Thailand Policy Framework and Measures for Air Pollution Monitoring and Management

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Air Quality Situation in Critical Areas

17 Northern Provinces
$PM_{2.5}$ (January - April) - Transboundary Haze Pollution

$PM_{2.5}$

Bangkok Metropolitan Region
$PM_{2.5}$ (November - March)

$PM_{2.5}$
PM_{10}

$PM_{2.5}$

VOCs

Na Phra Lan Subdistrict (Saraburi Province)
$PM_{2.5}$ and PM_{10} (January - May)

Map Ta Phut and nearby areas, Rayong Province : VOCs

Southern Provinces
$PM_{2.5}$ (July - September) - Transboundary Haze Pollution

$PM_{2.5}$

Ambient Air Quality Monitoring Stations Network

Automatic Ambient Air Quality Monitoring Stations

107 Stations
77 Provinces
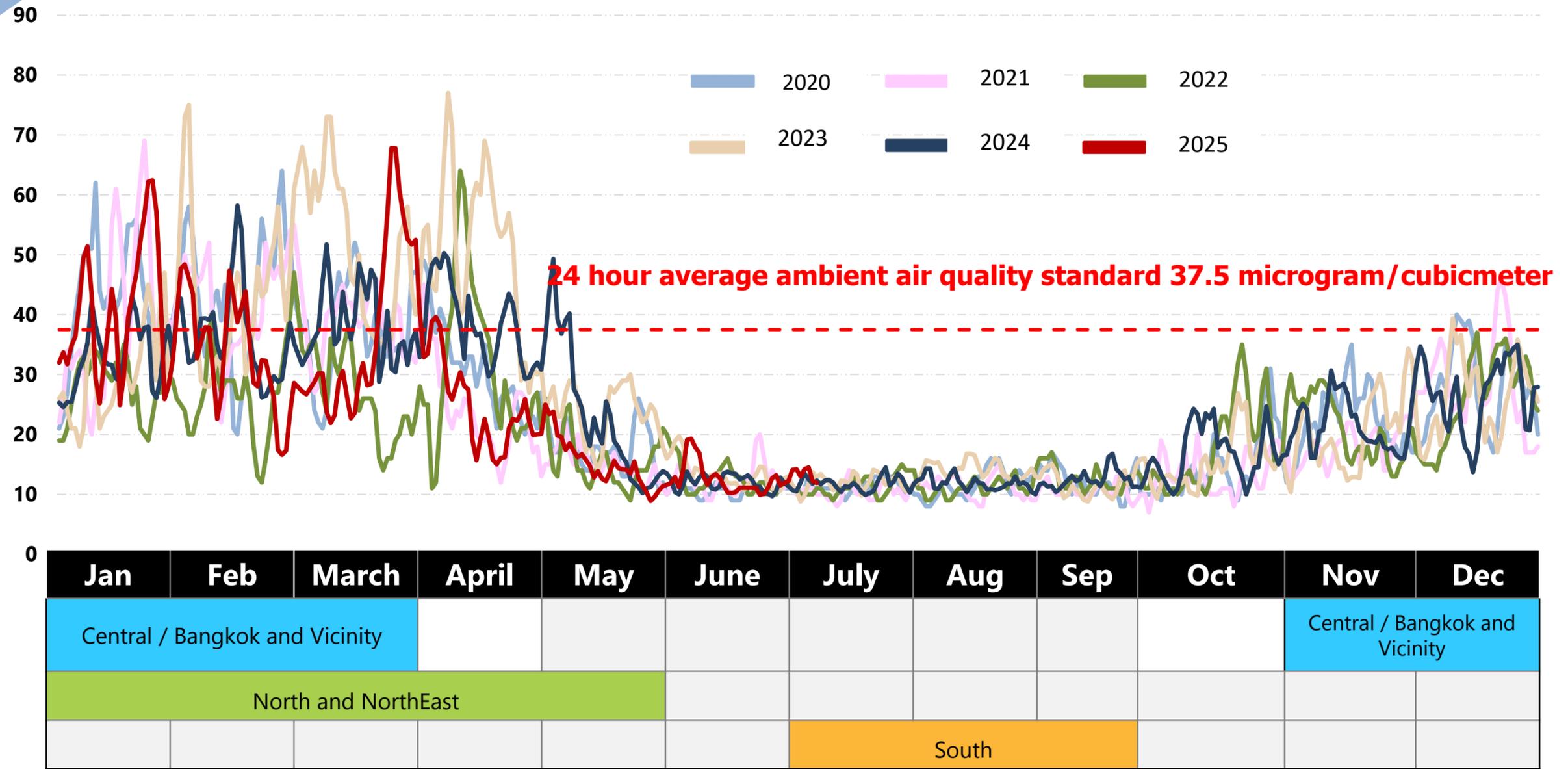
Air Pollutants

PM_{10}
$PM_{2.5}$
O_3
CO
NO_2
SO_2
Pb

Meteorological Conditions

Wind Speed
