

## Session 1: Challenges and Opportunities for Near-term Climate Protection and Clean Air Benefits

### *Options for Neart-term Climate Protection and Clean Air Benefits*

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# Diesel Particle Filters



**US Diesel  
Rules – Clean**

**Air Act**

**California**

**– Heavy  
Duty  
Truck**

**Rule  
(1987);  
AB32/GW  
Solutions  
Act**

**New York  
City  
Municipal  
Law 77**

**London –  
DPFs fitted  
on city bus  
fleet**

**Europe –  
Low Emissions  
Zones in Berlin,  
London,  
Gothenburg, Milan  
and other cities**



**Santiago de  
Chile – DPF for  
municipal bus  
fleet**

**Johannesburg --  
Bus Rapid Transit with Euro IV  
Diesel Engines**

**China –  
Vehicle labeling  
and scrappage  
program**



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# Brick Kiln Modernization Ciudad Juarez, Mexico



- Conventional brick kilns (left) burn waste wood, oil and tires in open-topped kilns
- New kilns (right) use same fuels but filter exhaust into underground channels, reducing emissions by 80% and using 50% less wood.



# Clean Cookstoves used around the world



**Turbococina, El Salvador**



**LPG Cookstoves – Senegal**



**HELPS “ONIL” stove - Guatemala**



**Solar cooker**



**Oorja smokeless biomass stove , India**



**Patsari stove in Mexico**

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# Reducing Agricultural Crop Residue Burning promoting economically viable alternatives



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## Vietnam –

- Farmers sell rice straw bales for construction material and livestock feed
- Make mulch for vegetables



## India –

- Fuelling industries with biomass pellets made from crop residues
- Providing local farmers a market for their waste



## India –

- Gasify rice husks and other biomass waste to supply electricity to rural villages



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# Methane Recovery and Utilization of Flare Gas from oil production

Kumchai oil field, Oil India Ltd



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# Fugitive emissions: detection and control



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**PEMEX, Mexico** has been working with GMI (M2M) to implement methane emission control programs and energy efficiency improvement to reduce methane and CO<sub>2</sub> emissions  
→ avoided 1.2 Mtons CO<sub>2</sub> eq/year



Checking  
fugitive  
emissions at  
PEMEX  
facilities.



Fugitive  
emissions  
detection  
with IR  
camera



# Landfill Gas to Energy



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## **BENLESA, Monterrey, NL, Mexico**

- Government and private company partnership to use landfill gas as fuel.
- Initial support from GEF (2003).
- Current installed capacity of 17 MW
  - drive the public transit system by day and light city streets by night.
- Since 2003, 1.7 Mtons of CO<sub>2</sub> eq of methane release avoided.



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# Livestock Manure Management



## (CDM Projects)



### Granja Becker, Minas Gerais, Brazil - Swine manure management

- Replace open-air lagoons with ambient temperature anaerobic digesters to capture and combust the resulting biogas;
- Plan to reduce methane and other GHG emissions by 50,580 tons of CO<sub>2</sub> eq over 10-yr period (2001-2014).



### Hyderabad, India – Poultry litter management

- Poultry litter is used to generate electricity, which in turn power the plant used to convert the methane emissions to electricity (small scale CDM project – 3 MW Poultry Litter Based Power Generation Project).

### Co-benefits:

- Reduce odor, air and water contamination - Protect human health & environment
- The captured gas is used to produce energy -- Provide extra income for farmers.

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# Options for Near-term Climate Protection and Clean Air Benefits



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## Main goals:

- Emphasize the regional benefits of reducing SLCFs
- Compare benefits with costs
- Examine the benefits of regional / national action and implementation of relevant measures
- Lay out options for a strategy for reducing these SLCFs to slow the pace of global warming in the near term
- Highlight practical and available measures that can allow significant benefits to be realised in the near-term, if implemented widely;
- Discuss strategies that could be adopted to ensure widespread implementation of the measures.



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# Approach for widespread implementation of mitigation measures



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LEVEL	POLICY APPROACH
NATIONAL	Laws and regulations
	Incentives schemes
	Funding programs
	Industry standards
REGIONAL	Existing regional agreements
	Other regional initiatives
GLOBAL	Existing multilateral environmental agreements
	Financing mechanisms
ENABLING MECHANISMS	Capacity building
	Financing mechanisms
	Scientific research, observation, monitoring & assessment
	Joint actions and partnerships



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# National Options for Controlling Short-lived Climate Forcers



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- What implementation options and mechanisms are available?
- How far will the different cultural and economic circumstances and governance structures of different countries require different approaches?
- How far are the necessary measures already being implemented in different areas, and how far could further implementation assist national priorities as well as contribute to international objectives?
- What successful examples and good internationally transferable experience is already available?
- What sort of co-operation and support mechanisms at regional and global scales would assist national implementation?



