

**REPORT:**

**Roadmap for Air Quality**

**Communication in Baguio City**

JULY 2020



**BREATHELIFE**

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## LIST OF ACRONYMS

BLISTT	Baguio-La Trinidad-Itogon-Sablan-Tuba-Tublay
CBD	Central Business District
CEPMO	City Environment and Parks Management Office
CHSO	City Health Services Office
CPDO	City Planning and Development Office
DILG	Department of the Interior and Local Government
ELA	Executive-Legislative Agenda
EMB-CAR	Environment Management Bureau-Cordillera Administrative Region
M&E	Monitoring and Evaluation
PIO	Public Information Office
PUV	public utility vehicles
RITMT	Roadside Inspection, Testing and Monitoring Team

## 1 INTRODUCTION

### 1.1 What is Air Quality Communication?

Air quality communication involves using data to inform the public and stakeholders about air pollution issues. The data involved in communication includes the status of air quality, its sources, and its impact on society, human health, the environment and the economy, among others. The public needs to be provided with accurate information to enable people to assess to what extent they are affected by poor air quality, the major sources of emissions and own contributions to air pollution, what needs to be done at different levels to rectify the situation, as well as the things they need to do during times of high pollution levels.

### 1.2 Why is Air Quality Communication important in Air Quality Management?

Air quality communication is essential in air quality management (AQM) because air pollution control measures are most effective when policymakers, stakeholders, and audiences understand the relevance of these measures in their daily lives. Effective air quality communication strengthens participation of involved parties in air quality management, as it contributes to raising awareness, changing public attitudes toward policies and programs, and promotes air quality-friendly behavior (Clean Air Asia, 2016). Moreover, air quality communication promotes a feedback loop between the policymakers and the public – more knowledgeable and empowered citizens result in improved scrutiny of air pollution policies and programs which can be relayed to city policy and decision-makers.

### 1.3 What is this Roadmap for?

In order to help cities improve their capacity in air quality communication, Clean Air Asia together with international experts developed Guidance Area 4: Air Quality Communication under the Integrated Programme for Better Air Quality in Asia (IBAQ Programme). Guidance Area 4: Air Quality Communication includes an assessment checklist which cities can use to evaluate their capacity in terms of five stages (Underdeveloped, Developing, Emerging, Maturing and Fully Developed). The assessment uses the following key indicators: current communication objectives, existence and extent of communication strategies, the types of information communicated, access to the information/communication channels used, and levels of public awareness. Once cities know their current stage, the Roadmap which accompanies the assessment checklist can be used to determine steps for improving their air quality communication capacity to the next stage.

The Roadmap for Air Quality Communication in Baguio City is based on the Guidance Area 4: Air Quality Communication Roadmap. It is a set of recommended actions for the City Government of Baguio towards building its capacity in air quality communication. Based on outcomes of consultation meetings with key city stakeholders, particularly members of the Clean Air Monitoring Committee, the Roadmap outlines the proposed roles of different city offices, committees, and stakeholders in air quality communication. The Roadmap also features anticipated challenges in air quality communication and the possible mitigation for these challenges. Based on the steps or activities identified, the Roadmap covers 21 months,

divided into a quarterly period. Through completing the recommended steps in the Roadmap, the City Government of Baguio can develop a plan for addressing air quality communication issues, which will lay the foundation towards a long-term Clean Air Action Plan for the City.

#### **1.4 About the Project**

The City Government of Baguio is a member of the BreatheLife Network, an alliance of governments committed to air pollution reduction. Under the BreatheLife Small-Scale Funding Agreement (SSFA) awarded to Clean Air Asia in 2018, the organization is providing technical assistance to the City Government of Baguio in air quality communication. This Roadmap is the output of the technical assistance provided to the city. Clean Air Asia and the City Government of Baguio have been partners in enhancing air quality since 2016, working towards strengthening the capacity of Baguio City in air quality management.