Wind Direction
Temperature
Barometric Pressure
Relative Humidity
Rain

กรมควบคุมมลพิษ
POLLUTION CONTROL DEPARTMENT

PM$_{2.5}$ Concentration from 2020-2025

Legend: 2020, 2021, 2022, 2023, 2024, 2025

24 hour average ambient air quality standard 37.5 microgram/cubicmeter

	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
	Central / Bangkok and Vicinity										Central / Bangkok and Vicinity	
	North and NorthEast											
							South					

2023 Thailand announce the new ambient air quality standard for PM$_{2.5}$ concentration
- Annual average change from < **25 ug/m³** to < **15** ug/m³
- Since 1 June 2023 AAS for PM$_{2.5}$ 24 hr average change from **50 ug/m³ to 37.5 ug/m³**

PM$_{2.5}$ 24 hours average concentration
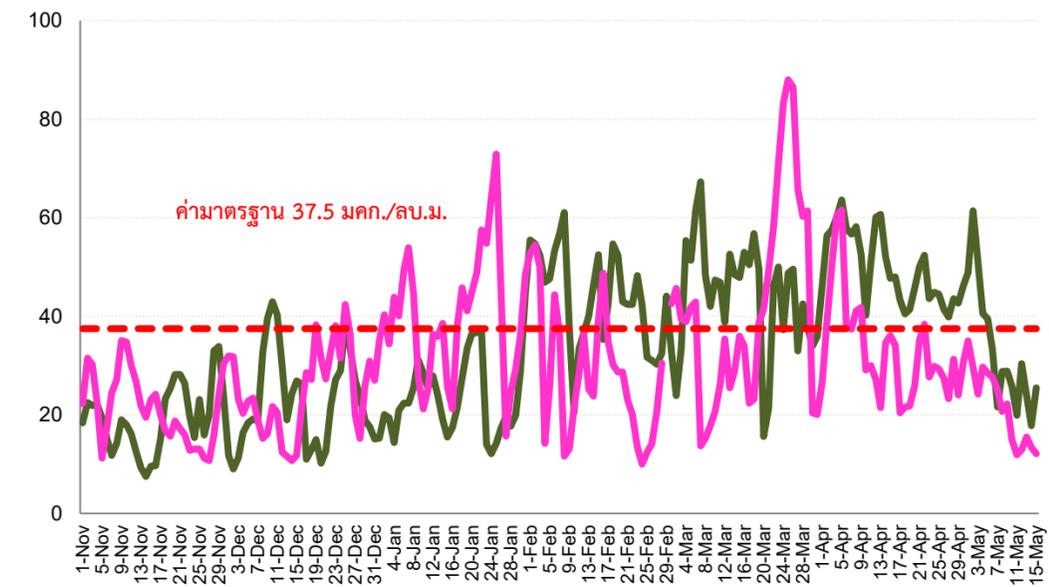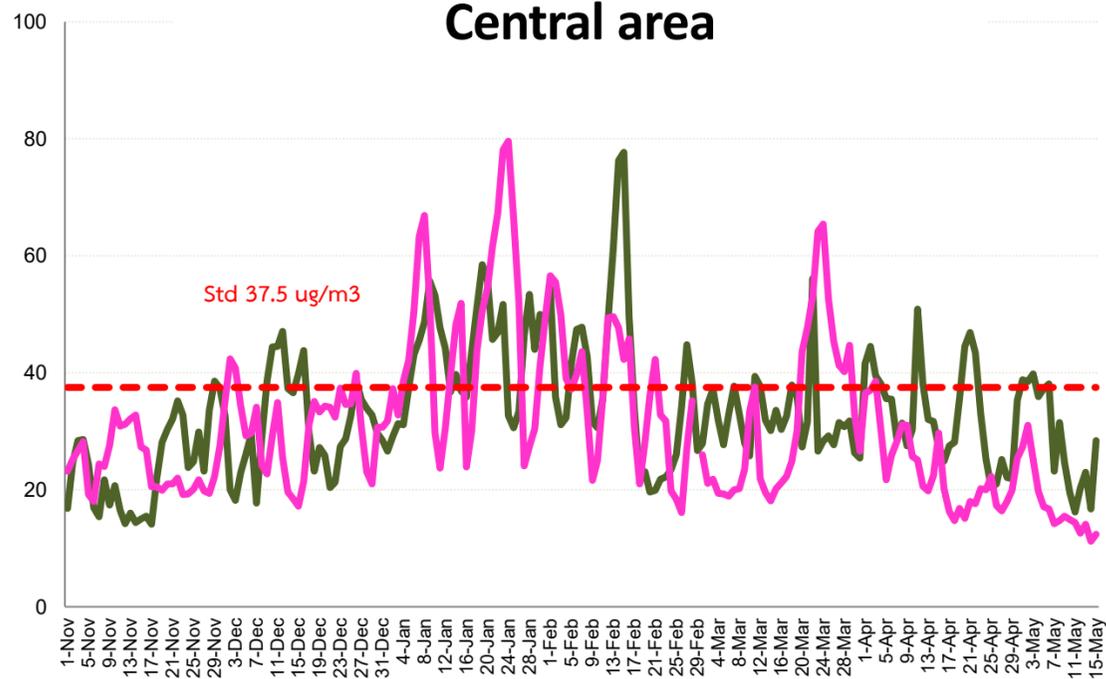# 1 November – 15 May 2024 vs 2025

