Opportunities for Cobenefits in City Planning

Kaye Patdu
Clean Air Asia

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Clean Air Asia

Mission: to promote better air quality and livable cities by translating knowledge to policies and actions that reduce air pollution and greenhouse gas emissions from transport, energy and other sectors.

UN recognized Partnership of 240 organizations, 8 Country Networks and CAI-Asia Center as its secretariat

Established in 2001 by ADB, World Bank and USAID , and operates independently since 2007

Air Quality and Climate Change Program

Low Emissions Urban Development Program

Clean Fuels and Vehicles Program

Green Freight and Logistics Program

Plans at national and city levels

Air quality + Climate Change

Status of Climate Change Plans

- Only 29 (3%) of 865 Asian cities surveyed have climate change plans
- Climate change not mainstreamed in urban development plans (2 of 25 plans surveyed mention climate change)
- 18 (86%) of 21 Asian countries surveyed have a National Climate Change Plans – *catalyst?*
- 45% of C40 cities have plans – *trend?*

China: Baoding, Chongqing, Guiyang, Hangzhou, Nanchang, Shenzhen, Tianjin, Xiamen

India: Ahmedabad, Assam*, Chennai Delhi, Gorakhpur, Indore, Orissa*, Surat (*state plans for its cities)

Indonesia: Bandar Lampung, Semarang

Japan: Tokyo, Yokohama

Korea: Seoul

Singapore: Singapore

Thailand: Bangkok, Chang Rai, Hat Yai

Vietnam: Can Tho Danang, HCMC, Qui Nhon

Source: Clean Air Asia, CDIA, 2012 (support from GIZ)

Climate Change Plans content

Transport
Personal Transport Modes
Public Transport
Transport to and from the city
Existing Buildings
Public and private residential
Municipally owned buildings
Commercial
New buildings
Waste Management
Residential waste
Non-residential waste
Landfill

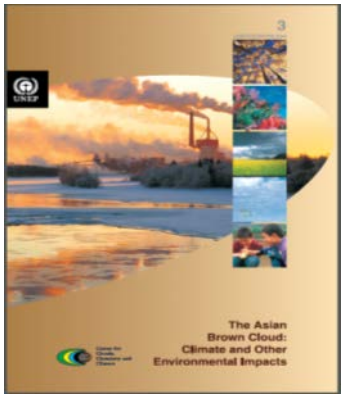
Water
Water Supply and Water Consumption
Wastewater
Stormwater Management
Energy Supply
Energy generation inside the city
Energy generation outside the city
Transmission and distribution
Outdoor Lighting
Streetlights on public land
Streetlights on private land
Traffic lights
Planning and Urban Land Use
Urban Planning
City Greening and Biodiversity
New Buildings

