ACCELERATING INVESTMENT FOR CLEAN AIR IN INDONESIA: UNLOCKING FINANCING OPPORTUNITIES AT THE SUBNATIONAL LEVEL

Marhasak Denni T. Silaban

Director of Air Quality Protection and Management

Ministry of Environment Republic of Indonesia

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Background

- Indonesia continues to face serious air pollution challenges, particularly in urban, industrial, and densely populated areas. Annual average PM2.5 concentrations in several cities exceed national ambient air quality standards and remain substantially above WHO guideline levels.
- Air pollution has significant implications for public health, social welfare, and economic development, including:
  - Increased incidence of respiratory and cardiovascular diseases
  - Higher healthcare expenditures
  - Reduced labor productivity and school performance
  - Long-term socio-economic burdens on affected communities
- The sources of air pollution are multifaceted, including emissions from transportation, industrial activity, household fuels, construction, and open burning. Without effective intervention, exposure levels will continue to rise, affecting the most vulnerable populations.

Structural Gap: Institutional and Capacity Constraint at Subnational Level

- While national regulations and air quality standards exist, implementation at the provincial and municipal levels is uneven due to:
  - Differences in technical and institutional capacity
  - Limited air quality monitoring and emissions data
  - Weak integration of air quality management into local planning and budgets
  - Insufficient enforcement and compliance mechanisms
  - Limited access to dedicated financing for interventions

- Subnational governments often have insufficient resources to fund clean air initiatives, which require both capital and operational investments for monitoring, mitigation, and enforcement.

Financing and Investment Gap

- Despite increasing awareness of air pollution impacts, there is a lack of structured, bankable investment projects targeting clean air at the subnational level. Key barriers include:
  - Limited capacity to design and prepare investable projects
  - Lack of standardized methods to quantify air quality improvement benefits
  - Weak alignment between air quality goals and fiscal planning
  - Minimal involvement of private sector financing in clean air initiatives

- This financing gap prevents the scaling-up of effective interventions that could reduce exposure and improve public health outcomes.

Risk of Inaction

If these gaps are not addressed:

- PM2.5 and other pollutant concentrations will remain high in urban areas
- Public health impacts will continue to rise
- Economic losses due to illness and reduced productivity will persist
- Local governments will struggle to implement meaningful clean air interventions
- Communities, particularly vulnerable groups, will bear disproportionate health and social costs

Strategic Opportunity

- Addressing air pollution requires targeted interventions to strengthen subnational capacity and unlock financing opportunities. Key opportunities include:
- Supporting local governments in preparing and implementing air quality projects
- Establishing a pipeline of investable interventions to attract development or grant financing
- Strengthening regulatory enforcement, monitoring, and planning capacity
- Mobilizing public and private resources efficiently for measurable air quality improvements

Core Problem Statement

- Indonesia's air quality challenge is primarily a financing and institutional capacity gap at the subnational level.

- Without structured support to plan, finance, and implement clean air interventions, local governments cannot translate air quality standards into measurable improvements, leaving communities exposed to persistent health and economic risks.

Subnational Air Quality Landscape in Indonesia

❑Air quality conditions across Indonesia's regions are very different. These differences can be seen by looking at two main factors:

- ❖Annual average PM2.5 concentrations, measured against national ambient air quality standards; and
- ❖*Indeks Respon Lingkungan Hidup* (IRLH), reflecting the institutional capacity of local governments, including regulatory strength, organizational arrangements, human resources, planning integration, and implementation effectiveness.

❑This two-dimensional assessment shows that differences across regions are not only about how polluted the air is, but also about how prepared local governments are to manage the problem.

❑As a result, regions vary both in the severity of their air quality challenges and, in their ability, to respond and address them effectively.

The matrix categorizes regions into four quadrants based on:

- Annual average PM2.5 levels (within or exceeding national standards)
- Response Capacity Index (institutional readiness and governance strength)

Subnational Air Quality Landscape in Indonesia

1. **Active Air Quality Management Areas**
   (Low PM2.5, High Capacity)
   - Suitable for preventive investment, monitoring upgrades, and early mitigation
   - Approach: small-scale grants, digital monitoring, policy strengthening
2. **Preventive Support Areas**
   (High PM2.5, High Capacity)
   - Ready for strategic investments that can quickly lower pollution levels
3. **Response Capacity Strengthening Areas**
   (High PM2.5, Low Capacity)
   - Focus on institutional strengthening, technical assistance, and capacity building
   - Physical investment without TA is suboptimal
4. **Air Quality Management–Ready Areas**
   (Low PM2.5, Low Capacity)
   - Emphasis on readiness support, building monitoring systems and data foundations

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