



Overview

The Partnership for Clean Fuels and Vehicles

Presentation at The 'Male Declaration' meeting
19 – 23 August 2008
Colombo, Sri Lanka





Partnership for Clean Fuels and Vehicles (PCFV)

- Set up at the World Summit on Sustainable Development, September 2002
- Public – private Partnership, 110 members – governments, private sector (oils & vehicles), civil society and international organisations
- To promote cleaner and more efficient fuels and vehicles in developing and transition countries
- Clearing-House based at UNEP Headquarters in Nairobi, Kenya
- Activities at global, regional and national level
- Provides technical, networking, financial and outreach activities and support
- Leading global initiative for developing & transition countries





Mission Statement

- Help developing countries to **develop action plans** to complete the global elimination of leaded gasoline and start **to phase down sulphur in diesel and gasoline fuels**, concurrent with **adopting cleaner vehicle requirements**;
- Support the development and adoption of cleaner fuel standards and cleaner vehicle requirements by **providing a platform** for exchange of experiences and successful practices in developed and developing countries as well as **technical assistance**;



Mission Statement...cont

- **Develop** public outreach **materials**, educational programmes, and awareness campaigns; adapt economic and planning tools for clean fuels and vehicles analyses in local settings; and **support** the **development of enforcement and compliance programmes**, with an initial focus on fuel adulteration; and
- **Foster key partnerships** between government, industry, NGOs, and other interested parties within a country and between countries to facilitate the implementation of cleaner fuel and vehicle commitments.



Key Campaigns

- the elimination of **lead** in gasoline,
- the phase down of **sulfur** in diesel and gasoline fuels, concurrent with
- the adoption of **cleaner vehicle technologies**
- the development of **Fuel and Vehicle Efficiency** policies and strategies

Some PCFV Partners





6th Global Partnership Meeting

Beijing



Ruslan Zh...



Partners

- Partners driving force behind accomplishments and successes
- Representation from all corners of the globe, from both the private and public sectors
- PCFV fosters environment of cooperation and collaboration
- Provides forum where governments can work directly with the fuels and vehicles industries - as well as international and non-governmental organisations - to improve urban air quality.
- Unique collaborative approach of working through regional and national forums,
 - The development of strategies and timelines by the stakeholders themselves has been the underpinning success of the Partnership.



PCFV Goal.....Better Air Quality through Cleaner Fuels and Vehicles





Meeting Aims

- Understanding vision of way forward for cleaner fuels and vehicles in the region of stakeholders
- Evaluating possibility of harmonization of standards within region and/or sub regions, along with the steps necessary to be taken at the national levels,
- Sensitizing stakeholders and policy makers on clean fuels and vehicles and PCFV
- Obtaining accurate data on the Region's status on vehicle standards, Sulphur level in gasoline and diesel fuels
- Understanding challenges to clean fuels and vehicles in the region



Challenge: Urban air pollution

- WHO estimates more than 1 billion people exposed to outdoor air exceeding maximum recommended levels
- Up to 1 million premature deaths, up to 1 million pre-natal deaths
- Local and global effects; transport sector key contribution (one-third, growing) to CO₂ emissions
- Especially poor, malnourished and children affected
- Cost of urban air pollution estimated to be 2% of GDP, in developed countries and more than 5% in developing countries (e.g. 7% China)



