

APPENDIX M

Greenhouse Gas Calculations

**Castle Rock Solar Project
GHG Emissions Summary**

		Annual Emissions (short ton/yr) ¹				Total Project Emissions (short tons)			
Project	Source	CO ₂ (ton/yr)	CH ₄ (ton/yr)	N ₂ O (ton/yr)	CO ₂ e (ton/yr)	CO ₂ (ton)	CH ₄ (ton)	N ₂ O (ton)	CO ₂ e (ton)
Construction Emissions									
Solar Project	Construction - Mobile Sources Onroad - Gasoline and Diesel	262	4.82E-03	3.65E-03	263	305	5.62E-03	4.26E-03	307
Solar Project	Construction - Mobile Sources Non-road - Diesel	202	2.00E-02	1.86E-02	208	236	2.34E-02	2.17E-02	242
Solar Project	Construction - Stationary Source Combustion	133	5.33E-03	1.04E-03	134	155	6.22E-03	1.21E-03	156
Total Construction Emissions		597	3.02E-02	2.33E-02	604	696	3.52E-02	2.72E-02	705
Operational Emissions									
Solar Project	Operations - Mobile Sources	9.5	1.79E-04	1.29E-04	9.6	286.3	5.37E-03	3.87E-03	288
Solar Project	Operations - Stationary Source Combustion	0.1	2.68E-06	5.22E-07	0.0001	2.0	8.03E-05	1.57E-05	0.002
Total Operational Emissions		9.6	1.82E-04	1.30E-04	9.6	288.3	5.45E-03	3.89E-03	288
Decomissioning Emissions									
Solar Project	Decomissioning - Mobile Sources Onroad - Gasoline and Diesel ²	262	4.82E-03	3.65E-03	263	262	4.82E-03	3.65E-03	263
Solar Project	Decomissioning - Mobile Sources Non-road - Diesel ²	202	2.00E-02	1.86E-02	208	202	2.00E-02	1.86E-02	208
Total Decomissioning Emissions		464	2.48E-02	2.23E-02	471	464	2.48E-02	2.23E-02	471
Total Lifetime Emissions						1,449	6.55E-02	5.34E-02	1,464
Avoided Emissions									
Scope 2	Electricity Generation Avoided Emissions	-146,915	-16	-2	-147,975	-4,407,446	-468	-67	-4,439,259
Total - Net Emissions Change						-4,405,998	-468	-67	-4,437,796

1. Construction and decomissioning emissions will take place for short duration at the beginning and end of the solar project, respectively.

2. Assume decomissioning will require the same equipment and number of workers as construction. Per the application, decomissioning is expected to take place within 1 year of solar plant closure.