

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

Options for Neart-term Climate Protection and Clean Air Benefits

BIOL. JULIA MARTÍNEZ FERNÁNDEZ

Coordinator

Climate Change Program

INSTITUTO NACIONAL DE ECOLOGÍA - SEMARNAT

México, D.F. a 8 de septiembre de 2011.



SEMARNAT



COORDINACION
DEL PROGRAMA
DE CAMBIO
CLIMATICO

Near-term Climate Protection and Clean Air Benefits:

Options for Controlling Short-lived Climate Forcers at National, Regional and Global Levels



Vivir Mejor

- Examples of successful black carbon and methane mitigation programs
 - How can recognition and accounting of multiple co-benefits – near-term climate, health and food security – help facilitate implementation?
- Options for Controlling Short-lived Climate Forcers at National, Regional and Global Levels

Diesel Particle Filters



US Diesel Rules – Clean Air 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



California – Heavy Duty Truck Rule (1987); AB32/GW Solutions Act

Santiago de Chile – DPF for municipal bus fleet

Johannesburg -- Bus Rapid Transit with Euro IV Diesel Engines

China – Vehicle labeling and scrappage program



SEMARNAT



COORDINACION
DEL PROGRAMA
DE CAMBIO
CLIMATICO



Vivir Mejor

Brick Kiln Modernization Ciudad Juarez, Mexico



SEMARNAT



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



Vivir Mejor

Clean Cookstoves used around the world



Turbococina, El Salvador



LPG Cookstoves – Senegal



Oorja smokeless biomass stove , India



HELPS “ONIL” stove - Guatemala



Solar cooker



Patsari stove in Mexico

RNAT



NACION
GRAMA
CAMBIO
MATICO



Vivir Mejor

Reducing Agricultural Crop Residue Burning promoting economically viable alternatives



SEMARNAT



COORDINACION
DEL PROGRAMA
DE CAMBIO
CLIMATICO



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



Vivir Mejor

Methane Recovery and Utilization of Flare Gas from oil production

Kumchai oil field, Oil India Ltd



SEMARNAT



COORDINACION
DEL PROGRAMA
DE CAMBIO
CLIMATICO



Vivir Mejor

Fugitive emissions: detection and control

PEMEX, Mexico has been working with GMI (M2M) to implement methane emission control programs and energy efficiency improvement to reduce methane and CO₂ emissions
→ avoided 1.2 Mtons CO₂ eq/year



Checking fugitive emissions at PEMEX facilities.



Fugitive emissions detection with IR camera



Landfill Gas to Energy



SEMARNAT



COORDINACION
DEL PROGRAMA
DE CAMBIO
CLIMATICO



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 CO₂ eq of methane release avoided.



Vivir Mejor

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 CO₂ 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.

NAT



COMISION
RAMA
MBIO
ETICO



Vivir Mejor



SEMARNAT



COORDINACION
DEL PROGRAMA
DE CAMBIO
CLIMATICO

Near-term Climate Protection and Clean Air Benefits:

Options for Controlling Short-lived Climate Forcers at National, Regional and Global Levels



Vivir Mejor

Options for Near-term Climate Protection and Clean Air Benefits



SEMARNAT



COORDINACION
DEL PROGRAMA
DE CAMBIO
CLIMATICO

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.



Vivir Mejor

Approach for widespread implementation of mitigation measures



SEMARNAT



COORDINACION
DEL PROGRAMA
DE CAMBIO
CLIMATICO

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



Vivir Mejor

National Options for Controlling Short-lived Climate Forcers

- 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?



SEMARNAT



COORDINACION
DEL PROGRAMA
DE CAMBIO
CLIMATICO



Vivir Mejor

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.



SEMARNAT



COORDINACION
DEL PROGRAMA
DE CAMBIO
CLIMATICO



Vivir Mejor

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



SEMARNAT



COORDINACION
DEL PROGRAMA
DE CAMBIO
CLIMATICO



Vivir Mejor

SLCF Mitigation



SEMARNAT



Instituto Nacional de Ecología

COORDINACION
DEL PROGRAMA
DE CAMBIO
CLIMATICO

- 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 CO₂ emissions.



Vivir Mejor

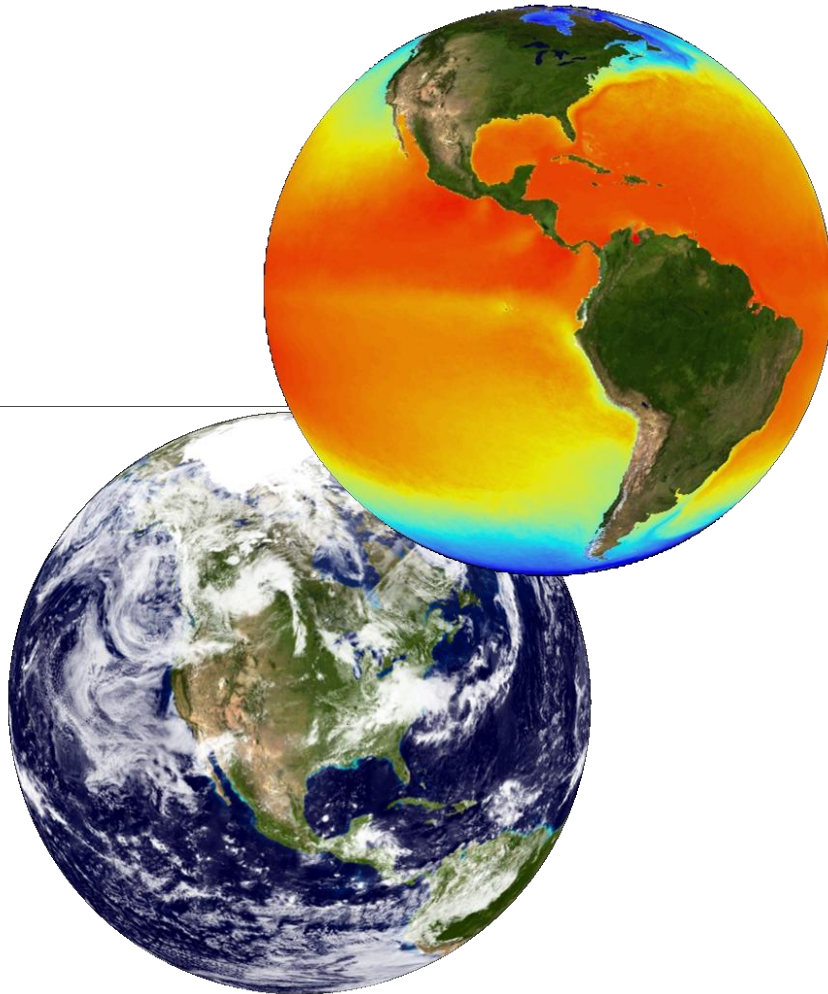
¡¡ GRACIAS POR SU ATENCIÓN !!



SEMARNAT



COORDINACION
DEL PROGRAMA
DE CAMBIO
CLIMATICO



Biol. Julia Martínez Fernández
Coordinadora

Programa de Cambio Climático
Instituto Nacional de Ecología - SEMARNAT

Periférico Sur 5000, 5to. Piso
Col. Insurgentes Cuicuilco
Delegación Coyoacán
04530 México, D.F.

✉ jmartine@ine.gob.mx

Visite nuestra página Web:
<http://www.ine.gob.mx/>

Portal de Cambio Climático
http://cambio_climatico.ine.gob.mx/



Vivir Mejor