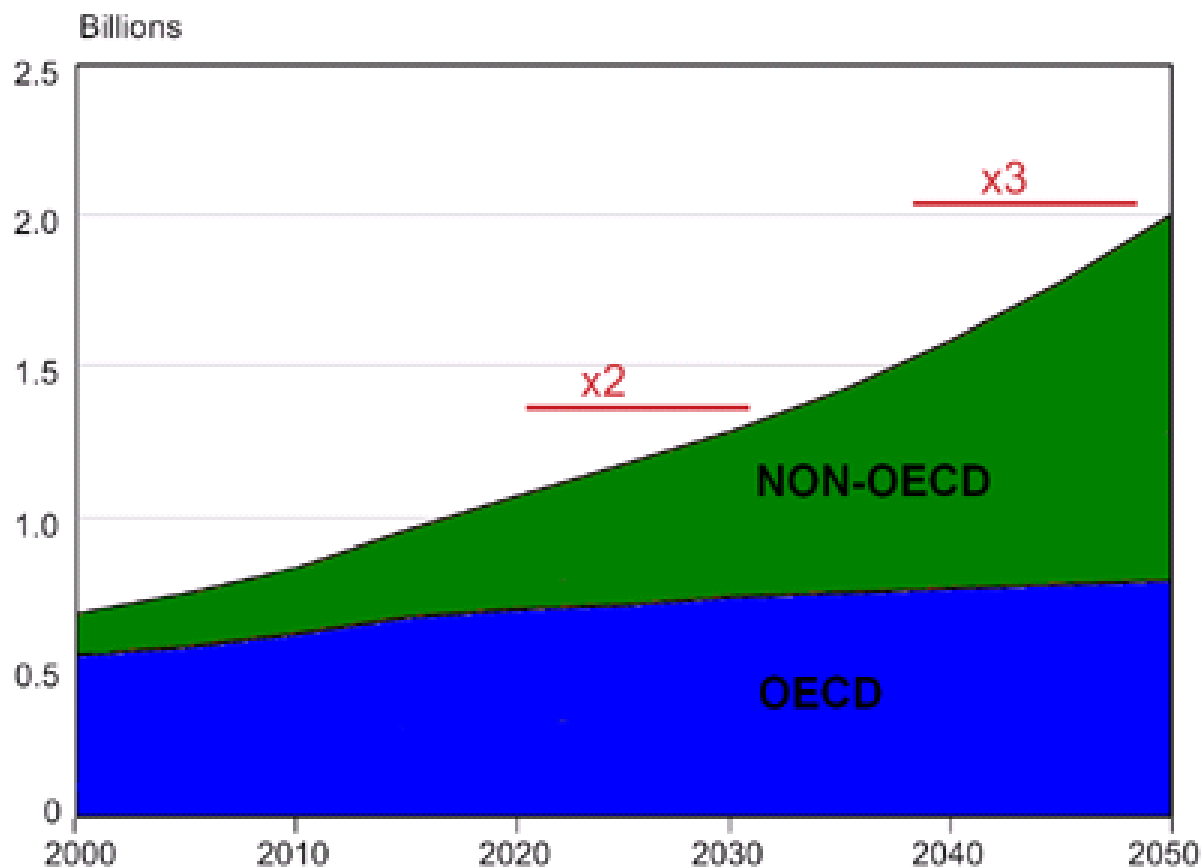
Vehicle Growth & Effect

- Global vehicle fleet to triple
- Almost all growth in developing and transition countries
- Greenhouse gas contribution of global vehicles fleet to grow from one-quarter to one-third
- While OECD countries are moving ahead with fuel efficiency strategies apart from China no non-OECD have climate strategies for vehicle fleets
- Global responses absent (global mechanisms lacking, CDM, GEF, WB, ...)
- PCFV supporting development and implementation of fuel efficiency strategies in all non-OECD countries



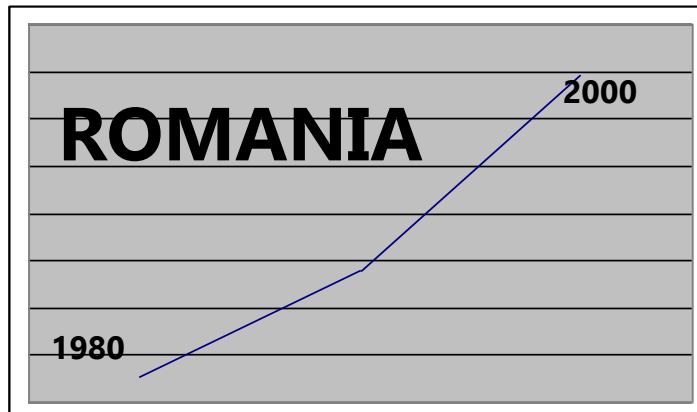
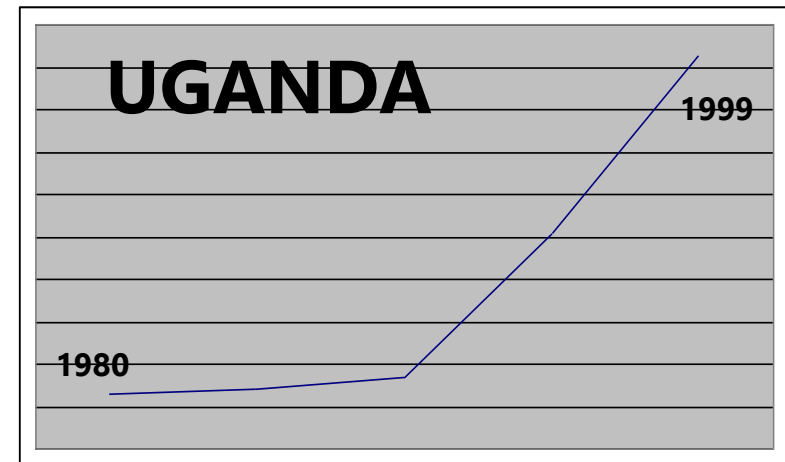
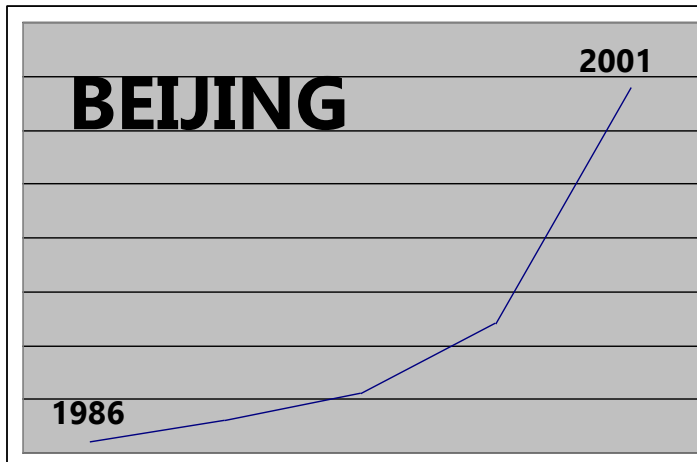
Vehicle Growth