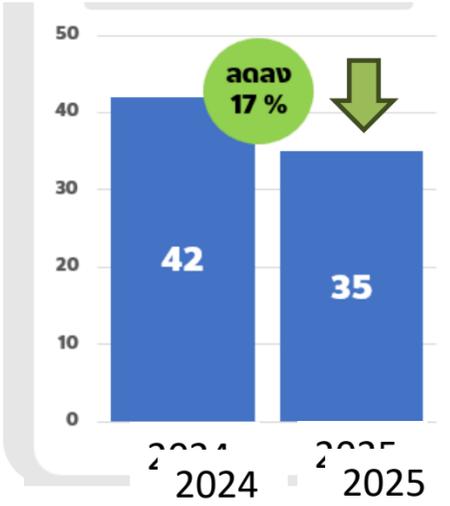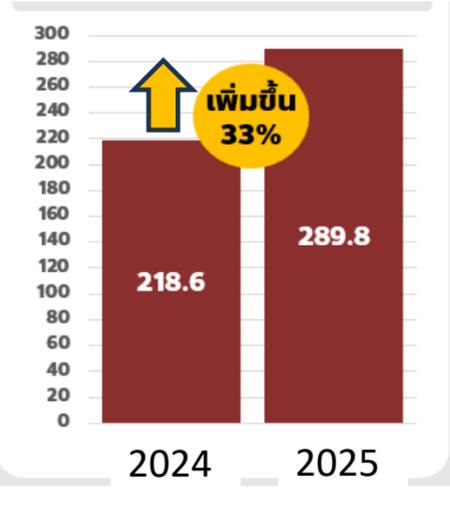Air Quality and Haze Situation

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Air Quality Management (PM$_{2.5}$) Indicators
1 November – 15 May 2024 vs 2025

17 Northern Provinces

24 hr avg. concentration (ug/m³) — ลดลง 17 % — 2024: 42, 2025: 35

max 24 avg. concentration (ug/m³) — เพิ่มขึ้น 33% — 2024: 218.6, 2025: 289.8

days exceed std. (days) — เพิ่มขึ้น 1% — 2024: 162, 2025: 163
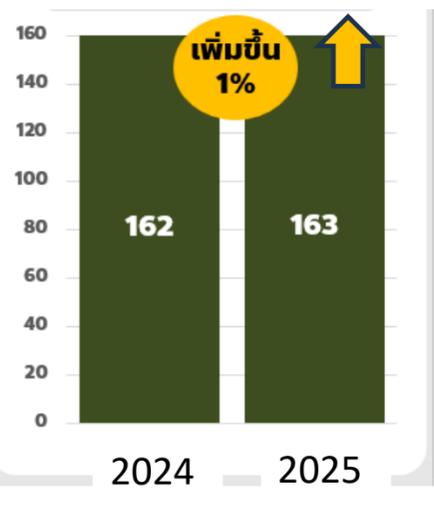
Bangkok and Vicinity area

