validation) installed in the 13 Asian countries starting with Thailand in 2020 to 2023.⁹ The NIER, ROK also utilizes the GEMS data for the Clean Air for Sustainable ASEAN ([CASA](#)) Projects endorsed by the ASEAN in 2023 with the objectives to provide a comprehensive support for ASEAN Member States (AMS) to mitigate air pollution and its negative impact on health through political, scientific, and technical measures. The CASA project will be implemented for 4 years, with the total budget is USD 11 million. This project involves three universities located in Indonesia and Lao PDR, namely the Institute Technology Bandung, Universitas Padjajaran, and University of Health Science, Lao PDR.

Under the **Thailand International Cooperation Agency** ([TICA](#)), Thailand has established the Trilateral Cooperation initiative, which provides grants and scholarships to developing countries through training program conducted in Thailand. This initiative is coordinated with various international organizations, including the JICA, United Nations Development Programme (UNDP), the United Nations Children's Fund (UNICEF), and the United Nations Population Fund (UNFPA). One significant project under this initiative is the Trilateral Cooperation Project on Transboundary Air Quality Management. This project is design to deliver technical assistance to relevant agencies in Lao PDR to strengthen their capacity in air quality management with long-term resilience. To achieve these objectives, the Asian Disaster Preparedness Center (ADPC) and Thailand's Pollution Control Department (PCD), Ministry of Natural Resources and Environment, served as the co-implementing agencies and Natural Resources and Environment Research Institute (NRERI), Ministry of Natural Resources and Environment (MoNRE) of Lao PDR served as the coordinating agency for the project implementation. The duration of the project will span from 2024-2026, covering several activities such as training, site visits, consultations and the development of pilot applications for air quality monitoring.¹⁰

Furthermore, there are other bilateral agencies from outside EANET that work in the region, as described below.

The Deutsche Gesellschaft fur International Zusammenarbeit ([GIZ](#)) is the main German development agency working in Cambodia, China, Indonesia, Lao PDR, Malaysia, Mongolia, Myanmar, Philippines, Thailand and Viet Nam. GIZ is currently implementing the project "Integrated approaches to climate change and air quality improvement in Southeast Asia (SEACAI: Southeast Asia Clean Air Initiative)" which aims to improve the condition for ASEAN-wide mitigation of Short-Lived Climate Pollutants (SLCP), with a special focus on the Greater Mekong Subregion (GMS). The project will run for three years, from 2025 to 2028, with a total budget of EUR 4 million. The project will be implemented in three levels: the first level is to support ASEAN

⁹ KOICA, 'KOICA' <https://www.koica.go.kr/koica_en/3462/subview.do>.

¹⁰ TICA, 'Thailand Internatiobal Cooperation Agency' (2024) <<https://tica-thaigov.mfa.go.th/en/page/60701-history?menu=5d7da97015e39c3fbc00b5f5>>.

wide SLCP cooperation, including the strategic inputs for the implementation of the ASEAN Haze Free Roadmap; the second level is to promote SLCP mitigation at GMS level, with a link to the CLEAR Sky Strategy. The third level is on the ground piloting in Thailand, Lao PDR and Cambodia. In developing the program, GIZ relies on its major donor, the German Ministry of Economic Affairs and Climate Change.

The **Swedish International Development Cooperation Agency (SIDA)** does not particularly prioritize air pollution, but rather chemical, waste, pollution and climate change in broader terms, and also geographically, their priority in the region is only Cambodia. SIDA's project development process involves engaging with various stakeholders through dialogue to discuss and learn about the projects, programs or actors. If a potential project aligns with identified gaps in SIDA's portfolio, a concept note then can be submitted for further discussion.¹¹ Currently, SIDA provides funding for pollution-related projects through the International Center for Integrated Mountain Development (**ICIMOD**) and UNEP's project **EmPower: Women for Climate-Resilient Societies** programmes that aims to strengthen gender equality and human rights in climate change and disaster risk action in the Asia and the Pacific region.

The **Agence Française de Développement (AFD)** funds, supports and accelerates the transition to a fairer and more sustainable work, focusing on climate, biodiversity, peace, education, urban development and health. Through **Expertise France**, the Air Quality Improvement Program (AQIP) aims to support the ASEAN Member States in their efforts to develop comprehensive public policies to improve air quality at the national and regional levels. This project aligns with the Action Plan of ASEAN Working Group on Environmentally Sustainable Cities (AWGESC). Various types of activities will be carried out under AQIP, including the development of guidelines for PM composition analysis, training programs and stakeholder's exchanges on air quality monitoring and management. The project will run for 24 months (started in July 2023) and has a budget of EUR 2.5 million.

