APPENDIX K

CLIMATE CHANGE

DRAFT California Greenhouse Gas Inventory (millions of metric tonnes of CO2 equivalent) — By IPCC Category

Last Updated: 8/22/2007 12:40:14 PM

Categories Included in the Inventory.

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
1 - ENERGY	**394.88**	**386.31**	**389.08**	**381.24**	**402.81**	**381.91**	**388.49**	**401.19**	**418.86**	**424.99**	**426.67**	**437.56**	**429.15**	**413.01**	**437.11**
1A - Fuel Combustion Activities	**391.56**	**383.11**	**386.24**	**378.22**	**399.87**	**379.08**	**385.60**	**398.36**	**416.10**	**422.24**	**423.93**	**434.74**	**426.35**	**410.18**	**434.23**
1A1 - Energy Industries	**146.86**	**146.94**	**150.43**	**146.09**	**159.28**	**140.45**	**148.31**	**158.28**	**162.66**	**162.66**	**157.62**	**171.77**	**154.50**	**156.23**	**170.56**
1A1a - Main Activity Electricity and Heat Production	107.243	106.150	111.463	104.589	118.576	102.516	104.738	110.616	115.770	120.734	112.187	123.802	109.723	114.104	124.934
1A1ai - Electricity Generation	82.121	81.339	84.987	77.867	91.039	74.628	75.914	81.435	93.626	99.096	90.895	102.775	86.184	92.745	100.095
1A1aii - Combined Heat and Power Generation (CHP)	25.122	24.811	26.475	26.722	27.537	27.888	28.824	29.181	22.144	21.638	21.291	21.027	23.539	21.359	24.838
1A1b - Petroleum Refining	28.187	28.646	28.518	31.676	31.333	26.185	31.462	30.995	29.176	26.207	29.275	31.013	30.530	26.027	30.148
1A1c - Manufacture of Solid Fuels and Other Energy Industries	11.433	12.139	10.447	9.824	9.367	11.754	12.106	16.673	17.710	15.718	16.155	16.957	14.249	16.094	15.478
1A1cii - Other Energy Industries	11.433	12.139	10.447	9.824	9.367	11.754	12.106	16.673	17.710	15.718	16.155	16.957	14.249	16.094	15.478
1A2 - Manufacturing Industries and Construction	**24.51**	**21.73**	**19.85**	**19.49**	**21.10**	**21.36**	**19.74**	**20.32**	**21.88**	**22.34**	**24.14**	**25.89**	**22.38**	**18.89**	**19.20**
1A2c - Chemicals	0.963	0.859	0.661	0.530	0.616	0.606	0.634	0.538	0.717	0.577	0.704	0.582	1.082	0.638	0.660
1A2d - Pulp, Paper and Print	1.918	1.655	1.161	1.284	1.691	1.735	1.995	1.636	1.944	1.551	1.742	1.629	1.100	1.098	1.086
1A2e - Food Processing, Beverages and Tobacco	3.076	3.272	3.238	3.287	3.274	3.179	3.129	3.163	3.590	3.770	3.743	3.194	3.497	3.172	3.365
1A2f - Non-Metallic Minerals	4.786	4.378	4.041	4.306	4.798	5.361	4.968	5.017	4.897	5.358	5.468	5.064	5.294	5.108	5.201
1A2g - Transport Equipment	0.534	0.533	0.530	0.514	0.517	0.478	0.435	0.448	0.482	0.515	0.504	0.441	0.408	0.282	0.252
1A2h - Machinery	1.336	1.246	1.172	1.174	1.150	1.168	1.200	1.239	1.303	1.305	1.254	1.108	1.155	0.990	1.058
1A2i - Mining (excluding fuels) and Quarrying	0.028	0.031	0.041	0.036	0.038	0.311	0.345	0.327	0.398	0.324	0.333	0.298	0.400	0.414	0.128
1A2j - Wood and Wood Products	0.236	0.219	0.233	0.255	0.263	0.399	0.351	0.307	0.309	0.305	0.304	0.325	0.159	0.133	0.106
1A2k - Construction	0.667	0.653	0.628	0.635	0.638	0.636	0.642	0.657	0.676	0.652	0.644	0.577	0.602	0.619	0.758
1A2l - Textile and Leather	0.379	0.350	0.355	0.391	0.430	0.435	0.451	0.481	0.510	0.565	0.574	0.464	0.561	0.544	0.549
1A2m - Non-specified Industry.	9.645	7.638	7.038	6.311	6.827	6.256	4.768	5.654	6.181	6.531	7.952	11.449	7.447	5.213	5.570
1A3 - Transport	**170.57**	**165.90**	**170.80**	**167.48**	**172.49**	**174.20**	**174.22**	**175.98**	**178.89**	**181.57**	**186.89**	**188.25**	**195.93**	**186.46**	**194.58**