Global Growth Light Duty Vehicles



Source: WBCSD, 2003

Challenge of Vehicle Growth



Beijing: from 1 car per 1000 persons to 45 cars per 1000 persons (1986-2001)

Romania: from 11 cars per 1000 persons to 139 cars per 1000 persons (1980-2000)

Uganda: from 25,000 cars to almost 190,000 cars in less than 20 years (1980-1999)





Impacts

- **Health:** 1 billion people exposed to outdoor air pollution exceeding WHO standards
- **Cost of urban air pollution** estimated to be 2% - 5% or more of GDP (e.g. 7% China)
- **Leaded petrol** – lead particles emissions very toxic - organs effected, and also IQ of children
- High **sulphur levels in fuels** – problems with small particulates; cardio and respiratory problems, carcinogenic
- Cleaner fuels are necessary for the introduction of **modern vehicles** that are **90% or more cleaner** and more efficient
- Technology transfer from developed to developing countries – for **cleaner and more efficient vehicles**
- Transport sector emitting one-quarter of **global greenhouse gas emissions**

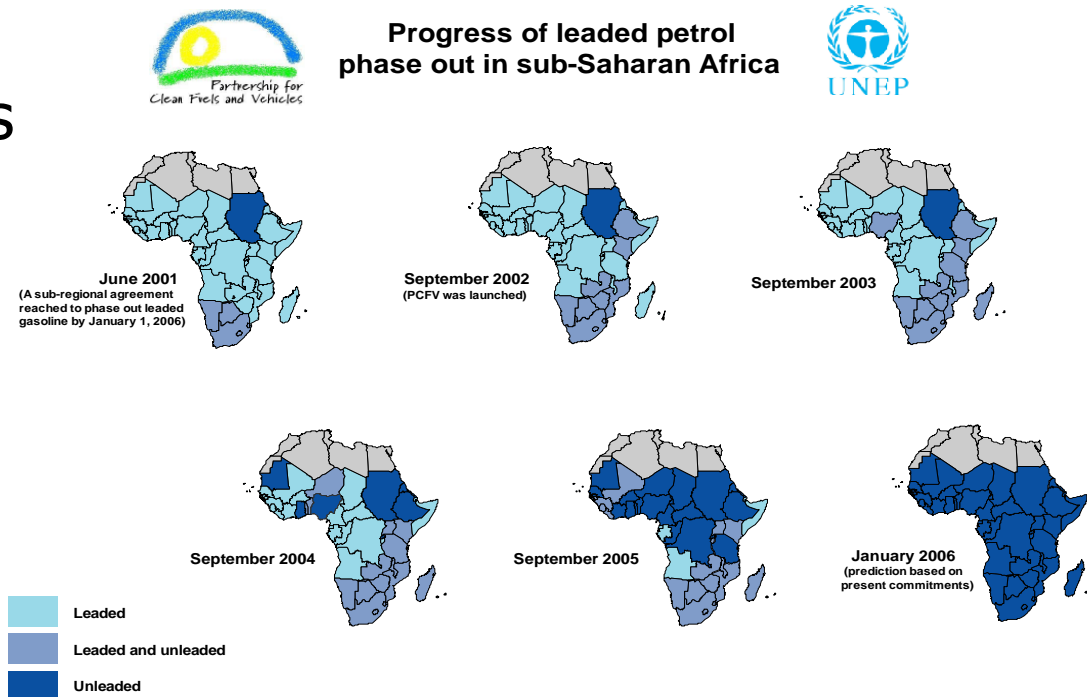


PCFV Lead Campaign

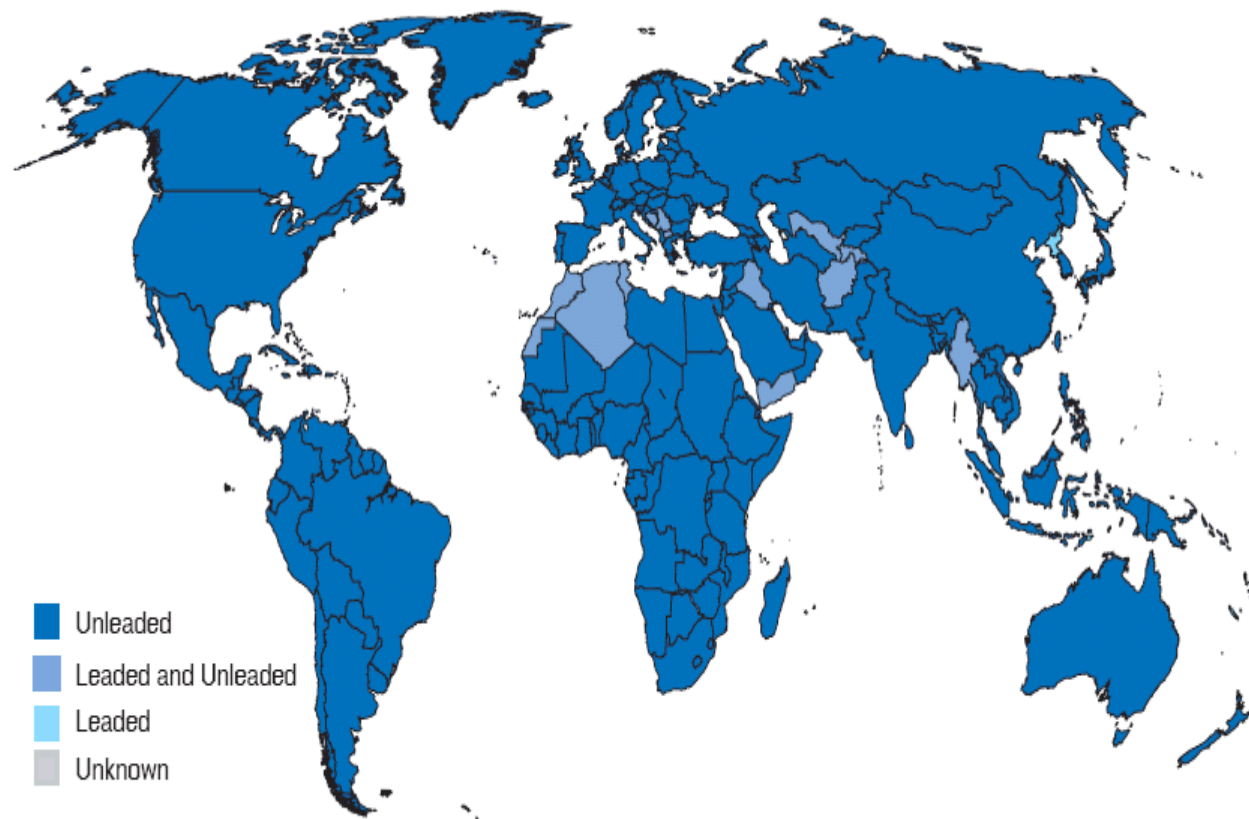
- Lead pollution very serious/ harmful
- Toxicity already at low level (no safe NAEL)
- Several organs effected
- Impacts development of children
 - loss of IQ: 1ug/dl – 0.25-0.5 IQ point
 - for each 10ug/dl: height decrease by 1 cm
 - behavioral aspects
- Blocks clean vehicles technologies, esp. introduction catalytic converters
- Developed countries unleaded in '80s
- PCFV target/ agreement: lead phase out world wide by end 2008

