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Driving the Clean Development Mechanism into a Sustainable Transport Future

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Transport and Climate Change

- Transport sector fastest growing source of GHG emissions
- Global transport related emissions rising by 2.5% per year, in South even by 4.4%
- Doubling of urban population in South by 2030 expected

⇒ Re-orienting transport trends in Southern countries huge challenge for climate protection

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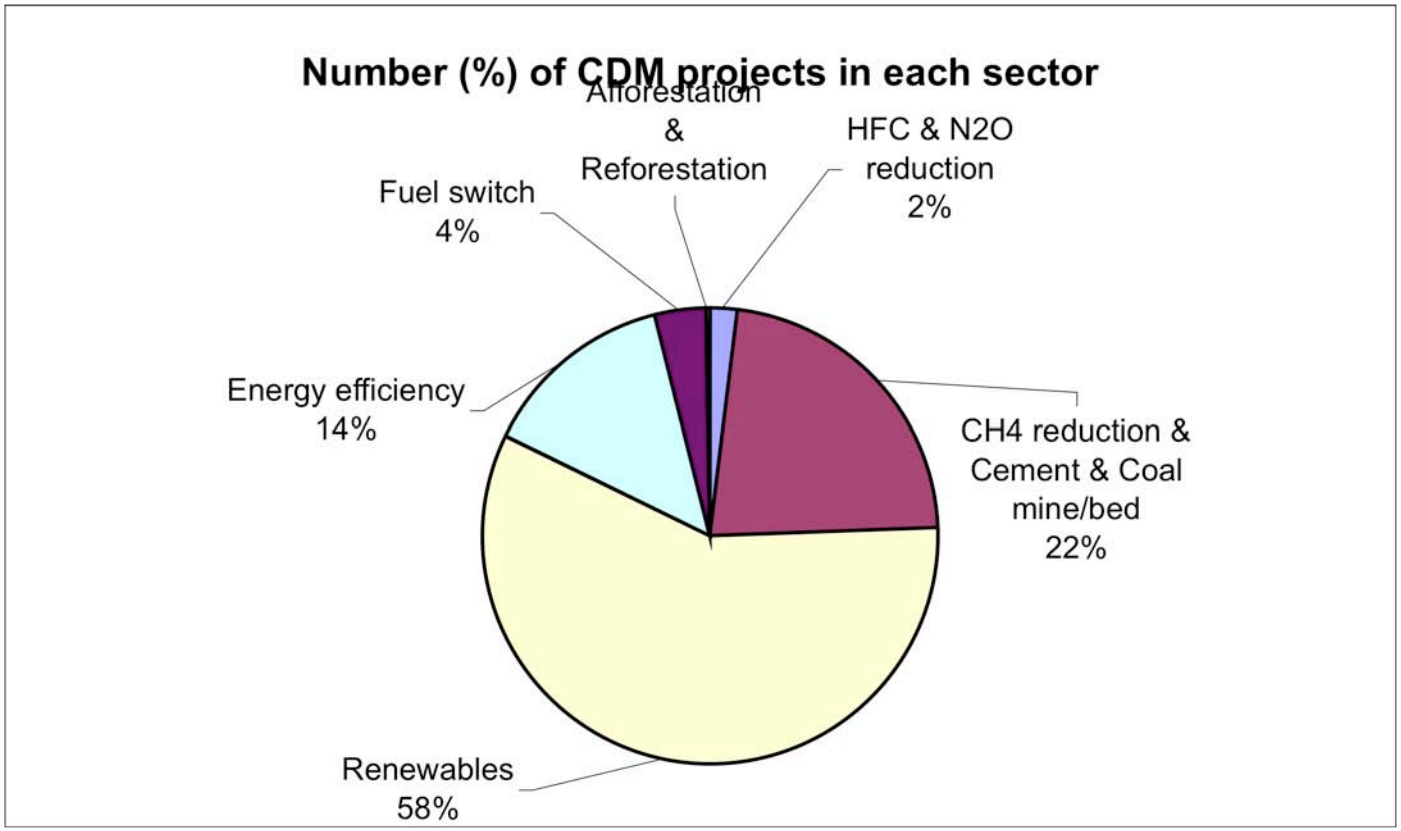
1. **Transport and the CDM**
2. Sectoral Approaches
3. Instruments of Sustainable Transport Policy
4. Applying Sectoral Approaches to the Transport Sector
5. Conclusions

Current Status of Transport in CDM



Source: Fenhann, J.: CDM Pipeline Overview, Updated 20 October 2006, www.cd4cdm.org

Current Status of Transport in CDM

- Currently: almost 1300 projects in the pipeline, including only two transport projects
- Nine further transport projects have submitted proposals for new methodologies
  - Five of them were rejected
  - Four are still under consideration
- Two different categories of projects:
  - fuel switch
  - modal shift

Difficulties of Transport Projects within the CDM

- Fuel Switch:
  - Projects cause leakage at all stages, e.g. N_2O emissions from application of fertilizer, change of engine efficiency
  - Avoidance of double counting

- Modal Shift (in the public sector):
  - Public transport serves variety of objectives, therefore hard to prove additionality
  - Emissions depend on many factors, baseline development and monitoring therefore challenging

Research Questions

- Has been suggested that sectoral approaches might provide better framework for transport projects
- Might also allow scale of projects approach scale of the problem

⇒ What would sectoral transport CDM projects look like?

