

# Climate change mitigation in Agroindustries: the case of Mexico

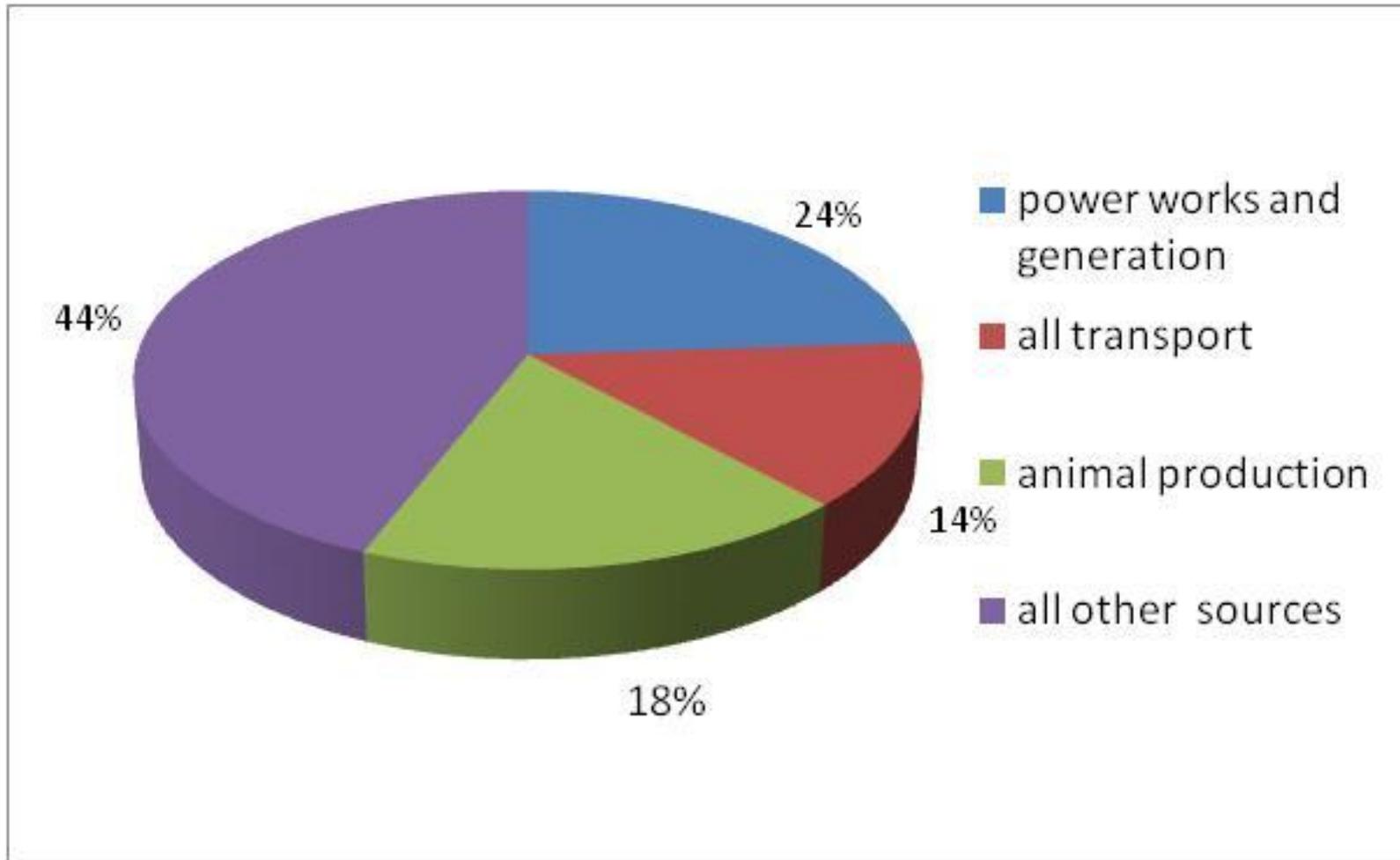
A presentation for the FAO-CP/World  
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# Agroindustries and GHG emissions