#### **1.5 Summary of Project Activities**

##### ***1.5.1 9 August 2019 Workshop and Focus Group Discussions***

On 9 August 2019, the City Environment and Parks Management Office (CEPMO), City Health Services Office (CHSO) and Clean Air Asia organized a workshop for the Clean Air Monitoring Committee members of the City Government of Baguio. The objective of the workshop was to collectively assess the state of air quality communication in the city from the perspective of the Clean Air Monitoring Committee members. The assessment revealed that air quality communication in Baguio City is generally at the “Emerging” stage (Clean Air Asia, 2016), with air quality communication being reactive instead of proactive (See Section 2.1).

The focus group discussions conducted as part of the workshop further obtained insights from participants about perceived communication challenges, available local government resources and channels for air quality communication, and types of air quality data and information currently communicated to policymakers and the general public. These were used as basis for identifying the steps in the Roadmap for Baguio City.

##### ***1.5.2 4 November 2019 Meeting***

On 4 November 2019, Clean Air Asia facilitated a follow-up consultation meeting with the CHSO, CEPMO, and City Public Information Office as key stakeholders in air quality communication. The meeting identified two priority communication-related needs (discussed in Section 3) which are addressed by this Roadmap.

## **2 Status of Air Quality Communication in Baguio City**

### **2.1 Overview of AQM in Baguio City**

#### Air quality governance

The Environment Code of the City of Baguio, enacted through Ordinance 18 series of 2016 on 27 June 2016, provides the policy framework for AQM in the city. One of the key features of the Environment Code's air quality section is the creation of the Clean Air Monitoring Committee as the inter-agency coordination body for air quality-related issues in the city. The City Environment and Parks Management Officer is assigned as the Chairperson of the Committee. Among the mandates of the Committee is to perform communication activities in support of the city's AQM efforts.

The Committee members include the following:

- City Engineer
- City Planning and Development Officer
- City Building and Architecture Officer
- City Health Services Officer
- City Philippine National Police Director
- Representative of the Department of Environment and Natural Resources
- Representative of the Department of Transportation
- Representatives of private emissions testing centers
- Representative from the academe
- Representative of an accredited environmental nongovernment organization
- Representative from the transport sector

The Environment Code also operationalizes the formation of Roadside Inspection, Testing, and Monitoring Team as the implementing arm of the Clean Air Monitoring Committee in enforcing vehicle emission standards. It does this by testing and apprehending smoke-belching vehicles plying within the city.

At the regional-level (Cordillera Administrative Region), the Environmental Management Bureau-Cordillera Administrative Region (EMB-CAR) is the agency tasked to perform environmental management including air quality management. At the city-level, CEPMO is the office with the primary responsibility of managing air quality. The CHSO, at the moment, provides support to AQM by consolidating statistics on the incidence, mortality and morbidity of air pollution-related diseases. Due to the close linkage between air pollution and public health, CHSO is recommended to take on a more key role in AQM alongside CEPMO. These roles, relating to assessing health impacts of air pollution, air quality and health communication, data analysis and application, partnership building and others, are reflected in the roles assigned to CHSO in the Roadmap.

#### Air quality monitoring

Two government entities are performing air quality monitoring in the city: the EMB-CAR as the regional environmental agency mandated to perform air quality monitoring for compliance to the National

Ambient Air Quality Guideline Values and Baguio CEPMO as the city department tasked to perform AQM at the city-level. EMB-CAR manages three reference stations in (1) Burnham Park, Session Road, and (3) Philippine Economic Zone Authority compound. Baguio CEPMO performs mobile monitoring in selected roadside areas within the city.

### Air quality communication

In terms of using air quality monitoring data for communication, this is mainly carried out by both EMB-CAR and CEPMO each targeting a different audience and using different platforms:

- EMB-NCR provides real-time air quality information to the public through the Air Quality Index shown in the government website, mobile application and a public display board outside of the EMB-CAR office. The said agency also provides more detailed information to cities and local government units belonging to the Cordillera Administrative Region through Quarterly Air Quality Reports (issued to the respective Offices of the City Mayor), though these are sometimes received belatedly.
- Baguio CEPMO performs air quality reporting to the Clean Air Monitoring Committee during meetings. However meetings have not been regular held in 2019 based on feedback of the committee members.
- The Roadside Inspection, Testing, and Monitoring Team (RITM) under CEPMO also performs its own communication activities as part of implementing the roadside vehicle inspection and apprehension activities. The penalty for non-compliance to vehicle emission testing standards include a fine as well as required attendance to a seminar where the vehicle owners and drivers are able to learn more about the vehicle apprehension program and why the city implementing it. The lecture includes basics about air pollution, its negative impacts and the need to improve air quality, with the vehicle apprehension program as one of the ways this is done.

