APPENDIX B

SUPPORTING DATA

This appendix contains input and output data from the ClearPath Tool for the City of Santee's greenhouse gas (GHG) emissions inventory and forecasts. ClearPath Tool was developed by the Statewide Energy Efficiency Collaborative (SEEC) which is a partnership between several statewide agencies, utilities, and non-profits to assist cities and counties in climate mitigation planning. The ClearPath Tool is an all-in-one suite of online tool to help local agencies complete government operations and community-wide greenhouse gas inventories, forecasts and climate action plans. The tools are offered at no-cost to California local governments through the SEEC partnership.

The following tables are provided in this appendix:

- Factor Sets
- Community Inventory Input (Excluding Off-Road and Water Sectors)
- Community Business-As-Usual Forecast Input
- Community Adjusted Business-As-Usual Forecast Input
- Community Inventory Input (Off-Road Sector)
- Community Inventory Input (Water Sector)
- Municipal Inventory and Forecasts Input (Excluding Vehicle Fleet Sector)
- Municipal Inventory Input (Vehicle Fleet Sector)
- Community Inventories, Business-As-Usual Forecast, and Adjusted Business-As-Usual Forecast Output
- Municipal Inventories, Business-As-Usual Forecast, and Adjusted Business-As-Usual Forecast Output

Factor Sets

Global Warming Potential

Year	GHG	Sector	Full Name	Units	Factor	Proxy Year	Source	SEEC Entry Name
ALL	CO2	GWP	GWP_AR4_CO2	NA	1	NA	IPCC AR4 2007	NA; Choose IPCC 4th AR in Parameters
ALL	CH4	GWP	GWP_AR4_CH4	NA	25	NA	IPCC AR4 2007	NA; Choose IPCC 4th AR in Parameters
ALL	N2O	GWP	GWP_AR4_N2O	NA	298	NA	IPCC AR4 2007	NA; Choose IPCC 4th AR in Parameters
ALL	CO2	NaturalGas	NaturalGas_CO2	kg CO2/MMBtu	53.02	NA	Community Protocol Appendix C B.1	N/A; embedded in Tool
ALL	CH4	NaturalGas	NaturalGas_CH4	kg CH4/MMBtu	0.005	NA	Community Protocol Appendix C B.3	N/A; embedded in Tool
ALL	N2O	NaturalGas	NaturalGas_N2O	kg N2O/MMBut	0.0001	NA	Community Protocol Appendix C B.3	N/A; embedded in Tool

SDG&E Electricity 550.488

Year	GHG	Sector	Full Name	Units	Factor	Proxy Year	Source	SEEC Entry Name
2005	CO2	Electricity	Electricity_SDGE_CO2_2005	lbs CO2/MWh	546.46	NA	Climate Registry/SDG&E	SDGE_2005
2005	CH4	Electricity	Electricity_SDGE_CH4_2005	lbs CH4/MWh	0.030	NA	Community Protocol Appendix C	SDGE_2005
2005	N2O	Electricity	Electricity_SDGE_N2O_2005	lbs N2O/MWh	0.011	NA	Community Protocol Appendix C	SDGE_2005
2008	CO2	Electricity	Electricity_SDGE_CO2_2007	lbs CO2/MWh	739.05	NA	Climate Registry/SDG&E	SDGE_2008
2008	CH4	Electricity	Electricity_SDGE_CH4_2007	lbs CH4/MWh	0.029	NA	Community Protocol Appendix C	SDGE_2008
2008	N2O	Electricity	Electricity_SDGE_N2O_2007	lbs N2O/MWh	0.010	NA	Community Protocol Appendix C	SDGE_2008
2012	CO2	Electricity	Electricity_SDGE_CO2_2010	lbs CO2/MWh	778.50	NA	EPIC - FERC/SDG&E/EPA E-Grid	SDGE_2012
2012	CH4	Electricity	Electricity_SDGE_CH4_2010	lbs CH4/MWh	0.029	NA	Community Protocol Appendix C	SDGE_2012
2012	N2O	Electricity	Electricity_SDGE_N2O_2010	lbs N2O/MWh	0.006	NA	Community Protocol Appendix C	SDGE_2012
2013	CO2	Electricity	Electricity_SDGE_CO2_2012	lbs CO2/MWh	778.50	NA	NA	SDGE_2013_2012proxy
2013	CH4	Electricity	Electricity_SDGE_CH4_2012	lbs CH4/MWh	0.029	NA	NA	SDGE_2013_2012proxy
2013	N2O	Electricity	Electricity_SDGE_N2O_2012	lbs N2O/MWh	0.006	NA	NA	SDGE_2013_2012proxy

Statewide Electricity--for Water-related Energy

Year	GHG	Sector	Full Name	Units	Factor	Proxy Year	Source	SEEC Entry Name
2005	CO2	Electricity	Electricity_CA_CO2_2005	lbs CO2/MWh	948.28	NA	Community Protocol Appendix C	CA_2005
2005	CH4	Electricity	Electricity_CA_CH4_2005	lbs CH4/MWh	0.03	NA	Community Protocol Appendix C	CA_2005
2005	N2O	Electricity	Electricity_CA_N2O_2005	lbs N2O/MWh	0.011	NA	Community Protocol Appendix C	CA_2005
2008	CO2	Electricity	Electricity_CA_CO2_2007	lbs CO2/MWh	919.64	2007	Community Protocol Appendix C	CA_2008_2007proxy
2008	CH4	Electricity	Electricity_CA_CH4_2007	lbs CH4/MWh	0.029	2007	Community Protocol Appendix C	CA_2008_2007proxy
2008	N2O	Electricity	Electricity_CA_N2O_2007	lbs N2O/MWh	0.01	2007	Community Protocol Appendix C	CA_2008_2007proxy
2012	CO2	Electricity	Electricity_CA_CO2_2012	lbs CO2/MWh	658.68	2009	Community Protocol Appendix C	CA_2012_2009proxy
2012	CH4	Electricity	Electricity_CA_CH4_2012	lbs CH4/MWh	0.02894	2009	Community Protocol Appendix C	CA_2012_2009proxy
2012	N2O	Electricity	Electricity_CA_N2O_2012	lbs N2O/MWh	0.00617	2009	Community Protocol Appendix C	CA_2012_2009proxy
2013	CO2	Electricity	Electricity_CA_CO2_2013	lbs CO2/MWh	658.68	2009	Community Protocol Appendix C	CA_2013_2009proxy
2013	CH4	Electricity	Electricity_CA_CH4_2013	lbs CH4/MWh	0.02894	2009	Community Protocol Appendix C	CA_2013_2009proxy
2013	N2O	Electricity	Electricity_CA_N2O_2013	lbs N2O/MWh	0.00617	2009	Community Protocol Appendix C	CA_2013_2009proxy