24 hr avg. concentration (ug/m³) — คงที่ — 2024: 31, 2025: 31
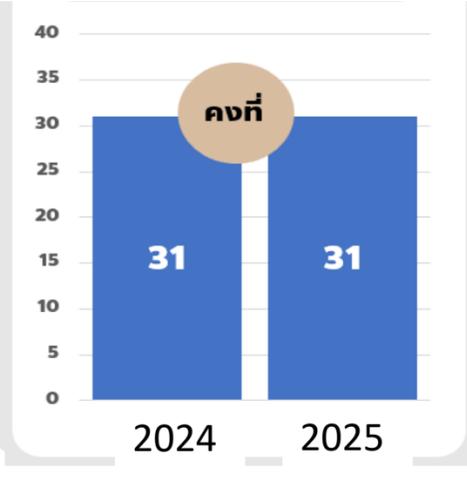
max 24 avg. concentration (ug/m³) — เพิ่มขึ้น 21% — 2024: 101.7, 2025: 123

days exceed std. (days) — ลดลง 3% — 2024: 121, 2025: 117
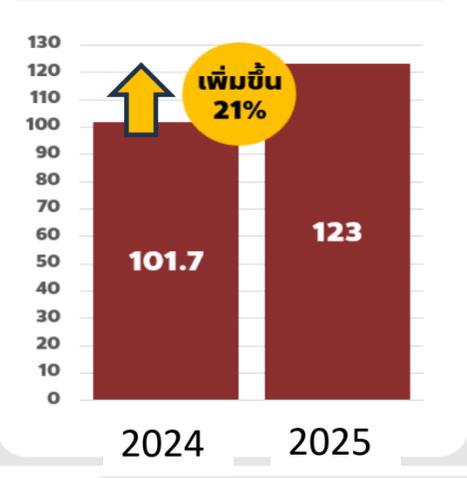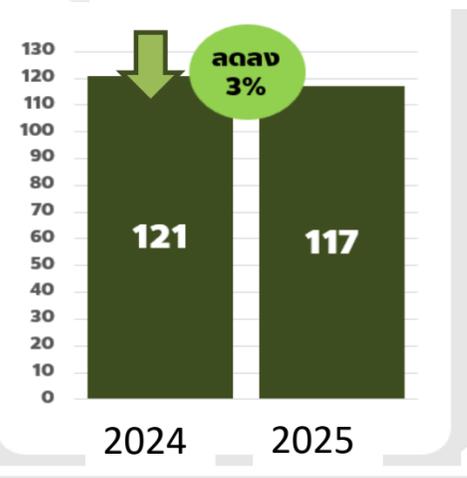
North Eastern area

24 hr avg. concentration (ug/m³) — ลดลง 9% — 2024: 34, 2025: 31

max 24 avg. concentration (ug/m³) — เพิ่มขึ้น 40% — 2024: 129.8, 2025: 178.9

days exceed std. (days) — ลดลง 12% — 2024: 143, 2025: 126
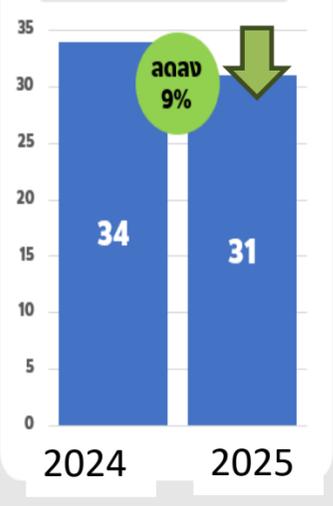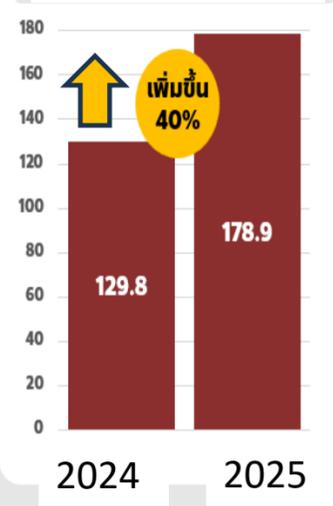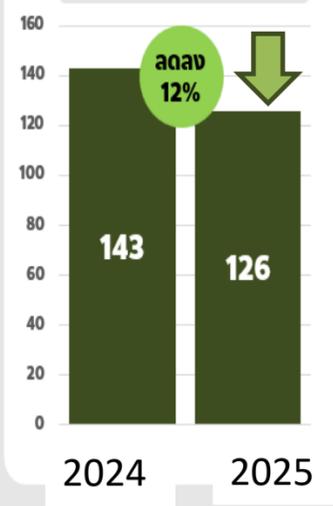
Central area