source: ***http://live.c40cities.org/cities/***

Why plans must cover more than CO_2

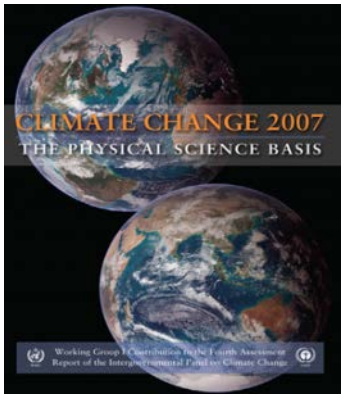
CLEAN AIR ASIA

UNEP
1st Impact Assessment on ABCs



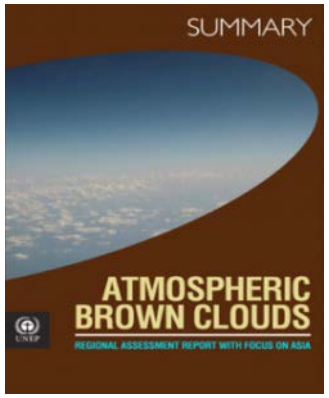
2002

IPCC
Climate Change 2007: The Physical Basis



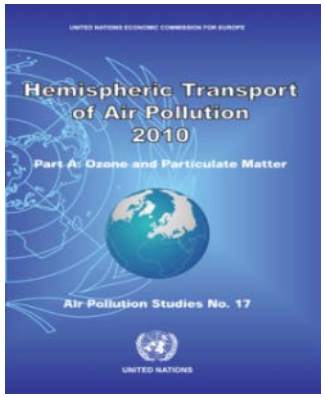
2007

Ramanathan, *et al.*
Atmospheric Brown Clouds



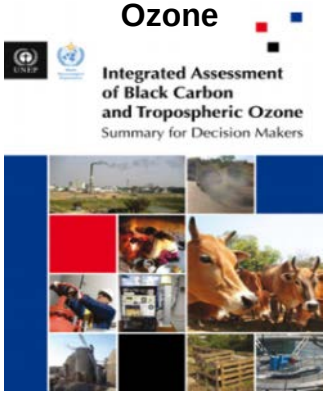
2008

HTAP Taskforce
HTAP 2010: Part A: Ozone & Fine Particles



2010

UNEP/WMO
Integrated Assessment of BC & Tropospheric Ozone

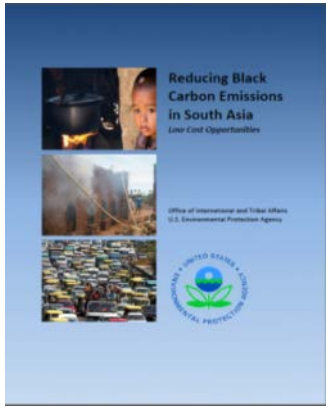


2011

AMAP
Impact of BC on Artic Climate

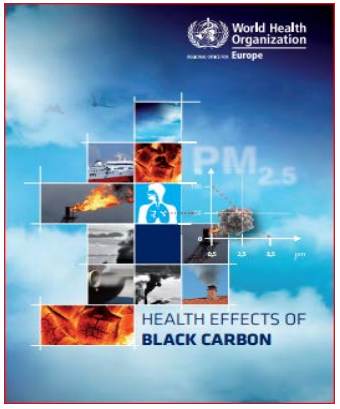
2011

US EPA:
Reducing BC Emissions in South Asia



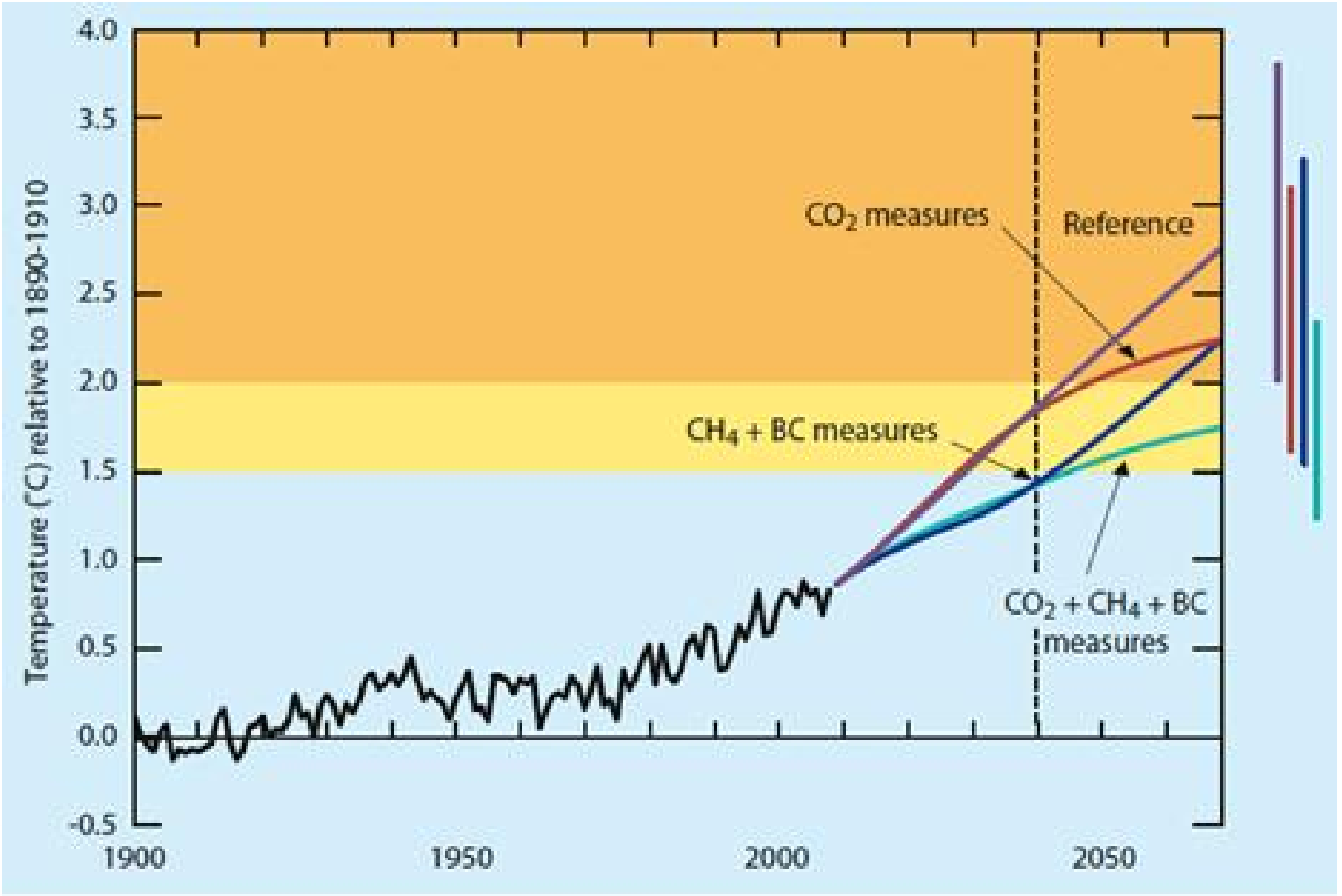
2012

WHO:
Health Effects of BC



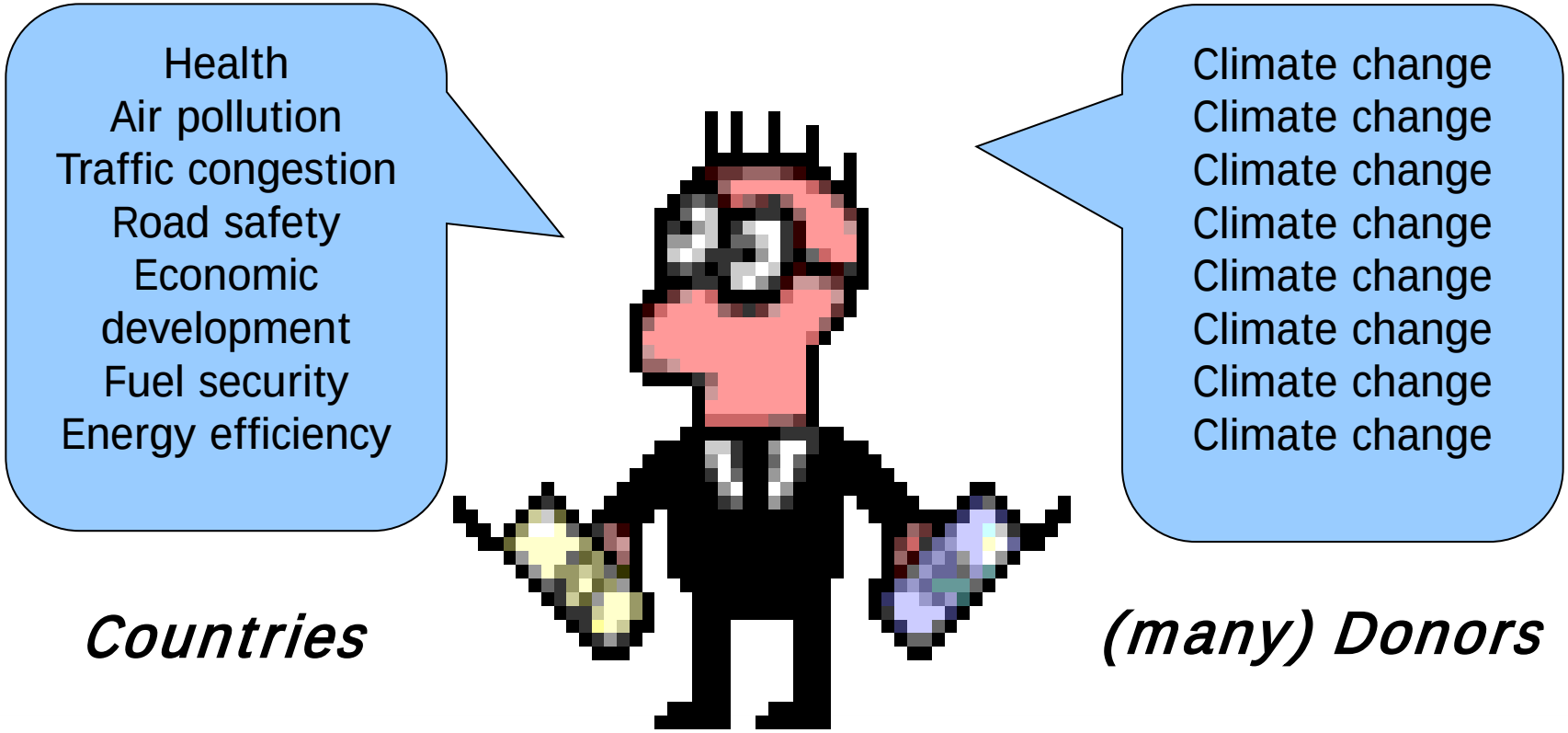
2012