1A3a - Civil Aviation	24.488	23.255	22.367	22.912	25.294	24.396	26.517	26.382	26.875	25.251	26.338	24.819	26.185	21.237	22.513
1A3aii - Domestic Aviation	24.470	23.236	22.353	22.899	25.280	24.386	26.507	26.372	26.845	25.238	26.296	24.810	26.122	21.174	22.449
1A3b - Road Transportation	139.808	136.313	143.211	141.079	142.215	144.753	142.907	144.973	147.643	151.938	155.357	158.158	164.417	161.073	166.747
1A3bi - Cars	0.471	0.449	0.393	0.384	0.373	0.359	0.322	0.310	0.300	0.287	0.282	0.260	0.232	0.209	0.195
1A3bii - Light-duty Trucks	0.297	0.285	0.245	0.242	0.235	0.227	0.205	0.198	0.196	0.189	0.184	0.172	0.153	0.147	0.139
1A3biii - Heavy-duty Trucks and Buses	0.222	0.200	0.152	0.147	0.138	0.133	0.122	0.116	0.113	0.110	0.104	0.105	0.101	0.105	0.100
1A3biv - Motorcycles	0.019	0.019	0.012	0.011	0.010	0.010	0.009	0.007	0.006	0.006	0.006	0.008	0.009	0.014	0.015
1A3c - Railways	2.334	2.465	2.239	1.972	2.133	2.431	2.596	2.570	2.702	2.801	3.071	2.903	3.044	2.787	3.192
1A3d - Water-borne Navigation	1.598	1.770	1.161	0.867	1.323	1.087	1.046	1.691	1.234	1.351	1.643	1.496	1.463	0.649	1.304
1A3dii - Domestic Water-borne Navigation	1.598	1.770	1.161	0.867	1.323	1.087	1.046	1.691	1.234	1.351	1.643	1.496	1.463	0.649	1.304
1A4 - Other Sectors	**48.22**	**47.76**	**44.44**	**44.42**	**46.18**	**42.35**	**42.62**	**43.14**	**52.28**	**54.76**	**54.27**	**47.93**	**47.99**	**45.98**	**47.68**
1A4a - Commercial/Institutional	14.030	13.612	11.484	11.115	11.756	11.249	11.168	11.333	16.452	16.865	17.940	14.929	15.264	14.979	14.469
1A4b - Residential	29.684	30.282	28.623	29.103	29.940	27.365	27.315	26.836	31.098	32.434	30.772	27.670	27.829	26.897	28.369
1A4c - Agriculture/Forestry/Fishing/Fish Farms	4.509	3.864	4.335	4.200	4.483	3.738	4.135	4.966	4.727	5.456	5.563	5.328	4.897	4.101	4.844
1A5 - Non-Specified	**1.39**	**0.79**	**0.71**	**0.75**	**0.83**	**0.73**	**0.71**	**0.64**	**0.40**	**0.91**	**1.01**	**0.89**	**5.55**	**2.63**	**2.21**
1B - Fugitive Emissions from Fuels	**3.32**	**3.20**	**2.85**	**3.02**	**2.94**	**2.83**	**2.90**	**2.83**	**2.76**	**2.76**	**2.74**	**2.83**	**2.81**	**2.83**	**2.88**
1B2 - Oil and Natural Gas	**2.94**	**2.82**	**2.47**	**2.64**	**2.59**	**2.53**	**2.58**	**2.51**	**2.43**	**2.42**	**2.42**	**2.52**	**2.48**	**2.50**	**2.54**
1B2a - Oil	0.139	0.078	0.072	0.067	0.067	0.071	0.055	0.044	0.045	0.058	0.053	0.025	0.029	0.029	0.029
1B2aiii - All Other	0.139	0.078	0.072	0.067	0.067	0.071	0.055	0.044	0.045	0.058	0.053	0.025	0.029	0.029	0.029
1B2b - Natural Gas	1.505	1.481	1.454	1.438	1.420	1.396	1.354	1.319	1.284	1.255	1.263	1.288	1.304	1.330	1.354
1B3 - Other Emissions from Energy Production	**0.37**	**0.38**	**0.38**	**0.38**	**0.35**	**0.29**	**0.32**	**0.33**	**0.33**	**0.34**	**0.32**	**0.31**	**0.33**	**0.33**	**0.33**
2 - INDUSTRIAL PROCESSES AND PRODUCT USE	**17.36**	**15.94**	**15.82**	**15.80**	**17.83**	**18.98**	**22.04**	**23.17**	**24.93**	**25.60**	**26.02**	**25.25**	**25.98**	**30.30**	**27.65**
2A - Mineral Industry	**5.33**	**4.91**	**4.68**	**4.33**	**4.91**	**4.98**	**5.13**	**5.27**	**5.33**	**5.68**	**5.67**	**5.43**	**5.96**	**6.01**	**6.17**
2A1 - Cement Production	**5.10**	**4.70**	**4.49**	**4.18**	**4.76**	**4.81**	**4.97**	**5.12**	**5.19**	**5.55**	**5.53**	**5.29**	**5.83**	**5.88**	**6.04**