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# Regional Options for Controlling Short-lived Climate Forcers

- Transboundary nature of the problem makes the regional scale more relevant – requires regional cooperation.
- Tease out what is the substantive added value of dealing with SLCFs at the regional level, rather than just at the national level.
- Lay out pros and cons of existing models – loose agreement to cooperate between nations in a region.
- Suggestion to refer to stakeholders that could catalyze action at the regional level.



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# Global Options for Controlling Short-lived Climate Forcers

- Working through existing global treaties
- Awareness raising
- Global coordination and cooperation
- Global financial mechanisms
- Science to reduce uncertainties of taking action
- Pilot projects
- Others



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# SLCF Mitigation



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- At national and sub-national scales many of the identified measures could be implemented under existing policies designed to address air quality and development concerns.
- Improved cooperation within and between regions would enhance widespread implementation and address transboundary climate and air quality issues.
- Additional efforts to scale up, replicate and expand the implementation of the selected measures would be required to achieve the benefits identified; such efforts include capacity building, public-private financing, technology support, regional cooperation and community empowerment.
- Accounting for near-term climate co-benefits could leverage additional action and funding on a wider international scale, which would facilitate more rapid implementation of the measures.
- Many measures achieve cost savings over time. However, initial capital investment could be problematic in some countries, necessitating additional strategic support and investment.
- Despite these near-term benefits, reducing warming in the longer term will require action now to also reduce CO<sub>2</sub> emissions.



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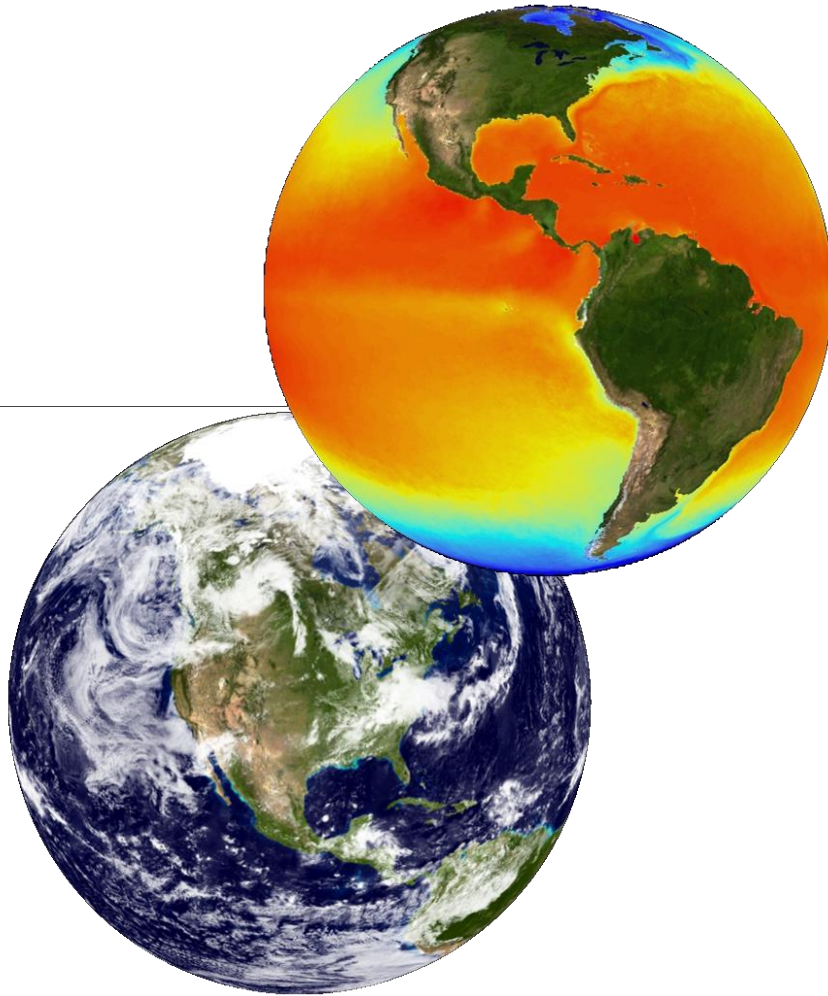
# ¡¡ GRACIAS POR SU ATENCIÓN !!



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