24 hr avg. concentration (ug/m³) — ลดลง 6 % — 2024: 33, 2025: 31
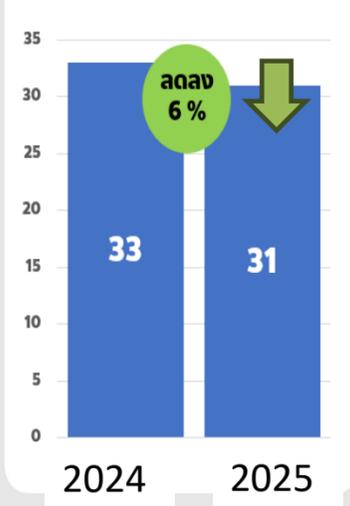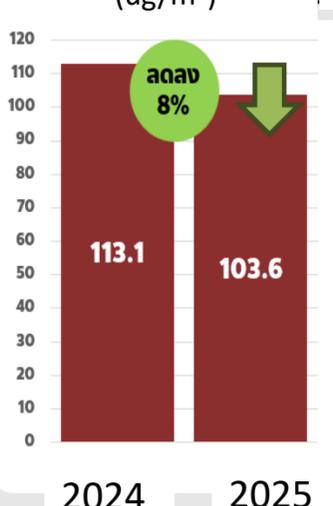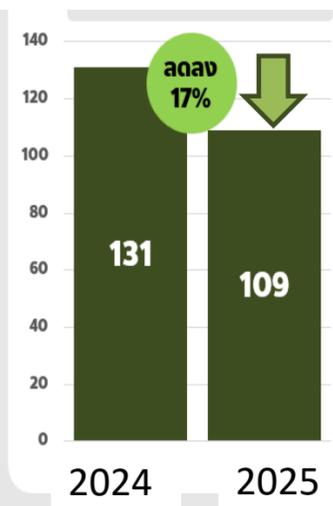
max 24 avg. concentration (ug/m³) — ลดลง 8% — 2024: 113.1, 2025: 103.6