Why plans must cover more than CO_2



Source: Climate and Clean Air Coalition, http://www.unep.org/ccac

Why plans must cover more than CO_2



Clean Air Plans

RECENT DEVELOPMENTS

- PR China: Beijing, Pearl River Delta Phase 2 (2013-2015)
- Cambodia: Phnom Penh
- Indonesia: Palembang, Solo
- Lao PDR: Vientiane
- Philippines: Iloilo, Cagayan de Oro
- Thailand: Chiang Mai, Korat
- Vietnam: Bac Ninh

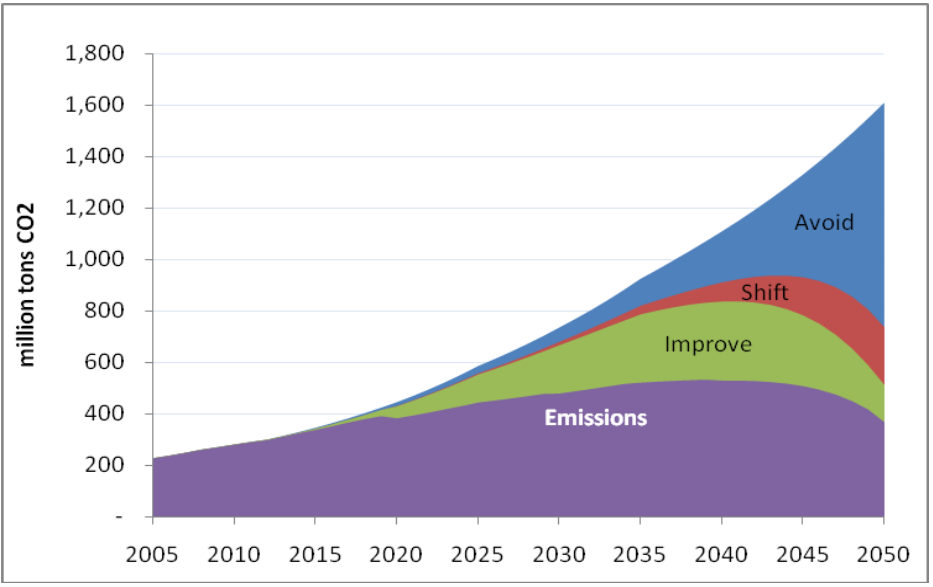
CONTENTS

- Where are we now?
  - AQ levels
  - Management
  - Existing policies and actions
- Where do we want to go?
  - Goals and targets
- How do we get there?
  - Policies and actions
  - Roles + responsibilities
  - Budget + timeline
  - Progress monitoring and evaluation

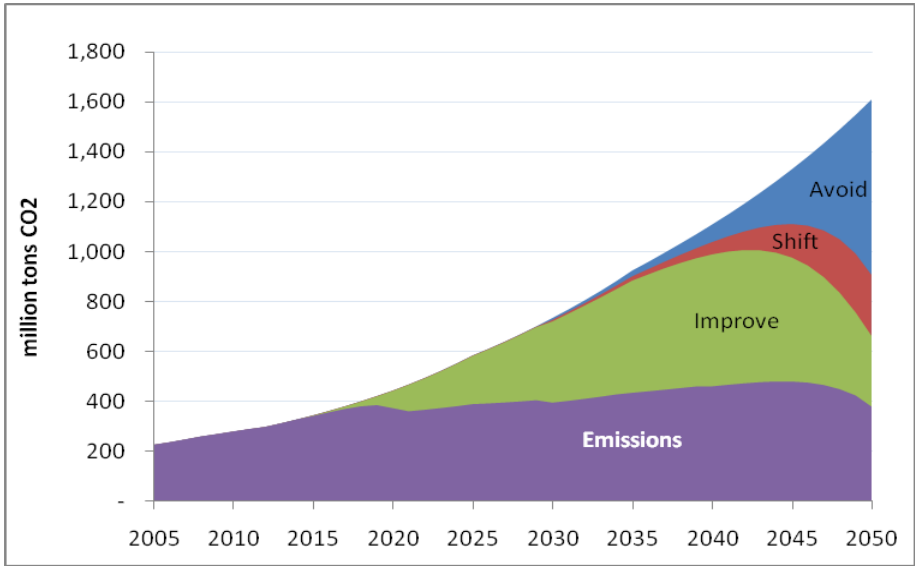
Opportunities to link existing local plans/programs with air quality and climate change