Waste Characterization Factor Sets

Name	ADC_EPA	CalRecycle_2005_2004proxy	CalRecycle_2007+2010+2012_2008proxy	
Year	2005/2008/2012/2013	2005	2008/2012/2013	
	Alternative Daily Cover (ADC)	Municipal Solid Waste (MSW)	Municipal Solid Waste (MSW)	Corresponding Name in California Integrated Waste Management Board Report
Unit	%	%	%	
Mixed MSW	0	0	0	
Newspaper	0	2.2	1.3	Newspaper
Office Paper	0	5.4	4.9	White/Colored Ledger Paper + Other Office Paper + Other Miscellaneous Paper
Cardboard	0	6.7	5.2	Uncoated Corrugated Cardboard + Paper Bags
Magazine/Third Class Mail	0	6.5	5.9	Magazines and Catalogs + Remainder/Composite Paper
Food Scraps	0	14.6	15.5	Food
Grass	30	2.1	1.9	Leaves and Grass
Leaves	40	2.1	1.9	Leaves and Grass
Branches	30	2.6	3.3	Branches and Stumps + Prunings and Trimmings
Lumber	0	9.6	14.5	Lumber

Conversions

lb/MT	2204.623
therm/MMBTU	0.10000040
kg/MT	0.001

g/mi	Gasoline On Road Average Factor	Gasoline On Road Average Factor	Gasoline On Road Average Factor	Diesel On Road Average Factor	Diesel On Road Average Factor	Diesel On Road Average Factor		
	CO2	CH4	N2O	CO2	CH4	N2O	% vehicles gasoline	% vehicles diesel
2005	460.853	0.03	0.034	1291.165	0.001	0.001	94.7%	5.3%
2008	464.489	0.028	0.029	1308.058	0.001	0.001	94.0%	6.0%
2012	449.894	0.028	0.029	1282.669	0.001	0.001	94.4%	5.6%
2013	442.092	0.028	0.029	1271.538	0.001	0.001	94.3%	5.7%

CH4 and N2O Community Protocol Appendix D Table TR.1.4
CO2 from EMFAC2014 for San Diego County
Division of gasoline and diesel: XX% VMT gasoline/diesel

Transportation

			2005	2008	2012	2013
Gasoline	**Passenger Vehicle**	MPG	22.91	22.92	23.17	23.50
		g CH4/mi	0.03	0.028	0.028	0.028
		g N2O/mi	0.034	0.029	0.029	0.029
	Light Truck	MPG	18.26	18.24	18.44	18.68
		g CH4/mi	0.035	0.031	0.031	0.031
		g N2O/mi	0.049	0.043	0.043	0.043
	Heavy Truck	MPG	7.45	7.46	7.38	7.39
		g CH4/mi	0.0333	0.0333	0.0333	0.0333
		g N2O/mi	0.0134	0.0134	0.0134	0.0134
Diesel	**Passenger Vehicle**	MPG	27.09	27.29	29.03	29.57
		g CH4/mi	0.001	0.001	0.001	0.001
		g N2O/mi	0.001	0.001	0.001	0.001
	Light Truck	MPG	21.23	21.70	23.55	23.78
		g CH4/mi	0.001	0.001	0.001	0.001
		g N2O/mi	0.001	0.001	0.001	0.001
	Heavy Truck	MPG	12.39	12.40	12.35	12.38
		g CH4/mi	0.0051	0.0051	0.0051	0.0051
		g N2O/mi	0.0048	0.0048	0.0048	0.0048

Note: MPG is from EMFAC2014 for San Diego County; CH4 and N2O emission factors are from US Community Protocal Version 1.0 October 2012 Appendix D; Passenger Vehicle and Light Truck emission factors only have data for 2005, and 2006 and after, Heavy Truck only have 2010, so that other years are approximate.

Community Inventory Input (Excluding Off-Road and Water Sectors)