PCFV campaign – global elimination leaded gasoline

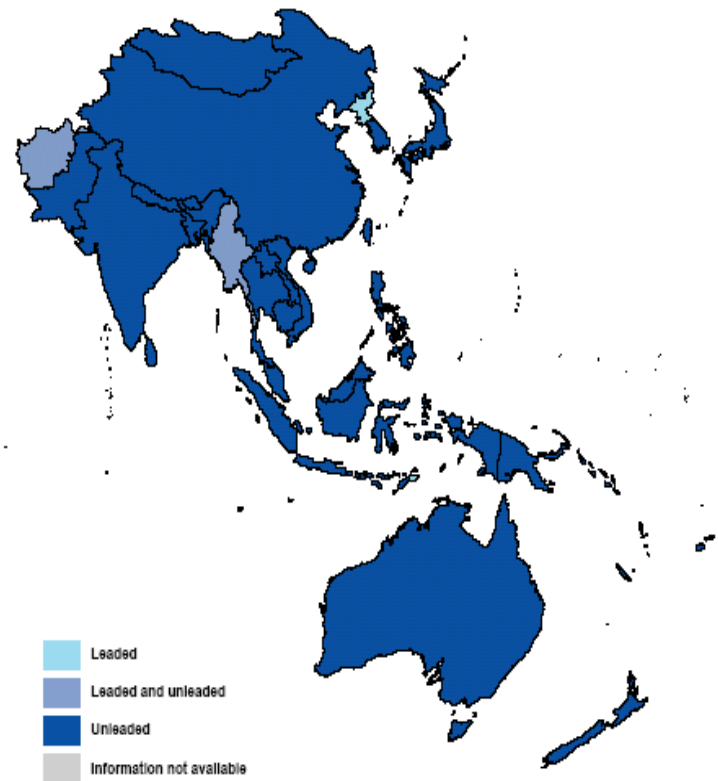
- Developed countries went unleaded in 80s – developing countries were still mainly leaded in 2002
- PCFV target: phase out world wide by end 2008
- Today only a handful of countries are left