Transport Plans: mix of Avoid – Shift – Improve policies

Demand Management Development



Technology Driven Development



AVOID

- Freight VKT avoidance
- Motorized urban VKT avoidance

SHIFT

- Shift freight to rail
- Shift to urban public transport

IMPROVE

- Alternative fuels
- Alternative vehicles
- Fuel economy improvements – freight
- Fuel economy improvements – passenger
- Intelligent transport systems

Source: CAI-Asia /ITPS, 2010
International Study of Transport Systems in a Low Carbon Society, Southeast Asian Region

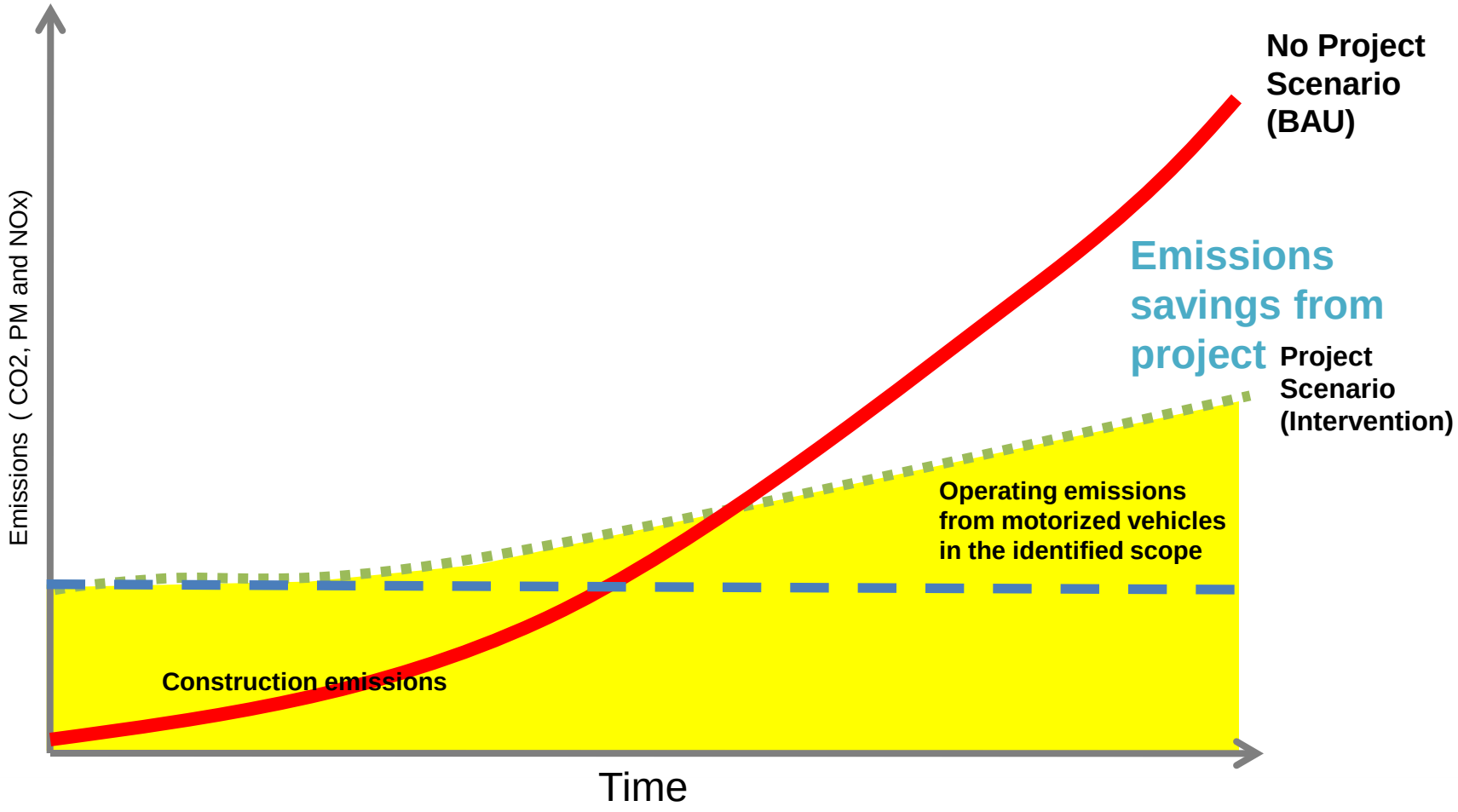
Transport Plans: maximizing emission reductions from transport projects

TEEMP: Transport Emissions Evaluation Model for Projects

- Free excel-based spreadsheet models
- Low cost applications: uses data required for economic analysis of projects
- Estimates emissions with and without transport projects and policies
- Adds the emissions dimension to transport investment and policy decisions
- Potential for NAMAs
- Applied to transport projects in 20+ cities

1. Bikeways
2. Bike sharing schemes
3. BRT
4. LRT/MRT
5. Pedestrian facility improvements
6. Roads
7. TDM Strategies
8. Multiple projects/plans (TEEMP City)

Transport Plans
TEEMP: Emission savings



Source: CAI-Asia, ITDP, 2011

Urban Development Plans

Rapid Assessment of City Emissions (RACE) tool for transport and energy

- CO_2 and air pollutants
- Integrates land use, transport planning and energy use
- Used by:
  - Cities for improved urban planning
  - Investors for selecting low emissions development investment areas
  - Governments for determining NAMAs?

