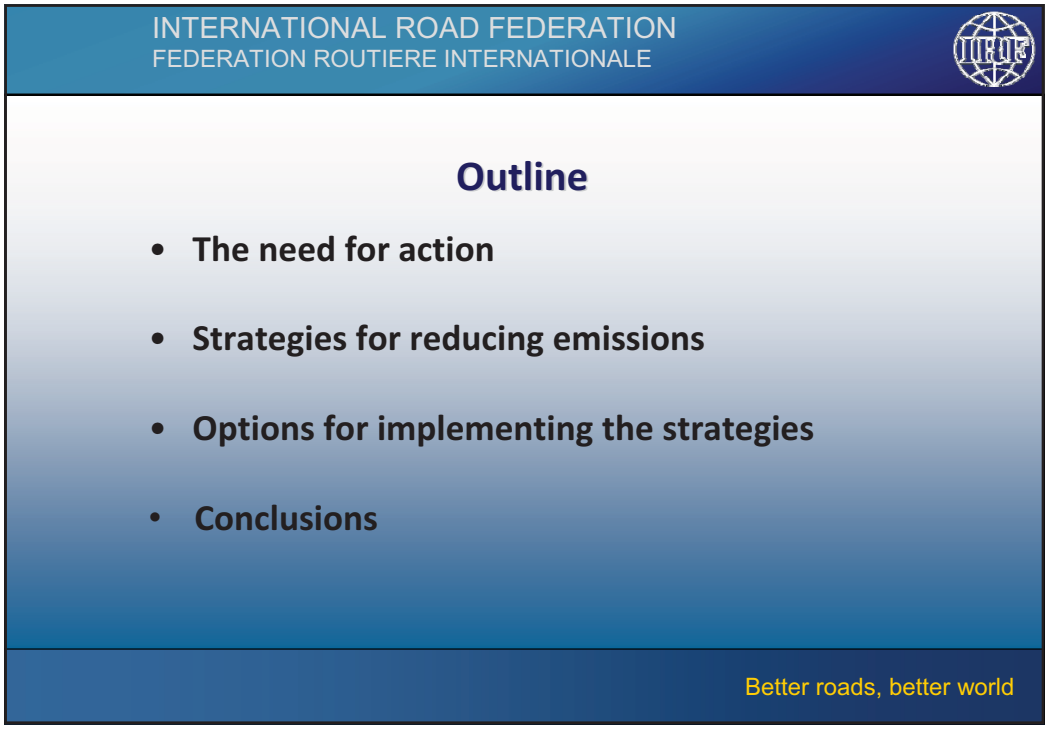
19TH OSCE ECONOMIC AND ENVIRONMENTAL FORUM
"Promotion of common actions and co-operation in the OSCE area in the fields of development of sustainable energy and transport"
SECOND PREPARATORY MEETING
(DEVELOPMENT OF SUSTAINABLE TRANSPORT)
Druskininkai, Lithuania, 4-5 April 2011
Session I

EEF.NGO/13/11
11 April 2011

ENGLISH only



Cutting emissions is no longer a choice but a necessity

No additional climate policies

↓

Emissions will grow dramatically

↓

Increase in temperature

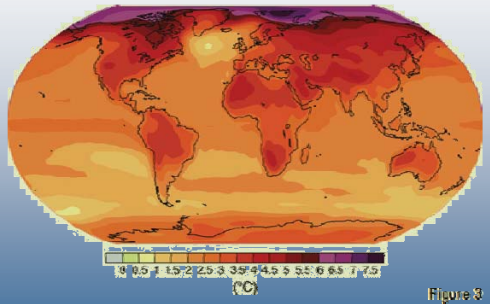
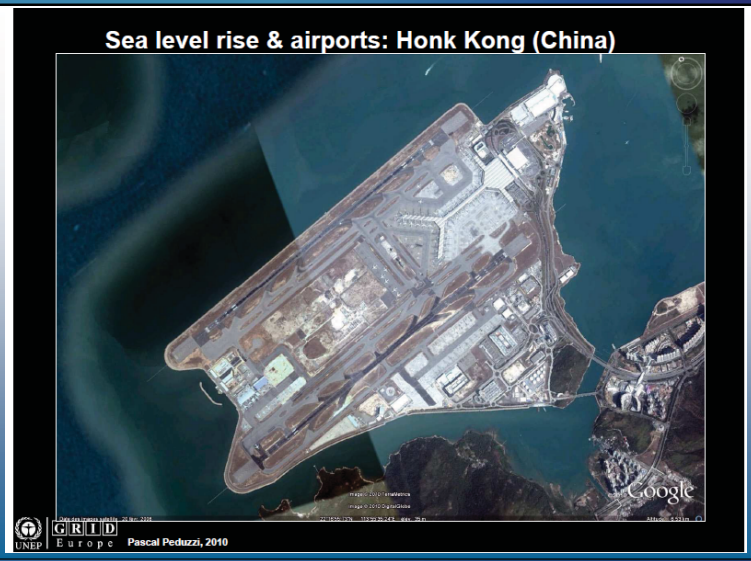


