

Climate change mitigation in Agroindustries: the case of Mexico

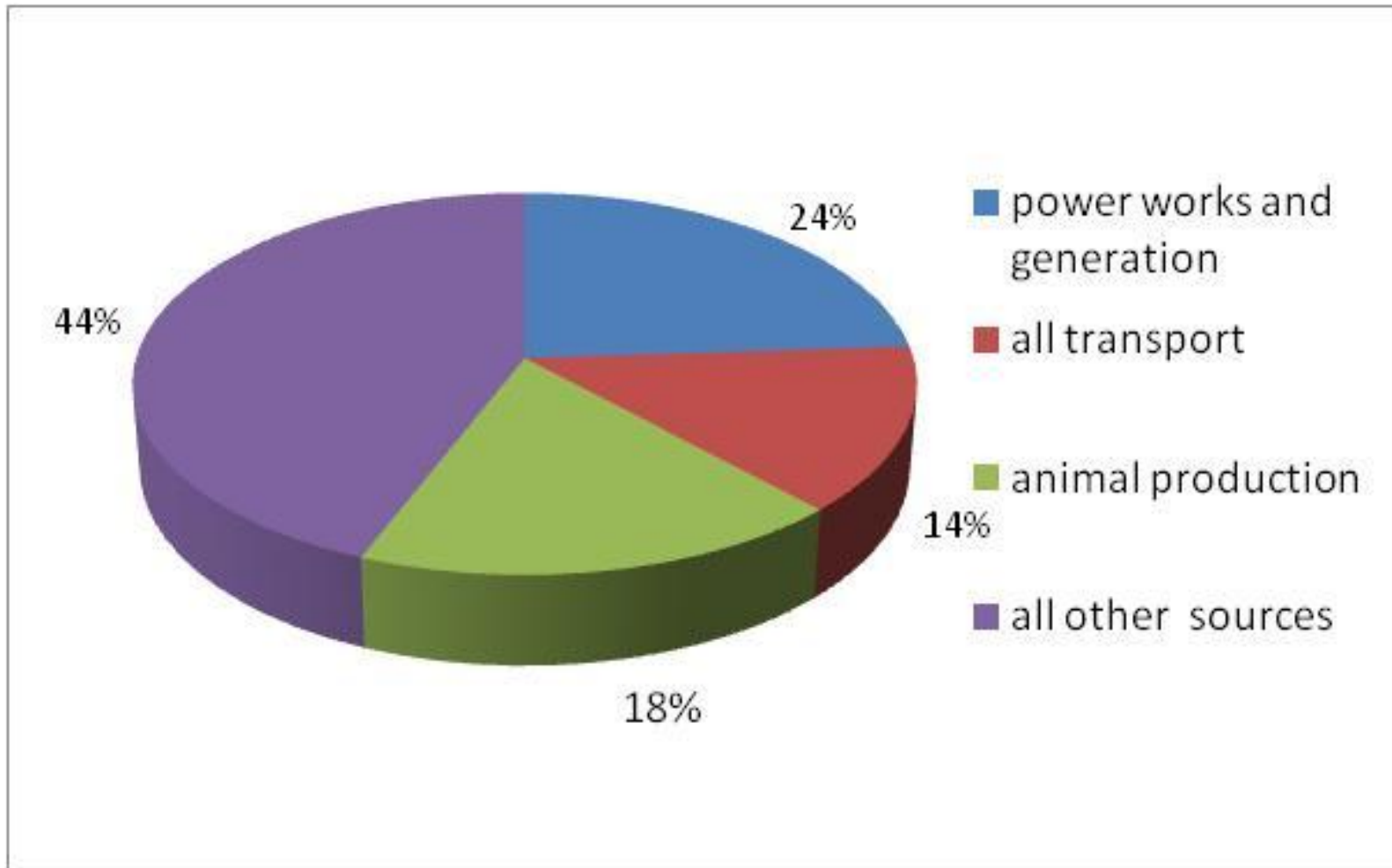
A presentation for the FAO-CP/World
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Agroindustries and GHG emissions