Leaded Petrol Phase Out - Global Status August'08



Leaded Petrol Phase Out - Asia Pacific Status



August 2008



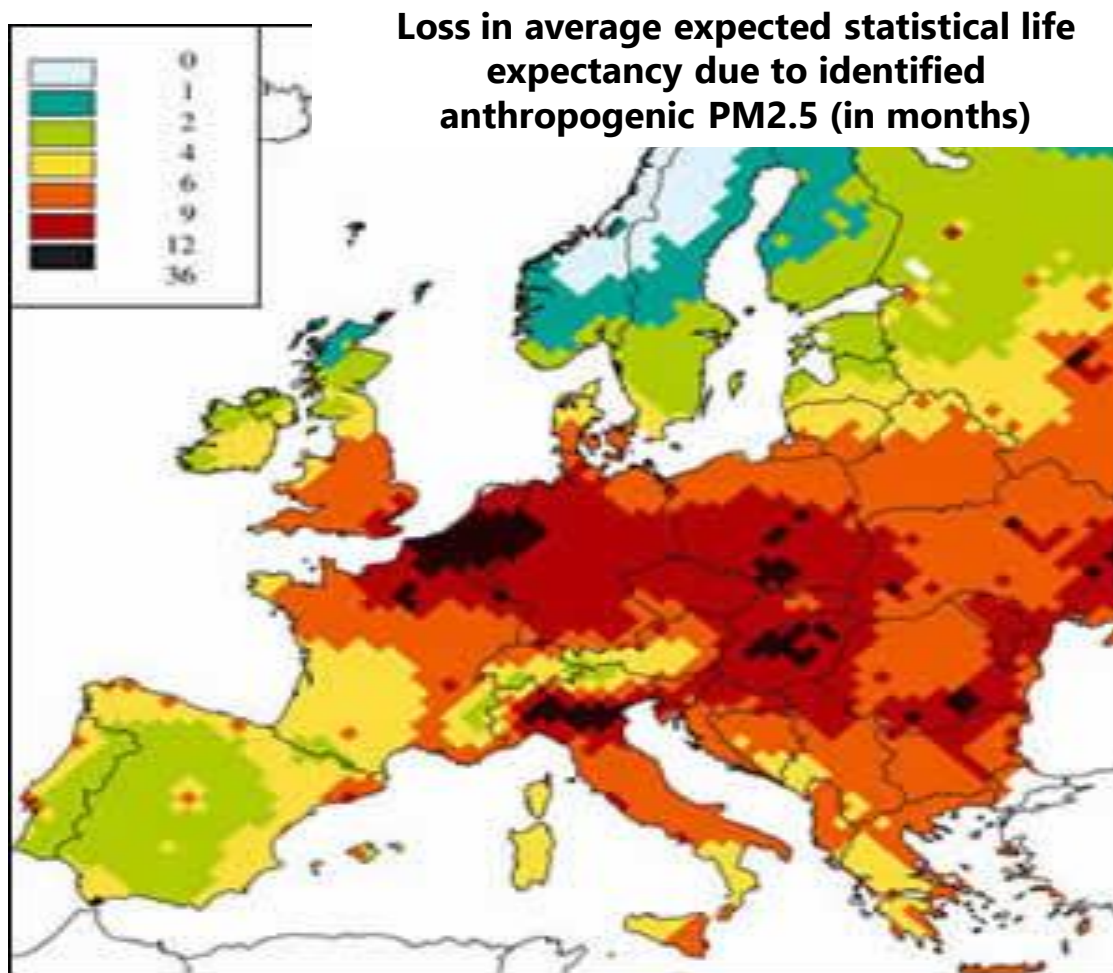


PCFV Sulfur Campaign

- Sulfur and Particulate problems
- Bronchitis, Asthma, damage to plants / buildings
- PM: Cardio-respiratory problems and some constituents of fine particulate matter, such as diesel smoke, are carcinogenic
- Need for lower sulfur levels for modern engines
- In Asia sulphur in fuels level ranges between 10,000 ppm and less than 25 ppm
- Climate change (black carbon)
- PCFV Campaign is for 50 ppm or less worldwide, time frames and roadmaps to be established at regional & national level – hand in hand with vehicles



Sulfur: Health Effects of PM 2.5 (example Europe)