Year	Variable	SEEC Entry Name	Santee	County	Data Source
2005	**Population**	Multiple Entries	54,370	3,034,388	GHG Emission inventory (ICLEI 2011)
2008	**Population**	Multiple Entries	55,850	3,131,552	SANDAG Data Warehouse online September 2014
2012	**Population**	Multiple Entries	54,643	3,143,429	SANDAG Series 13 e-mail
2013	**Population**	Multiple Entries	55,033	3,150,178	Local Profile 2013
2020	**Population**	NA (For Forecast Growth Rate Calculation Only)	59,488	3,435,713	SANDAG Series 13 e-mail
2035	**Population**	NA (For Forecast Growth Rate Calculation Only)	63,518	3,853,698	SANDAG Series 13 e-mail
2005	**Households**	Multiple Entries	18,563	1,058,265	GHG Emission inventory (ICLEI 2011)
2008	**Households**	Multiple Entries	19,080	1,074,896	SANDAG Data Warehouse online September 2014
2013	**Households**	Multiple Entries	19,725	1,105,120	Local Profile 2013
2020	**Households**	NA (For Forecast Growth Rate Calculation Only)	20,995	1,180,923	SANDAG Series 13 Housing Units and Local Profile 2013 vacancy rates (Per John's email: add 2,000 extra dwelling units as a growth buffer)
2035	**Households**	NA (For Forecast Growth Rate Calculation Only)	24,165	1,317,980	SANDAG Series 13 Housing Units and Local Profile 2013 vacancy rates
2005	**Jobs_Total**	Multiple Entries	15,782	1,498,781	GHG Emission inventory (ICLEI 2011)
2008	**Jobs_Total**	Multiple Entries	16,009	1,522,204	Estimated based on CAGR between 2005 and 2020 estimates
2012	**Jobs_Total**	Multiple Entries	16,316	1,554,005	Estimated based on CAGR between 2005 and 2020 estimates
2013	**Jobs_Total**	Multiple Entries	16,630	1,586,471	Estimated based on CAGR between 2005 and 2020 estimates
2020	**Jobs_Total**	NA (For Forecast Growth Rate Calculation Only)	16,949	1,619,615	CA Dept of Finance
2035	**Jobs_Total**	NA (For Forecast Growth Rate Calculation Only)	20,682	1,815,149	CA Dept of Finance
2005	**Jobs_Agricultural**	NA (For Off-Road Emissions Calculation Only)	73	10,700	Santee: City's Facts and Figures on website_2008-2012proxy; County: CA Dept of Finance_2006proxy
2008	**Jobs_Agricultural**	NA (For Off-Road Emissions Calculation Only)	73	10,700	Santee: City's Facts and Figures on website_2008-2012proxy; County: CA Dept of Finance_2006proxy
2012	**Jobs_Agricultural**	NA (For Off-Road Emissions Calculation Only)	73	10,700	Santee: City's Facts and Figures on website_2008-2012proxy; County: CA Dept of Finance_2006proxy
2013	**Jobs_Agricultural**	NA (For Off-Road Emissions Calculation Only)	73	10,700	Santee: City's Facts and Figures on website_2008-2012proxy; County: CA Dept of Finance_2006proxy
2005	**Jobs_Manufacturing**	NA (For Off-Road Emissions Calculation Only)	2,303	103,633	Santee: City's Facts and Figures on website_2008-2012proxy; County: CA Dept of Finance_2006proxy
2008	**Jobs_Manufacturing**	NA (For Off-Road Emissions Calculation Only)	2,303	103,633	Santee: City's Facts and Figures on website_2008-2012proxy; County: CA Dept of Finance_2006proxy
2012	**Jobs_Manufacturing**	NA (For Off-Road Emissions Calculation Only)	2,303	103,633	Santee: City's Facts and Figures on website_2008-2012proxy; County: CA Dept of Finance_2006proxy
2013	**Jobs_Manufacturing**	NA (For Off-Road Emissions Calculation Only)	2,303	103,633	Santee: City's Facts and Figures on website_2008-2012proxy; County: CA Dept of Finance_2006proxy
2005	**Building_Permits**	NA (For Off-Road Emissions Calculation Only)	284	8,208	US Census Bureau http://censtats.census.gov/bldg/bldgprmt.shtml
2008	**Building_Permits**	NA (For Off-Road Emissions Calculation Only)	157	2,524	US Census Bureau http://censtats.census.gov/bldg/bldgprmt.shtml
2012	**Building_Permits**	NA (For Off-Road Emissions Calculation Only)	41	2,490	US Census Bureau http://censtats.census.gov/bldg/bldgprmt.shtml
2013	**Building_Permits**	NA (For Off-Road Emissions Calculation Only)	32	2,817	US Census Bureau http://censtats.census.gov/bldg/bldgprmt.shtml
2005	**Income_Median**	NA (For Off-Road Emissions Calculation Only)	70,048	51,920	Santee: SANDAG local profile_2010proxy; County: SANDAG Regional Growth_2008proxy
2008	**Income_Median**	NA (For Off-Road Emissions Calculation Only)	70,048	51,920	Santee: SANDAG local profile_2010proxy; County: SANDAG Regional Growth_2008proxy
2012	**Income_Median**	NA (For Off-Road Emissions Calculation Only)	76,261	70,926	SANDAG local profile_2013proxy
2013	**Income_Median**	NA (For Off-Road Emissions Calculation Only)	76,261	70,926	SANDAG local profile
2005	**Electricity_Residential_Bundled_kWh**	Residential_Electricity_Bundled_2005	128,600,217	N/A	GHG Emission inventory (ICLEI 2011)
2005	**Electricity_Residential_Direct_kWh**	Residential_Electricity_Direct_2005	690,222	N/A	GHG Emission inventory (ICLEI 2011)
2005	**Electricity_Commercial_Bundled_kWh**	Commercial_Electricity_Bundled_2005	89,546,084	N/A	GHG Emission inventory (ICLEI 2011)
2005	**Electricity_Commercial_Direct_kWh**	Commercial_Electricity_Direct_2005	15,080,916	N/A	GHG Emission inventory (ICLEI 2011)
2005	**Electricity_Industrial_Bundled_kWh**	Industrial_Electricity_Bundled_2005	16,098,233	N/A	GHG Emission inventory (ICLEI 2011)
2005	**Electricity_Industrial_Direct_kWh**	Industrial_Electricity_Direct_2005	-	N/A	GHG Emission inventory (ICLEI 2011)
2008	**Electricity_Residential_Bundled_kWh**	Residential_Electricity_Bundled_2008	140,698,951	N/A	SDG&E 2014 e-mail through City of Santee
2008	**Electricity_Residential_Direct_kWh**	Residential_Electricity_Direct_2008	728,868	N/A	SDG&E 2014 e-mail through City of Santee
2008	**Electricity_Commercial_Bundled_kWh**	Commercial_Electricity_Bundled_2008	92,105,712	N/A	SDG&E 2014 e-mail through City of Santee
2008	**Electricity_Commercial_Direct_kWh**	Commercial_Electricity_Direct_2008	16,882,266	N/A	SDG&E 2014 e-mail through City of Santee
2008	**Electricity_Industrial_Bundled_kWh**	Industrial_Electricity_Bundled_2008	14,584,915	N/A	SDG&E 2014 e-mail through City of Santee
2008	**Electricity_Industrial_Direct_kWh**	Industrial_Electricity_Direct_2008	-	N/A	SDG&E 2014 e-mail through City of Santee
2012	**Electricity_Residential_Bundled_kWh**	Electricity_Residential_Bundled_kWh_2012	141,207,940	N/A	SDG&E 2014 e-mail through City of Santee
2012	**Electricity_Residential_Direct_kWh**	Electricity_Residential_Direct_kWh_2012	441,996	N/A	SDG&E 2014 e-mail through City of Santee
2012	**Electricity_Commercial_Bundled_kWh**	Electricity_Commercial_Bundled_kWh_2012	87,203,948	N/A	SDG&E 2014 e-mail through City of Santee
2012	**Electricity_Commercial_Direct_kWh**	Electricity_Commercial_Direct_kWh_2012	15,646,581	N/A	SDG&E 2014 e-mail through City of Santee
2012	**Electricity_Industrial_Bundled_kWh**	Electricity_Industrial_Bundled_kWh_2012	10,036,932	N/A	SDG&E 2014 e-mail through City of Santee
2012	**Electricity_Industrial_Direct_kWh**	Electricity_Industrial_Direct_kWh_2012	7,955,195	N/A	SDG&E 2014 e-mail through City of Santee
2013	**Electricity_Residential_Bundled_kWh**	Electricity_Residential_Bundled_kWh_2013	135,725,055	N/A	SDG&E 2014 e-mail through City of Santee
2013	**Electricity_Residential_Direct_kWh**	Electricity_Residential_Direct_kWh_2013	383,093	N/A	SDG&E 2014 e-mail through City of Santee
2013	**Electricity_Commercial_Bundled_kWh**	Electricity_Commercial_Bundled_kWh_2013	95,980,209	N/A	SDG&E 2014 e-mail through City of Santee
2013	**Electricity_Commercial_Direct_kWh**	Electricity_Commercial_Direct_kWh_2013	19,359,372	N/A	SDG&E 2014 e-mail through City of Santee
2013	**Electricity_Industrial_Bundled_kWh**	Electricity_Industrial_Bundled_kWh_2013	N/A	N/A	SDG&E 2014 e-mail through City of Santee
2013	**Electricity_Industrial_Direct_kWh**	Electricity_Industrial_Direct_kWh_2013	N/A	N/A	SDG&E 2014 e-mail through City of Santee
2005	**NatGas_Res_therms**	Residential_NatGas_2005	5,878,287	N/A	SDG&E 2014 e-mail through City of Santee
2005	**NatGas_Commercial_therms**	Commercial_NatGas_Bundled_2005	1,418,681	N/A	SDG&E 2014 e-mail through City of Santee
2005	**NatGas_Commercial_therms**	Commercial_NatGas_Direct_2005	1,109	N/A	SDG&E 2014 e-mail through City of Santee
2008	**NatGas_Res_therms**	Residential_NatGas_2008	5,797,758	N/A	SDG&E 2014 e-mail through City of Santee
2008	**NatGas_Commercial_therms**	Commercial_NatGas_2008	1,494,426	N/A	SDG&E 2014 e-mail through City of Santee
2012	**NatGas_Res_therms**	NatGas_Res_therms_2012	5,734,216	N/A	SDG&E 2014 e-mail through City of Santee
2012	**NatGas_Commercial_therms**	NatGas_Commercial_therms_2012	1,568,104	N/A	SDG&E 2014 e-mail through City of Santee
2013	**NatGas_Res_therms**	Residential_NatGas_2013	5,723,205	N/A	SDG&E 2014 e-mail through City of Santee
2013	**NatGas_Commercial_therms**	Commercial_NatGas_2013	1,347,484	N/A	SDG&E 2014 e-mail through City of Santee

