

Mitigation Potential in Agriculture

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World Agroforestry Centre

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International Centre for Research in Agroforestry

Mitigation options exist through reducing emissions and increasing sinks

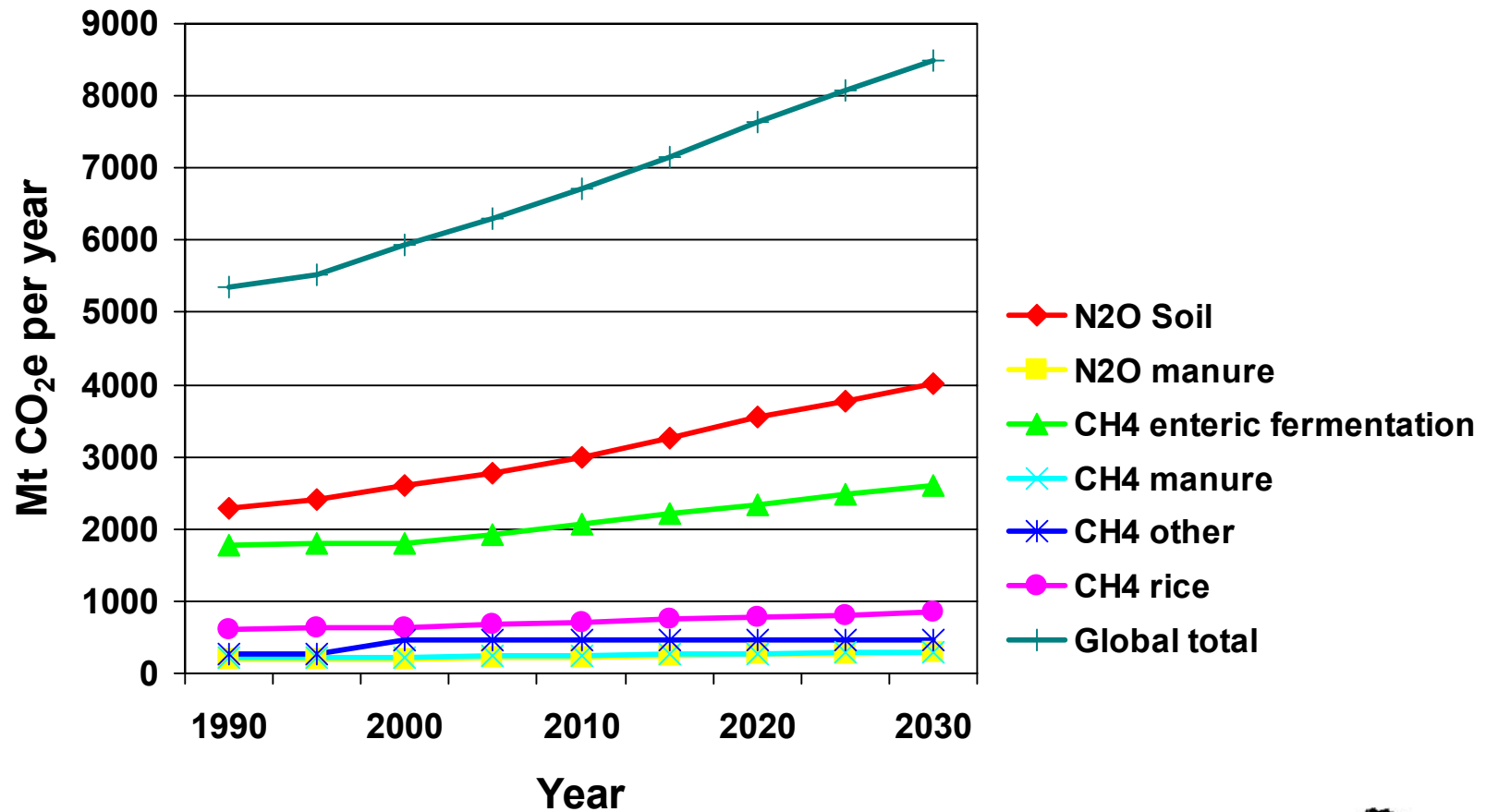
Emissions:

- **Energy** (including fertilizer production) 0.6 Gt CO₂e
- **Non-CO₂ GHG** 6.2 Gt CO₂e
- **Deforestation** 7.6 Gt CO₂e

Sinks

- **Crop and livestock management**
- **Agroforestry**

With business as usual, emissions from these sources will increase by 60% by 2030



There are numerous options for reducing N₂O emissions from soils

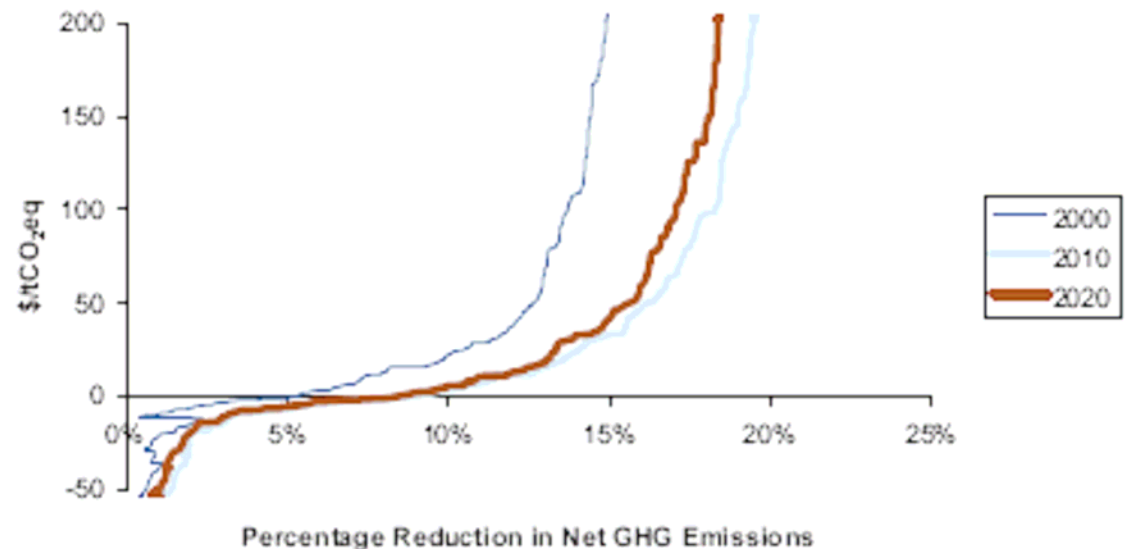
- Nitrification inhibitors
- Split fertilization
- Reduction of nitrogen-based fertilizer
- Reduced tillage
- Alternative crop rotations
- Water management
- Catch crops
- Precision agriculture

There are also options for reducing CH₄ emissions from enteric fermentation

- Improved feeding practices
- Dietary additives
- Breeding
 - Increasing productivity
 - Earlier slaughter

To calculate potential reductions and costs, data from a number of sources and models were used

- USEPA abatement curves
 - DAYCENT, DNDC
 - National inventories
 - IMPACT
- Maximum economic abatement price: US\$45
- Baseline emissions from USEPA

