

BOTSWANA MITIGATION STRATEGIES

CDM WORKSHOP

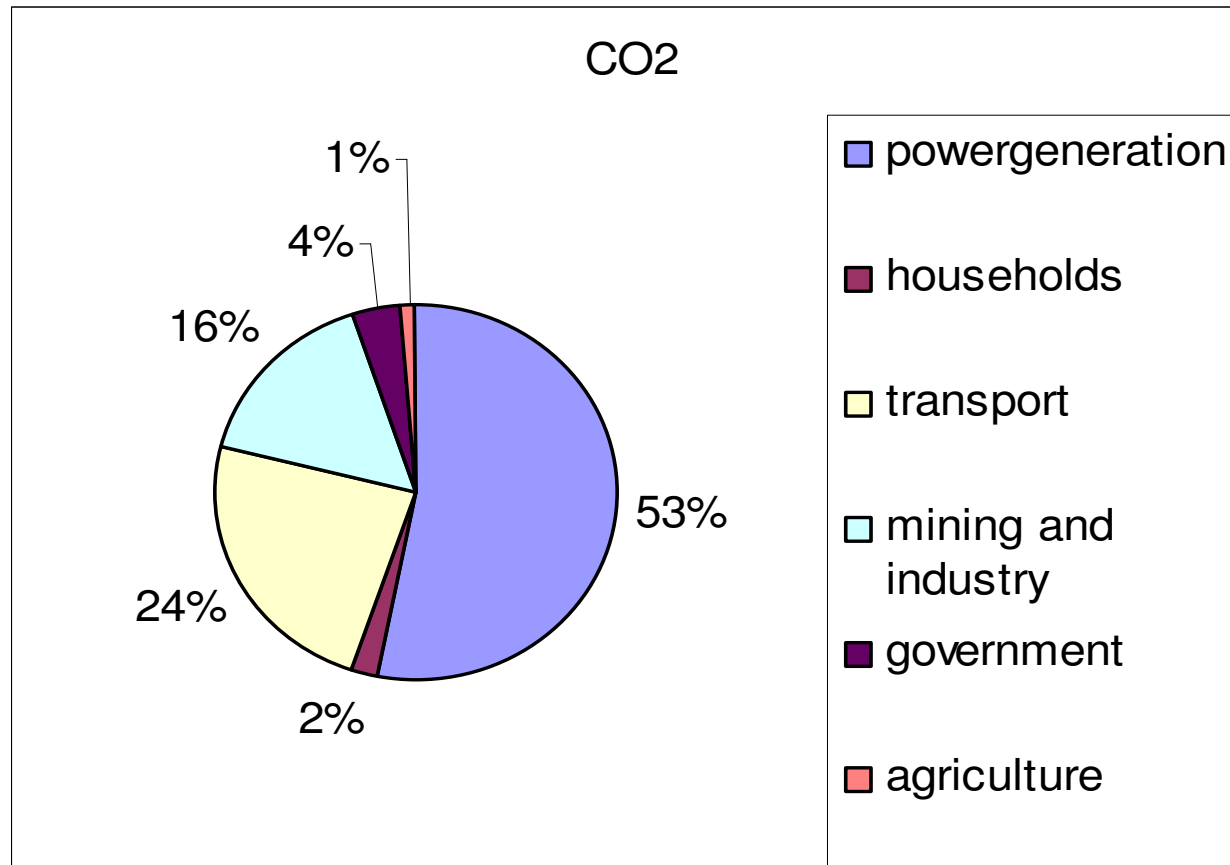
23-25 FEBRUARY 2011

GABORONE

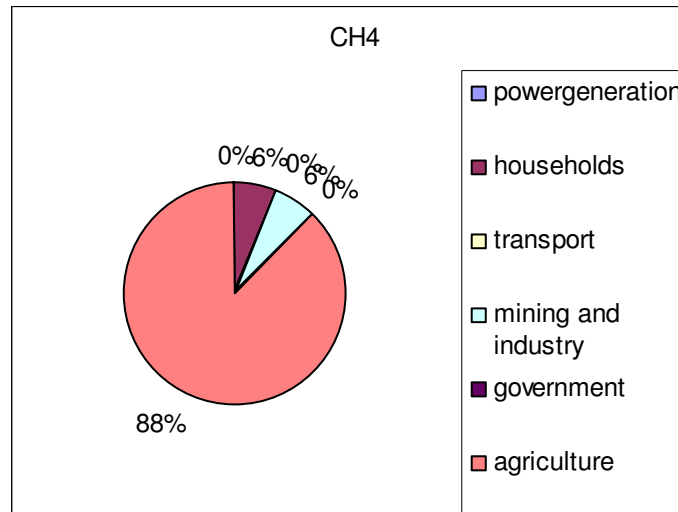
GHG Emission Inventory by Sector

- Total GHG emissions for 1994 were **9314.739** Gg of CO₂, sinks were **-38733.600** Gg of CO₂.
- Energy-related CO₂ emissions in Botswana in 1994 were 3 014 Gg CO₂