Steps in applying RACE

Baseline Inventory (2010)
- People
- Land uses
- Building areas and use
- Transport systems

Development Scenario (2030)
- Economic development
- Demographics
- Building stock and use
- Energy

Business as Usual Development Option (2030)
- Location of growth
- Density of growth
- Land use & transport interface

Low Emissions Development Option (2030)

RACE Tool: Energy and emissions (CO_2, PM, NOx)

For buildings and transport using ASIF approach

Compare Development Options

Decision Making

Source: CAI-Asia, CREOD, ADB 2012

What options work to address the root cause of emissions?

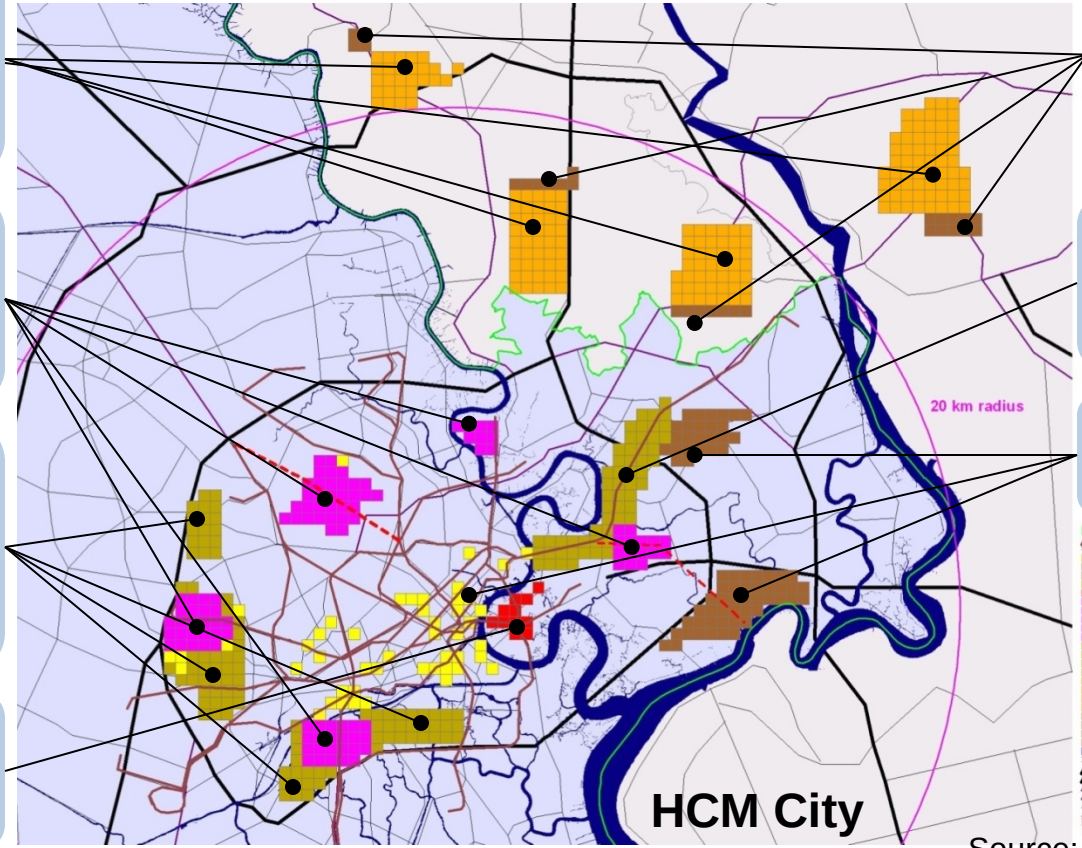
Mixed land use ● Public transport ● Non-motorized transport ● Cleaner energy sources ● Energy efficient buildings