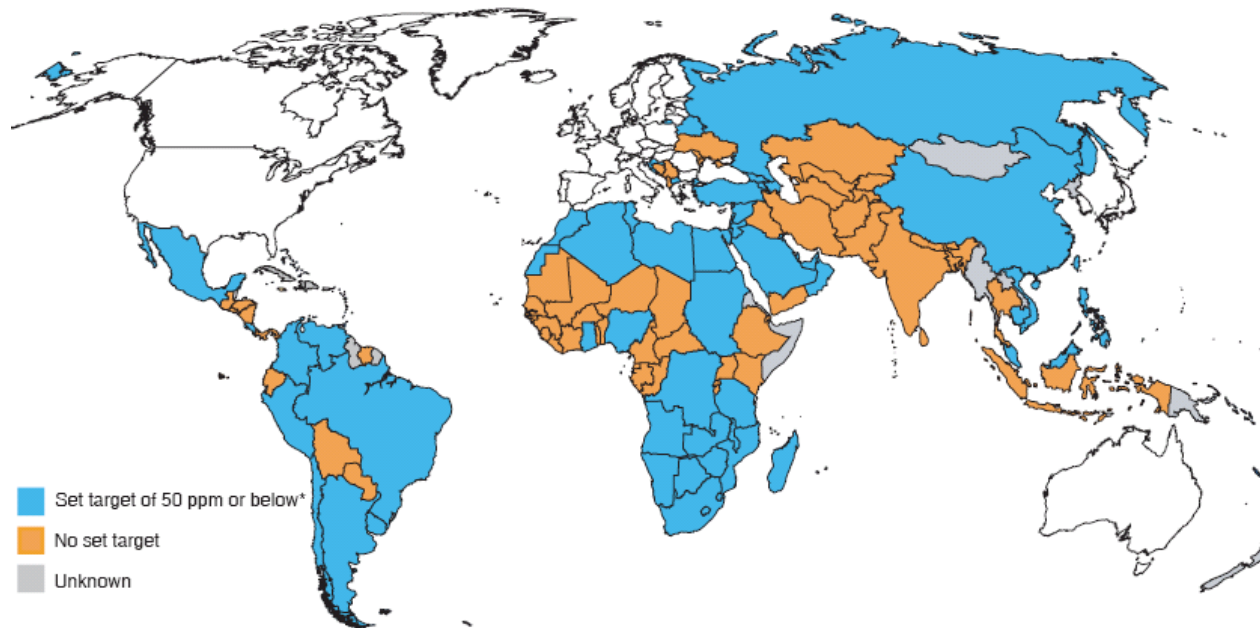
Avg. 9 months of life expectancy lost

386,000 premature deaths annually due to PM

Source: EU 2005

PCFV sulphur campaign...cont

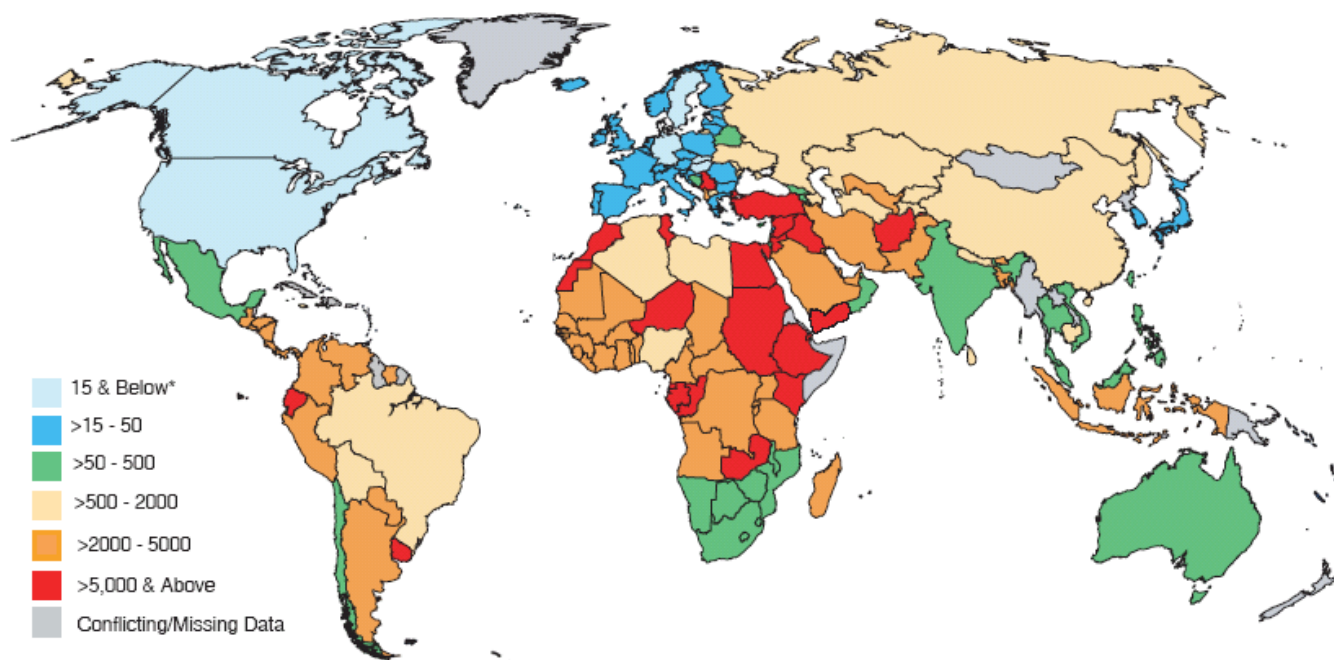
- Developed countries moving to 10 ppm sulphur in fuels, many developing countries at 5,000 or even 10,000 ppm
- Many countries have developed strategies since 2005 (blue) for 