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

# Animal production and GHG emissions

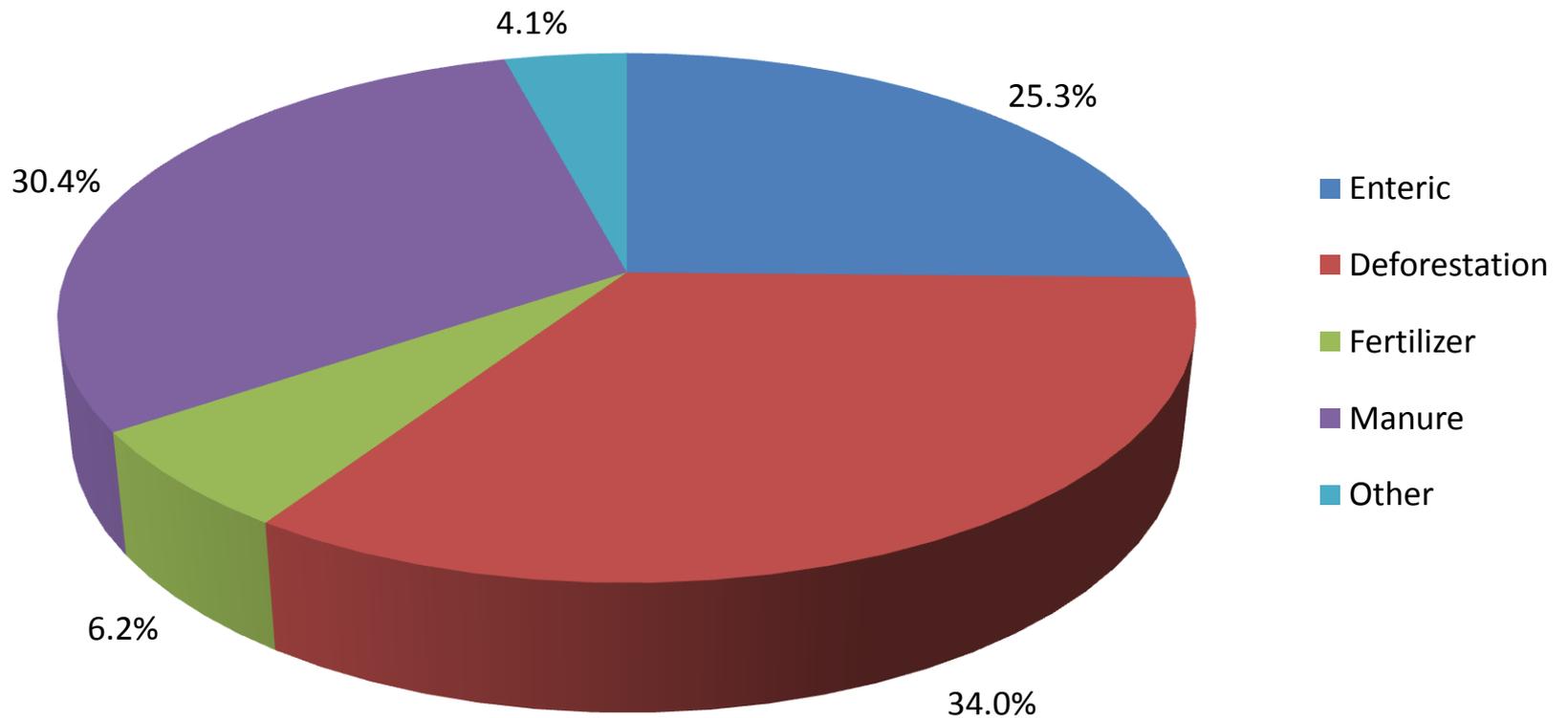
# GHG emissions from animal production: how serious a problem?



# Livestock production and GHG emissions: how serious a problem?

	Percentage contribution	Global warming potential (relative to CO <sub>2</sub> )
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 TonCO<sub>2</sub>
- 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.