The Way to Green : Transport sector in Thailand

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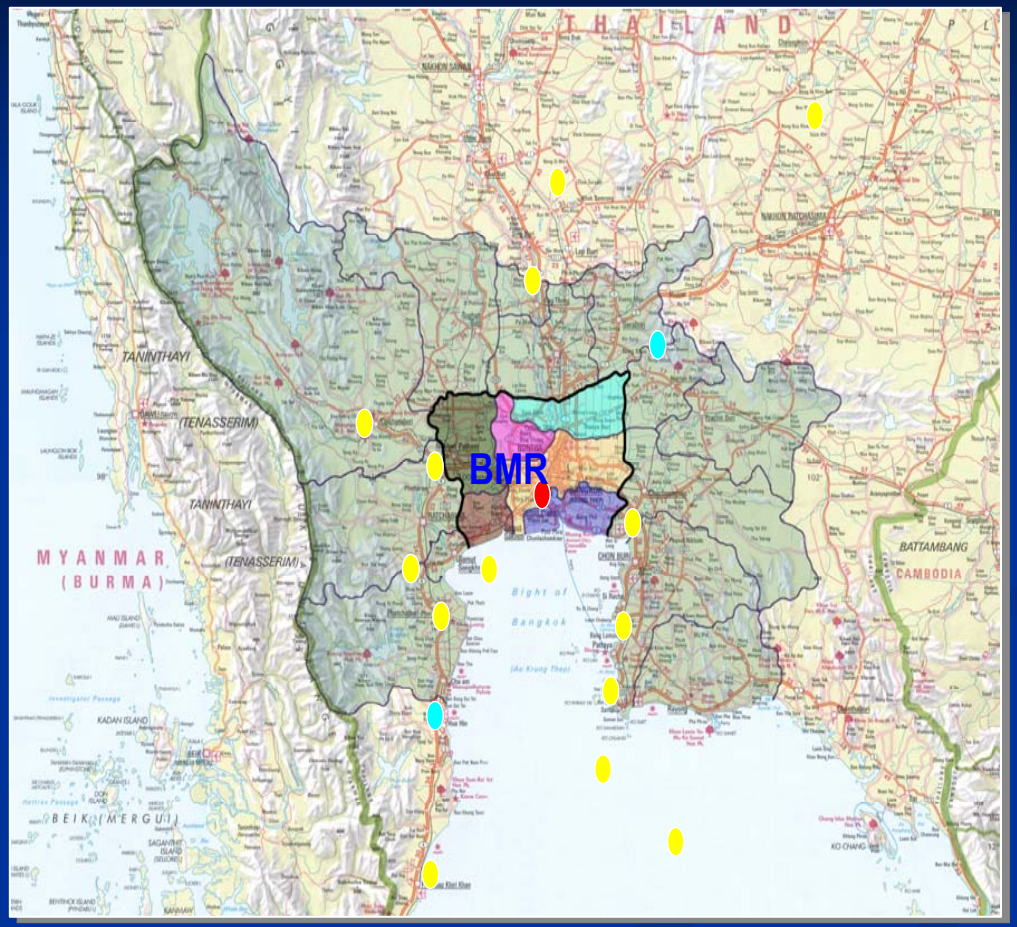
Introduction

- Thailand and Bangkok in overview
- Current situation & status
- Policy and Strategy
- Barriers and Opportunities
- Conclusion