The **United States Agency for International Development (USAID)** has been actively supporting efforts to combat air pollution in the EANET PCs, particularly in Southeast Asia Countries. Under the SERVIR Southeast Asia (SEA) project, which launched in 2023 and will run until 2028, USAID has partnered with National Aeronautics and Space Administration (NASA), Asian Disaster Preparedness Center (ADPC), and respective countries and organizations to address air pollution and climate challenges by using satellite data and geospatial technology. Under the previous project, called SERVIR Mekong (2014-2033), satellite data was used for the project on SERVIR-Mekong. Since 2019, SERVIR has collaborated with Pollution Control Department (PCD) Thailand to provide satellite-based air quality monitoring and forecasting, develop the SERVIR air quality explorer tool, offer real-time monitoring and 3- day forecasts of air quality. The tools support efforts to address air pollution in the region. The satellite data have expanded to mobile application for detecting fire hotspot and agriculture burning through mobile application called SmokeWatch and BurnCheck, which will be extended to Lao PDR. Furthermore, at the regional cooperation, SERVIR SEA is aligning its effort with Roadmap on ASEAN Cooperation towards Transboundary Haze Pollution Control.

¹¹ SIDA, 'Strategy for Sweden's Regional Development Cooperation with Asia and the Pacific Region in 2022-2026' (2022) <<https://www.government.se/contentassets/be4452ea86fc4b6c98bdbce3701c2474/strategy-for-swedens-regional-development-cooperation-with-asia-and-the-pacific-region-in-20222026.pdf>>.

Over the next four years, SERVIR SEA will link air pollution data with health impacts to provide information on air pollution and potential health effects. The program will disseminate location specific air pollution alerts along with recommendations for sensitive populations groups, build advocacy for addressing air pollution issues, and bridge gaps between air pollution and health sector. SERVIR SEA has limited ground-based instruments and seeks collaboration to provide authorities with a comprehensive view of transboundary pollution, enhance data sharing and strengthen capacity building in the region. Additionally, bilateral support from the USA is also provided through the US State Department. With this support, WRI has developed the Southeast Asia Air Quality Community of Practice (COP), which serves as a platform to exchange best practices among practitioners from cities across Southeast Asia on air quality management.

In addition to bilateral agencies, multilateral development agencies particularly development banks like the Asian Development Bank (ADB) and the World Bank have been supporting the region on air quality management-related projects and activities.

The [ADB](#) launched the Asian Clean Blue Skies Program ([ACBSP](#)) in September 2022 to play a more active role in air quality management in the region by increasing technical assistance and financing for projects that lead to improved air quality. The program will run until 2030. This flagship program is organized to support air quality improvement in the Asia Pacific region through 3 outputs: 1) upstream policies, plans, and strategies; 2) capacity building of Developing Member Countries (DMCs) including enhancing capacity air quality monitoring; 3) implementation of solutions in the energy, transport, urban, agriculture sector.¹² The project will be implemented through technical assistance (TA) projects or investment projects (loan). The total budget for TA is USD 4.6 million, while loans can range from USD 50 million to a few hundred million. TA and loans are provided on the basis of requests submitted by the DMCs and after due diligence to ensure that the projects comply with ADB's requirements. ADB expressed the possibility to further collaborate with the EANET under Output 2, as a continuation of ADB's support to an EANET Project in 2023 (Methodology Study for Development of LCS Hybrid Air Quality Monitoring Network/ HAQMN).

The **World Bank** was one of the top ten international development funders of outdoor air quality projects for period 2017-2021 with USD 407 million.¹³ On 13 October 2023, the President of World Bank Group delivered the vision that [World Bank](#) is dedicated to ending poverty and boosting prosperity on a livable planet with a strong focus on sustainable environmental practices. In the past, World Bank monitored over 200 indicators to measure the progress of the project, but now it has been streamlined to 22 key indicators, one of which is exposure to air pollution. The World Bank provided a USD 500 million loan to China (Beijing and Henan for electricity; Hebei and Shandong for natural gasses) for the coal phaseout from 2016 to 2020. During the EANET Regional Workshop on May 2024, the representative from World Bank explained that they also work with IIASA to apply GAINS model for identify optimal and cost-effective abatement measures in Viet Nam, Mongolia, Indonesia, Lao, and the Philippines. Further, the World Bank supports the [BreathLife](#) campaign together with the World Health Organization (WHO), UNEP and the Climate and Clean Air Coalition (CCAC). BreathLife connects cities to share best practices

¹² ADB, 'Air Quality in Asia Why Is It Important? And What Can We Do?' <<https://www.adb.org/sites/default/files/publication/780921/air-quality-asia.pdf>>.

