

AIRSHED, AIR QUALITY MANAGEMENT PLAN & EMISSION STANDARDS REFORM

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JAKARTA METROPOLITAN AREA

Surrounded by industrial area

- West Java: Bekasi city (22) and regency (95), Bogor (43), Cikarang, Karawang (79), Purwakarta (23)
- Banten: Cilegon (42), Serang, Tangerang city (26) & regency (42)

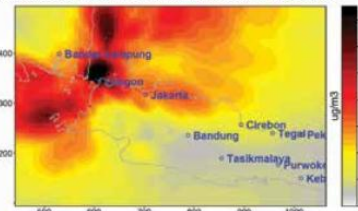
Surrounded by 22 units of coal-fired power plants

- Predicted to raise premature deaths to 10,600 /yr and low birth weight

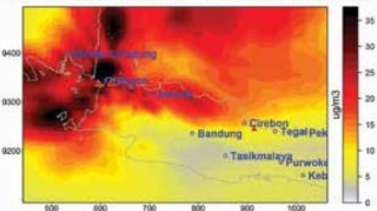


Figure 2. The Annually And Daily Distribution Range Of PM2.5

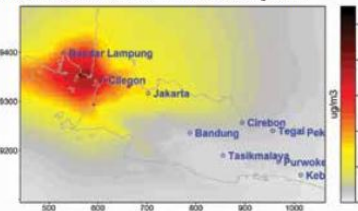
Maximum 24-hour PM2.5 Concentration from Existing Plants



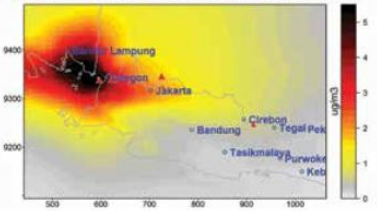
Maximum 24-hour PM2.5 Concentration from Existing and New Plants



Annual Mean PM2.5 Concentration from Existing Plants



Annual Mean PM2.5 Concentration from Existing and New Plants



Source: Myllyvirta and Chuwah, 2017.

Modeled daily and annual average PM2.5 concentrations caused by the CFPP within 100KM from Jakarta City, both existing CFPPs and planned CFPPs. Black and red areas are predicted to have the highest individual health risk.

AIR POLLUTION REGULATION: INDONESIA

No airshed concept in AQM (PP 41/1999)

- Also not introduced in Local Ordinance (Perda DKI 2/2005)

AQM is responsibility of Governor (PP 41/1999)

- Inventory – Provincial DoE
 - Ambient air
 - Emission
 - Meteorological & geographical condition
 - Land use
- Air quality status – Governor
- Strategy & air quality action plan – Governor

No “good neighbor provision”

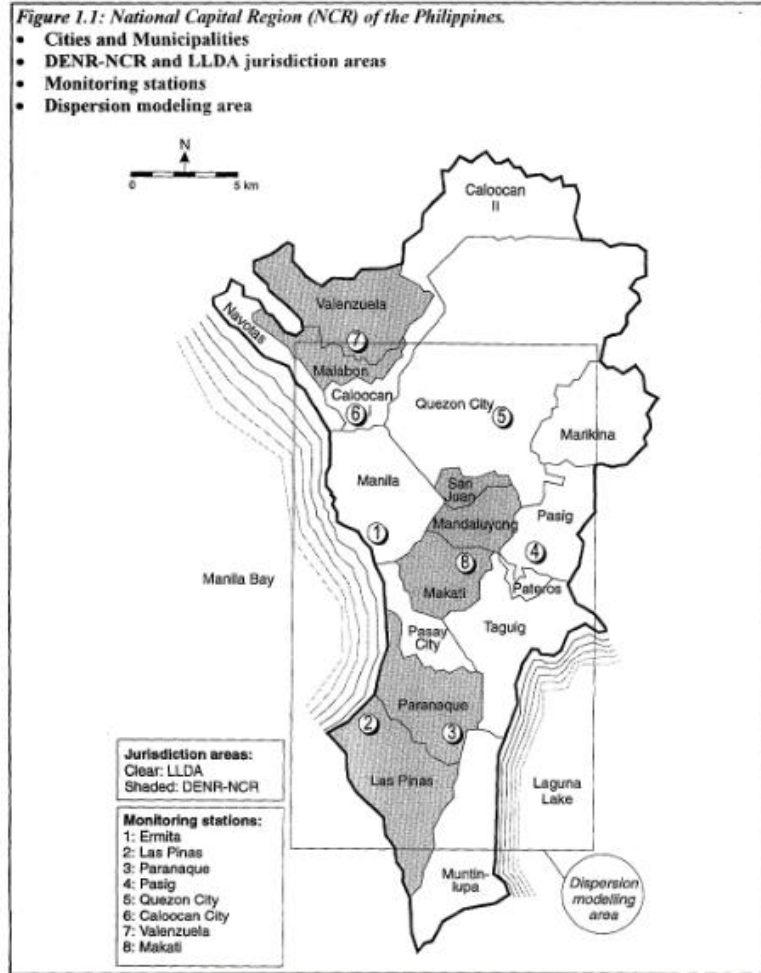
- No explicit provision or coordination mechanism in place
- MOEF’s supervision (*pembinaan*) responsibility