⇒ In how far would sectoral approaches actually be (more) suitable for transport?

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"Sectoral" Approaches

- "Policy-based" CDM
- Combination of similar local projects along line of a sector, i.e. large-scale bundling
- "Programmatic" projects, multitude of activities caused by programme providing technical or financial assistance coordinated by one central actor
- Sectoral Crediting Mechanisms, sectoral "no lose" emissions target

Design and Methodological Issues (1)

Distribution of Costs and Benefits

- "Policy-based" CDM approaches (also sectoral crediting mechanisms) would be tool for governments rather than instrument targeted at private investment as is current CDM

⇒ Who will own emission reductions, how will costs and benefits be distributed?

Design and Methodological Issues (2)

Baseline, Additionality and Emission Reductions

- EB decision that climate-friendly policies may be disregarded

⇒ Baseline is scenario without policy

- Often policy and emission reduction may not directly linked, myriad of factors at sectoral level

⇒ Ex-post evaluation of actual impact

⇒ Conservative baseline below BAU

⇒ Discounting

Design and Methodological Issues (3)

Approval Process

- Options:
  - Follow current CDM model with project cycle under EB
  - Have approval based on international negotiations

⇒ Considering scale and potential CER volumes, in-depth political examination might be called for

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Strategies for Sustainable Transport

-Transport avoidance

- Shift to sustainable transport modes

-Transport efficiency

Typology of Sustainable Transport Instruments & Examples

	Planning (distributive)	Regulation (normative)	Economic Instruments (re-distributive)	Soft Instruments (informative)
Public Policy	• Example: Strategic Environmental Assessment	• Example: Voluntary Agreement with the Car Industry	• Example: London Congestion Charge	• Example: Eco-driving training
Corporate Policy	CDM Examples: - Transmilenio - urban mass transportation system - BRT Project Mexico - Khon Kaen Fuel Ethanol Project			

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Checklist

- ✓ What would be the **CDM project activity**?
- ✓ Who would be the **project participants**?
- ✓ What would be the **project boundary** (including determination of leakage)?
- ✓ What would be the **baseline** and how would it be set?
- ✓ In how far would the project be **additional**?
- ✓ How would the project's emissions be **monitored**?
- ✓ What would be the **emission reduction?**

Planning Instruments (1)

Example: Strategic Environmental Assessment (SEA) in Local Transport Plans (LTP) in the UK

- Purpose of SEA is to ensure consideration of environmental effects when developing LTP (required by legislation)
- SEA documented state of the environment
- Scope is to consider the impacts of the LTP (5 to 15 years)
- SEA assessed actual and alternative LTP options to find environmentally best approach

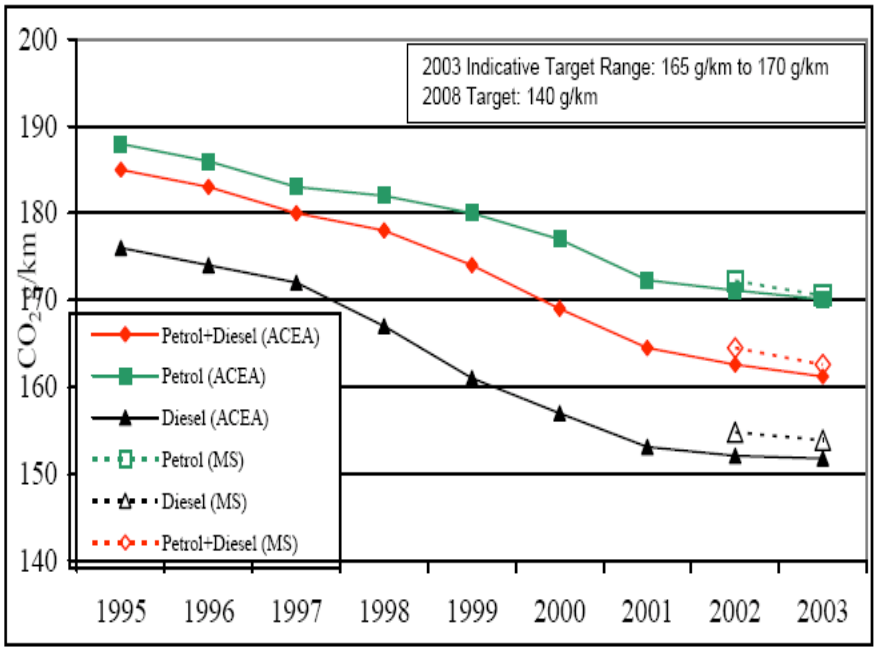
Planning Instruments (2)