¹³ Clean Air Fund, 'The State of Global Air Quality Funding 2023' (2023) <<https://s40026.pcdn.co/wp-content/uploads/The-State-of-Global-Air-Quality-Funding-2023-Clean-Air-Fund.pdf>>.

and demonstrate progress towards achieving air quality target, works with municipalities to expand monitoring efforts, accelerates solutions that work and supports municipalities to effectively implemented in their own cities, and empower individuals. The cities joining the network are three cities in Indonesia and in Mongolia, 10 cities in the Philippines, ROK, and Viet Nam.

United Nations Agencies and Intergovernmental Bodies

The United Nations prioritize air quality as highlighted by the Secretary General Antonio Guterres on the International Day of Clean Air to Blue Skies on 7 September 2023. In his message, the Secretary General emphasized the critical need for global action to combat air pollution and its harmful impact to health and environment. There are many UN agencies that conduct air quality management-related activities to achieve the Sustainable Development Goals (SDGs). Air pollution has been connected to the achievement of Sustainable Development Goals (SDGs), to the achievement of goal 3 (health and wellbeing); goal 11 (Sustainable Cities and Communities), goal 12 (responsible Consumption and Production) and goal 13 (Climate Action).¹⁴

The World Health Organization (WHO) has developed Air Quality Guidelines to significantly reduce premature deaths from air pollution and to minimize its adverse effects on the economy, food and water security, and climate systems.¹⁵ Furthermore, in October 2019, WHO started the establishment of the [WHO Asia Pacific Centre for Environment and Health in the Western Pacific Region](#), hosted by the ROK in Seoul. The center works on air quality, energy and health, addressing the health impact of air pollution and energy policies, with a focus on transboundary air pollution such as haze in Southeast Asia, and dust and sandstorms in Northeast Asia. The WHO is the leading organization in the BreathLife campaign.

UNEP is the leading global authority on the environment. It is directed by the United Nations Environment Assembly (UNEA), which provides strategic guidance on its future direction. At UNEA-1 in 2014, Member States adopted resolution 1/7 on Strengthening the role of the UNEP in promoting air quality. At UNEA-3 in December 2017, a second resolution was adopted on Preventing and reducing air pollution to improve air quality globally. At UNEA-6 in 2024, Member States adopted a resolution on Promoting Regional Cooperation on Air Pollution to improve Air Quality Globally. At the Asian regional level, UNEP is currently hosting the Secretariat for the EANET. It also established the Asia Pacific Clean Air Partnership ([APCAP](#)) in response to UNEA Resolution 1/7. The APCAP is a voluntary partnership established in 2015 to serve as a platform for policy makers and stakeholders to share knowledge, tools and innovative solutions to tackle air pollution in the region. The APCAP Science Panel was established to bring together scientific expertise from multiple regional initiatives to provide clear policy options based on the best science, to support action on air pollution in the Asia Pacific region. Sixteen countries have joined the APCAP, including Gyeonggi Provincial Government of Korea.

UNEP also hosts the Secretariat and Trust Fund of the **Climate and Clean Air Coalition (CCAC)**, a voluntary partnership of over 160 governments, intergovernmental organizations, and non-governmental organizations established in 2012. The CCAC works collectively and individually

¹⁴ UNEP, 'Air Pollution Series Actions on Air Quality in Asia and the Pacific Executive Summary' (2021).

¹⁵ WHO, 'WHO Global Air Quality Guidelines. Particulate Matter (PM2.5 and PM10), Ozone, Nitrogen Dioxide, Sulfur Dioxide and Carbon Monoxide.' (2021)
<<https://iris.who.int/bitstream/handle/10665/345329/9789240034228-eng.pdf>>.

to reduce powerful but short-lived climate pollutants (SLCPs), namely methane, black carbon, hydrofluorocarbons (HFCs), and tropospheric ozone that drive both climate change and air pollution. At the Climate and Clean Air Ministerial 2023, the CCAC launched a '[Clean Air Flagship](#)' that will launch a knowledge platform for air quality managers and host national and sub-regional technical and advocacy workshops on September 2024. The platform, called Air Quality Management Exchange (AQMx), will also include a resource exchange library with database, reports, tools, models, peer-reviewed literature, and training materials. In 2018, UNEP, APCAP, and CCAC collaborated in the report "Air Pollution in Asia and the Pacific: Science-Based Solutions" that highlighted the 25 clean air measures that can positively impact human health, crop yields, climate change, and socio-economic development, as well as contribute to achieving the SDGs. Some PCs are also members of CCAC, namely, Cambodia, Lao PDR, the Philippines, Thailand, and Viet Nam.