The Baguio Public Information Office (PIO) is responsible for communicating city plans, projects and activities to the public, acting as a bridge between city government and the citizens. Involvement of the PIO in air quality communication at the moment is limited to releasing official statements on the air quality status of the city whenever news articles are released by the media portraying the city as having the worst air quality in the country. These official statements are reactive and aim to control the negative effects of such articles on public perception. During these instances, PIO coordinates with CEPMO to develop the official statements to be released to the public.

## **2.2 Stage of Air Quality Communication Capacity in Baguio City**

Based on the assessment performed during the first workshop (9 August 2019), the air quality communication in Baguio City was found to be generally at the “Emerging” Stage, which is in the middle of the five stages of air quality communication. The table below shows the detailed results of the assessment for each indicator, with the general description of each stage from the Guidance Framework found in the third column and the specific context in the city in the fourth or rightmost column. The steps in the Roadmap described in later sections correspond to the specific situation in the city outlined in the fourth column.

Table 1. Status of Air Quality Communication in Baguio City based on the assessment performed by the Clean Air Monitoring Committee

Indicator Categories	Development Stage	Indicators of the Development Stage	Brief Context in the City of Baguio
Communication objectives	Emerging	<p>Communication activities are performed to</p> <ul style="list-style-type: none"> <li>• provide air quality information to the public and stakeholders</li> <li>• enable understanding of air quality issues</li> <li>• solicit cooperation in air quality management programs</li> <li>• obtain stakeholder input during formulation of air quality management activities/ programs</li> <li>• achieve behavioral change and active collaboration with stakeholders on implementation of action plan</li> </ul>	<p>Air quality communication performed by the two government entities both have the communication objectives described under the Emerging stage.</p>
Development of communication strategies	Emerging	<ul style="list-style-type: none"> <li>• Communication activities for policymakers are regularly implemented</li> <li>• Communication activities for public are regularly implemented</li> </ul>	<ul style="list-style-type: none"> <li>• EMB-NCR provides the real-time Air Quality Index through the government website, mobile application and a public display board outside of the EMB-CAR office. The said agency also provides more detailed information to cities through Quarterly Air Quality Reports.</li> <li>• Baguio CEPMO performs air quality reporting to the Clean Air Monitoring Committee during meetings.</li> </ul>



Indicator Categories	Development Stage	Indicators of the Development Stage	Brief Context in the City of Baguio
Types of information communicated	Emerging	<ul style="list-style-type: none"> <li>• Processed air quality monitoring data, air quality index, and general information on pollution sources are used in communication activities.</li> <li>• Available air quality information is updated but not on a regular basis.</li> </ul>	<ul style="list-style-type: none"> <li>• The EMB-CAR provides the real-time Air Quality Index through a number of channels.</li> <li>• CEPMO also uses the Air quality index in its reporting to the Clean Air Monitoring Committee.</li> <li>• More detailed monitoring data (daily and monthly averages as well as comparison to the National Ambient Air Quality Guideline Values) is provided by EMB-CAR through the Quarterly Air Quality Reports.</li> </ul>
		<p>Press releases on the state of air quality are issued on a case-to-case basis.</p>	<p>The City Government of Baguio releases statements during episodes of negative media coverage. The statements aim to clarify information provided by the media.</p>
		<p>Advisories are made during events of high air pollution, but no system is in place.</p>	<p>The Air Quality Index from EMB-CAR functions as the public advisory during the high air pollution episodes.</p>
Access to information/communication channels used	Combination of Emerging and Developing (one stage down from Emerging)	<ul style="list-style-type: none"> <li>• The public can download general information on air quality online</li> <li>• Some media channels are used to communicate air quality</li> </ul> <p>Examples of media channels: print media, email/mobile alerts, social</p>	<p>Real-time Air Quality Index is available online (website and mobile app) and through a public display board. Air quality information is also shared in news articles prepared by the media, using information from EMB-CAR.</p>