1. Intensive livestock production
2. Inefficient use of fossil fuel energy
3. Substitution with renewable energy

Animal production and GHG emissions

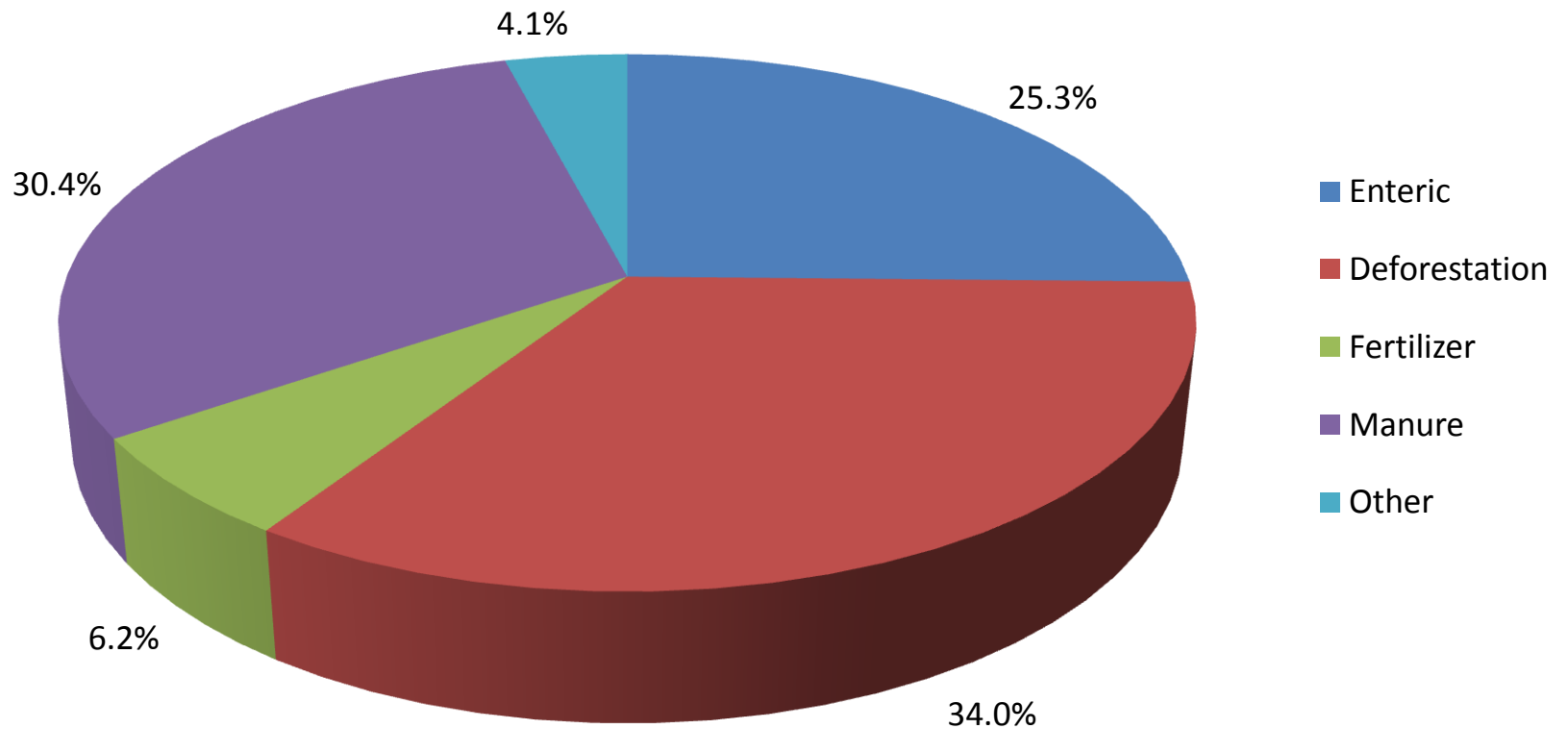
GHG emissions from animal production: how serious a problem?



Livestock production and GHG emissions: how serious a problem?

	Percentage contribution	Global warming potential (relative to CO ₂)
Carbon dioxide	9%	1
Methane	37%	23
Nitrous dioxide	65%	296

Source of animal production GHG emissions



Animal production is on the rise

- ***With income and population increase***
- ***Between 1995 and 2005:***
 - Meat and milk animals: a 22% increase
 - Poultry for eggs: 40% increase
- ***By 2050:***
 - Meat production will have doubled
 - Milk production will have increased by 80%

Source: FAO

Animal production is on the rise

- 80% of the increase from intensive/industrial systems
- Twice as detrimental for the environment

What can be done?

- Reduce per capita meat consumption in developed countries?
- Reforestation and protection of existing forest
- Restoring organic carbon in soils and conservation tillage
- ***Better waste management:***
 - a path that Mexico has taken very seriously with support from GEF and WB

II. Mexico Sustainable Rural Development Project

Contributes to Mexico's:

- National Strategy on Climate Change*
- Commitments under Kyoto Protocol*

Objectives

- Reduce GHG emissions from industrial animal production through improved waste management
- Reduce fossil fuel consumption of agroindustries through:
 - Improved energy efficiency
 - Substituting fossil fuel energy with renewable energy sources

The project promotes investments to reduce GHG emissions and protect the environment

- ***Waste management:***

- biomass conversion (bio-digesters)

- ***Reducing energy consumption:***

- More efficient milking and cooling equipment & facilities

- More efficient drying and packaging facilities (meat, fruit and vegetables)

The project promotes investments to reduce GHG emissions

- ***Substituting fossil fuel with renewable energy source:***
 - Solar panels to heat water used in meat packing, food processing, and distilleries
 - Photovoltaic solar systems
 - connected to the national grid. Excess energy generated from the panels reduces demand on the national electrical system.
 - Biogas from bio-digesters to produce electricity

What is financed?

- Matching grant (50%) to agribusinesses for:
 - the initial capital investment in environmentally sustainable technologies
 - TA for energy diagnostic and implementation of improved technologies

What is financed?

- Training and sensitization of agribusinesses and Ministry staff in energy efficient practices
- TA for policy capacity-building of Ministry of Agriculture to address climate change issues
(in relation the National Strategy on Climate Change and the President's Special Program for Climate Change)

Issue for incentive to invest in bio-digestors and generators

- Electricity from bio-gas should displace traditional energy consumption, thus reducing energy demands from livestock industries
- However, Mexican Law does not allow to charge electricity on to the grid for future consumption or for distribution in other regions, when the source is instalation of more than 30Kw.

Expected benefits

- Reduction in GHG emissions of about 1.65 million TonCO₂
- Reduction in electric generation of about 54.3 Gwh
- Savings of combustible fossil fuels equivalent to 100 million liters of diesel.

Conclusion

- A public-private partnership, justified by the national and global benefits:
 - agri-businesses decrease their production costs
 - the national economy wins from energy saved and less ground water pollution;
 - the global environment gains through less emissions of GHG and less use of fossil fuel.