In 2022, the **United Nations Economic and Social Commission for Asia and the Pacific** (UNESCAP) has launched the first region-wide action program specifically addressing air pollution, the Regional Action Programme on Air Pollution ([RAPAP](#)). RAPAP provides a framework or reference for national, subregional, multilateral, and multistakeholder mechanisms to advance their cooperation agenda for clean air in the Asia Pacific region. As stated earlier under KOICA, RAPAP implements the PAPGAPi Project. RAPAP also implements the [Urban Air Pollution Project](#), funded by the Korea-ESCAP Cooperation Fund (KECF). The project is supporting air pollution mitigation initiatives in multiple cities such as Chiang Mai and Nakhon Ratchasima in Thailand, and Jambi in Indonesia, along with ongoing engagements throughout the Asia and Pacific region. To operationalize RAPAP, an Open-Ended Working Group on Air Quality Standards and Data has been established with the membership is open ended for the period 2023-2024. RAPAP Partnership and Coordination Platform is under development that serves as an online regional platform to support partnership and coordination among existing multilateral, subregional and multi stakeholders' cooperation mechanism. This initiative is supported by Clean Air Fund and Energy Foundation China. To avoid duplication, RAPAP will coordinate with CCAC that currently developed AQMx.

The World Meteorological Organization (WMO) is the UN's system authoritative voice on the state and behaviors of the Earth's atmosphere, its interaction with the land and oceans, the weather and climate it produces and the resulting distribution of water resources. Currently WMO addresses transboundary haze pollution through the development of the Vegetation Fire and Smoke Pollution Warning Advisory and Assessment System, with a center in Singapore, which not only forecasts wildfires but also predicts fire danger during seasonal periods. Additionally, WMO's work on urban air quality forecasting in Europe, leading to the Multi-Hazard Early Warning System (MHEWS) that is being implemented in Shanghai. The ongoing evolution aims to transition towards an Integrated Urban Weather, Climate, and Environmental System and Service, focusing on sustainable cities and increasing resilience to climate impacts. Furthermore, the WMO, along with GIZ and the Thailand Meteorological Department, is implementing the "Integrated Urban Climate, Weather, and Environmental Systems for Climate-Smart and Resilient Cities (IUC4CRC)" project in Chiang Mai, Khon Kaen, and Phuket, Thailand. In 2018, EANET also signed an agreement with the WMO to facilitate EANET data sharing.

The United Nations Development Programme (UNDP) is the leading UN organization fighting to end the injustice of poverty, inequality, and climate change. In 2022, UNDP supported the

development Asia in Focus: Clean Air and the Business and Human Rights Agenda. The report concludes by exploring the link between air pollution and human rights, and demonstrating how international human rights instruments enable a rights-based approach to addressing environmental violations. Importantly, the report outlines how the three-pillared framework of the United Nations Guiding Principles on Business and Human Rights (UNGPs) might be applied to effectively overcome the air pollution challenge. In July 2022, the United Nations General Assembly (UNGA) affirmed in resolution A/76/L.75 that a clean, healthy, and sustainable environment is a human right.¹⁶

The United Nations Children's Fund (UNICEF), in collaboration with UNEP, addresses air pollution by developing the Child-Centred Clean Air Solutions Technical Summary Guide for Asia and the Pacific Region. The guide published in 2021, focuses on the severe impact of air pollution on children by highlighting the alarming statistic that over 90% of the world's populations was exposed to PM2.5 in 2019. The guide emphasizes the importance of integrated efforts involving policy, technology, community engagement, and capacity building to achieve cleaner air for children. It also highlights the broader benefits of these measures for public health, economic development, and climate change mitigation.¹⁷

The **Food and Agriculture Organization of the United Nations (FAO)** is a specialized agency of the United Nations that leads international efforts to defeat hunger. With the link between agriculture and land management, FAO is addressing air pollution through agricultural management by improving soil health, promoting climate smart agriculture, and also preventing the slash-and burn agriculture that is common in Southeast Asia. A current FAO project contributing to air pollution is Assuring the Future of Forests with Integrated Risk Management (**AFFIRM**), funded by the Republic of Korea and implemented by FAO, which aims to safeguard global forests from various threats, particularly wildfires. The project is currently being piloted in Cambodia, Lao PDR, Thailand and Viet Nam. The project runs from 2023 to 2027, with a total budget of 4,400,000,000 South Korean won.