Indicator Categories	Development Stage	Indicators of the Development Stage	Brief Context in the City of Baguio
		media (e.g. Twitter, Facebook), website, television and radio, billboards, printed reports	
		Air quality data is available to the public upon request.	Detailed air quality monitoring data can only be accessed upon request to the government entities performing monitoring (EMB-CAR and Baguio CEPMO).
Levels of public awareness	Emerging	<ul style="list-style-type: none"> <li>Public awareness of the need for understanding sources and health impacts of air pollution is starting to become routinely considered.</li> </ul>	<p>Clean Air Monitoring Committee members assessed the growing awareness of the public through the following observations:</p> <ul style="list-style-type: none"> <li>Citizens wear masks when walking on the street.</li> <li>The number of drivers submitting for voluntary testing is increasing showing increased cooperation to the city’s air quality initiatives.</li> </ul>

Reference: Clean Air Asia, 2016

### 3 Roadmap for Air Quality Communication in Baguio

#### 3.1 Recommended steps from Guidance Area 4: Air Quality Communication

The Roadmap for Air Quality Communication in Baguio City provides the city with recommended steps to build its air quality communication capacity based on the stakeholders’ assessment of the current stage they are in. The steps identified in the Roadmap are taken from the Guidance Area 4: Air Quality Communication Roadmap for cities at the Emerging stage.

Table 2. Recommended steps for improving Air Quality Communication capacity under the Emerging stage

Stage	Recommended steps
Emerging	<p>Management process</p> <ul style="list-style-type: none"> <li>• Develop and implement communication strategies for policymakers and the public</li> <li>• Strengthen capacity to institutionalize and systematize AQ communication to policymakers, the public, and a wider range of stakeholders</li> <li>• Strengthen capacity to issue regular press releases on state of AQ and systematically release advisories during pollution episodes</li> <li>• Ensure that the public can access more AQ information online (i.e. processed AQ monitoring data, AQ trends, health impacts)</li> <li>• Ensure resources are available for AQ communication</li> </ul> <p>Technical process</p> <ul style="list-style-type: none"> <li>• Strengthen capacity to measure, collate, process, and update processed AQ monitoring data, AQI, information on pollution sources from EI/SA, local data on air pollution health impacts, and AQM action plans for use in regular and systematic communication activities</li> <li>• Enhance capacity to use a wider selection of modern communication channels</li> </ul>

(Clean Air Asia, 2016)

#### 3.2 Special considerations

For the Roadmap to be responsive to the specific needs of Baguio City, it is important that it addresses two main issues identified by key stakeholders during the November 4 consultation meeting:

- Expanding the use of air quality monitoring data collected by CEPMO to improve the evidence-based approach to AQM in the city
- Performing air quality communication to support the city’s thrust of decongesting and revitalizing the Baguio City central business district (CBD)

**3.2.1 Expanding the use of air quality monitoring data collected by CEPMO to improve the evidence-based approach to AQM in the city**

Description of Issue

There are two considerations regarding the first need identified by key stakeholders.

- The first is that air quality monitoring is performed by two government entities, each with its own set of monitoring objectives. EMB-CAR manages three reference stations in (1) Burnham Park, Session Road, and (3) Philippine Economic Zone Authority compound to monitor compliance with National Ambient Air Quality Monitoring Guideline Values and inform the air quality action planning of the Baguio-La Trinidad-Itogon-Sablan-Tuba-Tublay Airshed. On the other hand, Baguio CEPMO performs mobile monitoring in selected roadside areas within the city to assess effectiveness of the Roadside Inspection, Testing and Monitoring Team (RITMT) operation. Given the mandate of EMB-CAR in generating official air quality monitoring data and its use of reference monitoring equipment, only the data it collects can be shared with the public. However the City Government of Baguio, through CEPMO, would also like to use its data in air quality communication to the public as part of the city’s AQM efforts.
- The use of data in communicating to the public would help the city in two ways. First, it will support the city’s existing communication efforts under the RITM operation and other potential air quality-related activities. Secondly, being able to use its own data will be helpful in addressing negative media coverage that the city experiences from time to time because of its reputation of having poor air quality. With data on-hand to show that air quality varies within the city and depends on the location of the monitoring site, CEPMO can better educate the public on the complexities of air pollution, and provide more context and explanation the air quality data to balance the negativity of such news articles.
- The second aspect is that Baguio CEPMO would like its data to inform other city-level actions aside from the RITMT operations. To improve its AQM capacity, the said office expressed a need for establishing a monitoring and evaluation system to evaluate impacts of air quality actions using the air quality monitoring data it collects. The monitoring and evaluation system will also form part of the Clean Air Action Plan which the City hopes to develop with technical assistance from supporting organizations.