Bangkok Metropolitan and Region



POPULATION : 10.8 millions
AREA : 7,760 sq.km.
GDP 68 % of National GDP

Bangkok Metropolitan

Panorama

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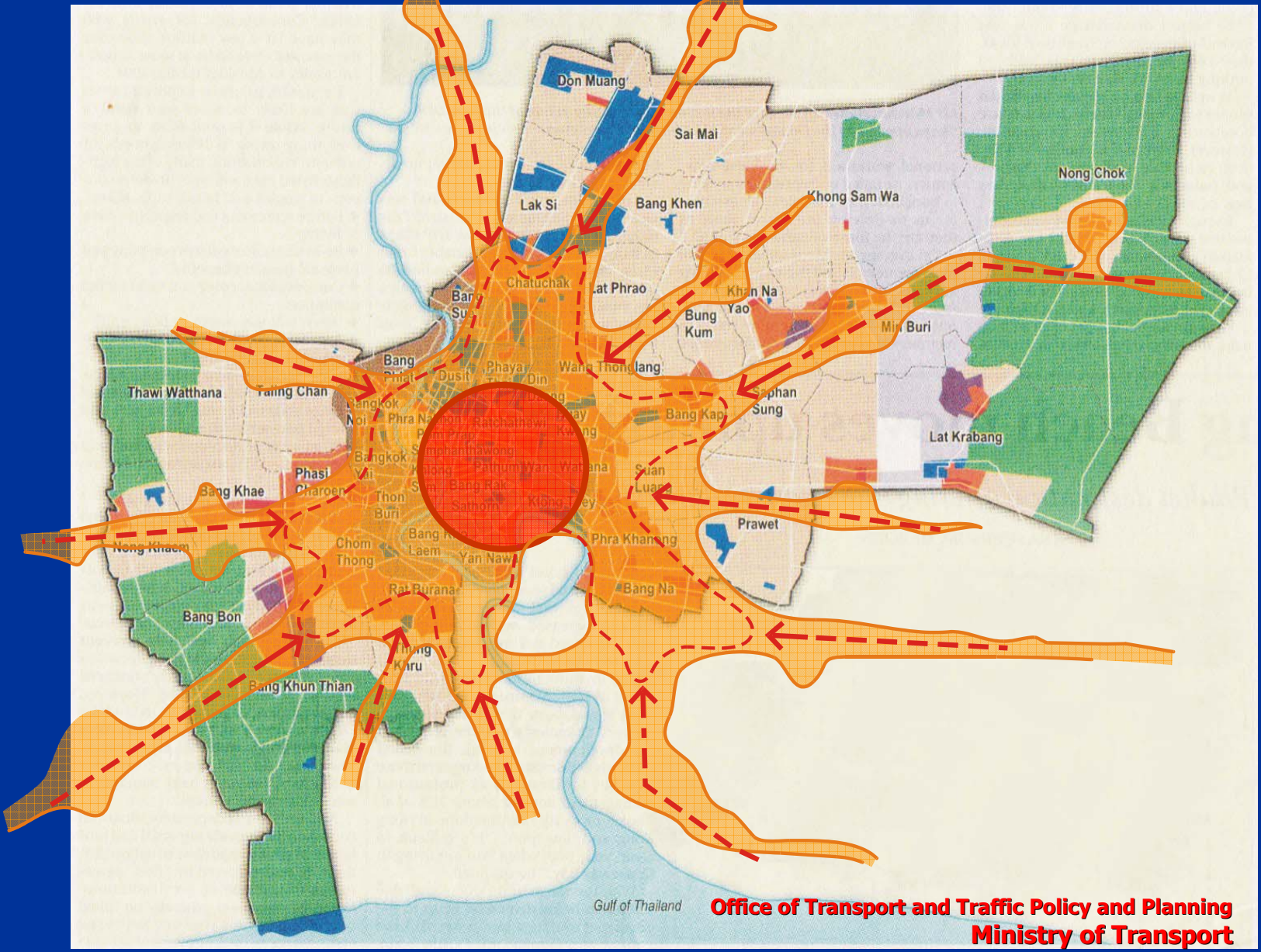
Traffic congested in urban center



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Travel Pattern of people in Bangkok