The **Association of Southeast Asian Nations (ASEAN)** is the main inter-governmental organization in Southeast Asia established in 1967 and currently has 10 Member States, with Timor Leste, in principle, being the 11th member. ASEAN addresses air pollution through the ASEAN Socio-Cultural Community, primarily through its Environment Division in the ASEAN Secretariat. Key sectoral bodies under this division are the ASEAN Working Group on Climate Change (AWGCC), and the ASEAN Working Group on Environmentally Sustainable Cities (AWGESC). The Environment Division also addresses transboundary haze pollution, guided by the ASEAN Roadmap on Transboundary Haze Pollution. ASEAN Member States (AMS) established the ASEAN Agreement on Transboundary Haze Pollution (AATHP) which was signed by all AMS in June 2002 and considered as a pivotal step towards collective action. By 2015, all AMS had ratified the agreement. The objective of AATHP is to prevent, monitor, and mitigate land and forest fires to control transboundary haze pollution through concerted national efforts, regional and international cooperation. Further, the Roadmap with the vision to transboundary haze free ASEAN by 2020 was developed within the time frame 2016-2020. Building upon the

¹⁶ UNDP, 'Asia in Focus: Clean Air and the Business and Human Rights Agenda'
<file:///C:/Users/ASUS/Downloads/UNDP-BRH-Clean-Air-and-Business-and-Human-Rights-Agenda-2022_0.pdf>.

¹⁷ UNEP and UNICEF, 'Child-Centred Clean Air Solutions Guide for Asia' (2021)
<https://www.unicef.org/eap/media/8716/file/Child-centred clean air solutions technical summary guide.pdf>.

lesson learned from the initial Roadmap, the second Roadmap was developed: the ASEAN Cooperation towards Transboundary Haze Pollution Control with Means of Implication (Haze-Free Roadmap) (2023-2030). The ASEAN Specialized Meteorological Center (ASMC) in Singapore provides technical support, particularly for the transboundary haze pollution early warning system.

Currently, several clean air projects are being implemented. The CASA project under AWGESC is supported by the ROK; the AQIP supported by the AFD Group. Under the AWGCC the Integration Guidelines for Climate Protection and Air Quality Improvement in the Southeast Asian Coastal States/Mekong River Basin (SEACAI) is supported by GIZ. These projects provide cooperation opportunities for collaboration and sharing resources to strengthen ASEAN's efforts to combat air pollution in the region.

Foundations and Philanthropies

The level of funding from foundations and philanthropies has shown a positive trend, increasing from 67.5 million in 2021 to an estimated at USD 71.3 million in 2022.¹⁸ There are now several foundations and philanthropies supporting air quality management-related activities. One is the **Clean Air Fund** (CAF) that was established to drive faster action on air pollution with the goal of securing clean air for all. The ultimate objectives are to accelerate climate mitigation and to improve human health. CAF acts as a re-granter, funding both country and thematic strategies, while also directly delivering programmes mainly around advocacy and communications. CAF provides a variety of levels of financial support, depending on the nature of the grant, size of grantee, duration of relationship, etc. Based on consultations with CAF in the 1st quarter of 2024, their annual grant-making budget worldwide for 2024 is around USD \$25 million. Their most significant regional investment in Asia so far is the support provided to development of the RAPAP Partnership and Coordination Platform. CAF identifies potential grantees based on comprehensive thematic and geographic strategies that are in line with CAF's scope.

The **Fédération Internationale de l'Automobile (FIA) Foundation** works mainly on the impact of vehicles on air quality through their **TRUE initiative**. Main activities include monitoring air quality using remote sensing on road vehicle emission, roadside air quality data analysis, and dissemination. As a philanthropic organization, FIA Foundation mostly works through partnerships with established partners such as the International Council on Clean Transportation (ICCT) and UNEP. FIA Foundation does not run competitive tender processes, however, co-develops projects with established partners.

The **Energy Foundation China** is a professional grantmaking charitable organization registered in California, USA. It has been working in China since 1999 and is dedicated to China's sustainable energy development. Since 2019, EFC has supported UNESCAP in promoting sustainable energy in Asia and the Pacific to support the implementation of SDG7 and the Paris Agreement and has been extended to 2027. EFC's work in the Asian region includes the development of sustainable energy transition pathways at national and subnational level (such as in cities in the Philippines), the development of Cambodia's National Cooling Action Plans, studies on strategies for the

¹⁸ Clean Air Fund, 'Philanthropic Foundation Funding for Clean Air' (2024) <<https://www.cleanairfund.org/resource/philanthropic-funding/>>.

introduction of electric vehicles for public transportation in Indonesia and in Thailand, studies on coal phase-out in Pakistan and Viet Nam, and awareness and capacity building through dialogues, trainings and workshops.