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	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
2A2 - Lime Production	**0.23**	**0.21**	**0.19**	**0.14**	**0.15**	**0.17**	**0.15**	**0.15**	**0.14**	**0.14**	**0.14**	**0.14**	**0.13**	**0.13**	**0.13**
2B - Chemical Industry	**3.95**	**3.55**	**3.47**	**3.38**	**3.60**	**3.52**	**3.46**	**3.48**	**3.64**	**3.40**	**3.47**	**2.88**	**3.08**	**3.05**	**3.11**
2B2 - Nitric Acid Production	**2.14**	**2.15**	**2.22**	**2.24**	**2.36**	**2.38**	**2.48**	**2.55**	**2.53**	**2.45**	**2.36**	**1.93**	**2.09**	**2.04**	**2.03**
2D - Non-Energy Products from Fuels and Solvent Use	**2.29**	**1.92**	**2.03**	**2.04**	**1.90**	**1.78**	**1.58**	**1.63**	**1.92**	**2.18**	**1.85**	**1.64**	**1.78**	**1.56**	**1.37**
2D1 - Lubricant Use	**1.13**	**1.01**	**1.03**	**1.05**	**1.10**	**1.08**	**1.05**	**1.11**	**1.16**	**1.17**	**1.15**	**1.06**	**1.04**	**0.96**	**0.98**
2D2 - Paraffin Wax Use	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
2D4 - Other (please specify)	**1.16**	**0.91**	**1.00**	**0.99**	**0.80**	**0.70**	**0.53**	**0.52**	**0.76**	**1.01**	**0.70**	**0.58**	**0.74**	**0.59**	**0.39**
2E - Electronics Industry	**0.59**	**0.59**	**0.59**	**0.74**	**0.82**	**1.02**	**1.12**	**1.29**	**1.43**	**1.43**	**1.23**	**0.86**	**0.83**	**0.81**	**0.88**
2F - Product Uses as Substitutes for Ozone Depleting Substances	**0.04**	**0.07**	**0.35**	**0.92**	**1.82**	**3.86**	**5.38**	**6.91**	**7.92**	**8.89**	**9.75**	**10.73**	**11.78**	**12.87**	**13.98**
2G - Other Product Manufacture and Use	**3.04**	**2.78**	**2.57**	**2.82**	**2.62**	**2.25**	**2.48**	**2.27**	**1.88**	**1.89**	**1.76**	**1.67**	**1.66**	**1.58**	**1.61**
2G1 - Electrical Equipment	**2.43**	**2.21**	**2.02**	**2.27**	**2.03**	**1.60**	**1.82**	**1.65**	**1.26**	**1.23**	**1.17**	**1.14**	**1.06**	**1.03**	**1.03**
2G1b - Use of Electrical Equipment	2.429	2.209	2.018	2.267	2.029	1.600	1.819	1.649	1.257	1.234	1.169	1.142	1.059	1.035	1.029
2G4 - Other (Please specify)	**0.61**	**0.58**	**0.56**	**0.56**	**0.59**	**0.65**	**0.66**	**0.62**	**0.62**	**0.66**	**0.60**	**0.53**	**0.60**	**0.54**	**0.58**
2H - Other	**2.12**	**2.12**	**2.12**	**1.58**	**2.17**	**1.56**	**2.89**	**2.32**	**2.80**	**2.13**	**2.28**	**2.05**	**0.89**	**4.43**	**0.53**
2H3 - Other (please specify)	**2.12**	**2.12**	**2.12**	**1.58**	**2.17**	**1.56**	**2.89**	**2.32**	**2.80**	**2.13**	**2.28**	**2.05**	**0.89**	**4.43**	**0.53**
3 - AGRICULTURE, FORESTRY, AND OTHER LAND USE	**22.17**	**20.94**	**21.40**	**21.50**	**21.83**	**23.36**	**22.35**	**21.94**	**21.89**	**22.91**	**24.23**	**24.03**	**27.39**	**27.59**	**27.45**
3A - Livestock	**11.67**	**11.56**	**11.75**	**11.21**	**11.80**	**12.14**	**11.36**	**11.89**	**11.78**	**12.56**	**12.80**	**13.28**	**13.73**	**14.06**	**13.92**
3A1 - Enteric Fermentation	**6.67**	**6.47**	**6.57**	**6.22**	**6.49**	**6.58**	**6.15**	**6.30**	**6.29**	**6.60**	**6.68**	**6.80**	**6.99**	**7.08**	**7.01**
3A1a - Cattle	6.250	6.051	6.147	5.819	6.051	6.157	5.737	5.895	5.898	6.203	6.282	6.402	6.597	6.691	6.637