2005	**Transportation_VehicleMilesTraveled**	On-road_Gasoline/Diesel_2005	352,711,238	N/A	City of Santee 2005 GHG Emissions Inventory by ICLEI
2008	**Transportation_VehicleMilesTraveled**	On-road_Gasoline/Diesel_2008	479,229,830	N/A	SANDAG 2014 e-mail through Chen Ryan
2012	**Transportation_VehicleMilesTraveled**	On-road_Gasoline/Diesel_2012	485,123,704	N/A	Estimated based on 2008 and 2013 data
2013	**Transportation_VehicleMilesTraveled_Gas**	On-road_Gasoline_2013	458,785,827	N/A	SANDAG 2014 e-mail through Chen Ryan
2013	**Transportation_VehicleMilesTraveled_Diesel**	On-road_Diesel_2013	27,822,637	N/A	SANDAG 2014 e-mail through Chen Ryan
2013	**Transportation_VehicleMilesTraveled_Total**		486,608,464	N/A	SANDAG 2014 e-mail through Chen Ryan
2020	**Transportation_VehicleMilesTraveled_Gas**	On-road_Gasoline_2020	493,494,150	N/A	Estimated based on 2013 and 2035 data
2020	**Transportation_VehicleMilesTraveled_Diesel**	On-road_Diesel_2020	32,536,348	N/A	Estimated based on 2013 and 2035 data
2020	**Transportation_VehicleMilesTraveled_Total**		526,265,689	N/A	Estimated based on 2013 and 2035 data
2035	**Transportation_VehicleMilesTraveled_Gas**	On-road_Gasoline_2035	576,966,520	N/A	SANDAG 2014 e-mail through Chen Ryan
2035	**Transportation_VehicleMilesTraveled_Diesel**	On-road_Diesel_2035	45,500,895	N/A	SANDAG 2014 e-mail through Chen Ryan
2035	**Transportation_VehicleMilesTraveled_Total**		622,467,415	N/A	SANDAG 2014 e-mail through Chen Ryan
2005	**SolidWaste_Landfilled_tons**	SolidWaste_Landfilled_2005	60,825	4,181,732	CalRecycle DRS Single-year Countywide Origin Deatail
2005	**SolidWaste_ADC_tons**	SolidWaste_ADC_2005	8,136	359,066	CalRecycle DRS Single-year Countywide Origin Deatail
2008	**SolidWaste_Landfilled_tons**	SolidWaste_Landfilled_2008	52,184	3,413,957	CalRecycle DRS Single-year Countywide Origin Deatail
2008	**SolidWaste_ADC_tons**	SolidWaste_ADC_2008	7,362	519,266	CalRecycle DRS Single-year Countywide Origin Deatail
2012	**SolidWaste_Landfilled_tons**	SolidWaste_Landfilled_2012	46,644	2,875,288	CalRecycle DRS Single-year Countywide Origin Deatail
2012	**SolidWaste_ADC_tons**	SolidWaste_ADC_2012	8,531	293,545	CalRecycle DRS Single-year Countywide Origin Deatail
2013	**SolidWaste_Landfilled_tons**	SolidWaste_Landfilled_2013	38,742	3,007,351	CalRecycle DRS Single-year Countywide Origin Deatail
2013	**SolidWaste_ADC_tons**	SolidWaste_ADC_2013	8,185	274,480	CalRecycle DRS Single-year Countywide Origin Deatail