days exceed std. (days) — ลดลง 17% — 2024: 131, 2025: 109

Western area

24 hr avg. concentration (ug/m³) — ลดลง 17% — 2024: 41, 2025: 34

max 24 avg. concentration (ug/m³) — ลดลง 45% — 2024: 118.7, 2025: 65.6

days exceed std. (days) — ลดลง 30% — 2024: 105, 2025: 73

Air Quality and Haze Situation
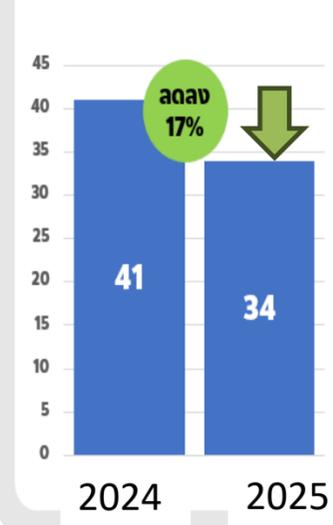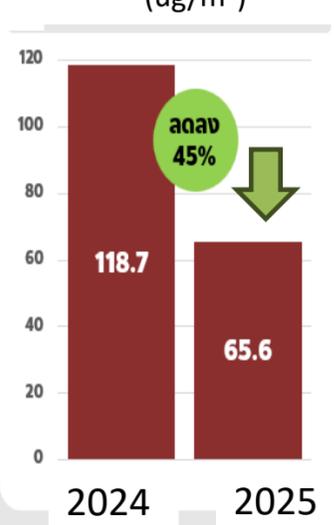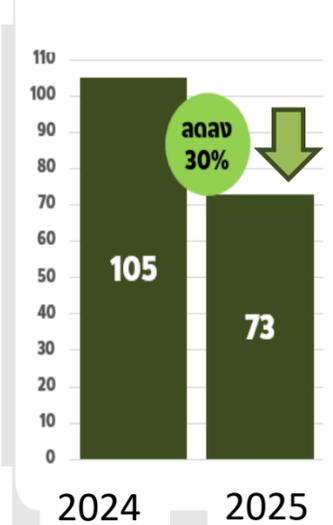
Number of Hotspots by Land Use Type
Comparison between 2024 and 2025 (1 Nov – 31 May)
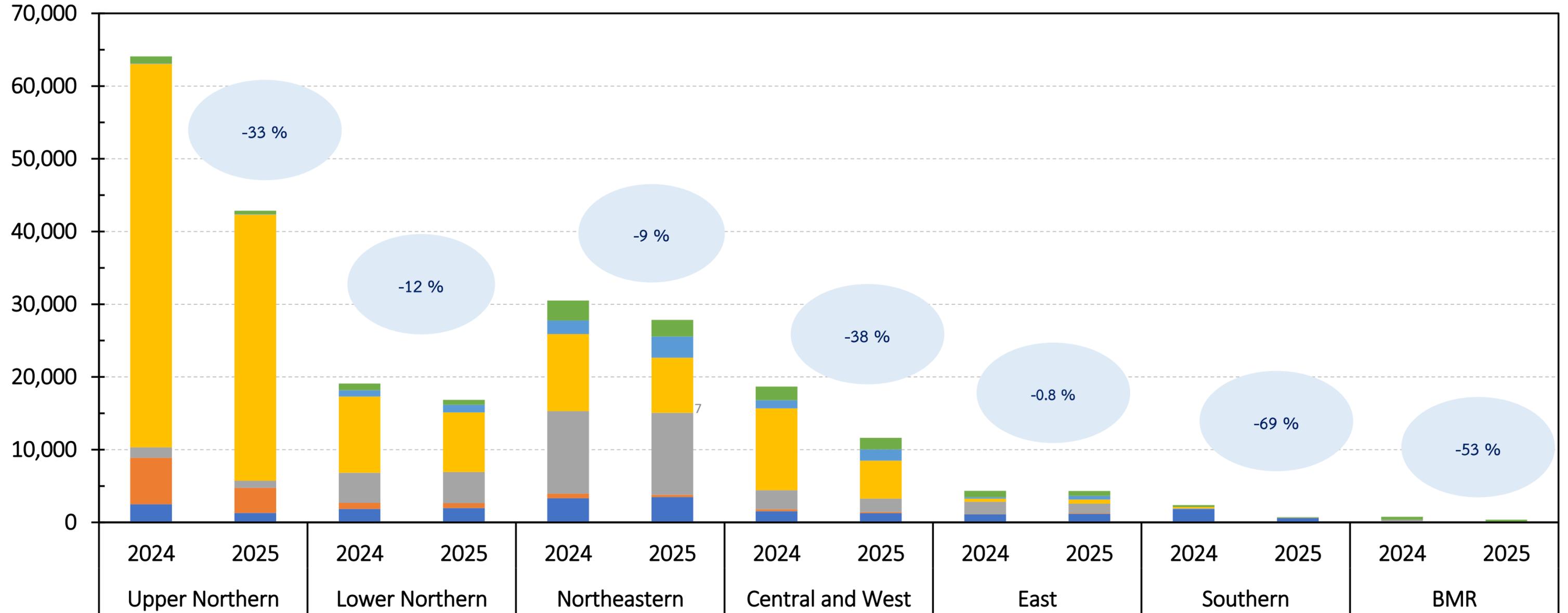
Legend: Other Agriculture, Maize and Shifting Cultivation, Rice Fields, Forest Area, Sugarcane, Others

Region	Change
Upper Northern	-33 %
Lower Northern	-12 %
Northeastern	-9 %
Central and West	-38 %
East	-0.8 %
Southern	-69 %
BMR	-53 %

Burned Area (Rai): Comparison between 2024 and 2025 (1 Jan - 31 May)
Source: Landsat 8, 9 imagery, interpreted by GISTDA

2024 = 19,523,235 Rai

2025 = 14,301,954 Rau

Decrease 26.7 %

Year 2025 (Proportion %)

National Park	26.2 %
Royal Forest	26.6 %
Agricultural Areas	27.8 %
Agricultural Reform Areas	13.1 %
Communities and Others	5.8 %
Roadsides	0.5 %

-14 %

-21 %

-38 %

-35 %

-6 %

-29 %

4,381,295 3,746,885

4,839,637 3,807,849

6,461,058 3,973,780

2,859,469 1,871,940

888,025 834,641

93,751 66,859

Conservation Forests (National Park) — National Reserved Forests (Royal Forest) — Agricultural Areas — Agricultural Land Reform Areas (สปก) — Communities and Others — Roadsides (within 50m)