Total

17

Mil.Trips/Day

Bus 35%

6

Mil. trips/Day

Mass Transit 4%

Sky Train

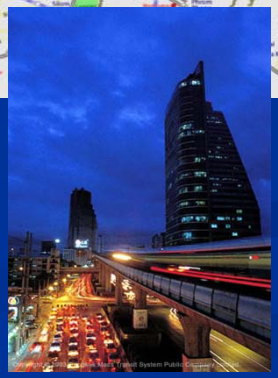
0.45

Mil. Trips/Day

Subway

0.18

Mil. Trips/Day



Car 56%

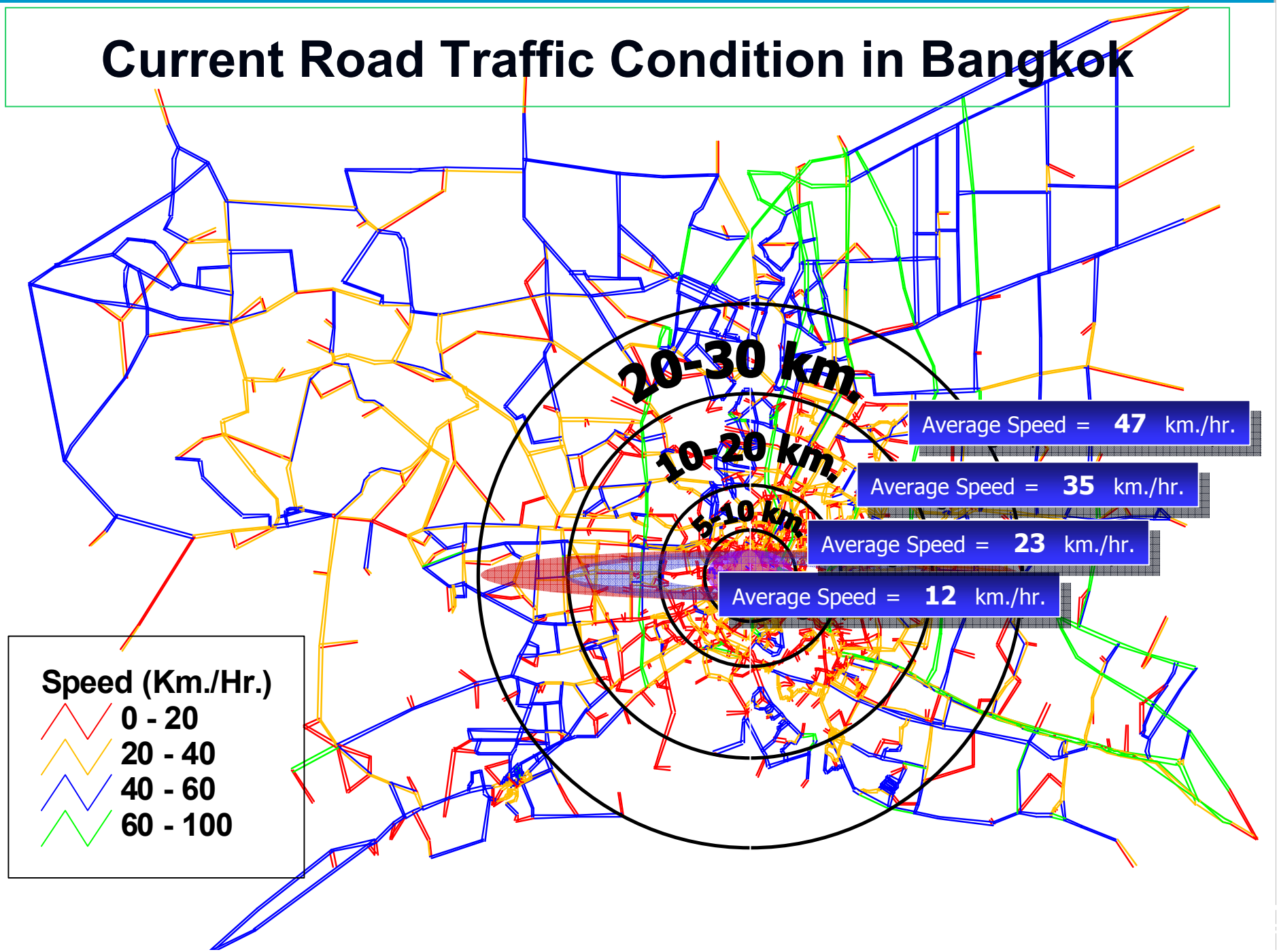
9.5

Mil. Trips/Day

Office of Transport and Traffic Policy and Planning

Ministry of Transport

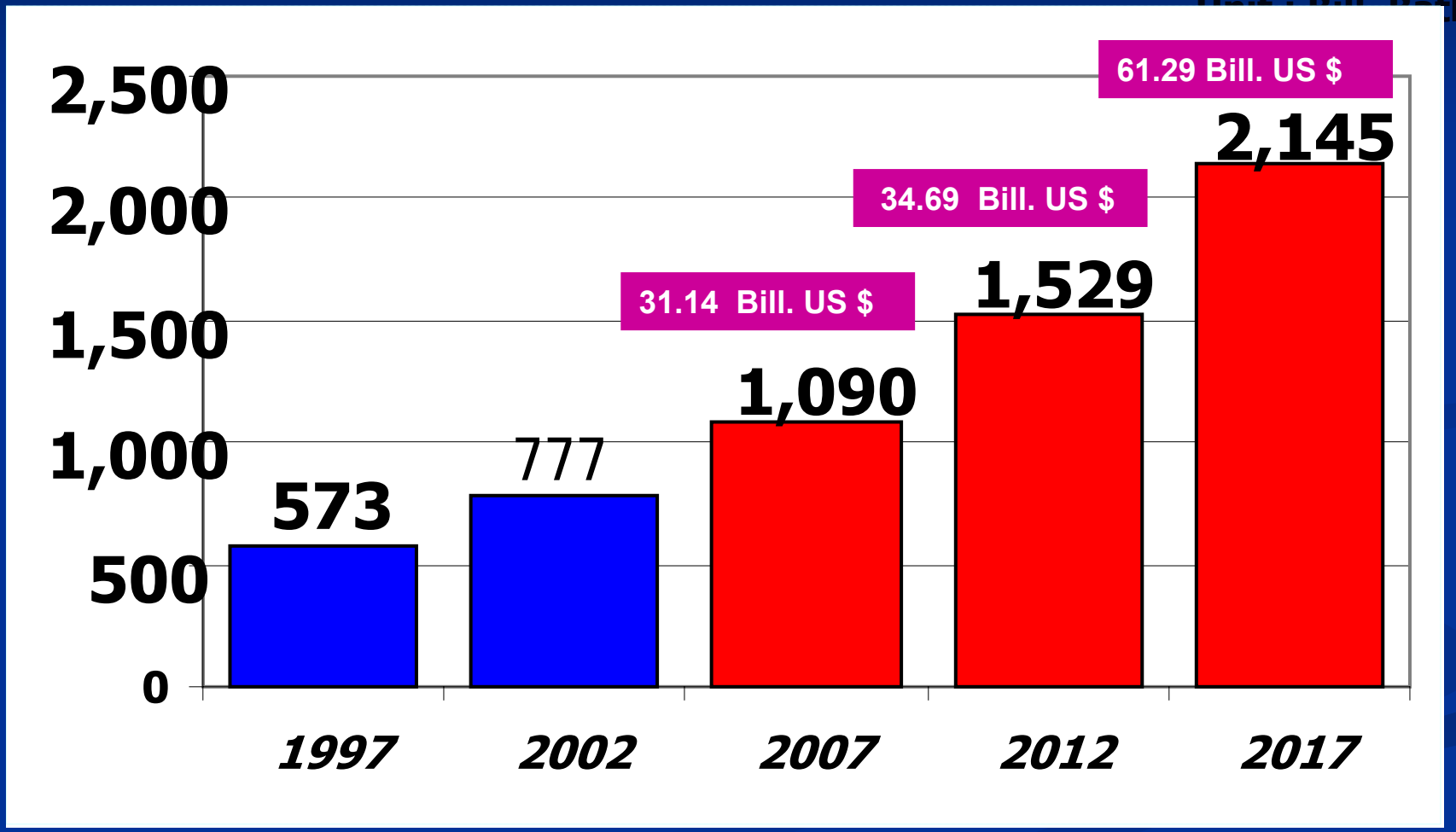
Current Road Traffic Condition in Bangkok



