

# Greenhouse Gas Emissions Worksheet

## Operational Emissions

Project: VWD Master Plan  
 Project Number: 7322

**Conversion to CO2e Units based on GWP**  
 CH4 21  
 N2O 310

### Indirect Emissions from Electricity Use

Total Project Annual KWh: 5,971,200 kWh/year  
 Project Annual MWh: 5,971 MWh/year

1 metric ton = 2204.62 pounds

	2009	2016
Energy Mix	10.5%	43.2%

#### Emission Factors for Electricity Use

	2009	2015
CO2	720.49 lbs/MWh/year	457.2495 lbs/MWh/year
CH4	0.029 lbs/MWh/year	0.029 lbs/MWh/year
N2O	0.006 lbs/MWh/year	0.006 lbs/MWh/year

#### Annual Emissions from Electricity Use:

	Total Emissions	Total CO2e Units
CO2 Emissions	1238.4576 metric tons	1238.5 metric tons CO2e
CH4 Emissions	0.0785 metric tons	1.6 metric tons CO2e
N2O Emissions	0.0163 metric tons	5.0 metric tons CO2e
<b>Project Total</b>		<b>1245 metric tons CO2e</b>

#### Sources:

California Public Utilities Commission Webpage, California Renewables Portfolio Standard 2017 Annual Report.  
 ([http://www.cpuc.ca.gov/RPS\\_Homepage/](http://www.cpuc.ca.gov/RPS_Homepage/))

California Public Utilities Commission, Biennial Program Update In Compliance with Public Utilities Code Section 913.6, January 2016  
 (<http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=8323>)

California Climate Registry CARROT Public Reports, San Diego Gas & Electric Year 2009  
 (<http://www.climateregistry.org/tools/carrot/carrot-public-reports.html>)