■ 1 Jan-31 May 2024   ■ 1 Jan-31 May 2025

Air Pollution = National Agenda

Policy driven by National Committee at Central, Regional and Province level

National Committee Chaired by Vice Prime Minister
Committees: inter-governmental agencies

Enhancing the Management of forest fires, Haze, and PM$_{2.5}$ Pollution in Urban and Agricultural Sectors through Economic Instruments

Air Pollution Management Communication Center
Function: Reporting, Forecasting, and Issuing Alerts on PM$_{2.5}$ Pollution Levels

Level up Ambient Air Quality Standard and Emission Standard
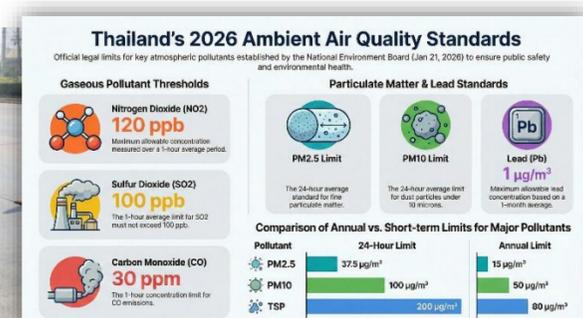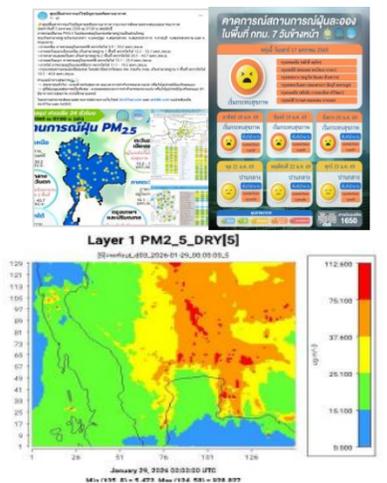- Smoke emission standard from 30% to 20%

EURO 6 for benzene Large size vehicle

Green List Plus

Work From Home

Promoting the Control of Pre/Post -Harvest Sugarcane Burning, Supporting Low-Interest Loans, and Utilizing Agricultural Residues as Fuel

เริ่มบังคับใช้วันที่ 1 พ.ย. 68

ตั้งแต่วันที่ 1 มกราคม 2569

Thailand National Action Plan for Particulate Matter Prevention and Control (2025 – 2027 and the next 5 years)

1st National Action Plan

Precautionary Principle

- Enhancing air quality management
- Focus on area base during crisis season
- Reduce and Control air pollution emission for major sources

2nd National Action Plan

Concept

~~AIR POLLUTION~~

CLEAN AIR

Integrate approach for air quality management

Prevent Protect and Control Air Pollution Emission from Major sources

Vision

Multi-stakeholder Cooperation for Clean Air

Focus

- Prevent and control air pollution emission from industrial, transport, forest, agricultural and urban area
- Apply economic instrument, technology, administrative mechanism, law and registration enforcement
- Cover urban area, forest area, agricultural area and transboundary air pollution
- In line with the Draft Clean Air Act

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5 Measures

Thailand National Action Plan for Particulate Matter Prevention and Control (2025 – 2027 and the next 5 years)