**3.2.2 Performing air quality communication to support the city’s thrust of decongesting and revitalizing the Baguio City central business district (CBD)**

Description of the Issue

The current executive and legislative branches of the City Government of Baguio are guided by the 15-point Core Agenda (Table 3Error! Reference source not found.).

Table 3. Baguio City’s 15-point Core Agenda for 2019-2022

Baguio City’s 15-point Core Agenda for 2019-2022	
1.	speeding up government action
2.	revitalizing the environment

3. innovating peace and order condition
4. aggressive traffic management
5. responsive education program
6. empowering the youth
7. expanding health and social services
8. responsible tourism
9. enlivened culture, arts, crafts and heritage
10. market modernization
11. efficient disaster management
12. empowered barangay governance
13. expanding social services and entrepreneurial promotions
14. poverty reduction and
15. resolution of issues involving ancestral lands and claims

(City Government of Baguio, 2019)

Point No. 2 is “Revitalizing Environment.” Point No. 4 is “Aggressive traffic Management.” These two are directly related to AQM. During meetings of the city’s executive and legislative departments, two strategies were identified which address the two points mentioned earlier: (1) decongest the roads of the city’s Central Business District (CBD) and (2) revitalize the central business district.

#### *Decongesting the Central Business District*

The first strategy aims to improve mobility in the CBD by shifting motorized transportation to more sustainable modes as well as allocating more space for pedestrians and cyclists within the area. City programs already being carried out, which include: Car-Free days in Session Road, promoting walking and cycling by reclaiming sidewalks, implementing truck bans and parking restrictions (e.g. window-hour parking policy and selected no-parking areas). Planned programs include moving staging areas of public transport vehicles to better manage traffic flow as well as encouraging tourists to leave their cars and use public transportation.

#### *Revitalizing the Central Business District*

The second strategy aims to improve the physical infrastructure of the CBD through rehabilitation. The physical improvements are expected to showcase the historical and cultural significance of the CBD and surrounding areas. This goes hand-in-hand with the first strategy as space management through decongestion to allow more sustainable mobility, which leads to improved air quality, is needed for the physical improvements to be enjoyed by the citizens.

### **3.2.3 Roadmap for Air Quality Communication in Baguio City**

The following table presents the operationalization of the recommended steps specific for Baguio City. The recommended steps (management and technical) are taken from the Emerging stage of the Guidance Area 4: Air Quality Communication Roadmap. The timeframe is reflected on a quarterly basis, which can commence upon the adoption of this Roadmap. The specific steps (or operationalization) are based on

the discussions with stakeholders held in August and November 2019 and on the AQM situation in the city.

Table 4. Steps in the Roadmap for Air Quality Communication in Baguio City

Steps for Baguio City	Lead	Other Stakeholders	Timeframe
<b>MANAGEMENT PROCESSES</b>			
Strengthen capacity to institutionalize and systematize air quality communication to policymakers, the public, and a wider range of stakeholders			
<p>1. Agree and document a mechanism on:</p> <ul style="list-style-type: none"> <li>- improving data sharing between EMB-CAR and Baguio City Government</li> <li>- regular sharing of air quality monitoring data collected by CEPMO the city to the public through air quality reports and others</li> <li>- issuance of high air pollution public advisories</li> </ul> <p>The mechanism will include the frequency, type of data and level of data resolution and the platform to be used (e.g. e-mail, printed report, etc.). This mechanism can be applied not just for Baguio City but for other local government members of the BLISTT Airshed.</p>	EMB-CAR and Baguio CEPMO	BLISTT Airshed Governing Board	Q1
2. Implement an agreed mechanism on data sharing and communication.	EMB-CAR and Baguio CEPMO	Clean Air Monitoring Committee	Q2 onwards
3. Develop an M&E framework for the city's air quality improvement efforts which will utilize the air quality monitoring data collected by Baguio CEPMO and EMB-CAR (if possible) as one of the key performance indicators. It is recommended that the M&E framework be disseminated to the Clean Air Monitoring Committee and be institutionalized in a Clean Air Action Plan for the City, and mainstreamed with the	CEPMO	City Planning and Development Office, Clean Air Monitoring Committee	Q2