- Project definition
  - Project activity: Development of LTP and its implementation
  - Project participants: Transport Administration; Environmental Admin.; consultants
  - Project boundary: Vehicle emissions covered by the plan, which is defined through the administrative boundaries; no leakage
- Methodology
  - Baseline: Business-as-usual-scenario from SEA assessment
  - Additionality: Plan needs to deviate from BAU
  - Monitoring: Transport surveys and further SEA indicators/data
  - Emission reduction: Difference between baseline and actual emissions

Regulative Instruments (1)

Example: ACEA Agreement

- Commitment of European, Japanese, Korean automobile industry to reduce CO_2 emissions from 186 to 140 g CO_2/km from 1995 to 2008
- Voluntary Agreement between the Automobile Association and the European Commission
- National Environmental Protection Agencies responsible for monitoring



Regulative Instruments (2)

- Project definition
  - Project activity: Voluntary Agreement to reduce emissions from passengers cars (Target: from 186 to 140 g CO_2/km (1995-2008)
  - Project participants: EC and ACEA, national EPAs for monitoring
  - Project boundary: CO_2 emissions from the European car fleet
- Methodology
  - Baseline: Scenario without implementation of the regulation (growth from 380 Mt CO_2 (1990) to 536 Mt CO_2 (2010));
  - Additionality: Required by the EC due to climate change policy, target substantially below BAU
  - Monitoring: Evaluation by national EPAs based on industry information (average fuel consumption of cars sold) (35 Mt CO_2 savings (1995 - 2003))
  - Emission reduction: Savings forecast: 85 Mt CO_2

Economic Instruments (1)

Example: Congestion Charge in London

- Charging area: London city, western expansion planned (2007)
- £ 8 ($ 14) between 7 am and 6 pm Monday to Friday
- Transport for London as implementing agency
- Money is reinvested into transport infrastructure (50-60% in public transport)

Economic Instruments (2)

- Project definition
  - Project activity: Introduction of congestion charge
  - Project participants: Mayor, Public Administration and TfL
  - Project boundary: Number of vehicles moving in charging zone (dropped by 30%), small leakage effect outside the boundary (charging zone)
- Methodology
  - Baseline: Scenario without implementation of the measure
  - Additionality: Measure implemented due to environmental and access-related reasons
  - Monitoring: Ongoing evaluation, emissions calculation based on number of cars entering and leaving charging zone, average emission factor
  - Emission reduction: 30% reduction in congestion, 20% reduction in CO2 emissions

Soft Policy Instruments (1)

Example: Eco-Driving Training at DHL

- Two day training at DHL Germany
- 200 drivers were trained in eco-driving techniques in 2004

Soft Policy Instruments (2)

- Project definition
  - Project activity: Establishment of Eco-drive scheme and implementation
  - Project participants: Government or company (DHL)
  - Project boundary: Emissions from all vehicles driven by trained drivers

- Methodology
  - Baseline: Scenario without implementation of the scheme has to be developed
  - Additionality: Economic barrier; need for initial investment (Driving time barely increased)
  - Monitoring: Ongoing evaluation measuring km driven and fuel consumption
  - Emission reduction: Results from difference in fuel consumption before and after training (10% reduction in diesel consumption of eco-driving vehicles)

Activity should actually fit within project-based approach, still methodology rejected by EB

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Towards Sectoral CDM Application in the Transport Sector

- Different instruments could in principle be fitted into Sectoral CDM
- Transport research provides tools to address methodological requirements, especially SEA
- However, models are subject to uncertainty, increased complexity at sectoral level

⇒ Sectoral approach does not ease methodological problems

- Problem: CERs allow emissions increase in Annex I
- Potential means to address challenges:
  - Quantify uncertainty and discount CERs accordingly
  - Apply conservative baseline, below BAU scenario
  - Determine part of emission reductions due to project activity throughout the implementation phase and at completion

Ways Forward

- Future climate regime context: Sectoral projects expected to generate large amounts of CERs; stricter Annex I targets therefore a prerequisite
- What level of stimulus would CDM provide, would it be enough of an incentive?
- Defining relation between project and sectoral CDM
- Technical capacity in host countries may need to be strengthened and capacity building would also contribute to sound planning, implementation and monitoring of sustainable transport policy in general

Thank you very much for your attention!

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Fuel Switch – Khon Kaen Fuel Ethanol Project, Thailand

- Aim: cultivation of energy plants, production and distribution of biofuel to substitute conventional diesel / petrol
- Basic assumption: biodiesel is "carbon neutral" and substitutes conventional diesel / petrol completely
- Method. (2nd version) is still under consideration

Efficiency Improvements – Eco-Driving Training in Jakarta, Indonesia

- Aim:
  - Training bus drivers in fuel efficient driving styles
  - Training of mechanics to improve maintenance
- Assumption: all monitored emission reductions of the fleet caused by the project activity
- „Principally not eligible under the CDM“ as decided by the Executive Board

Modal Shift – The "Transmilenio" Project in Bogotá, Colombia

- Aim: Introduction of BRT-system for main bus routes
- Emission reductions through:
  - Improvement of bus fleet by substituting old buses
  - Reduction of idling time / trip duration
  - Induction of modal switch
- Methodology approved