3A1ai - Dairy Cows	3.632	3.716	3.823	3.546	3.812	3.871	3.554	3.754	3.779	4.050	4.204	4.364	4.566	4.662	4.685
3A1aii - Other Cattle	2.618	2.335	2.324	2.273	2.240	2.286	2.182	2.141	2.119	2.153	2.078	2.038	2.031	2.030	1.952
3A1c - Sheep	0.168	0.171	0.167	0.150	0.181	0.171	0.155	0.148	0.134	0.139	0.136	0.135	0.127	0.123	0.114
3A1d - Goats	0.004	0.004	0.004	0.004	0.004	0.005	0.005	0.005	0.007	0.008	0.009	0.010	0.011	0.011	0.011
3A1f - Horses	0.240	0.241	0.242	0.243	0.242	0.243	0.244	0.244	0.245	0.248	0.248	0.248	0.248	0.248	0.248
3A1h - Swine	0.006	0.007	0.008	0.008	0.008	0.008	0.007	0.007	0.007	0.006	0.005	0.003	0.005	0.004	0.004
3A2 - Manure Management	**5.00**	**5.09**	**5.18**	**4.99**	**5.31**	**5.56**	**5.21**	**5.59**	**5.49**	**5.96**	**6.12**	**6.49**	**6.74**	**6.98**	**6.91**
3A2a - Cattle	4.683	4.767	4.856	4.679	5.002	5.258	4.932	5.302	5.237	5.704	5.886	6.266	6.515	6.763	6.703
3A2ai - Dairy Cows	4.359	4.482	4.595	4.395	4.752	4.990	4.701	5.056	4.984	5.443	5.618	5.979	6.219	6.462	6.405
3A2aii - Other Cattle	0.324	0.285	0.261	0.284	0.250	0.268	0.231	0.246	0.253	0.261	0.268	0.287	0.295	0.302	0.298
3A2c - Sheep	0.018	0.019	0.018	0.017	0.020	0.019	0.017	0.016	0.015	0.015	0.015	0.015	0.014	0.013	0.013
3A2d - Goats	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001
3A2f - Horses	0.035	0.035	0.035	0.035	0.035	0.027	0.027	0.027	0.028	0.027	0.021	0.022	0.022	0.022	0.022
3A2h - Swine	0.068	0.076	0.095	0.092	0.091	0.090	0.079	0.079	0.071	0.067	0.053	0.040	0.055	0.052	0.052
3A2i - Poultry	0.195	0.190	0.179	0.164	0.165	0.162	0.160	0.163	0.140	0.146	0.143	0.142	0.137	0.129	0.116
3B - Land	**0.19**	**0.19**	**0.19**	**0.19**	**0.19**	**0.19**	**0.19**	**0.19**	**0.19**	**0.19**	**0.19**	**0.19**	**0.19**	**0.19**	**0.19**
3B1 - Forest Land	**0.19**	**0.19**	**0.19**	**0.19**	**0.19**	**0.19**	**0.19**	**0.19**	**0.19**	**0.19**	**0.19**	**0.19**	**0.19**	**0.19**	**0.19**
3C - Aggregate Sources and Non-CO2 Emissions Sources on Land	**10.31**	**9.19**	**9.45**	**10.10**	**9.84**	**11.04**	**10.80**	**9.86**	**9.92**	**10.16**	**11.25**	**10.56**	**13.47**	**13.35**	**13.34**
3C1 - Emissions from Biomass Burning	**0.31**	**0.27**	**0.30**	**0.31**	**0.33**	**0.32**	**0.34**	**0.33**	**0.33**	**0.30**	**0.31**	**0.28**	**0.29**	**0.31**	**0.30**
3C1b - Biomass Burning in Croplands	0.312	0.267	0.303	0.311	0.325	0.320	0.341	0.333	0.328	0.297	0.308	0.281	0.293	0.312	0.298
3C2 - Liming	**0.07**	**0.10**	**0.11**	**0.07**	**0.16**	**0.27**	**0.27**	**0.35**	**0.25**	**0.30**	**0.27**	**0.16**	**0.23**	**0.24**	**0.24**
3C4 - Direct N2O Emissions from Managed Soils	**6.07**	**5.42**	**5.47**	**5.81**	**5.62**	**6.17**	**6.00**	**5.39**	**5.50**	**5.62**	**6.18**	**5.88**	**7.57**	**7.46**	**7.40**
3C5 - Indirect N2O Emissions from Managed Soils	**3.45**	**3.04**	**3.16**	**3.46**	**3.24**	**3.79**	**3.68**	**3.26**	**3.36**	**3.42**	**3.92**	**3.75**	**4.83**	**4.81**	**4.79**
3C7 - Rice Cultivations	**0.41**	**0.36**	**0.41**	**0.45**	**0.50**	**0.48**	**0.52**	**0.54**	**0.47**	**0.52**	**0.57**	**0.49**	**0.55**	**0.53**	**0.61**