Business-As-Usual Forecast

2020	**Annual Growth Rate_Jobs_2013-2020**	CAGR_Jobs_2013-2035	0.002721364
2035	**Annual Growth Rate_Jobs_2020-2035**	CAGR_Jobs_2013-2035	0.01335877
2020	**Annual Growth Rate_Households_2013-2020**	CAGR_Households_2013-2035	0.008952073
2035	**Annual Growth Rate_Households_2020-2035**	CAGR_Households_2013-2035	0.009420159
2020	**Annual Growth Rate_Population_2013-2020**	CAGR_Population_2013-2035	0.011182289
2035	**Annual Growth Rate_Population_2020-2035**	CAGR_Population_2013-2035	0.004379477
2020	**Annual Growth Rate_ServPop_2013-2020**	CAGR_ServPop_2013-2035	0.009256531
2035	**Annual Growth Rate_ServPop_2020-2035**	CAGR_ServPop_2013-2035	0.006469373
2035	**Annual Growth Rate_VMT_Gas_2013-2035**	CAGR_VMT_Gas_2013-2035	0.010472674
2035	**Annual Growth Rate_VMT_Diesel_2013-2035**	CAGR_VMT_Diesel_2013-2035	0.022610094

Adjusted Business-As-Usual Forecast

kWh/hh x 11.1% (residential savings from Title 24)	State_Title24_Res_Electricity_2013-2020/2021-2035	766
kWh/job x 16.8% (commercial savings from Title 24)	State_Title24_Comm_Electricity_2013-2020/2021-2035	1,375
therm/hhx 5% (residential savings from Title 24)	State_Title24_Res_NatGas_2013-2020/2021-2035	15
therm/job x 11.7% (commercial savings from Title 24)	State_Title24_Comm_NatGas_2013-2020/2021-2035	9
Primary Driver_2013-2020 (units/yr)	State_Title24_Res_Electricity/NatGas_2013-2020	181
Primary Driver_2013-2020 (jobs/yr)	State_Title24_Comm_Electricity/NatGas_2013-2020	46
Primary Driver_2021-2035 (units/yr)	State_Title24_Res_Electricity/NatGas_2021-2035	211
Primary Driver_2021-2035 (jobs/yr)	State_Title24_Comm_Electricity/NatGas_2021-2035	249
Renewable Portfolio Standards (Change Carbon Intensity)	State_Water_RPS	-3.4%/yr
Water Conservation SBX7-7 (Change Carbon Intensity)	State_Water_SBx7-7	-0.0177%/yr
On-Road Transportation (Change Carbon Intensity)	State_On-RoadTrans_Gasoline_2013-2020	-2.70862%/yr
On-Road Transportation (Change Carbon Intensity)	State_On-RoadTrans_Gasoline_2021-2035	-2.83902%/yr
On-Road Transportation (Change Carbon Intensity)	State_On-RoadTrans_Diesel_2013-2020	-1.00156%/yr
On-Road Transportation (Change Carbon Intensity)	State_On-RoadTrans_Diesel_2021-2035	-0.49729%/yr

Community Inventory Input (Off-Road Sector)

I. Agriculture Equipment

2005	Offroad_Agriculture_2005	CO2	646.70886688
		CH4	0.13595977
		N2O	0.00815018
2008	Offroad_Agriculture_2008	CO2	621.05342982
		CH4	0.11237621
		N2O	0.00819854
2012	Offroad_Agriculture_2012	CO2	588.46580971
		CH4	0.08549678
		N2O	0.00814043
2013	Offroad_Agriculture_2013	CO2	580.60044987
		CH4	0.07697063
		N2O	0.00809648