Develop 4 medium density communities in adjacent districts

Develop 5 sub centers within inner road

Develop 4 high density residential communities within inner road

Mixed land use in new Thu Tiem district



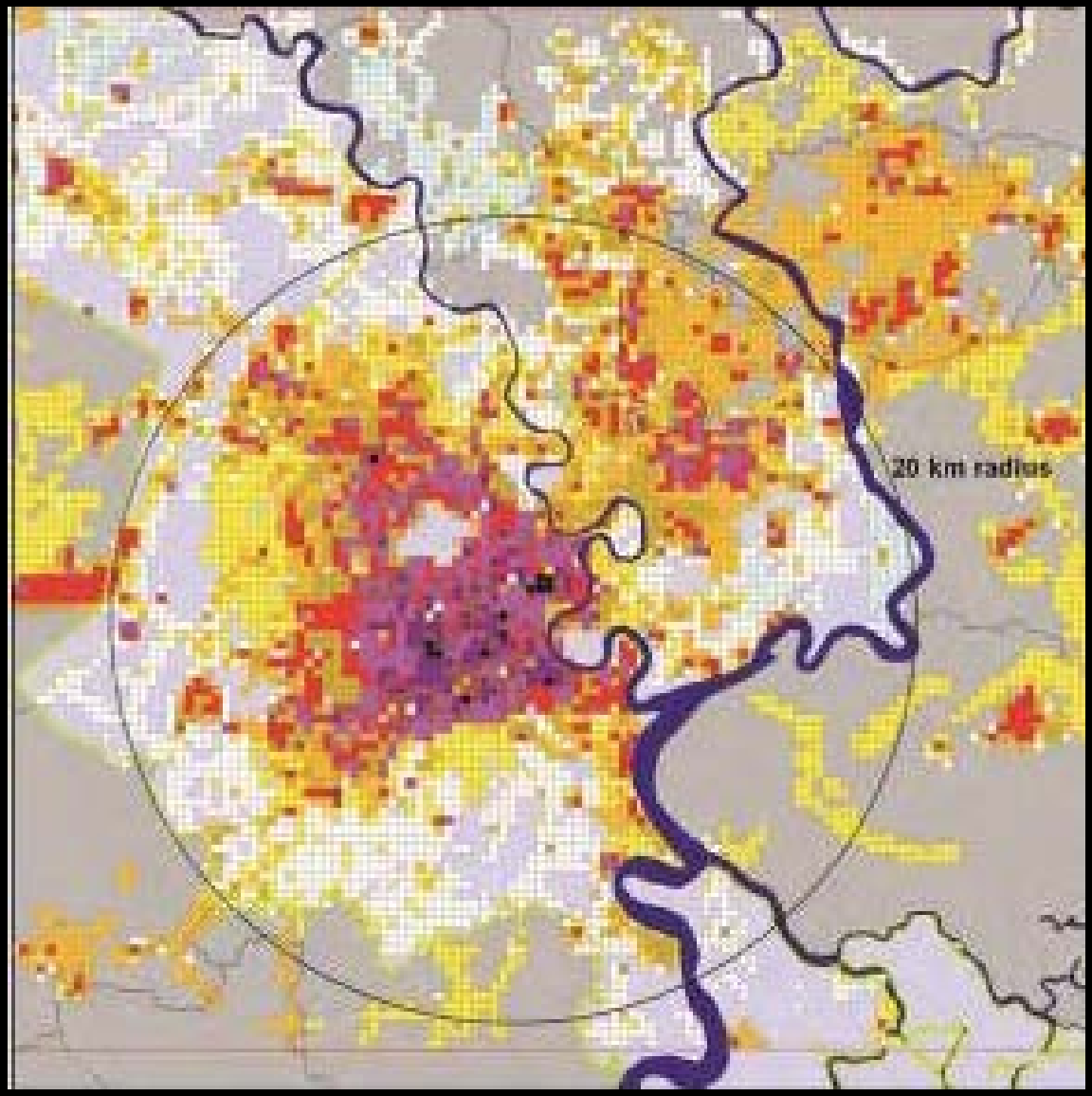
Develop 4 medium density industrial estates in adjacent districts