Steps for Baguio City	Lead	Other Stakeholders	Timeframe
M&E system of the City Development Plan and Comprehensive Land Use Plan.			
4. Convene or re-activate the Clean Air Monitoring Committee (if not yet done).	CEPMO / City Mayor's Office		Q1
5. Expand the composition of the Clean Air Monitoring Committee by including the PIO and a City Council representative. Inclusion of the PIO will facilitate the office's more active roles in air quality communication as identified by this Roadmap. The addition of a city council member is also recommended so the Committee can have a champion for its legislative and funding appropriation needs. The next amendment of the Environment Code can then carry over this change in committee composition.	City Mayor's Office	PIO, City Council	Q1
<b>Strengthen capacity to issue regular press releases on state of air quality and systematically release advisories during pollution episodes</b>			
6. Build capacity of CEPMO, CHSO and PIO in technical air quality communication following the mechanism agreed with EMB-CAR including: - preparation of air quality reports - preparation of news articles or statement to better educate the public on the complexities of air pollution and address negative media articles on the state of the city's air quality that come up from time to time, and - issuance of high air pollution public advisories.	CEPMO, CHSO, PIO in coordination with individuals or organization to act as resource persons	EMB-CAR	Q3
<b>Develop and implement communication strategies for policymakers and the public</b>			
7. Build capacity of CEPMO, PIO, CHSO and other offices that will be directly involved in air quality communication to perform the following:	CEPMO, CHSO, PIO in coordination with individuals or organization to		Q4

Steps for Baguio City	Lead	Other Stakeholders	Timeframe
<ul style="list-style-type: none"> <li>- Developing a communication plan and materials based on findings of the knowledge-attitude-perception surveys</li> <li>- Conducting trainings for front-line communicators such traffic enforcement personnel, community campaigners, community leaders and others</li> <li>- Performing of impact evaluation of communication activities</li> </ul>	act as resource persons		
<p>8. Conduct knowledge-attitude-practice surveys of identified stakeholders to inform communication strategies, following the communication plan:</p> <ul style="list-style-type: none"> <li>- Policymakers</li> <li>- Stakeholder groups especially for the transport-related interventions discussed in Section 3.2.2 such as public transport groups and private vehicle owners and business owners operating in the CBD</li> </ul>	Clean Air Monitoring Committee	Land Transport and Traffic Management Committee	Q5
<p>9. Implement communication activities, through awareness-raising campaigns, stakeholder engagement, educational drives, etc., based on the communication plan.</p>	Clean Air Monitoring Committee	Public utility vehicle groups, Private vehicle owners, Business Owners in CBD, Baguio City Tourism Office	Q6 to Q7
<p>10. Establish a system for communicating public feedback regarding the city's air quality programs. This will be relayed to the Clean Air Monitoring Committee and CEPMO as mandated by the City Environment Code.</p>	PIO	Clean Air Monitoring Committee, CEPMO, Barangay leaders	Q6
Enhance capacity to use a wider selection of modern communication channels			
<p>11. Use existing platforms such Alay Sa Kalinisan meetings, Baguio Re-Greening Movement, relevant City Council and City</p>	PIO	Alay Sa Kalinisan, Baguio Re-Greening Movement, City	Q6 onwards