50ppm – but still about one-third to go (orange) particularly in Asia



* Information in parts per million (ppm)



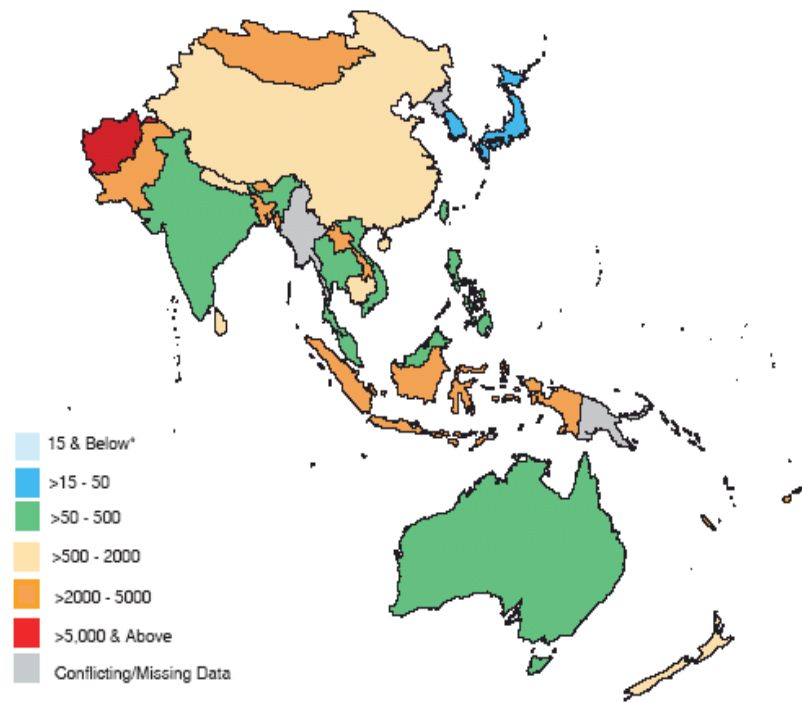
Current Sulphur Levels - Global Status August'08



* Information in parts per million (ppm)

Sulphur levels are maximum allowable as of May 2008. For additional details and comments per country, visit www.unep.org/pcfv.