II. Construction Equipment

2005	Offroad_Construction_2005	CO2	21826.26638092
		CH4	4.14028780
		N2O	0.14581015
2008	Offroad_Construction_2008	CO2	41225.76830578
		CH4	6.45366100
		N2O	0.27009424
2012	Offroad_Construction_2012	CO2	11609.15090898
		CH4	1.39999237
		N2O	0.07180479
2013	Offroad_Construction_2013	CO2	8126.98029351
		CH4	0.91856409
		N2O	0.04944612

III. Industrial Equipment

2005	Offroad_Industrial_2005	CO2	2952.69289979
		CH4	2.62138581
		N2O	0.25958183
2008	Offroad_Industrial_2008	CO2	3052.94061733
		CH4	1.95452538
		N2O	0.21802527
2012	Offroad_Industrial_2012	CO2	3139.04377381
		CH4	1.25373361
		N2O	0.18494107
2013	Offroad_Industrial_2013	CO2	3148.54644167
		CH4	1.14878796
		N2O	0.18123649

IV. Lawn and Garden Equipment

2005	Offroad_Lawn&Garden_2005	CO2	917.84749295
		CH4	1.78713075
		N2O	0.71393926
2008	Offroad_Lawn&Garden_2008	CO2	937.96489060
		CH4	1.60651933
		N2O	0.65032237
2012	Offroad_Lawn&Garden_2012	CO2	1045.32869629
		CH4	1.63260091
		N2O	0.69674675
2013	Offroad_Lawn&Garden_2013	CO2	1059.25927089
		CH4	1.63167235
		N2O	0.70138107

V. Light Commercial Equipment

2005	Offroad_Commercial_2005	CO2	771.34342212
		CH4	0.41933756
		N2O	0.13267233
2008	Offroad_Commercial_2008	CO2	797.21977639
		CH4	0.34173724
		N2O	0.13886125
2012	Offroad_Commercial_2012	CO2	819.30410668
		CH4	0.27755417
		N2O	0.13974122
2013	Offroad_Commercial_2013	CO2	821.63806142
		CH4	0.26400412
		N2O	0.13865934

VI. Recreational Equipment

2005	Offroad_Recreation_2005	CO2	295.90169994
		CH4	1.92934981
		N2O	0.56321666
2008	Offroad_Recreation_2008	CO2	316.17042500
		CH4	2.04575942
		N2O	0.60905296
2012	Offroad_Recreation_2012	CO2	311.31753057
		CH4	2.00750512
		N2O	0.59786287
2013	Offroad_Recreation_2013	CO2	311.23288667
		CH4	2.00542747
		N2O	0.59771265

Community Inventory Input (Water Sector)

Million Gallons of Water Consumed	2005	2008	2012	2013
Single Family	1257.56	1135.03	990.03	956.77
Multi Family	522.13	507.49	488.61	484.01
Government	101.48	87.81	72.41	69.00
Hotel	5.43	5.66	5.97	6.05
Commercial-Other	189.27	182.41	173.64	171.51
Construction-Conventional	12.32	13.37	14.92	15.33
Construction-Recycled	3.23	3.33	3.46	3.50
Irrigation-Conventional	108.81	112.54	117.71	119.04
Irrigation-Recycled	229.20	250.09	280.92	289.21
Fire-Conventional	0.0066	-	-	-
Total MG	**2,429**	**2,298**	**2,148**	**2,114**

kWh Electricity Used	2005	2008	2012	2013
Single Family	14861964.02	13413921.65	11700250.99	11307198.90
Multi Family	6170534.62	5997576.19	5774482.65	5720018.16
Government	1199297.74	1037761.31	855706.35	815420.40
Hotel	64180.39	66850.67	70584.64	71550.28
Commercial-Other	2236827.38	2155697.12	2052082.29	2026966.30
Construction-Conventional	145623.44	158059.82	176309.23	181191.77
Construction-Recycled	4463.63	4599.12	4786.20	4834.14
Irrigation-Conventional	1285902.92	1329968.80	1391081.20	1406793.13
Irrigation-Recycled	316990.10	345872.03	388515.58	399973.93
Fire-Conventional	73	-	-	-
Total kWh	**26,285,858**	**24,510,307**	**22,413,799**	**21,933,947**

Conversions for Water to Energy

	Indoor	Outdoor		San Diego
Supply and Conveyance	9727	9727	0.37	indoor
Treatment	111	111	0.63	outdoor
Dist	1272	1272		
WWTmt	1911	0		
Total	13022	11111		
Conventional kWh/MG	11,818.07	kWh/MG		
Recycled	1383	kWh/MG		

Notes:

1 Water usage data from Padre Dam Municipal Water District. Conversion from MG to kWh uses CEC 2006 Refining Estimates for Water-Related Energy Use in California for Southern California (CEC 2006)

2 Conventional water conversion uses assumptions for indoor vs. outdoor water use. Percentages according to http://bcn.boulder.co.us/basin/local/residential.html for San Diego. 37% indoor use (63% outdoor does not undergo wastewater treatment) and recycled water excludes energy for water supply and conveyance. Conversion: 11,818.07 kWh/MG

3 Recycled water conversion uses assumptions that all is for outdoor use and does not use energy for supply/conveyance. Conversion: 1,383 kWh/MG.

