Better air quality through cleaner fuels and vehicles –
the Partnership for Clean Fuels and Vehicles (PCFV)
Overview

• Why? The challenge of air pollution
• What is the Partnership for Clean Fuels and Vehicles?
• What have been its successes?
• How has the Partnership operated?
• What have we learned from this partnership?
• What are the next steps?
Why? The challenge of urban air pollution

- WHO: air pollution causes 2 million premature deaths worldwide per year
  - More than half in the developing world
- Transport sector: key contributor to urban air pollution and CO2 emissions
- Air pollution affects poor people and children
Partnership for Clean Fuels and Vehicles (PCFV)

- Launched at the World Summit on Sustainable Development, Sept 2002
- Public – private partnership
- Goals: Promote clean fuels and vehicles for better urban air quality:
  - the elimination of lead in gasoline;
  - and the phase down of sulfur in diesel and gasoline fuels, concurrent with
  - the adoption of cleaner vehicle technologies
Challenge: 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)

Runs better unleaded
Who is involved in the PCFV?

- UNEP acts as the “Clearinghouse” for the Partnership
- Private sector: oil, auto, and emissions control industry
- Governments: local and national
- NGOs: international and local
- International organizations
PCFV Lead Campaign

• **Goal:** Unleaded gasoline world-wide by 2008

• Progress since 2002:
  - Sub-Saharan Africa: totally lead-free
  - 2 years and 21 countries left

• Impact on air quality:
  - Lead emissions greatly reduced
  - Enables catalytic converters
Hungary: declining blood lead levels after leaded petrol phase out (1985 – 2000)

Lead levels in petrol in Hungary:

1985: 0.7 grams/ liter
1995: 0.15 grams per liter

Lead contents in gasoline (g/l)

Blood Lead Level (µg/dl)
Progress on Lead Phase Out in Sub-Saharan Africa

Progress of leaded petrol phase out in sub-Saharan Africa

June 2001
(A sub-regional agreement reached to phase out leaded gasoline by January 1, 2006)

September 2002
(PCFV was launched)

September 2004

September 2005

January 2006
(prediction based on present commitments)

December 2006 the UN Secretary General awarded the UN21 Award to the PCFV for its successful campaign to phase out leaded petrol from SS Africa
Countries Still Using Leaded Petrol - 2007

Status as of 1 January 2007

- Unleaded
- Leaded and Unleaded
- Leaded
- Unknown

- Algeria
- Morocco
- Tunisia
- Iraq
- Jordan
- Palestine
- FYR Macedonia
- Bosnia & Herzegovina
- Serbia
- Democratic People's Republic of Korea
- Fiji
- Micronesia (Federated State of)
- Solomon Is.
- Tonga
- Afghanistan
- Kazakhstan
- Tajikistan
- Turkmenistan
- Uzbekistan
- Yemen
PCFV Sulfur Campaign

• **Goal**: 50 ppm sulfur (or less) in diesel and gasoline fuel worldwide
  - Time frames and roadmaps to be established at regional & national level
  - Hand in hand with vehicle technology

• **Impact on Air Quality**:
  - Sulfur in fuel is directly related to particulate emissions
  - Sulfur in fuels poisons advanced emission control technology
Sulfur, Air Pollution & Health Effects

• Particulates from diesel vehicles have very adverse health impacts:
  – Very small “ultrafines” that get into the lung easier
  – linked to higher incidence of cancer

• Data from Hong Kong show a drop in deaths after sulfur in fuel was reduced.

• The decrease in deaths was for all causes, but was most pronounced for cardiovascular and respiratory disease
The Partnership has adopted the “systems approach”
- Advanced vehicle technology requires very clean fuels

**Gasoline** vehicle technology:
- Catalytic converters reduce NOx, CO, and HC

**Diesel** vehicle technologies
- Diesel oxidation catalysts: 20-30% reduction in PM
- Diesel particulate filters: >90% reduction in PM (with ultra-low sulfur diesel fuel)
NYC Transit PM and NOx Emissions

1995: 500 ppm, no DOC
2000: 500 ppm, DOC, approx. 1000 new vehicles
2005: 30 ppm, DPFs, 3200 new vehicles
Organization and Structure

- 90+ partners
- Clearinghouse at UNEP in Nairobi
- Advisory Group: subset of partners
- Governance rules
- Annual global partnership meeting
7 Key Lessons

1. Set clear, achievable, and measurable targets
2. Bring in all key stakeholders
3. Get political buy-in/mandate at a high level
4. But... involve local players
5. Develop governance rules and partnership structure as soon as possible
6. Communicate, communicate, communicate...
7. Designate a focal point to coordinate partnership activities
Partnership Challenges

- Setting goals over which we have little control
- Coordinating diverse stakeholders, with diverse viewpoints
- Keeping focused
- Diversifying funding sources
- Maintaining momentum
- Keeping partners interested and engaged
PCFV: Next Steps

• **Lead**: sub-regional and national support to reach 2008 target
  - Challenges in Central Asia, North Africa, Middle East and selected countries

• **Sulfur**: support development of regional and national action plans
  - Challenges in developing regional roadmaps (Africa, South America done) followed by national follow-up

• **Vehicles**: catalytic converter campaign, retrofit heavy diesels, fleet management
  - Challenges: first need cleaner fuels, many opportunities for emissions reductions
Thank You!

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