International and local NGOs and Research Institutions

NGOs play a crucial role in addressing air pollution, as they work directly on the ground and deeply engage with community as well as national and sub-national government. Several NGOs in the region are particularly notable for their contribution and their connection to broader regional and international initiative.

[C40](#), a global network of nearly 100 mayors of the world's leading cities that are united in action to confront the climate crisis. Many cities within PCs are already part of C40, including 13 cities in China, Jakarta, Bangkok, and Kuala Lumpur, Japan and Republic of Korea. C40 with Bloomberg Philanthropies and Clean Air Fund launched the [BreathCities](#) that aims to contribute to a reduction of air pollution by 30% by 2030 and prevent 39,000 premature deaths in selected cities. Jakarta, Indonesia currently the new cohort of BreathCities, to join global initiative to fight air pollution. Bangkok is planned to be the next city that will join this initiative. Under this project, cities will be supported across four pillars: enabling data and research, providing technical policy assistance, engaging stakeholders and community, and sharing lessons.

The World Resource Institute ([WRI](#)) is the global non-profit organization that address air pollution in the region through their office in Jakarta, Indonesia. WRI flagship activity in air pollution is [Clean Air Catalyst](#), which includes installing reference-grade air quality monitoring instrument in Jakarta and providing capacity building on LCS. Supported by the US Department of State, WRI has established Air Quality Community of Practice for Southeast Countries ([SEA-AQ](#)) focusing on Indonesia, Malaysia and the Philippines. This initiative connects air quality experts, practitioners and stakeholders across a variety of sectors to participate in online and in person experience sharing forums, field visits, and policy master classes with international experts.

Clean Air Asia ([CAA](#)), based in Manila, was initiated by the ADB with the mission to reduce air pollution and greenhouse gases in Asia, contributing to the development of a more sustainable, equitable and healthier region. CAA has country offices in Beijing, China; New Delhi, India and Jakarta, Indonesia and has established networks in Bangladesh, Malaysia, Nepal, Pakistan, Sri Lanka and Viet Nam.

EANET and CAA have worked in the past on various activities including training and serving as resource persons in meetings and webinars using the Integrated Program for Better Air Quality (IBAQ). In 2024, for EPR#8 Fellowship for building leadership in Atmospheric Environment and Air Quality in East Asia, CAA was one of the POs.

[Vital Strategies](#) is an NGO that focuses on global public health organization with a regional hub in Singapore for the Asia Pacific Region but with more projects in Indonesia and China. In Indonesia, Vital Strategies works with the Jakarta City Government and other NGOs to improve the city's response to air pollution by improving air quality monitoring, identifying sources of pollutant and measuring the impacts and cost of air pollution.

Stockholm Environment Institute ([SEI](#)) is a nonprofit, independent research institute that established SEI Asia office in Bangkok, Thailand. SEI in collaboration with US EPA and Daven Henze at the University of Colorado develop the Long- range Energy Alternatives Planning-

Integrated Benefits Calculator ([LEAP- IBC](#)). This tool was developed with the objective as an integrated planning tool to help governments jointly assess greenhouse gases, SLCPs, and other air pollutant emissions; build mitigation scenarios, and understand how emission reductions benefit climate, health and crops. This tool was presented at the project meeting *EPR#8Stocktaking and Methodological Assessment of Emissions Inventories and Source Apportionment of Air Pollution in Southeast Asia* on March 2024.

EANET also has collaborated with reputable research institutions within the region such as the Institute for Global Environmental Strategies (IGES), and beyond the region including the International Institute for Applied Systems Analysis (IIASA) and the French Technical Reference Center for Air Pollution and Climate Change ([CITEPA](#)).

[IGES](#) is a research institute based in Japan that also serves as the Secretariat for the Asian Co-benefit Partnership (ACP), a regional platform that promotes co-benefits, facilitates information and knowledge sharing management. IGES has been involved with EANET for many years and took part on the implementation of EPRs during the transition period, by sharing the ACP on multiple development benefits of coordinated actions to tackle air pollution. IGES also supported the ASEAN in developing the Sixth ASEAN State of the Environment Report, which includes the status of air pollution in ASEAN Countries, supported by the Japan-ASEAN Integration Fund (JAIF). IIASA has also cooperated with the EANET in several activities, like being resource persons in meetings and webinars, and recently as resource persons in the Emissions Inventory Project in Southeast Asia. IIASA developed the Greenhouse Gas Air Pollution Interaction and Synergy ([GAINS](#)) model which is used to assess emission and pollution reduction strategies that combat air pollution and climate change simultaneously.