4 Fire use assumes conventional, outdoor.

Indoor/Outdoor water assumption is similar to California-wide 2010 report stating 57% residential water use is for outdoor. Likely higher in Southern California, which matches with the more specific information used.
http://www.cbia.org/go/cbia/?LinkServID=E242764F-88F9-4438-9992948EF86E49EA
Water Use in the California Residentail Home, 2010

Municipal Inventory and Forecasts Input (Excluding Vehicle Fleet Sector)

Year	Variable	SEEC Entry Name	Santee
2005	**Municipal Full-Time-Equivalent Employee**	Multiple Entries	121.5
2013	**Municipal Full-Time-Equivalent Employee**	Multiple Entries	112.8
2020	**Municipal Full-Time-Equivalent Employee**	Multiple Entries	115.0
2035	**Municipal Full-Time-Equivalent Employee**	Multiple Entries	120.0
2005	**Buildings & Facilities Electricity (kWh)**	Bld&Fac_Electricity_2005	968,991
2005	**Buildings & Facilities Natural Gas (therms)**	Bld&Fac_NatGas_2005	6,136
2005	**Street Lights, Area Lights & Traffic Control/Area Lights-City Owned (kWh)**	Streetlight&TC_City-Owned_Electricity_2005	613,342
2005	**Street Lights, Area Lights & Traffic Control/Area Lights-SDG&E Owned (kWh)**	Streetlight&TC_SDG&E-Owned_Electricity_2005	1,735,514
2005	**Water Delivery/Water Pumping (kWh)**	WaterPumping_Electricity_2005	77,535
2013	**Buildings & Facilities Electricity (kWh)**	Bld&Fac_Electricity_2013	900,602
2013	**Buildings & Facilities Natural Gas (therms)**	Bld&Fac_NatGas_2013	5,013
2013	**Street Lights, Area Lights & Traffic Control/Area Lights-City Owned (kWh)**	Streetlight&TC_City-Owned_Electricity_2013	1,271,181
2013	**Street Lights, Area Lights & Traffic Control/Area Lights-SDG&E Owned (kWh)**	Streetlight&TC_SDG&E-Owned_Electricity_2013	712,155
2013	**Water Delivery/Water Pumping (kWh)**	WaterPumping_Electricity_2013	83,990
2005	**Employee Commute VMT (miles)**	EmpComm_Gas_2005	516,764.6174
2013	**Employee Commute VMT (miles)**	EmpComm_Gas_2013	479,549.0585
2005	**Solid Waste (tons)**	Waste_Generated_2005	863.93
2013	**Solid Waste (tons)**	Waste_Generated_2013	1,005.58
2020	**Annual Growth Rate_Municipal_2013-2020**	CAGR_Muni_Growth	0.002826723
2035	**Annual Growth Rate_Municipal_2020-2035**	CAGR_Muni_Growth	0.002841337
2010	**Renewable Portfolio Standards (SDG&E) 2010-2014**	RPS_SDGE_33percent	-0.058
2015	**Renewable Portfolio Standards (SDG&E) 2015-2019**	RPS_SDGE_33percent	-0.053
2013-2020	**Low Carbon Fuel Standard**	LCFS	-0.010368573

Municipal Inventory Input (Vehicle Fleet Sector)

2005

	Gasoline	Diesel	Hybrid
Annual Fuel Usage	13996	22842	0
Annual VMT	193069	166596	0
% VMT Passenger Vehicle	20.1%	0.0%	0.0%
% VMT Light Truck	79.9%	5.6%	0.0%
% VMT Heavy Truck	0.0%	94.1%	0.0%

2013

	Gasoline	Diesel	Hybrid
Annual Fuel Usage	12573.14972	27392.13095	369
Annual VMT	174514	153460	12546
% VMT Passenger Vehicle	15.0%	0.0%	0.0%
% VMT Light Truck	84.7%	9.5%	100.0%
% VMT Heavy Truck	0.0%	89.2%	0.0%

Output from SEEC - Community Inventories

	2005	2008	2012	2013
Inventory Record	**CO2e (MT)**	**CO2e (MT)**	**CO2e (MT)**	**CO2e (MT)**
Commercial_Electricity	26127	36719	36436	40860
Commercial_NatGas	7550	7947	8338	7165
Industrial_Electricity	4020	4914	6374	0
Offroad_Agriculture	653	626	593	585
Offroad_Commercial	821	847	868	870
Offroad_Construction	21973	41468	11666	8165
Offroad_Industrial	3096	3167	3225	3231
Offroad_Lawn&Garden	1175	1172	1294	1309
Offroad_Recreation	512	549	540	539
On-Road_Diesel	24302	37798	34865	35387
On-Road_Gasoline	157510	213386	210306	207112
Residential_Electricity	32286	47648	50181	48218
Residential_NatGas	31258	30829	30492	30433
SolidWaste_ADC	1611	1458	1689	1621
SolidWaste_Landfilled	14765	12837	11474	9530
Wastewater_Digester	4	4	4	4
Wastewater_Effluent	890	914	895	901
Wastewater_NDN	65	67	65	66
Water_Conventional	11215	10089	6604	6457
Water_Recycled	139	146	118	121