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4 - WASTE	**7.41**	**7.15**	**7.42**	**7.43**	**7.46**	**7.01**	**6.90**	**6.86**	**7.07**	**7.05**	**6.82**	**6.91**	**6.79**	**6.87**	**6.88**
4A - Solid Waste Disposal	6.58	6.29	6.54	6.54	6.55	6.10	5.98	5.92	6.12	6.06	5.82	5.89	5.78	5.83	5.83
4A1 - Managed Waste Disposal Sites	6.58	6.29	6.54	6.54	6.55	6.10	5.98	5.92	6.12	6.06	5.82	5.89	5.78	5.83	5.83
4D - Wastewater Treatment and Discharge	0.83	0.86	0.87	0.89	0.91	0.91	0.92	0.94	0.95	0.99	1.00	1.02	1.01	1.04	1.05
4D1 - Domestic Wastewater Treatment and Discharge	0.83	0.86	0.87	0.89	0.91	0.91	0.92	0.94	0.95	0.99	1.00	1.02	1.01	1.03	1.05
4D2 - Industrial Wastewater Treatment and Discharge	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Summary of Categories Included in the Inventory.

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Gross California Emissions	441.81	430.34	433.72	425.97	449.95	431.26	439.79	453.15	472.75	480.54	483.74	493.76	489.31	477.77	499.08
Sinks and Sequestrations	-5.62	-5.43	-3.97	-5.99	-4.51	-4.18	-3.94	-3.76	-1.63	-4.55	-3.96	-1.38	-4.17	-2.39	-2.14
Net California Emissions	436.19	424.91	429.75	419.98	445.44	427.08	435.85	449.39	471.12	475.99	479.78	492.39	485.15	475.39	496.95