New high & medium density corridor along metro line

Industrial consolidation

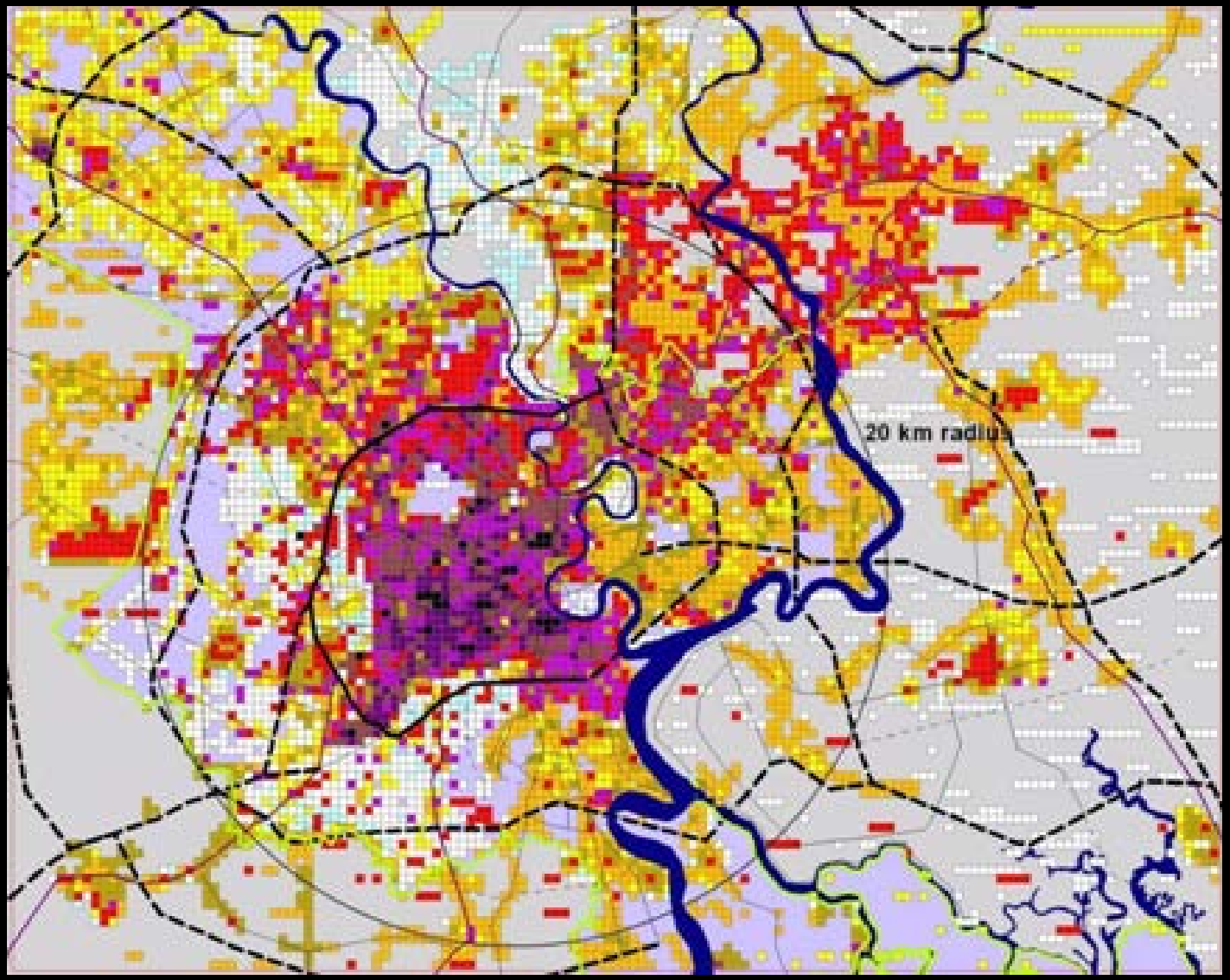
Source: CAI-Asia, Creod, ADB, 2012

Low emissions urban development



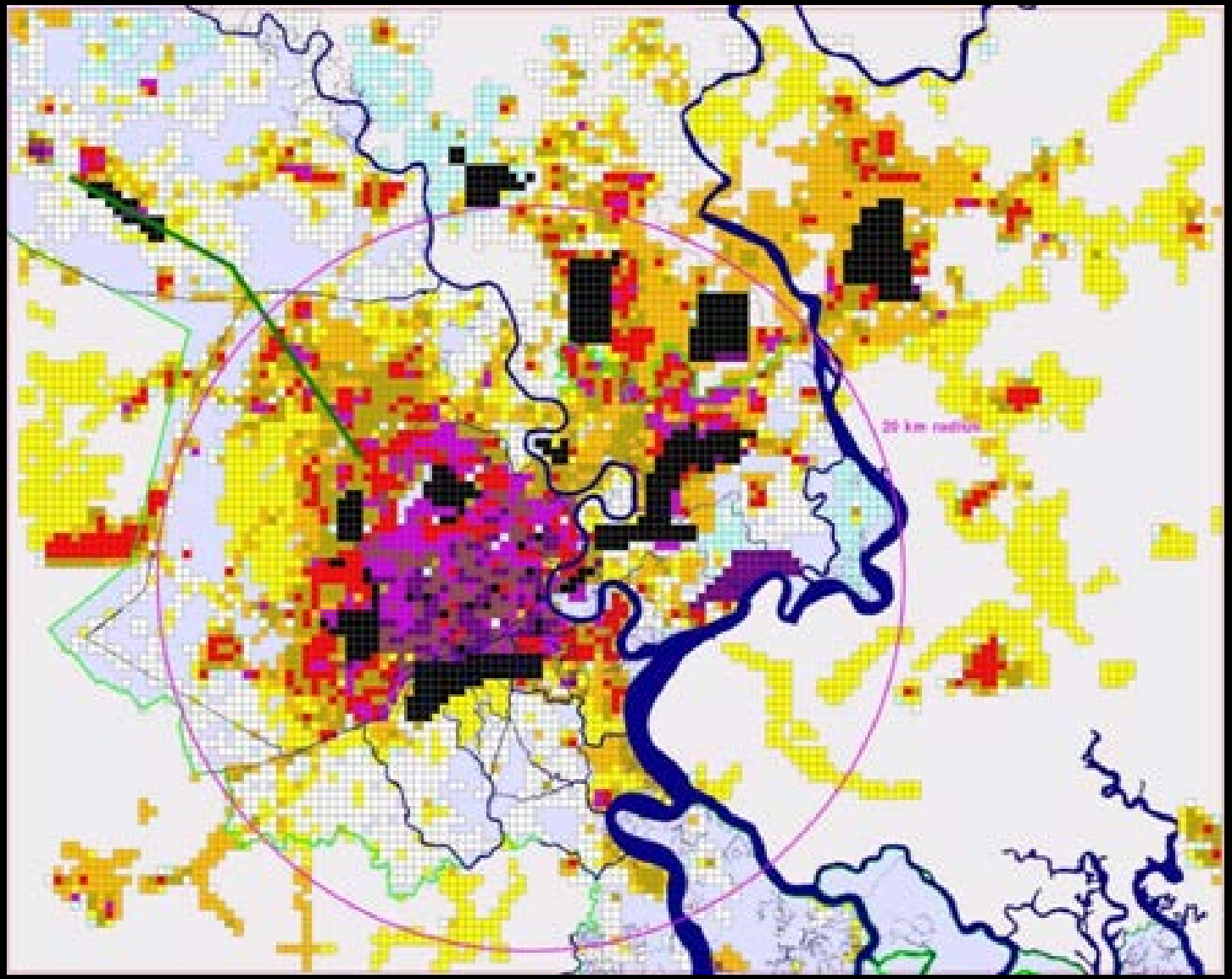
Ho Chi Minh City 2010

Low emissions urban development



Ho Chi Minh City 2030 BAU

Low emissions urban development



Ho Chi Minh City 2030 Low Emission

Low Emissions 2030

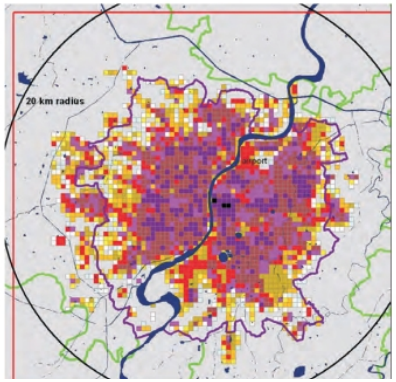
Baseline

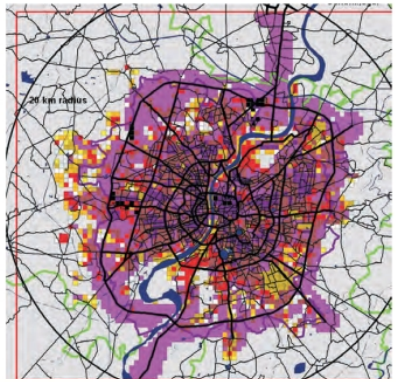
BAU 2030

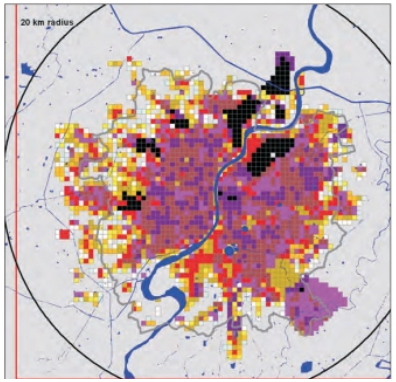
Ahmedabad

Transport CO2: 38%, PM 60%

Electricity CO2 61%, PM 45%



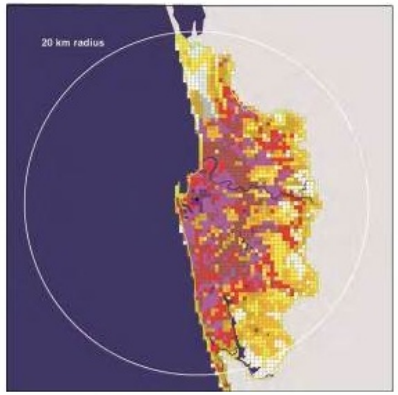


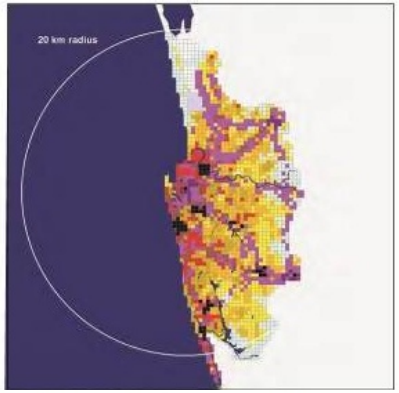


Colombo

Transport CO2: 15%, PM 32%

Electricity CO2 30%, PM 68%

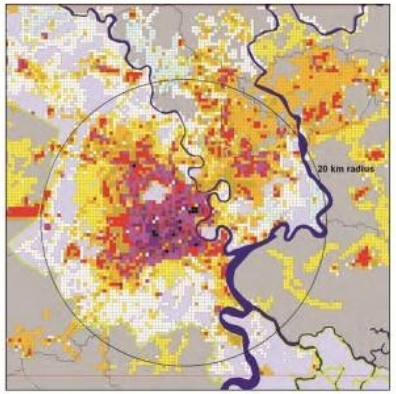


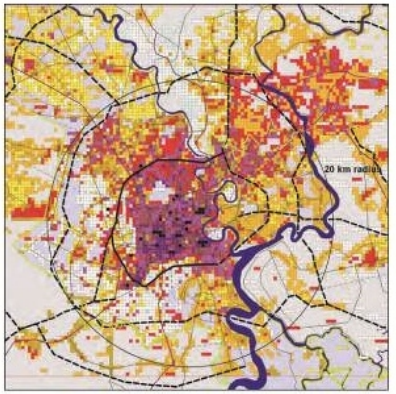


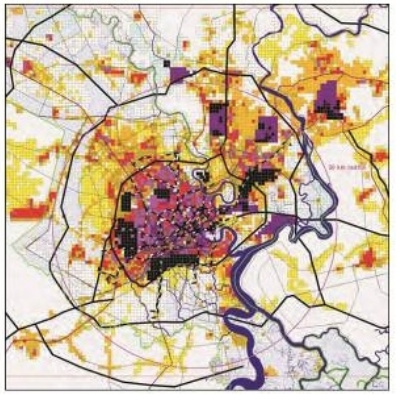
Ho Chi Minh

Transport CO2: 33%, PM 30%

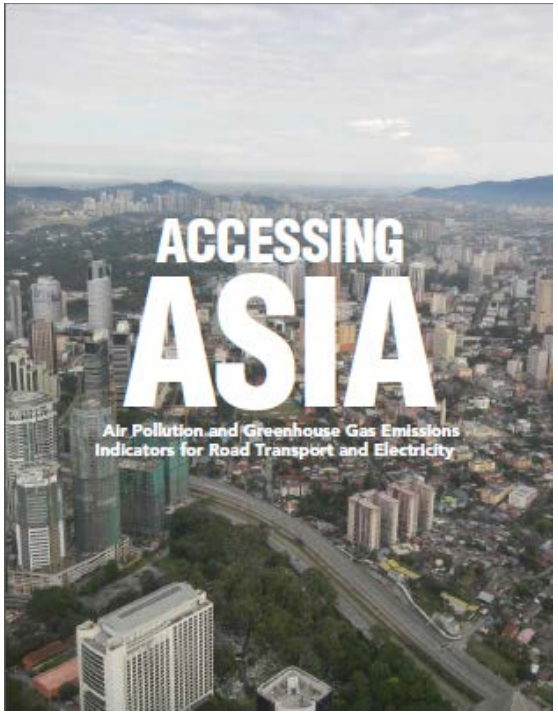
Electricity CO2 40%, PM 38%







For more information: www.cleanairasia.org



http://cleanairinitiative.org/portal/node/11573

Clean Air Asia Center

center@cleanairasia.org
Unit 3505 Robinsons Equitable Tower
ADB Avenue, Pasig City
Metro Manila 1605
Philippines

CLEAN AIR ASIA

Clean Air Asia China Office

china@cleanairasia.org
901A Reignwood Building,
No. 8 YongAnDongLi
Jianguomenwai Avenue Beijing
China

Clean Air Asia India Office

india@cleanairasia.org
1st Floor, Building No. 4
Thyagraj Nagar Market, Lodhi Colony
New Delhi 110003
India

Clean Air Asia Country Networks

China • India • Indonesia • Nepal • Pakistan • Philippines • Sri Lanka • Vietnam

Clean Air Asia Center Members

- Shell
- Asia Clean Fuels Association
- Corning

240 Clean Air Asia Partnership Members

- Cities
- Environment ministries and government agencies
- Development agencies and foundations
- Non-government organizations
- Academic and research institutions
- Private sector companies and associations

Donors in 2012 to 2013

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