Output from SEEC - Community Business-As-Usual Forecasts

Year	Usage	CO2e (MT)	Output Name
2013	464533	48218	Residential Electricity (MMBtu)
2020	494666	51346	Residential Electricity (MMBtu)
2030	543290	56393	Residential Electricity (MMBtu)
2035	569366	59100	Residential Electricity (MMBtu)
2013	572321	30433	Residential Natural Gas (MMBtu)
2020	609446	32407	Residential Natural Gas (MMBtu)
2030	669352	35593	Residential Natural Gas (MMBtu)
2035	701479	37301	Residential Natural Gas (MMBtu)
2013	393650	40860	Commercial Electricity (MMBtu)
2020	405467	42087	Commercial Electricity (MMBtu)
2030	463007	48059	Commercial Electricity (MMBtu)
2035	494770	51356	Commercial Electricity (MMBtu)
2013	134748	7165	Commercial Natural Gas (MMBtu)
2020	138793	7380	Commercial Natural Gas (MMBtu)
2030	158489	8427	Commercial Natural Gas (MMBtu)
2035	169362	9006	Commercial Natural Gas (MMBtu)
2013	1	14699	Off Road Energy Equivalent (MMBtu)
2020	1	15710	Off Road Energy Equivalent (MMBtu)
2030	1	17490	Off Road Energy Equivalent (MMBtu)
2035	1	18454	Off Road Energy Equivalent (MMBtu)
2013	458785827	207112	Gasoline - On Road VMT
2020	493494148	222780	Gasoline - On Road VMT
2030	547681085	247242	Gasoline - On Road VMT
2035	576966516	260463	Gasoline - On Road VMT
2013	27822637	35387	Diesel - On Road VMT
2020	32536349	41382	Diesel - On Road VMT
2030	40688302	51750	Diesel - On Road VMT
2035	45500896	57871	Diesel - On Road VMT
2013	20100803	4	Annual Gas Production (scf / Year)
2020	21380772	4	Annual Gas Production (scf / Year)
2030	22804944	5	Annual Gas Production (scf / Year)
2035	23552219	5	Annual Gas Production (scf / Year)
2013	55033	66	Process N2O Population Served
2020	58537	70	Process N2O Population Served
2030	62437	75	Process N2O Population Served
2035	64482	77	Process N2O Population Served
2013	74858	6578	Water Supply Energy Equivalent (MMBtu)
2020	79625	6997	Water Supply Energy Equivalent (MMBtu)
2030	84929	7463	Water Supply Energy Equivalent (MMBtu)
2035	87712	7707	Water Supply Energy Equivalent (MMBtu)
2013	1055	901	Daily N Load at Facility with Release to Environment (kg N/day)
2020	1122	958	Daily N Load at Facility with Release to Environment (kg N/day)
2030	1197	1022	Daily N Load at Facility with Release to Environment (kg N/day)
2035	1236	1056	Daily N Load at Facility with Release to Environment (kg N/day)
2013	46927	11151	Waste Generated (wet tons)
2020	49915	11861	Waste Generated (wet tons)
2030	53240	12651	Waste Generated (wet tons)
2035	54985	13066	Waste Generated (wet tons)

Output from SEEC - Community Adjusted Business-As-Usual Forecasts

Year	Category	CO2e (MT)
2013	Residential Energy	78651
2020	Residential Energy	65424
2030	Residential Energy	71292
2035	Residential Energy	74438
2013	Commercial Energy	48025
2020	Commercial Energy	34597
2030	Commercial Energy	38543
2035	Commercial Energy	40721
2013	Solid Waste	11151
2020	Solid Waste	11861
2030	Solid Waste	12651
2035	Solid Waste	13066
2013	Water & Wastewater	7549
2020	Water & Wastewater	5941
2030	Water & Wastewater	6336
2035	Water & Wastewater	6544
2013	Transportation & Mobile Sources	257198
2020	Transportation & Mobile Sources	234283
2030	Transportation & Mobile Sources	210692
2035	Transportation & Mobile Sources	201774

Output from SEEC - Municipal Inventories

Inventory Record	2005	2013
	CO2e (MT)	CO2e (MT)
Bld&Fac_Electricity	242	319
Bldg&Fac_NatGas	33	27
EmpComm_Gas	208	188
Fleet_City_Diesel	233	280
Fleet_City_GasReg	126	113
Fleet_City_GasHyb	0	3
Streetlight&TC_City-Owned_Electricity	153	450
Streetlight&TC_SDG&E-Owned_Electricity	433	252
Waste_Generated	210	247
WaterPumping_Electricity	19	30

Output from SEEC - Municipal Business-As-Usual Forecasts

Year	Category	CO2e (MT)
2013	Water & Wastewater Treatment Facilities	30
2020	Water & Wastewater Treatment Facilities	31
2030	Water & Wastewater Treatment Facilities	31
2035	Water & Wastewater Treatment Facilities	32
2013	Buildings & Facilities	346
2020	Buildings & Facilities	353
2030	Buildings & Facilities	363
2035	Buildings & Facilities	368
2013	Street Lights & Traffic Signals	702
2020	Street Lights & Traffic Signals	716
2030	Street Lights & Traffic Signals	737
2035	Street Lights & Traffic Signals	747
2013	Vehicle Fleet	396
2020	Vehicle Fleet	404
2030	Vehicle Fleet	416
2035	Vehicle Fleet	421
2013	Employee Commute	188
2020	Employee Commute	192
2030	Employee Commute	197
2035	Employee Commute	200
2013	Solid Waste Facilities	247
2020	Solid Waste Facilities	252
2030	Solid Waste Facilities	259
2035	Solid Waste Facilities	263

Output from SEEC - Municipal Adjusted Business-As-Usual Forecasts

Year	Category	CO2e (MT)
2013	Vehicle Fleet	396
2020	Vehicle Fleet	2020
2030	Vehicle Fleet	390
2035	Vehicle Fleet	396
2013	Buildings & Facilities	346
2020	Buildings & Facilities	261
2030	Buildings & Facilities	268
2035	Buildings & Facilities	272
2013	Street Lights & Traffic Signals	702
2020	Street Lights & Traffic Signals	514
2030	Street Lights & Traffic Signals	529
2035	Street Lights & Traffic Signals	536
2013	Employee Commute	188
2020	Employee Commute	180
2030	Employee Commute	185
2035	Employee Commute	188
2013	Solid Waste Facilities	247
2020	Solid Waste Facilities	252
2030	Solid Waste Facilities	259
2035	Solid Waste Facilities	263
2013	Water & Wastewater Treatment Facilities	30
2020	Water & Wastewater Treatment Facilities	25
2030	Water & Wastewater Treatment Facilities	26
2035	Water & Wastewater Treatment Facilities	26