Steps for Baguio City	Lead	Other Stakeholders	Timeframe
Development Council meetings, and public meetings that can be utilized in reaching stakeholders. Use online platforms such as Facebook to do the same.		Council, City Development Council, Barangay leaders	
12. Establish partnerships with local and national media agencies in providing regular and accurate air quality information to the public.	PIO	Media agencies	Q6 onwards
<b>Ensure resources are available for AQ communication</b>			
13. Allocate budget from CEPMO, CHSO, PIO and other identified offices to support air quality communication. Perform fundraising and resource-sharing with non-government partners to supplement available resources.	CEPMO, CHSO, PIO, City Council		Q1 onwards, depending on the city's fiscal cycle
<b>TECHNICAL PROCESS</b>			
Strengthen capacity to measure, collate, process, and update processed AQ monitoring data, AQI, information on pollution sources from EI/SA, local data on air pollution health impacts, and AQM action plans for use in regular and systematic communication activities			
14. Build capacity of CEPMO and CHSO in analyzing and interpreting air quality monitoring data considering factors such as unique geographical and meteorological conditions in Baguio City, location of pollution sources, intensity of human activity affecting air quality levels, location of monitoring site, and others	CEPMO and CHSO in coordination with individuals or organization to act as resource persons		Q4
15. Build capacity of CEPMO and the Roadside Inspection, Testing and Monitoring Team (RITMT) on air quality monitoring data collection, analysis and use for evaluation of impacts of RITMT operations.	CEPMO in coordination with individuals or organization to act as resource persons		Q5
16. Continue maintaining the database of mortality and morbidity rates of air pollution-related diseases. Build capacity of CHSO in carrying out health impact assessments to improve understanding	CHSO in coordination with individuals or organization to act as resource		Q4

Steps for Baguio City	Lead	Other Stakeholders	Timeframe
and quantification of health impacts from air pollution.	persons		
17. Build capacity of local media to provide more accurate and nuanced reports on air quality issues, so they are able to cover other important considerations in understanding the status of air quality such as the human activities which result to emissions, geographical and meteorological conditions specific to Baguio City, air quality policies and actions being implemented to reduce pollution in the city, and others	PIO in coordination with individuals or organization to act as resource persons	Local media	Q6
18. Establish partnerships with academic and research institutions in performing data collection, consolidation and analysis related to air quality levels, pollution sources, health impacts and effects of air quality programs, to support the city's AQM efforts.	CEPMO and CHSO	Local universities	Q4

Note: The recommended step to “Ensure that the public can access more air quality information online (i.e. processed AQ monitoring data, AQ trends, health impacts” under the Emerging Stage was not identified as a priority of the Roadmap for Baguio City due to the technological requirements under this step. This will be considered in subsequent Roadmaps or in the communication planning step.

### 3.2.4 Other Stakeholders to Engage and their Roles

Aside from the lead agencies and offices for managing air quality in the city, other stakeholders need to be involved in air quality communication activities. These stakeholders have been identified in the Roadmap steps above relevant to their mandate or role. This sub-section provides more details about each of these other stakeholders.

#### 3.2.4.1 City Mayor

The City Mayor, as the chief executive of the City Government of Baguio, has the authority to convene city committees and recommend amendments to these city committees. The City Mayor is recommended to re-convene the Clean Air Monitoring Committee in coordination with CEPMO.

It is also recommended that the composition of the Clean Air Monitoring Committee be amended by including City Public information Office and a City Council representative. The addition of the City Public Information Office will facilitate the expansion of its role in air quality communication as outlined in this

Roadmap while the addition of a City Council member will enable the CAMC to have a champion for its legislative and funding appropriation needs. This amendment can be done through an Executive Order. Finally, the City Mayor can also promote participation of actors from transport and from the barangays in air quality and communication activities, as needed.

#### *3.2.4.2 City Council*

The City Council enacts ordinances, approves resolutions and appropriates funding for policies and programs. City council meetings can be venues for presenting results of air quality monitoring and trends. Air quality information will especially be relevant if analyzed in relation to the implementation of policies and programs. With air quality information from the Clean Air Monitoring Committee, city councilors can prioritize ordinances, resolutions and funding appropriations for policies and programs (including air quality communication) that are projected to enhance air quality.