DRAFT California Greenhouse Gas Inventory (millions of metric tonnes of CO2 equivalent) — By IPCC Category

Last Updated: 8/22/2007 12:40:14 PM

Categories Excluded from the Inventory.

	1990	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*
1 - ENERGY	**40.25**	**34.89**	**28.16**	**28.09**	**32.57**	**36.00**	**35.53**	**27.06**	**26.86**	**30.42**	**33.98**	**31.94**	**31.95**	**24.55**	**26.56**
1A - Fuel Combustion Activities	**40.25**	**34.89**	**28.16**	**28.09**	**32.57**	**36.00**	**35.53**	**27.06**	**26.86**	**30.42**	**33.98**	**31.94**	**31.95**	**24.55**	**26.56**
1A3 - Transport	**40.25**	**34.89**	**28.16**	**28.09**	**32.57**	**36.00**	**35.53**	**27.06**	**26.86**	**30.42**	**33.98**	**31.94**	**31.95**	**24.55**	**26.56**
1A3a - Civil Aviation	14.597	13.852	13.324	13.707	15.156	14.611	15.905	15.809	16.152	15.124	15.787	14.900	15.681	12.680	13.483
1A3ai - International Aviation (International Bunkers)	14.597	13.852	13.324	13.707	15.156	14.611	15.905	15.809	16.152	15.124	15.787	14.900	15.681	12.680	13.483
1A3d - Water-borne Navigation	25.649	21.038	14.839	14.380	17.412	21.386	19.629	11.251	10.709	15.292	18.196	17.043	16.272	11.870	13.080
1A3di - International Water-borne Navigation (International Bunkers)	25.649	21.038	14.839	14.380	17.412	21.386	19.629	11.251	10.709	15.292	18.196	17.043	16.272	11.870	13.080

Summary of Categories Excluded from the Inventory.

	1990	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*
Gross California Emissions	**40.25**	**34.89**	**28.16**	**28.09**	**32.57**	**36.00**	**35.53**	**27.06**	**26.86**	**30.42**	**33.98**	**31.94**	**31.95**	**24.55**	**26.56**
Net California Emissions	**40.25**	**34.89**	**28.16**	**28.09**	**32.57**	**36.00**	**35.53**	**27.06**	**26.86**	**30.42**	**33.98**	**31.94**	**31.95**	**24.55**	**26.56**

9/18/2007 9:23:31 AM

Urbemis 2007 Version 9.2.2

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\phillipsh\Application Data\Urbemis\Version9a\Projects\AVV CO2.urb9

Project Name: Amercian Vineyard Village

Project Location: Placer County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	CO2
2007 TOTALS (tons/year unmitigated)	28.01
2008 TOTALS (tons/year unmitigated)	377.91

AREA SOURCE EMISSION ESTIMATES

	CO2
TOTALS (tons/year, unmitigated)	439.64

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	CO2
TOTALS (tons/year, unmitigated)	1,820.05

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	CO2
TOTALS (tons/year, unmitigated)	2,259.69

9/18/2007 9:23:31 AM

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	CO2
2007	28.01
Fine Grading 11/30/2007-01/11/2008	25.84
Fine Grading Dust	0.00
Fine Grading Off Road Diesel	24.72
Fine Grading On Road Diesel	0.00
Fine Grading Worker Trips	1.12
Asphalt 12/28/2007-01/11/2008	2.17
Paving Off-Gas	0.00
Paving Off Road Diesel	1.42
Paving On Road Diesel	0.52
Paving Worker Trips	0.23