Current Sulphur Levels - Asia Pacific Status



* Information in parts per million (ppm)

For additional details and comments per country, visit www.unep.org/ppdv.

August 2008





Current sulphur levels (diesel) in region & China

Country	Level (ppm)
Afghanistan	10,000
Bangladesh	5,000
Bhutan	500
India	500/350ppm*
Maldives	Unknown
Nepal	2,000
Pakistan	5,000-7,000
Sri Lanka	500
China	500/50ppm*

**** Lower levels for 11 major cities & Beijing***

NB: India's just announced moving to 50ppm for 11 major cities & 350ppm nationwide from April 2010



Cleaner Vehicles

- Recognising that fuels and vehicles work together as a system, the greatest emission benefits can be achieved by combining lower sulphur fuels with appropriate vehicle emission control technologies
- 3 key interventions needed:
 - Low Emissions, Fuel-efficient cars
 - Low-carbon fuels
 - Reduced vehicle-miles traveled through congestion pricing, Bus Rapid Transit, etc.



Vehicles...cont

- Cleaner vehicles now standard (new & 2nd hand) - Options:
 - No or ultra low emission vehicles
 - Conventional vehicles (Cleaner engines – existing technology)
 - New technologies (hybrid, hydrogen)
 - Retrofit vehicles (can reduce emissions by 40-95%)
 - Catalytic Converter (can reduce up to 90%)
 - Biofuels (carbon neutral?)





Activities in Asia

- Reducing Exhaust Emissions from Auto rickshaws in Dhaka, Bangladesh in cooperation with Canadian Government (PCFV partner)
- Diesel Pollution Reduction Strategy in Bangkok- Pilot project
- SINO-Italian Cooperation Activities on Clean Transports China
- Lead phase-out activity in Indonesia (2006)
- National Workshop on Clean Fuels and Vehicles held in Hanoi (2004)
- Afghanistan (2007 to date)
- Lead phase-out & sulphur reduction activity in Laos (2008)
- Lead phase-out and sulphur reduction activity in Mongolia(2008)
- Strategic Partnership with Clean Air Initiative (CAI) Asia (2008)
- BAQ partnership and hosting of side events (see BAQ'08 in Nov, Bangkok)



Global Effort: What Countries Can Do To Take Action

Background:

Technology exists to lower both diesel and gasoline vehicle emissions to very low levels

- Reducing sulfur in fuels
- Requiring advanced emissions control technology

Every study has found benefits far outweigh costs; the magnitude of the benefits depend on local pollution profile

Not moving forward on clean fuels and vehicles condemns countries to years of air pollution and adverse health effects

Actions:

Eliminate lead in gasoline

Put in place new & 2nd hand vehicle and fuel standards. Agree on roadmap.

Retrofit older diesel vehicles

Quantify the costs and benefits

Work with all stakeholders on solutions and implementation and share experiences at the regional and international level

UNEP – PCFV available to support / share global experiences





PCFV Outlook for Asia Pacific

- Lead
 - 3 countries remaining (Afghanistan, Myanmar, North Korea)
- Sulphur
 - Region varies from a high of 10,000ppm to a low of 10ppm with many averaging around 2,000ppm but with 500ppm targets
 - A phased approach taken in India and China with larger cities going to low sulphur before entire country



Suggestions for Region

- Support can be provided to move effectively and rapidly to building a consensus on the sulfur level in fuel to be adopted as the regional or Sub regional standard with an implementation timeline
- Recognizing that fuels and vehicles are a system, it is recommended that the wider region establish basic vehicle emissions standards including development of policy for 2/3 wheelers (rapidly growing and major pollutant)



Example :

GCC Countries workshop Recommendations

- Once Each Country Shifts To Lead Free Petrol
 - All Imported Cars Must Have a Functioning Catalyst
 - At Least Simple inspection & maintenance (I/M) Test To Check
- Once 500 PPM Sulfur
 - All New Vehicles Meet Euro 2 Equivalent Standards or USA or Japan or UNECE
- Once 50 PPM Sulfur
 - All New Vehicles Meet Euro 4 Equivalent Emissions Standards or USA or Japan or UNECE



Example...cont

- Mandate Inspection & maintenance (I/M) Program
 - Taxis & High Mileage Vehicles SemiAnnual
 - Require Failing Vehicles To Be Fixed
 - Gradual Phase In
- Encourage Scrappage of Old/High Polluting Cars
- Transportation Controls To Minimize Discretionary Driving (Parking Fees, Congestion Pricing)
- Public Awareness Campaigns Critical



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