CEQA Climate Change Analysis for Proposed Biomass Power Generation Facility

Extended Abstract 14

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Regulatory Background

* CEQA requires public disclosure of environmental impacts of proposed projects
* AB-32 made an environmental endangerment determination for climate change
* GHG emissions must be considered during CEQA review

CEQA Environmental Checklist

* Will the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

* Will the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG?

The Project

* 23 MW Biomass Power Generation Facility
* 500 Bone Dry Tons per day of wood waste
* Diverting construction, landscaping, and manufacturing wood waste from local landfills

Approach

* Compared cumulative effect of a 20-year proposed project lifetime to a Business as Usual Scenario
* Accounted for Transportation, Combustion, Water Usage and Landfill Decomposition
* Included CO_2, CH_4, and N_2O

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Proposed Project GHG Emissions

Emissions Category	Annual Emissions ($MTCO_{2e}$)	20-year Lifetime Emissions ($MTCO_{2e}$)
Water	6	107
Transportation	795	15,907
Combustion of Biomass	295,358	5,907,160
Total Emissions	**296,153**	**5,923,067**

Business as Usual Landfill Emissions

Landfill Residence Time	80% Gas Collection Efficiency		
	$MTCH_4$	$MTCO_2$	$MTCO_{2e}$
20 Year Landfill Total	79,664	939,911	2,612,848
50 Year Landfill Total	303,215	3,577,478	9,944,988

Business as Usual Power Generation Emissions

Annual Bone Dry Tons Diverted from Existing Power Plant	Emission Factor[2] $MTCO_{2e}$/Ton Biomass	Annual $MTCO_{2e}$	$MTCO_{2e}$ released during 10 Year Remaining Plant Lifetime
73,000	1.5975	116,618	1,166,180

[2] "California Mandatory Greenhouse Gas Reporting Rule." *California Code of Regulations* Title 17, Appendix A

Trucking Emissions Comparison

Greenhouse Gas	[1]Emission Factor (lbs/mile)	Total Truck Mileage Saved	[2]Global Warming Potential	Total Emissions Reduction ($MTCO_{2e}$)
CO_2	14.2	17,203,224	1	32,246
Methane	0.000137		21	6
N_2O	0.000211		310	25
			Total	**32,277**

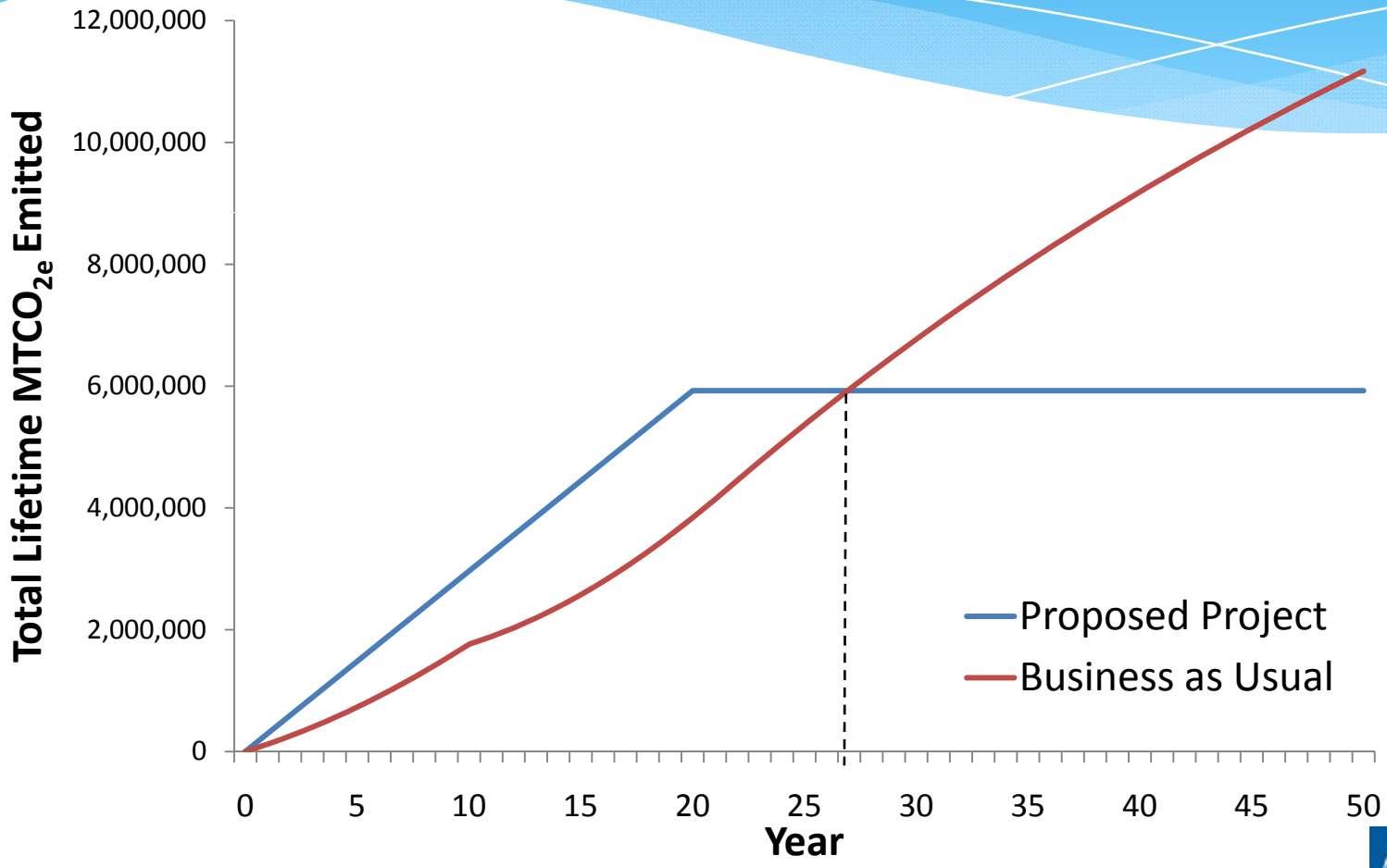
[1] CO_2 and Methane emission factors from EMFAC2007 Version 2.3. N_2O emission factor from CA MRR Appendix A, Table 8.

[2] Global Warming Potential from CA MRR Appendix A, Table 2.

Summary

Source	Proposed Project Emissions ($MTCO_{2e}$)	Business as Usual Emissions ($MTCO_{2e}$)
Biomass Combustion	5,907,160	1,166,180
Transportation	16,457	48,118
Landfilling	0	9,945,000
Water Use	107	N/A
Total	**5,923,724**	**11,159,298**

Comparison Summary



Thank you

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