9/18/2007 9:23:31 AM

2008	377.91
Asphalt 12/28/2007-01/11/2008	9.76
Paving Off-Gas	0.00
Paving Off Road Diesel	6.38
Paving On Road Diesel	2.34
Paving Worker Trips	1.03
Fine Grading 11/30/2007-01/11/2008	10.57
Fine Grading Dust	0.00
Fine Grading Off Road Diesel	10.11
Fine Grading On Road Diesel	0.00
Fine Grading Worker Trips	0.46
Building 01/11/2008-08/22/2008	352.92
Building Off Road Diesel	130.51
Building Vendor Trips	44.77
Building Worker Trips	177.65
Coating 08/08/2008-09/05/2008	4.65
Architectural Coating	0.00
Coating Worker Trips	4.65

Phase Assumptions

Phase: Fine Grading 11/30/2007 - 1/11/2008 - Default Fine Site Grading Description

Total Acres Disturbed: 19.2

Maximum Daily Acreage Disturbed: 4.8

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

9/18/2007 9:23:31 AM

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 12/28/2007 - 1/11/2008 - Default Paving Description

Acres to be Paved: 4.8

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 1/11/2008 - 8/22/2008 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 8/8/2008 - 9/5/2008 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

9/18/2007 9:23:31 AM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	CO2
Natural Gas	437.89
Hearth	0.79
Landscape	0.96
Consumer Products	
Architectural Coatings	
TOTALS (tons/year, unmitigated)	439.64

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 35% to 0%

Percentage of residences with wood fireplaces changed from 10% to 0%

Percentage of residences with natural gas fireplaces changed from 55% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	CO2
Single family housing	1,820.05
TOTALS (tons/year, unmitigated)	1,820.05

Operational Settings:

9/18/2007 9:23:31 AM

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2009 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	19.20	8.05	dwelling units	150.00	1,207.50	10,323.76
					1,207.50	10,323.76

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	49.0	2.0	97.6	0.4
Light Truck < 3750 lbs	10.9	3.7	90.8	5.5
Light Truck 3751-5750 lbs	21.7	0.9	98.6	0.5
Med Truck 5751-8500 lbs	9.5	1.1	98.9	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	75.0	25.0
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.9	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.5	77.1	22.9	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.0	10.0	80.0	10.0

9/18/2007 9:23:31 AM

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Appendix A

Summary of Emissions Included in the Project's Inventory.	1990	2007	2020	2050
Net California Emissions (millions of metric tons of CO2e/year [business as usual])	169	201	230	313
Net California Emissions (millions of metric tons of CO2e/year [AB 32 requirements])	169	201	169	34
GHG/person (metric ton CO2e/person/year [business as usual])	5.70	5.34	5.21	5.26
GHG/person (metric ton CO2e/person/year [AB 32 requirements])	5.70	5.34	**3.84**	**0.57**

Appendix A

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
	29,758,213	30,143,555	30,722,998	31,150,786	31,418,940	31,617,770	31,837,399	32,207,869	32,657,877	33,140,771	33,721,583	34,441,561	35,088,671	35,691,534
Population		1.3%	1.9%	1.4%	0.9%	0.6%	0.7%	1.2%	1.4%	1.5%	1.8%	2.1%	1.9%	1.7%
	2000	2010	2020	2030	2040	2050								
Population	34,105,437	39,135,676	44,135,923	49,240,891	54,266,115	59,507,876								

Sources: Population data is from the California Department of Finance and U.S. Census Bureau. Total employment information for 1990 and 2000 is from the U.S. Census. Total civilian employment on an annual (seasonally adjusted basis is from the California Department of Finance).

1990-2000 Population: State of California, Department of Finance, E-4 Historical Population Estimates for City, County and the State, 1991-2000, with 1990 and 2000 Census Counts. Sacramento, California, August 2007.

2001-2007 Population: State of California, Department of Finance, E-4 Population Estimates for Cities, Counties and the State, 2001-2007, with 2000 Benchmark. Sacramento, California, May 2007.