Forecasting of Energy used in Thailand

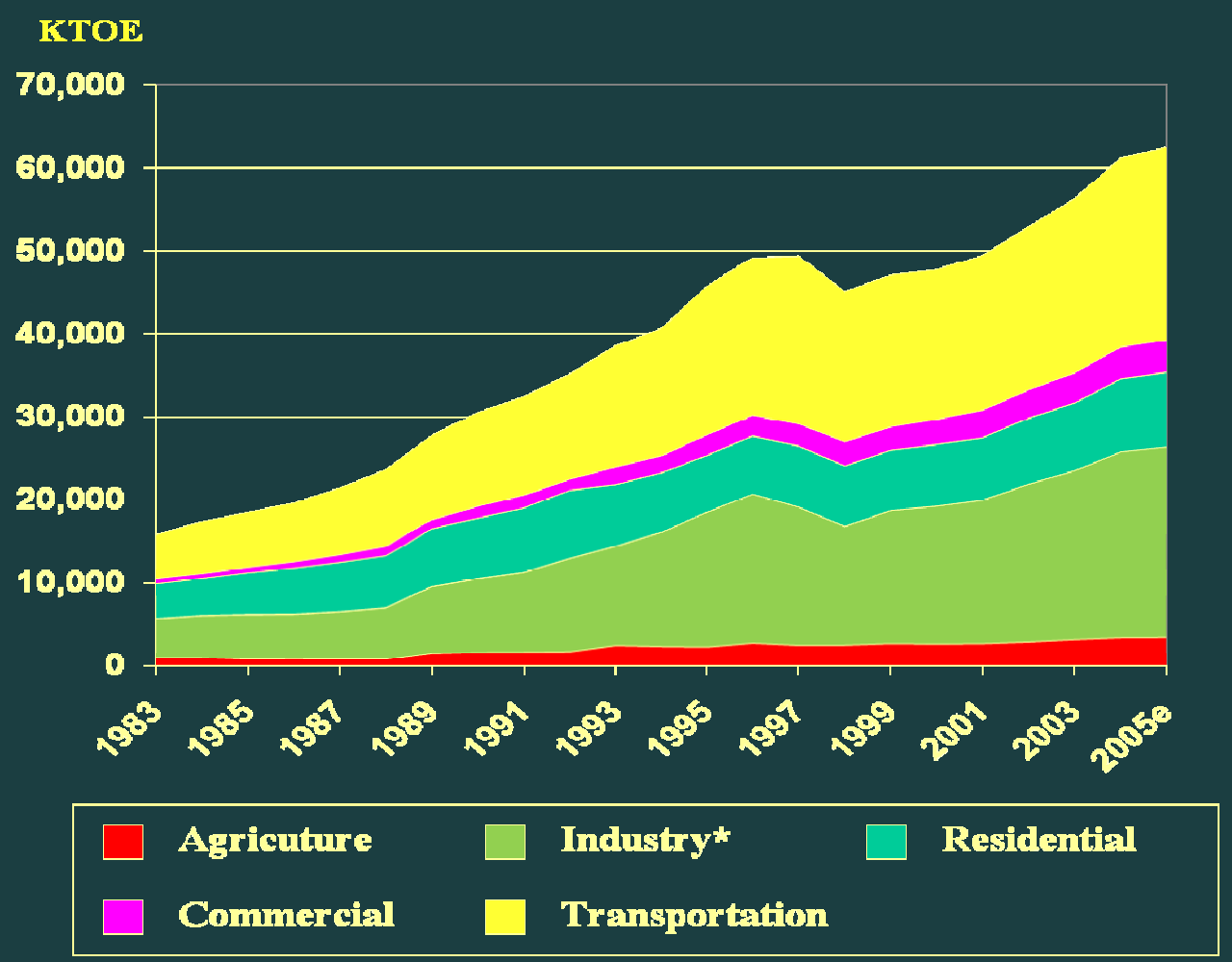
Energy used : GDP (1.4:1) Estimate GDP growth 5% per year