[CITEPA](#) serves a unique position as a non-profit organization and State operators for the French Environment Ministry. CITEPA has an expertise to meets the reporting requirements for air pollution and greenhouse gases emissions from France in different inventory formats, such as UNFCC, EMEP, Kyoto Protocol and UNECE inventories. CITEPA currently is assisting with the technical aspects of the AQIP Project under ASEAN.

Private Sector

The private sector plays a crucial role in air quality management. They can provide innovative solutions and technology, promote sustainable practices, support advocacy and public awareness including leading air quality monitoring and data collection and provide financing solutions.

Many low-cost sensor manufacturers have supported awareness and data projects. UNEP has partnered with IQAir in the past and hosts the world's largest databank for fine particulate matter data. It is an example of the potential of crowdsourcing air pollution data.¹⁹ As part of the efforts of the Secretariat to consult with the private sector, a low-cost sensor manufacturer based in Thailand has expressed its interest to collaborate with EANET by providing affordable monitoring hardware, expertise in the deployment of monitor networks, air quality data modeling and calibration and expertise in evaluation of low-cost air quality sensors

¹⁹ <https://www.unep.org/topics/air/monitoring-air-quality/monitoring-air-quality>

4. Partnership and Resource Mobilization Strategy for the EANET

This section was developed considering the information on the current resource mobilization of the EANET and its activities, and the mapping of various organizations and initiatives supporting the atmospheric environment-related projects in East Asia. The Strategy proposes the following actions to accelerate the involvement of PCs, develop partnerships, and mobilize resources to support EANET Projects and other activities.

The overarching principle of the strategy is to “engage strategic partnerships with PCs and other organizations in support of EANET projects and activities that promote scientific research that leads to policies and actions.” Strategic partnerships can be general agreements with PCs and organizations on supporting acid deposition and air quality management in East Asia but is recommended to include a specific focus leveraging EANET’s resources and expertise such as (a) supporting scientific research on atmospheric environmental challenges considering the Annex to EANET Instrument, (b) air quality monitoring and ecosystems impact assessment, (c) training of government officials and key experts, and (d) improving the science-policy-action interface to improve the atmospheric environment in the region. Strategic partnerships can also be used to co-create projects and fundraising for more EANET projects.

For example, more than two decades of EANET acid deposition and air quality including meteorological data has contributed to the better understanding of acid deposition and air pollution in the East Asia region. As detailed in the Fourth [Report on the State of Acid Deposition in East Asia \(PRSad4\)](#), published in 2021, the longitudinal study from 2000 to 2019 showed an improvement in SO₂, particularly in Northeast Asia. However, particulate matter (PM) and sulfur problems in Southeast Asia need more attention. In some countries, there is no declining trend of PM₁₀ and PM_{2.5}, and there is an increasing trend of ozone concentration in a few countries. EANET also studied the long-term impacts on ecosystems, in inland water and forest catchments (soil and vegetation).²⁰ Such data is valuable for scientific research and can be used to leverage and develop various projects that leads to better understanding of the acid deposition and air pollution sources, policies, and mitigation measures. The Partnership and Resource Mobilization Strategy is also expected to be underpinned by an effective communications strategy in the EANET.

a. Participating Countries

As mentioned in the previous section, the PCs provide the most resources to support acid deposition and air quality management in their countries and in several cases, in the wider Asia Pacific region.

The PCs are the main stakeholders of the EANET, and as such are expected to fully support the development and implementation of the approved MTP and WPB. Identifying specific activities and projects to strengthen the Participating Country’s EANET activities and projects supporting acid deposition and air quality management would be beneficial.

Some actions that PCs can consider undertaking to better support the EANET are:

- Provide the right amount of voluntary financial contribution in a timely manner

²⁰ EANET, ‘Fourth Periodic Report on the State of Acid Deposition in East Asia’ (2021)
<https://www.eanet.asia/wp-content/uploads/2022/07/PRSad4_PART-I-Regional-Assessment-2.pdf>.

