Knowledge Sharing Session:

Making visible the invisible: Integrated use of sensor technology in monitoring air quality - Sharing international experience and potential application in Vietnam

Time: 30 September 2021, 8:30 – 11:30 AM, UTC +7 (3 hours)
Venue: Online via Zoom
Co-organizers:
- Live & Learn for Environment and Community (Live&Learn)
- Vietnam Clean Air Partnership (VCAP)
- Tia Sáng Magazine

In the partnership with: Asia Pacific Clean Air Partnership (APCAP)

Background

On September 22, 2021, after 15 years, the World Health Organization (WHO) strengthened its air quality guidelines, saying air pollution was now one of the biggest environmental threats to human health, causing seven million premature deaths a year. Overall, there is progress in undertaking key actions to reduce air pollution. These actions had a positive impact on air quality. The State of Global Air 2020 report estimates that population-weighted $PM_{2.5}$ levels in half of the countries in the region reduced from 2015 to 2019.

But while progress has been observed, significant gaps remain, especially when it comes to enabling policy frameworks to accompany sectoral measures, including air quality monitoring. Based on a new UNEP publication, it states that 60% of countries, accounting for 1.3 billion people or 18% of the global population, have no routine, annual ground-based monitoring of $PM_{2.5}$.

While monitoring by itself does not reduce emissions, the data and information generated from monitoring can help build the knowledge about the scope of the problem and can represent a catalyst for action.

To empower the citizens to know about the state of air quality, efforts have been made by government agencies, scientists and companies to provide real-time, continuous, large coverage of air quality monitoring with different technologies. Monitoring data not only raises the public's awareness of air pollution but also supports the assessment of air pollution trends and impacts, contributing to the implementation and evaluation of air quality management solutions.

To supplement regulatory monitoring networks, which can be costly, there is increasing interest to combine them with sensors and remote sensing techniques. Recent advancements of low-cost air quality sensor technology combined with remote sensing and traditional monitoring methods present an opportunity to understand and communicate air quality. The combination and integration of these technologies could help reduce network operating costs and enable a large monitoring coverage that would have been difficult to achieve with only conventional monitoring technologies.

Objective:

The goal of the session is to update the public, scientists, and government agencies on the technology integration trends in air quality monitoring internationally and in Vietnam.

This workshop is a part of the Collective Actions for Clean Air project funded by the United States Agency for International Development.

Target audiences:

- NCEM/VEA and provincial environmental protection agencies
- Research institutes and universities
- NGOs, Embassies, Development agencies
- LCS developers, companies
- Media

Tentative agenda:

Time	Agenda items	PIC
9:00 - 9:10	**Introduction** - Opening remarks - Workshop introduction and objectives	**Moderator: Live&Learn**
9:10-10:10 **9:10-9:30** 9:30-9:45 **9:45-10:10**	**Session 1. International and Vietnam experience** *Proposed speakers and topics:* 1. **Incorporating new technology in the air pollution monitoring network: Practical experience from the US** (USEPA representative) *The EPA has been involved in the advancement of air sensor technology, including performance evaluations of sensor devices and best practices for effectively using sensors.* Q&A for USEPA 2. **Vietnam experience in employing low-cost air sensors in research and education** (INEST representative) *Several universities and researchers have used low cost sensors and remote sensing to measure air quality and Vietnamese citizens now can access many sources of air quality data from domestic companies and outside.*	**Moderator: VCAP**

10:10-10:30	3. **Overview of international experience in incorporating sensor technology into air quality monitoring network** (UNEP - APCAP representative) *The UN Environment Programme is leading efforts on assessing affordable air quality monitoring networks and the viability of fusing satellite and ground observations in developing countries where data gaps for air quality have persisted for decades.*	
10:30-11:30	**Session 2. Q&A and Discussion**	**Moderator: Live&Learn and VCAP**
	Closing remarks	