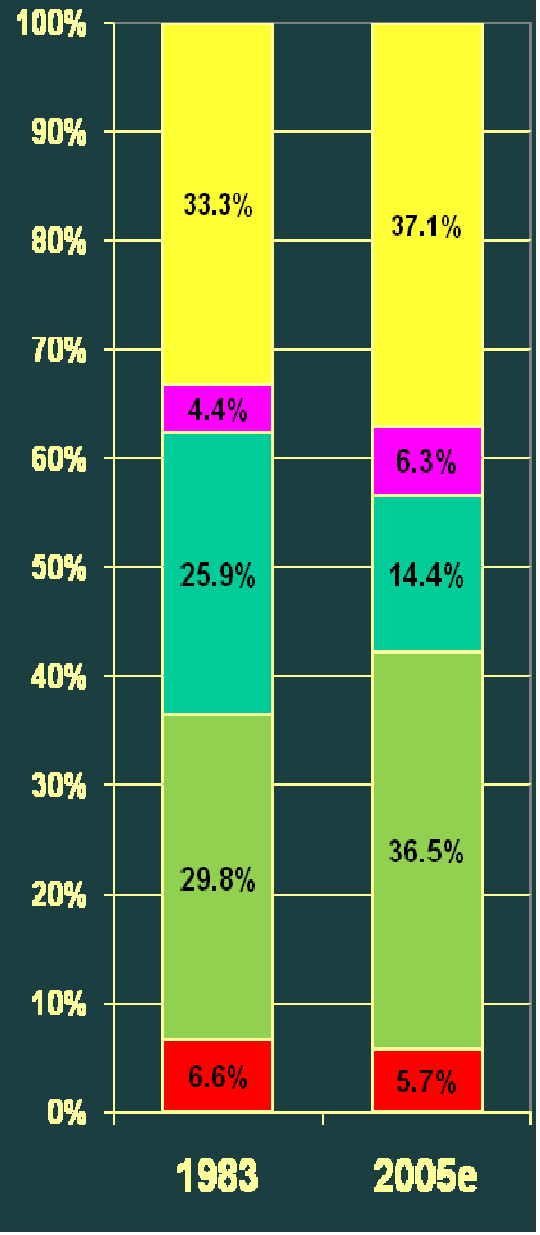
Unit : Bill. Bath



Exchange rate in year 2007 : 1 US$ = 35 Bath

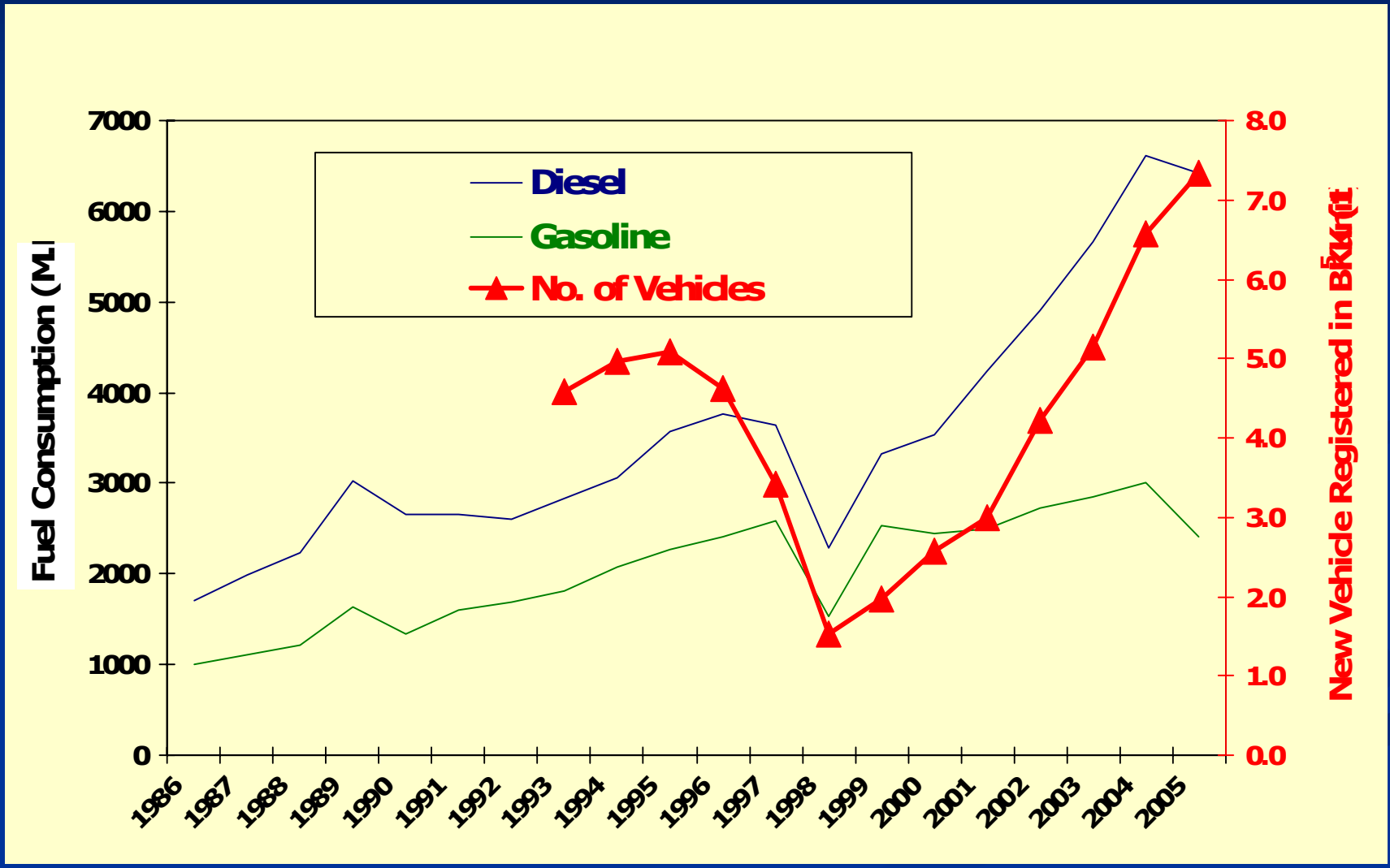
Thailand Energy Consumption by Economic Sector





In 1998 the Asian economic crises caused world oil demand to drop for a short time.