AIR POLLUTION REGULATION: INDONESIA

Governor has authority to set stricter emission standards for its localities

- Permit/EIA can contain stricter emission standards (art. 23 GR 41/1999)
- In non-attainment areas, “if necessary,” gov’t can establish stricter standards (Art 28 & 29 GR 41/1999, various emission standards MOE Decree)
- Detailed guidance is regulated in MOE Regulation 12/2010, Annex IV – among other can: (a) establish additional parameter; (b) determine **pollution load**; (c) BPT requirement; (d) more frequent monitoring
- Not mentioning the link with Provincial AQMP

METRO MANILA



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APR 12 2007

DENR ADMINISTRATIVE ORDER NO. 07
 Series of 2007

Subject: Revising the initial area coverage of the Metro Manila Airshed and its Governing Board

Pursuant to Section 9 of the Philippine Clean Air Act (RA 8749) and Section 12, Rule XV, Part V of its Implementing Rules and Regulations (DENR Administrative Order No. 2000-81), the initial area coverage of the Metro Manila Airshed and composition of its Governing Board is hereby revised.

Section 1. Revised Coverage of the Airshed

For purposes of designating the Metro Manila Airshed boundaries, the following are the geographic coordinates of the airshed:

No.	Latitude North			Longitude East		
	Degrees	Min.	Sec.	Degrees	Min.	Sec.
1	14	4	50.49	120	51	15.46
2	14	4	29.00	120	52	5.47
3	14	5	50.38	120	51	5.10
4	14	8	49.02	121	2	11.21
5	14	8	12.98	121	4	23.12
6	14	9	34.99	121	8	8.53
7	14	10	53.98	121	10	50.98
8	14	18	53.98	121	20	56.18
9	14	21	7.65	121	22	13.62
10	14	24	9.23	121	22	15.15
11	14	28	58.10	121	22	43.72
12	14	32	18.09	121	24	34.51
13	14	34	38.47	121	26	56.58
14	14	37	37.74	121	26	56.03
15	14	42	6.34	121	22	23.43
16	14	45	36.42	121	21	41.81
17	14	58	43.91	121	20	4.36
18	15	3	37.50	121	19	15.44
19	15	5	39.87	121	17	26.29
20	15	8	53.60	121	19	34.17
21	15	11	16.81	121	18	40.38
22	15	11	3.01	121	15	20.11
23	15	14	37.19	121	11	12.96
24	15	16	3.84	121	8	45.87
25	15	16	4.41	121	5	12.43
26	15	13	58.44	120	59	13.50
27	15	14	44.03	120	58	28.00

AIR POLLUTION REGULATION: PHILIPPINES

There is an airshed concept in AQM (Section 9 CAA R.A. 8749 of 1999)

- “areas with similar climate, meteorology & topology which affect the interchange & diffusion of pollutants in the atmosphere, or areas which share common interest or face similar development programs, prospects or problems.”
- Eco-profiling techniques & scientific studies

AQM is responsibility of Airshed Governing Board

- Local policies formulation & standard setting – GB
- “Common” air quality action plan – GB
- Coordination of function among its member – GB
- Submission & publication of annual air quality status report – GB

Action plans

- National action plan (designate airsheds)
- Airshed action plan – Greater Manila Action Plan
- Local gov’t units’ action plans, not only for their administrative unit, but for “their respective airshed” (With the assistance & supervision from the DoE) –
Good neighbor provision? – coordination mechanism

AIR POLLUTION REGULATION: PHILIPPINES

Emission standards (Section 19)

- “Protection of the public’s health and welfare” as element in setting the emission limit
- Does not mention specific authority for airshed GB / LGUs to adopt stricter emission standards for non-attainment area

Possibilities of non-attainment areas emission reform:

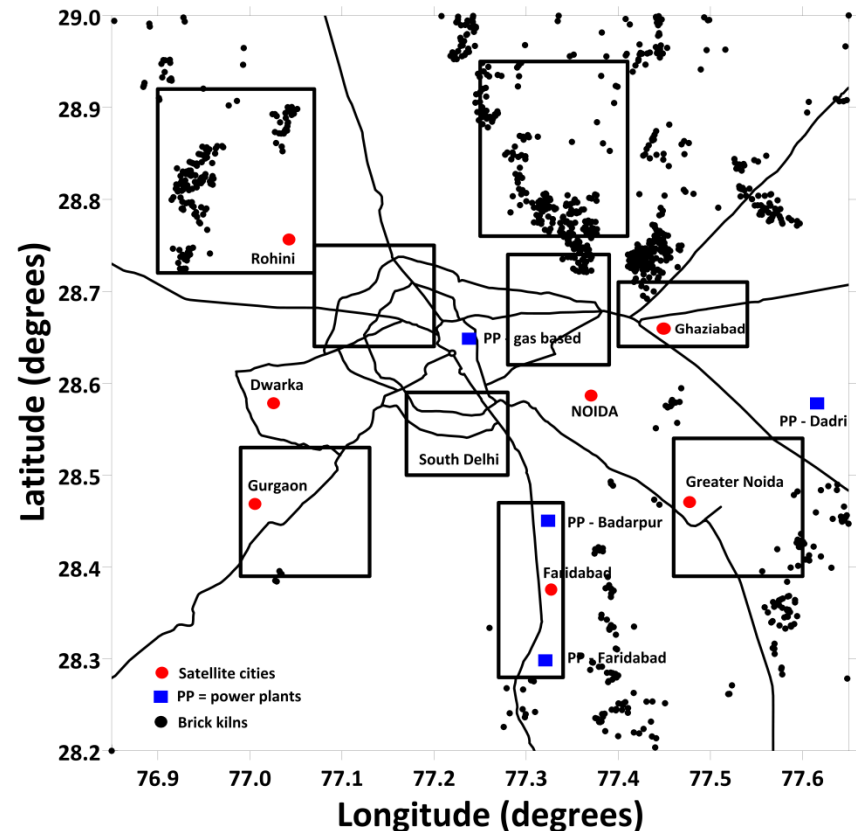
- Emission limitations are set up in permit
- Non-attainment areas shall prepare & implement a program that will “prohibit new sources of exceeded air pollutant *without a corresponding reduction in existing resources.*”
- Air quality control technique includes information of BAT and BPT, cost, energy requirements, emission reduction benefits, enviro-impacts of the emission control tech – **guideline?**
- Emission quotas can be set by regional industrial center that is designated as special airshed

NEW DELHI

Industries are shifted to adjoining areas: Ghaziabad, Noida, Faridabad and Baghpat

Delhi-NCR Region

- Aluminium alloy, wire, induction arc furnace, textiles & dyeing units, brick-kilns, stone crushers, WTE facilities, electroplating, etc.(CSE, 2016)
- Outside the urban airshed is responsible for 20% (urbanemissions.info)



AIR POLLUTION REGULATION: INDIA

There is an airshed concept in AQM (Art. 19, Air Act 1981)

- “Air pollution control areas” – declared by State Gov’t after consulting SPCB
- However, no specific provision that require action plan for each airshed
- Fuel prohibition authority within specific airshed – State Gov’t

AQM shared responsibility

- No express mandate for emission inventory – city gov’t
- Plan & execute a nation-wide (& state-wide) program for prevention, control or abatement – CPCB & SPCB – **city level?**
- No express mandate for submission & publication of annual air quality status report, but both CPCB can “collect, compile and publish” technical & statistical data, SPCB can “assess the quality of air” – **guideline only for monitoring**

Good neighbor provision

- No clear coordination mechanism

AIR POLLUTION REGULATION: INDIA

Action plans are not specifically mandated, but Supreme Ct' case of 2002 requiring:

- Identify air polluting sources
- Assess pollution load
- Prepare a *city-wise* action plan for AQM
- Set-up inter-agency task force for formulation & implementation of action plan

Emission standards

- No expressed authority to create stricter emission standards in local level
- But, CPCB has authority to “perform such other function,” “to do such other things ... generally for the purpose of carrying the purposes of this act” (Art 17 CAA)

KEY TAKEAWAYS

- **Airshed connection to local/stricter emission standard for stationary sources is still lacking**
 - IDN: no airshed, but there is authority to create stricter std
 - IND, PH: airshed, but no explicit authority to create stricter std – however, can reform through permit (load, etc)
- **EI, action plan, annual AQ status are not always mandated**
- **Despite airshed designation, responsibilities are often unclear**
 - Detailed roles & specific coordination mechanism (PH)
 - Role of court case (IND)
 - Can use general “coordination” provision to build good neighbor provisions (IDN)