2000-2050 Population: State of California, Department of Finance, Population Projections for California and Its Counties 2000-2050, Sacramento, California, July 2007.

Summary of Emissions Included in the Inventory.	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Road Transportation Emissions	139.808	136.313	143.211	141.079	142.215	144.753	142.907	144.973	147.643	151.938	155.357
Residential Emissions (includes nat. gas & other fuels)	29.684	30.282	28.623	29.103	29.94	27.365	27.315	26.836	31.098	32.434	30.772
Net California Emissions	169.492	166.595	171.834	170.182	172.155	172.118	170.222	171.809	178.741	184.372	186.129
Annual % Change		-2%	3%	-1%	1%	0%	-1%	1%	4%	3%	1%

GHG Projections - Business as Usual (Extrapolated)	2005	2006	2007	2010	2020	2030	2040	2050
	197	199	201	208	230	255	282	313

(millions of metric tonnes of CO2 equivalent)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
GHG/person (metric ton CO2e/person)	5.7	5.5	5.6	5.5	5.5	5.4	5.3	5.3	5.5	5.6	5.5	5.4	5.5	5.3

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
GHG Projections	197	199	201	203	205	208	210	212	214	216	218	221	223	225

Appendix A

	2004	2005	2006	2007	Avg % Chng
	36,252,878	36,743,186	37,195,240	37,662,518	
Population	1.6%	1.4%	1.2%	1.3%	1.396%
Population					1.490%

Sources:

1990-2000 Population

2001-2007 Population

2000-2050 Population

Summary of Emissions Included in the Inventory.	2001	2002	2003	2004	
Road Transportation Emissions	158.158	164.417	161.073	166.747	(millions of metric tonnes of CO2 equivalent)
Residential Emissions (includes nat. gas & other fuels)	27.67	27.829	26.897	28.369	
Net California Emissions	185.828	192.246	187.97	195.116	Avg % Chng
Annual % Change	0%	3%	-2%	4%	1.03%

GHG Projections - Business as Usual (Extrapolated)

	2004	2005	2006	2007	2010	2020	2030	2040	2050
GHG/person (metric ton CO2e/person)	5.4	5.4	5.4	5.3	5.3	5.2	5.2	5.2	5.3

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
GHG Projections	228	230	232	235	237	240	242	245	247	250	252	255	257	260	263	266	268	271	274	277

Appendix A

Population
Population

Sources:

1990-2000 Population

2001-2007 Population

2000-2050 Population

Summary of Emissions Included in the Inventory.

Road Transportation Emissions

Residential Emissions (includes nat. gas & other fuels)

Net California Emissions

Annual % Change

GHG Projections - Business as Usual (Extrapolated)

GHG/person (metric ton CO2e/person)

	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
GHG Projections	279	282	285	288	291	294	297	300	303	307	310	313

Appendix B

URBEMIS Output Summary	CO2 Estimates		Conversion Factors		Total CO2 Emissions	
Construction Emissions						
2007	28.01	tons/yr	0.907	metric ton/english ton	25	Metric tons/year
2008	377.91	tons/yr	0.907	metric ton/english ton	343	Metric tons/year
					368	Metric tons
Area-Source Emissions						
Operational Year 2009	439.64	tons/yr	0.907	metric ton/english ton	399	Metric tons/year
Mobile-Source Emissions						
Operational Year 2009	1820.05	tons/yr	0.907	metric ton/english ton	1,651	Metric tons/year
Total Direct Operational Emissions					**2,050**	Metric tons/year

Indirect Emissions from Energy Consumption

KWh/du/year	# du	KWh/ksf/year	# ksf Commercial	Total KWh	MWh	Region	Emission Factor (lb CO2/MWh)	GWP	Emission Factor (lb CH4/MWh)	GWP	Emission Factor (lb N2O/MWh)	GWP	Total CO2e (Metric Tons/year)
7000	150	16,750	0	1,050,000	1,050	CALI	804.54	1	0.0067	23	0.0037	296	**384**

Sources:

California Energy Commission [CEC] 2000. California Energy Demand Staff Report P200-00-002

California Climate Action Registry [CCAR] General Reporting Protocol v 2.2 March 2007