Figure 3

INTERNATIONAL ROAD FEDERATION
FEDERATION ROUTIERE INTERNATIONALE



Better roads, better world

Sea level rise & coastal erosion: roads

UNEP GRID Europe Pascal Peduzzi, 2010

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Coastal flooding: impacts on roads

UNEP GRID Europe Pascal Peduzzi, 2010

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Better roads, better world

Buckling

Fissuring

Rutting …

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FEDERATION ROUTIERE INTERNATIONALE

The current model does not scale

- Emissions from the transport sector are growing
- We don't have enough oil to meet demand
  - World GDP is growing
  - Population is increasing
  - Motorisation rate is increasing
- Congestion costs Europe about 1% of GDP per year

Curbin mobility is not an option. Nor is business as usual

Better roads, better world

Strategies for reducing emissions

- Introduce low-carbon fuels
- Increase vehicle fuel economy
- Improve transportation system efficiency
- Reduce carbon-intensive travel activity
- Align transportation planning and investments
- Economy wide pricing of carbon

Data from: "Transportation's Role in Reducing US Greenhouse Gas Emissions", Volume 1 and 2 – US DOT (April 2010)

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	Reduction by 2030 (%)	
	Vehicle	Transport sector
1. UPTAKE OF LOW CARBON FUELS (Ethanol, biodiesel, natural gas, liquefied petroleum gas, synthetic fuels, hydrogen, and electricity)		
Biofuels from cellulosic sources offer potentially large reductions, more R&D is needed. Current fleet can operate on low blends, higher blends require vehicle modification		
Fuel cells, and low-carbon H2 production, distribution and storage become reality	80	18-22 (2050)
Advances in battery technology		25-30 (2050)
2. INCREASED FUEL EFFICIENCY (engine and transmission design, light weight materials, improved aerodynamics, less rolling resistance)		
Technology is well developed, potential for offsetting higher vehicle costs by fuel savings, technology penetration limited by time for fleet replacement		
Advanced fuel vehicles Diesels Hybrid electrics Plug/in hybrid electrics	8-30 16 & more 25-55 45-75	

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	Reduction by 2030 (%)	
	Vehicle	Transport sector
3. IMPROVED EFFICIENCY OF TRANSPORT SYSTEM (Design, construction and operation of networks) Significant co-benefits, but new "induced"demand		3-6
Speedlimits		2-3
Traffic management, travel and trip information, incident management		1-3
4. REDUCING CARBON INTENSIVE TRAVEL (Telecommuting, increasing load factors, modal shift)		5-17
Pricing		~ 3
Public transport		3-10
Non-motorised transport		
Land use changes		
Public information campaigns		

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	Reduction by 2030 (%)	
	Vehicle	Transport sector
5. Transport planning and investment		
Technical assistance		
Regulations (for consideration of GHG issues and land use planning)		
Financial incentives (for planning and implementing GHG reduction strategies, meeting targets)		
6. Pricing carbon		2 - 23
Motor fuel tax		2-3
Carbon tax		
Carbon credits and trading		~17

Policy options

for

implementing the strategies

Data from: "Transportation's Role in Reducing US Greenhouse Gas Emissions", Volume 1 and 2, US DOT (April 2010)

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	Stimulate uptake of Low carbon fuels	Increase vehicle fuel efficiency	Increase transport system efficiency	Reduce travel
Efficiency standards	x	x		
Planning and funding			x	x
Market incentives	x	x	x	x
R&D	x	x	x	x
Carbon pricing	x	x	x	x

1. Efficency standards

- Fuel efficiency standards for vehicles and manufacturer fleets
- Emission standards
- Low carbon fuel standards

Modest to moderate impact in short-term,
potentially very large impact in mid to long-term

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2. Planning and funding

- Providing technical assistance to planning agencies and organisations
- Transport planning regulations
- Incentives (perfomance-based criteria)

Modest impact in short-term,
moderate impact in medium-term

3. Market based mechanisms

- Tax credits and /or subsidies linked to distance travelled

Moderate in medium term,
large effect in long-term (depends on pricing level)

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4. Research and development

- Financing research on vehicle and fuel technology
- Development of data, tools, and decision-support to improve transportation policy making and choices
- Policy research on interaction among strategies, economic impacts, institutional issues

Large impact in the long term

5. Economy-wide price signal

- Cap and trade
- Carbon tax

Moderate in the medium-term,
large in the long-term

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Conclusions

- There is no magic bullet
- Technological options are promising in the long-term, but offer little in the short to medium-terms
- Non-technical options are promising and cost-effective

BUT…

- The methods used to evaluate effectiveness of measures are largely financial-technical and NOT based on welfare economics.
- Second order effects (induced demand) are uncertain and typically ignored.
- Options to bring about behavioural change are not well researched or properly understood.
- The interaction among policy options are poorly understood

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Road Infrastructure Sector

- Tools to assess GHG emissions
- Green rating systems
- Green public procurement

CHANGER
Greenhouse Gas Calculator

Greenroads

Thank you

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