Fuel Consumption & New Vehicle Registered in BKK



Share of Energy Demand in the Transportation Sector in Thailand

Transport Mode	Energy Demand ktoe	Share (%)
Land Transportation	14,743	79.1
Road	14,638	78.6
Rail	105	0.5
Water Transportation	851	4.6
Domestic	57	0.3
Overseas	794	4.3
Air Transportation	3,038	16.3
Domestic	307	1.6
Overseas	2,731	14.7

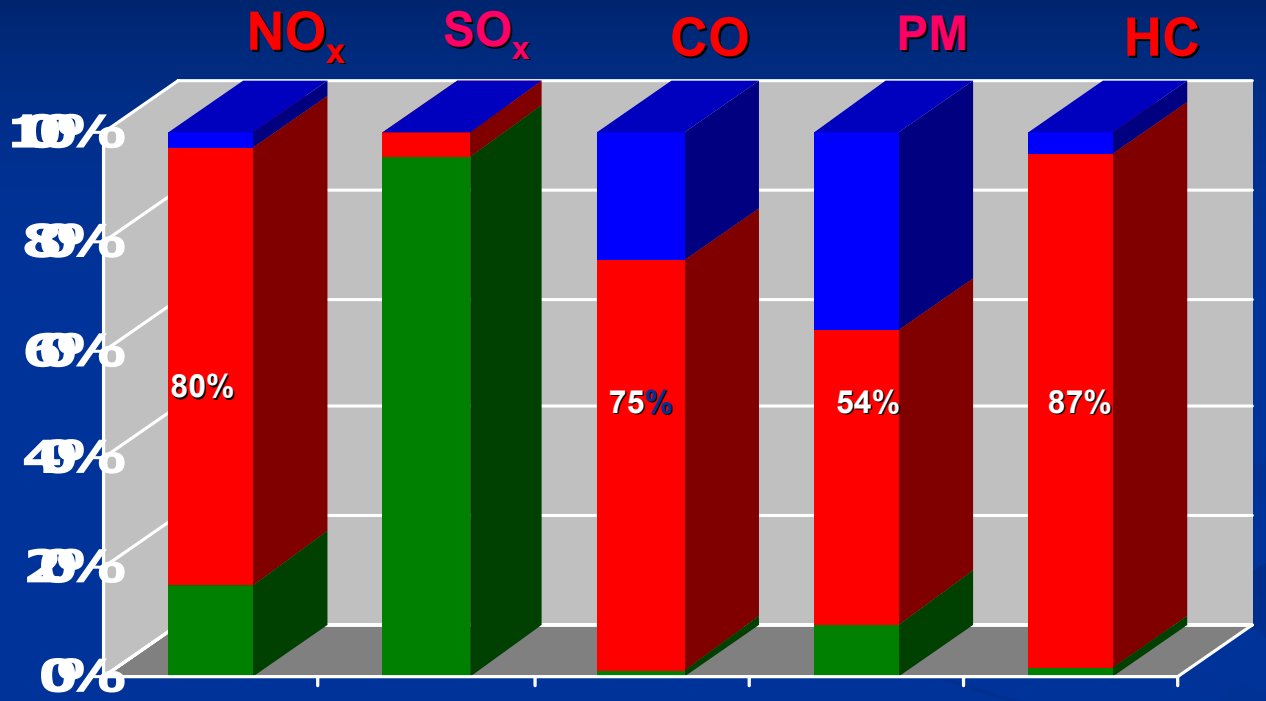
GHGs Emissions

Green House Gas emissions from energy sector (million tonne CO_2e)

Year	2000	2001	2002	2003	2004
Transport	44.4	45.6	48.0	51.6	52.2
Electricity	57.7	61.2	63.4	66.2	71.6
Industrial	30.9	33.9	37.1	38.0	39.7
Residential / Commercial	4.306	4.535	4.569	4.675	5.312
Others	9.096	9.213	9.851	10.727	10.805
Total	146,	154,	163,	171.	180.
Increasing per year		7.974	8.504	8.331	9.313

Source: Thailand energy Statistics 2004

Ratio of Air Emissions (Pollutants) in Bangkok



% Point source

% Mobile sources (Motor Vehicle)