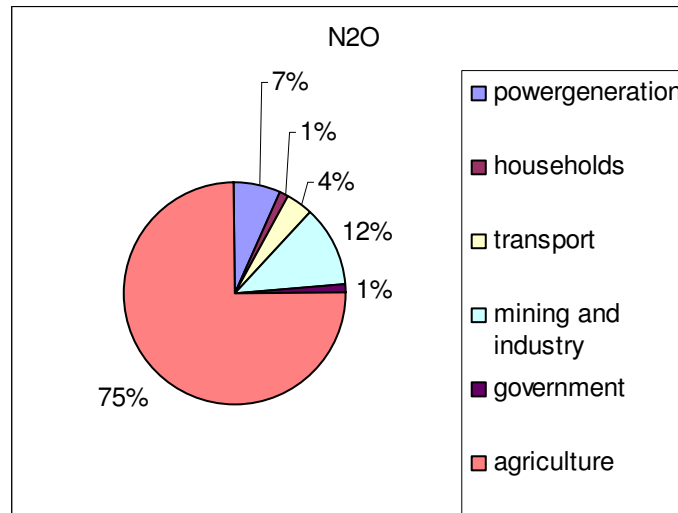
GHG emission by Sector CO2



GHG emission by Sector CH4



GHG emission by Sector N2O



Main sources of emissions

- Fuelwood, coal-fired power station, petrol, explosives
- Savanna burning, enteric fermentation from cattle

MITIGATION OPTIONS IN ENERGY SECTOR

Mitigation option	Description and rationale	2005 scenario		2030 scenario	
		Cost of GHG Reduction (BWP/ton CO2)	Cumulative GHG Reduction (CO2 equivalent Mt/year)	Cost of GHG Reduction (BWP/ton CO2)	Cumulative GHG Reduction (CO2 equivalent Mt/year)
Efficient lighting	Use of compact fluorescent lamp (CFL) instead of incandescent bulbs	-495.3	0.45	-495.3	0.63
Pre-payment meters	Electricity conservation through awareness of costs	-111.2	0.54	-111.2	0.73
Geyser time switches	On switch is timed for when hot water is needed.	-84.4	0.71	-84.4	1.02
Efficient boilers	Boilers fitted with economizers to reduce coal consumption	-36.7	0.75	-36.7	1.49
Solar home systems	Use of solar power for lighting and light electrical appliances	-67.9	0.71	-67.9	1.45

MITIGATION OPTIONS IN ENERGY SECTOR

Mitigation option	Description and rationale	2005 scenario		2030 scenario	
		Cost of GHG Reduction (BWP/ton (CO ₂	Cumulative GHG Reduction (CO ₂) equivalent Mt/year)	Cost of GHG Reduction (BWP/ton (CO ₂	Cumulative GHG Reduction (CO ₂) equivalent Mt/year)
Solar geysers	Use of solar energy for water heating	27.2	1.48	27.2	2.47
Biogas for rural households	Use of cattle dung in biogas plants for cooking, lighting, water heating	55.1	1.57	55.1	2.48
Solar photovoltaic water pumps	Use of solar energy for pumping groundwater	223.3	1.65	223.3	2.91
Vehicle inspection	Promote roadworthiness and better fuel efficiency	3.2 to 8.7	1.48	3.2	2.16
Reforestation	Replacement of depleted fuelwood reserves	342.1	1.72	342.1	2.98

MITIGATION OPTIONS IN NON ENERGY SECTOR

Mitigation option	Description and rationale		2005 scenario	2030scenario
		Cost of GHG Reduction (BWP/ton (CO2	Cumulative GHG Reduction CO2) equivalent Mt/year)	Cumulative GHG Reduction CO2) equivalent Mt/year)
Cooking stoves	Replacement of open fires with fuelwood stoves to improve fuel	237.3	0.183	0.268
Natural woodlands	Meet the increasing need for management forest products	-14.9	3.262	3.106
Solid waste	Use of CH4 from solid waste landfills as energy source	-4.1	- 3.562	3.780
Substitute wooden poles with steel for fencing	Reduce demand on forest resources poles	7.7	3.918	4.224

MITIGATION OPTIONS IN NON ENERGY SECTOR

Mitigation option	Description and rationale		2005 scenario	2030scenario
		Cost of GHG Reduction (BWP/ton (CO2	Cumulative GHG Reduction CO2) equivalent Mt/year)	Cumulative GHG Reduction CO2) equivalent Mt/year)
Afforestation	Establishment of woodlots to supply fencing and fuelwood needs	44.4	4.303	5.071
Veld fire guarding	Reduce emissions from veld fires	1.4.8	4.413	5.167
Cattle feed Cattle feed boosts beef production	and reduces grazing pressure	316.2	4.418	5.182
Manure biogas	Manure at abattoirs used in biogas plants to generate energy	4483.3	4.423	5.201

THANK YOU