#### *3.2.4.3 Land Transport and Traffic Management Committee (LTTMC)*

The LTTMC reviews and recommends priority programs and policies for decongesting and revitalizing the CBD. With the City Planning and Development Office, City Engineer's Office, and CEPMO being members of both the Clean Air Monitoring Committee and the Land Transport and Traffic Management Committee, the LTTMC and its meetings can be venues for planning, monitoring and evaluating air quality communication activities in support of decongesting and revitalizing the central business district.

#### *3.2.4.4 City Planning and Development Office (CPDO)*

The CPDO, as member of the Clean Air Monitoring Committee and the Land Transportation and Traffic Committee, is vital in integrating air quality information into development plans. From conceptualization, planning, implementation, and monitoring and evaluation, the CPDO can ensure that air quality information is considered in development programs and policies outlined in local plans such as the Comprehensive Development Plan, Comprehensive Land Use Plan, and the Transport and Traffic Management Plan. Moreover, the plans developed by CPDO can incorporate the monitoring and evaluation framework that will be developed by CEPMO for evaluating air quality initiatives (such as RITMT operations and others) in the city.

#### *3.2.4.5 Barangay Leaders and Development Councils*

Barangays leaders and development councils are at the frontline of implementing air quality management. They will be the first receivers of grievances about policy interventions and can provide feedback to the Clean Air Monitoring Committee. Moreover barangay leaders can rally support from their constituents for air quality interventions.

#### *3.2.4.6 Baguio City Tourism Office*

As the mandated office concerned with tourism in Baguio City, the Tourism Office can lead communication strategies for tourists and tourism-related businesses. The Tourism Office can analyze the potential impacts of decongesting and revitalizing CBD to the tourism sector of Baguio City.

#### *3.2.4.7 Traffic Management Unit Baguio City Police Office*

The Traffic Management Unit of the Baguio City Police Office enforces traffic rules and ordinances. Traffic enforcers can communicate the importance of traffic and transport solutions they are implementing to private vehicle owners, public utility vehicle drivers and operators as part of their work.

#### *3.2.4.8 Roadside Inspection, Testing and Monitoring Team (RITMT) personnel*

Personnel of the RITMT are at the front lines of air pollution control and monitoring of mobile emission sources. The RITMT can provide guidance in tailoring communication activities to the concerns and needs of transport groups and the driving community. Moreover, they can adapt messages from the air quality communication plan (once this is developed) during interactions with the previously mentioned groups.

#### *3.2.4.9 Alay Sa Kalinisan*

Alay Sa Kalinisan is a multi-stakeholder group assembly which meets once a month to tackle local concerns such as peace and order, cleanliness and sanitation, health and environment (City Government of Baguio, 2016). These meetings are hosted by the City Government of Baguio. Meetings of Alay Sa Kalinisan can be venues for CAMC for presenting air quality information and consulting stakeholders about planned programs and activities.

#### *3.2.4.10 Baguio Regreening Movement*

Instrumental in the passage of the Environment Code of Baguio City, the Baguio Regreening Movement is composed of city government offices, the Department of Natural Resources, the Baguio Water District, media, business sector, private firms and environmental advocates. It has been advocating for environmental protection in Baguio City and its neighboring provinces for 30 years (Agoot, 2018). The Baguio Regreening Movement can expand the reach of air quality communication as well as ensure the alignment of air quality communication with other environmental campaigns.

#### *3.2.4.11 Academic and Research Institutions*

Academic and research institutions including universities and colleges within and outside Baguio City have extension programs that the City Government can take advantage. The government and academia can collaborate in conducting studies such as knowledge-attitude-practice surveys and air quality data analysis for informing policies. University of the Philippines-Baguio and St. Louis University are two universities that can be engaged for policy-oriented research.

#### *3.2.4.12 Local and national media agencies*

Local and national media agencies can expand the reach of communication strategies of the City Government of Baguio. The Office of the City Mayor currently holds a media hour every Thursday, which can be opportunities for air quality communication.

## **4 NEXT STEPS**

This Roadmap document will be turned over to Baguio City Government through CEPMO, CHSO and PIO. Clean Air Asia will continue to find opportunities to support the city in implementing the Roadmap through

available resources from the city itself and from international funding agencies, particularly to respond to the City's priority of developing a Clean Air Action Plan.

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