Urban

Transportation Industry

34 measures

Forest

Preserve forest community forest

13 measures

Agricultural area/Agricultural forest area

21 measures

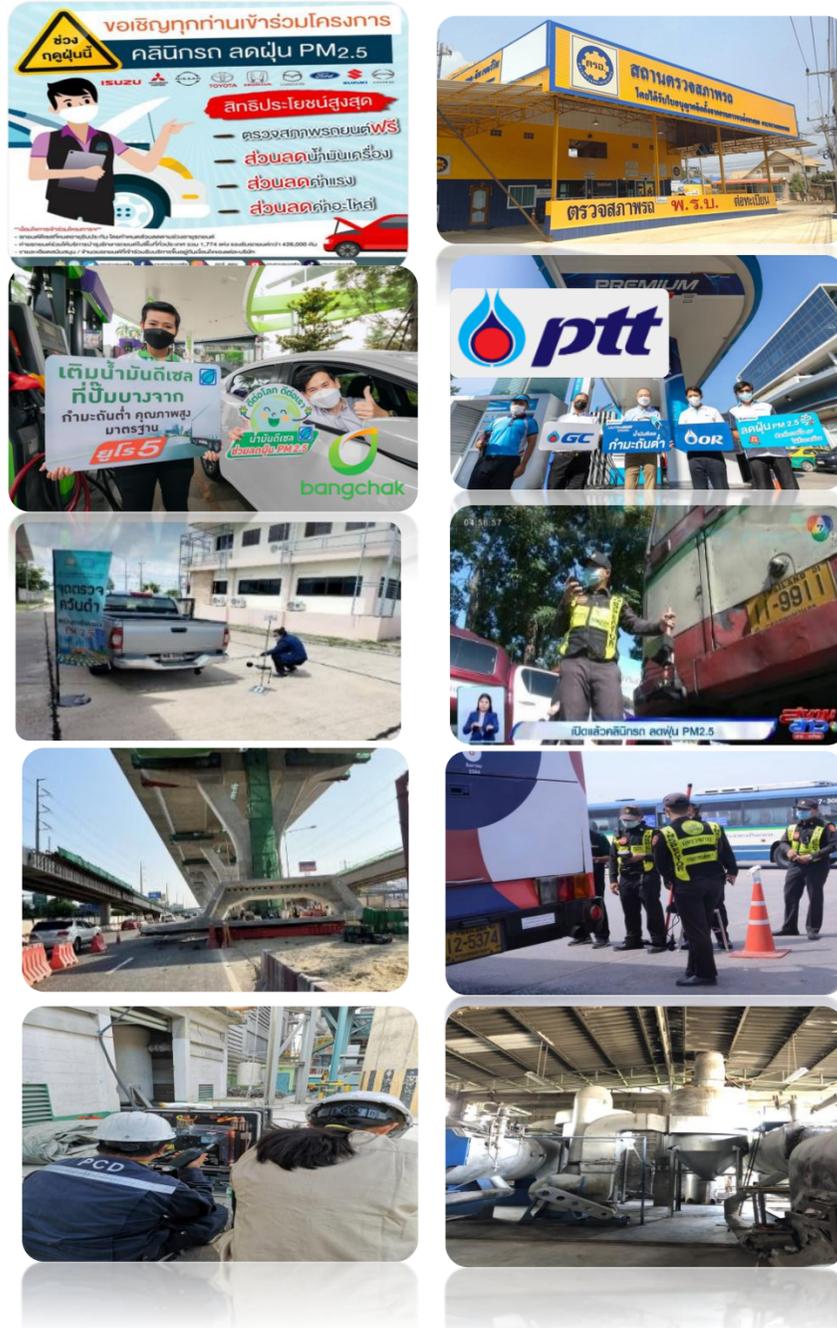**Transboundary air pollution**

8 measures

Enhancing air quality management

8 measures

Urban area

Highlight Actions

- Enforcement of Euro5 oil standards

- Strengthening annual vehicle inspection

- Inspection for black smoke vehicles/ issue prohibit sign for black smoke vehicles

- Providing M&I services and BMA Low Emission Zone

- Encourage WFH measure during $PM_{2.5}$ crisis

- Plants inspection for potential PM emission industry

Forest area

Highlight Actions

- Priority on **14** cluster of the most burnt detected conservative and preserved forest area

- Set up Forest fire checkpoints/interception points/surveillance points

- Closing service protected forest area during crisis

- Gathering human resources and fire extinguishing equipment in the target area

- "**Knock door**" strategy and MOU between officers and community for Forest Fire Prohibit

Agricultural area

Highlight Actions

✓ **Focus on corn, rice and sugarcane plantation area**

  • from conventional practice to no-burning agricultural practice

✓ **Agricultural fire risk area database**

✓ **Register and guideline for open burning permit criteria**

  • create guideline for open burning with permit condition

✓ **Incentive for no burn agricultural products**

  • higher price for no burn sugar cane buyer

✓ **Traceability and GAP PM$_{2.5}$ Free**

Transboundary air pollution

Actions

- Create **database** for source of transbounary air pollution

- Level up **trilateral and bilateral** cooperation

- Transboundary air pollution **data center**

- Forest fire suppression **training center**

- Promote no burn/**zero burning agricultural products**

- Encourage **private engagement** on green supply chain

- Introduce **traceability** system

- Sharing experience on **highland agricultural sustainable management**

Pollution Control Department

Q & A

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