- Expand and/or improve the air quality monitoring network as part of the EANET, e.g. new sites, additional air pollutants based on the Annex of the EANET Instrument
- Conduct specific training based on the priority of the PC not only at the national level, e.g. on using air quality monitoring technologies, development of VOC ambient air quality standards, managing nitrogen atmospheric emissions, ecosystems impact assessment of the atmospheric environment, etc.
- Reach out to existing and new national institutions to support activities and/or co-develop EANET projects for example, discuss with other national government agencies including bilateral development agencies to support EANET projects and activities
- Establish a process to effectively communicate acid deposition and air quality management information to policymakers
- Explore the possibility of establishing and/or working with national technical center(s) to support the development and implementation of activities and EANET projects, e.g. CRAES could play a substantive role in supporting the development of policies and measuring their impact, considering the recent successes of China in substantively reducing air pollution – the tools and technologies can be shared with EANET particularly with the low- and middle-income countries in the EANET.

b. Bilateral and Multilateral Development Agencies

Bilateral and Multilateral Development Agencies within the EANET Participating Countries and outside the East Asia region support various air quality management-related projects and activities in the EANET region.

Some actions that can be undertaken with bilateral and multilateral development agencies are:

Bilateral Development Agencies of the EANET PCs:

- Support the co-development of EANET projects with their countries' bilateral development agencies in the region, and if feasible, support organizations within the EANET to access the funding from the bilateral development agencies to support EANET projects and activities, in compliance with the EANET Project Fund and Guideline
- Explore cooperation with bilateral development agencies to support ongoing and planned projects on acid deposition and air quality management in the EANET region and identify concrete joint activities to supplement their work, e.g. TICA's work in supporting the capacity building on air quality management in Mekong region; JICA's project in Mongolia; KOICA's support for RAPAP and ASEAN. Other project activities by bilateral development agencies could also be implemented through EANET where relevant and useful, and in compliance with the EANET Project Fund and Guideline

Bilateral and Multilateral Development Agencies outside of the EANET region:

- Explore the co-development of projects and activities to support EANET activities,
- In some cases, EANET entities can consider participating in the tendering process of other bilateral and multilateral development agencies, in compliance with the EANET Project Fund and Guideline

c. United Nations Agencies and ASEAN

Atmospheric environmental challenges will remain high on the agenda of the United Nations and its various agencies, as pollution issues are part of the three planetary crises, namely climate change, biodiversity loss and pollution. The United Nations Environment Assembly (UNEA) has also identified air pollution as a priority, reflected by the UNEA resolutions that have been adopted. It is expected that more air quality management-related projects and activities will be developed.

The EANET Secretariat is coordinating with several UN Agencies described in Section 3 through UNEP as it is hosting the Secretariat of the EANET. It may be worthwhile for EANET to consider developing MOUs or agreements with some UN Agencies like its agreement with WMO.

Some actions that can be undertaken with UN Agencies and the ASEAN are:

- Strengthen or encourage more cooperation with UNEP and develop joint activities
- Consult ESCAP on the status of the implementation of RAPAP and discuss how EANET can complement and explore joint project development, e.g. using EANET long-term AQ data and analysis to support regional and/or national studies
- Support the Air Quality Management Exchange Platform (AQMx) being led by CCAC and UNEP
- Follow-up on the agreement with WMO on data sharing, and explore other joint activities
- Explore the possibilities to work with FAO on addressing forest fires and application of satellite instruments to monitor air quality hotspots

d. Foundations and Philanthropies

Support from Foundations and Philanthropies on air pollution issues are increasing.

Some actions that can be undertaken with Foundations and Philanthropies are:

- Maintain regular communication with foundations and philanthropies to keep them updated on EANET's work
- Consult few Foundations and Philanthropies and seek their support for EPF and/or co-develop projects specific to Foundation's priorities

e. NGOs and Research Institutions

EANET has a wide network and experience with various NGOs and research institutions both at the international and local levels. NGOs have strong capacity and resources to work on the ground, that could complement EANET's work, particularly on knowledge sharing and joint advocacy activities.

Some actions that can be undertaken with NGOs and International Research Institutions are:

- Ensure that key NGOs and research institutions are subscribed to the EANET Newsletter, and/or are aware of EANET activities
- Explore with few NGOs, like Clean Air Asia, WRI, etc. and develop joint projects

f. Private Sector

The private sector is an untapped resource for EANET projects. However, the full support of the NFPs to get support from the private sector, especially in the EANET region is needed.

Some actions that can be undertaken with bilateral and multilateral development agencies are:

- Start discussion with PCs that are interested in engaging with the private sector in monitoring activities and research (data, impact and research, communication and awareness).
- Work with PCs to obtain private sector (from EANET region) to support EANET activities at country and/or regional levels