% Area source

Air Pollution and Climate Change Link

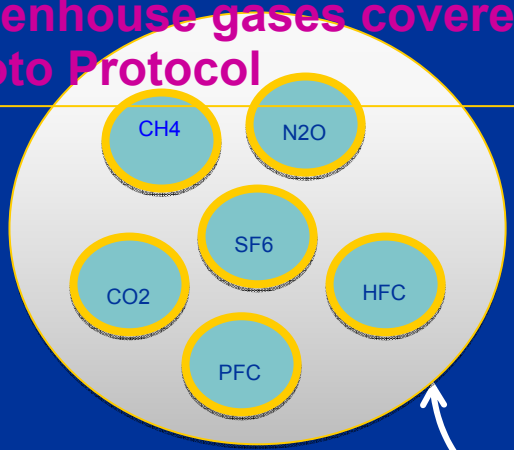
GLOBAL CLIMATE CHANGE

GLOBAL AIR POLLUTION

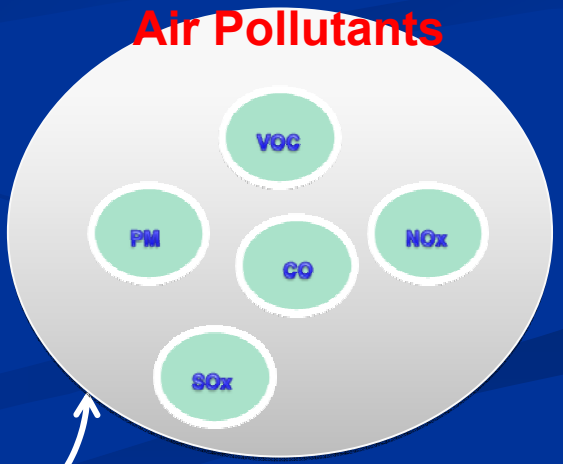
REGIONAL AIR POLLUTION

URBAN AIR POLLUTION

Greenhouse gases covered by Kyoto Protocol



Air Pollutants



Potential CDM Projects

Categorized by Baseline Setting Approaches

Simple, with less data → Complicated, need models and more data

Top-Down (Total Vehicles)	Bottom-Up 1 (Each Vehicle)	Bottom-Up 2 (Network)
✓Low CO_2 content fuel ✓Alternative fuels (e.g., CNG, Gasohol, Biodiesel) ✓Bus operators (BMTA, Private bus companies), etc.	✓Low CO_2 emitting vehicles ✓Engine modification ✓Vehicle inspection/ maintenance program ✓Hybrid/EV ✓CNG/BDF buses/trucks ✓Park & Ride ✓Expressway, etc.	✓Subway ✓Infrastructure improvement ✓Road/area pricing ✓BRT ✓LRT, etc.

Policy and Strategies

- An emerging concept based on…
  - **Environmental co-benefits** (climate change action and local environmental management, etc.)
  - **Socio-economic co-benefits** (poverty alleviation, health, gender and human rights, etc.)
- Addressing **how to overcome** technical and financial as well as political **barriers** to undertake environmental protection measures at different levels

Challenges of local environmental actions

- Challenges are often cited in terms of…
  - Local **capacity** (technical / instrumental)
  - Lack of **legal** /regulatory instruments
  - **Financial** resources
  - Awareness and support
- Background problems
  - **Policy priority** amongst mounting multiple challenges (poverty, slums, housing, infrastructure, health, social welfare, economic livelihood) → **More competition than synergy**
  - **Perception** – Environmental protection measures are **financial burden** (prevailing both in city managers, donors and investors)

Example cases of co-benefits

Promoting public transportation / Demand side management for urban transport will generate:

- Environmental benefits:
  - Improvement in local air quality
  - Reduction of GHG gas emission

- Socio-economic co-benefits:
  - Direct return from energy saving
  - Avoiding the cost of traffic jam
  - Stimulate economic livelihood / competitiveness
  - Equitable mobility and safety
  - New business opportunities
  - New finance through urban Transport CDM project
  - Saving health costs (air pollution, accidents, etc)

Barriers to Sustainable Transport

- Policy Barriers
- Institutional Barriers
- Technical Barriers
- Market Barriers
- Economic and Financial Barriers
- Information Barriers

Barrier Removal Activities

- **Capacity building** (*e.g., financial evaluation, technology application, energy-integrated urban transport planning*)
- ***Institutional strengthening*** *(e.g., regulatory frameworks, vehicle emission standards)*
- **Investments** (*e.g., demonstration & replication projects*)
- **Training** (*e.g., design, operation, maintenance of vehicles and transport systems*)
- **Targeted research** (*e.g., adaptation of technologies, techniques, practices to local conditions*)

Conclusion

Main activities

- Continue effective operation of the network for promoting city-to-city cooperation / assisting capacity building at the local level
- Strengthen focus on climate change project to emerge in individual countries
  and take lead in national networking
- Financial support from Annex I countries