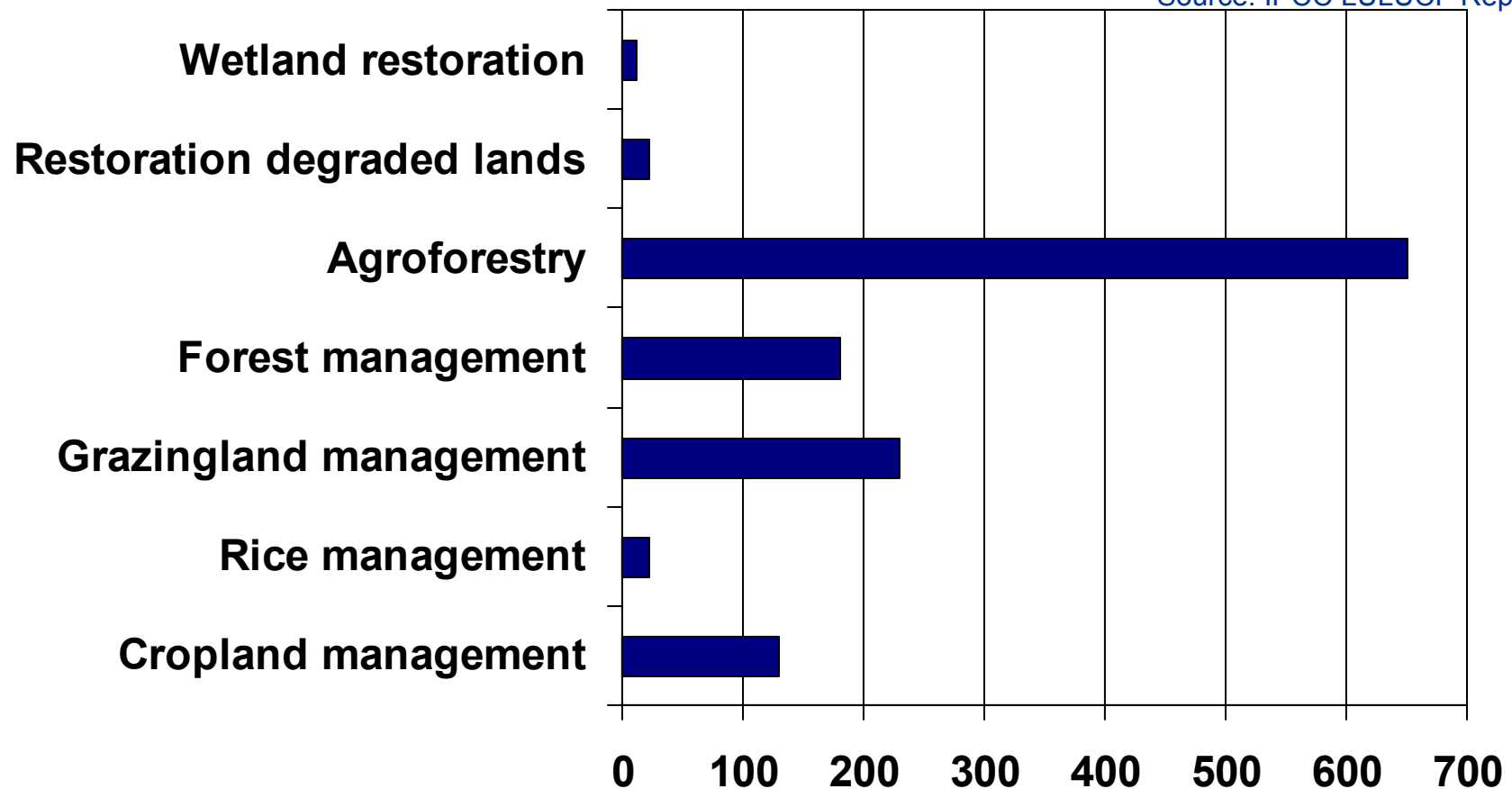


Results of analysis present costs in \$billion and reductions in millions tons CO₂e

Sub-sector	2010		2020	
	Reduct ^o	Cost	Reduct ^o	Cost
Croplands	192	8.6	196	8.8
Rice	249	11.2	259	11.6
Livestock	155	7.0	176	7.9
Total	596	26.8	631	28.3

There is also significant mitigation potential through sinks: agroforestry and cropland management

Source: IPCC LULUCF Report



Thank You



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