

## California Greenhouse Gas Inventory for 2000-2015 — by IPCC Category

million tonnes of CO2 equivalent - (based upon IPCC Fourth Assessment Report's 100-yr Global Warming Potentials)

## Inventory Emissions

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>1 - Energy</b>	<b>408.9</b>	<b>423.8</b>	<b>420.6</b>	<b>419.6</b>	<b>427.7</b>	<b>418.9</b>	<b>414.3</b>	<b>419.0</b>	<b>415.5</b>	<b>388.4</b>	<b>379.1</b>	<b>370.6</b>	<b>375.0</b>	<b>372.7</b>	<b>367.7</b>	<b>365.6</b>
<b>1A - Fuel Combustion Activities</b>	<b>401.83</b>	<b>416.69</b>	<b>413.15</b>	<b>412.36</b>	<b>420.32</b>	<b>411.14</b>	<b>406.32</b>	<b>411.26</b>	<b>407.78</b>	<b>380.47</b>	<b>371.19</b>	<b>362.43</b>	<b>367.26</b>	<b>364.58</b>	<b>359.34</b>	<b>356.88</b>
<b>1A1 - Energy Industries</b>	<b>159.12</b>	<b>175.95</b>	<b>161.56</b>	<b>167.81</b>	<b>172.76</b>	<b>163.91</b>	<b>157.64</b>	<b>165.74</b>	<b>171.53</b>	<b>154.35</b>	<b>144.85</b>	<b>137.10</b>	<b>144.24</b>	<b>141.87</b>	<b>139.95</b>	<b>132.93</b>
1A1a - Main Activity Electricity and Heat Production	116.37	132.29	119.12	122.23	127.49	119.41	115.87	124.33	129.70	113.42	102.69	98.70	105.80	100.40	97.51	92.05
1A1ai - Electricity Generation	84.804	103.488	86.517	92.858	98.058	91.186	88.839	98.216	104.626	84.201	75.849	72.105	81.077	75.019	72.533	69.650
1A1aii - Combined Heat and Power Generation (CHP)	31.565	28.804	32.600	29.375	29.427	28.227	27.034	26.115	25.072	29.215	26.842	26.597	24.727	25.383	24.979	22.399
1A1b - Petroleum Refining	24.67	25.23	25.33	26.03	25.31	25.93	25.57	25.06	24.28	24.59	26.54	22.85	22.80	23.85	23.95	22.35
1A1c - Manufacture of Solid Fuels and Other Energy Industries	18.09	18.43	17.11	19.55	19.96	18.56	16.19	16.35	17.56	16.35	15.61	15.54	15.64	17.62	18.48	18.53
1A1cii - Other Energy Industries	18.085	18.429	17.109	19.545	19.964	18.563	16.192	16.353	17.557	16.350	15.610	15.544	15.636	17.621	18.485	18.529
<b>1A2 - Manufacturing Industries and Construction</b>	<b>22.75</b>	<b>21.58</b>	<b>22.90</b>	<b>19.28</b>	<b>19.52</b>	<b>18.63</b>	<b>18.71</b>	<b>17.01</b>	<b>18.11</b>	<b>16.62</b>	<b>18.72</b>	<b>19.54</b>	<b>19.78</b>	<b>20.29</b>	<b>20.22</b>	<b>19.98</b>
1A2c - Chemicals	4.55	4.08	3.97	2.60	3.22	3.81	3.79	3.13	3.91	3.82	5.36	6.32	5.71	5.67	6.47	6.02
1A2d - Pulp, Paper and Print	1.05	0.94	1.01	0.92	0.94	0.62	0.64	0.55	0.46	0.40	0.40	0.44	0.44	0.43	0.41	0.44
1A2e - Food Processing, Beverages and Tobacco	3.89	3.51	3.80	3.12	3.16	3.02	3.31	3.32	3.18	3.12	3.08	3.16	3.26	3.27	3.30	3.32
1A2f - Non-Metallic Minerals	5.42	5.28	5.47	5.29	5.27	5.32	5.32	4.78	4.34	2.94	2.90	2.86	3.07	3.05	3.12	3.20
1A2g - Transport Equipment	0.46	0.48	0.52	0.31	0.27	0.27	0.26	0.28	0.29	0.25	0.25	0.24	0.24	0.28	0.27	0.27
1A2h - Machinery	1.75	1.27	1.33	0.98	1.01	1.02	1.04	0.99	0.93	0.82	0.80	0.82	0.81	0.79	0.77	0.76
1A2i - Mining (excluding fuels) and Quarrying	0.86	0.31	0.31	0.34	0.36	0.34	0.11	0.16	0.19	0.14	0.15	0.15	0.17	0.16	0.15	0.15
1A2j - Wood and Wood Products	0.40	0.31	0.19	0.16	0.11	0.11	0.11	0.08	0.07	0.05	0.05	0.04	0.03	0.03	0.04	0.04
1A2k - Construction	0.41	0.60	0.62	0.62	0.75	0.72	0.60	0.48	0.42	0.41	0.48	0.47	0.64	1.26	0.71	0.33
1A2l - Textile and Leather	0.56	0.54	0.59	0.45	0.44	0.43	0.39	0.35	0.31	0.23	0.24	0.23	0.22	0.22	0.21	0.20
1A2m - Non-specified Industry.	2.60	3.46	4.17	3.75	3.27	2.36	2.70	2.36	3.49	4.08	4.55	4.32	4.67	4.60	4.24	4.79
<b>1A3 - Transport</b>	<b>175.29</b>	<b>175.57</b>	<b>182.58</b>	<b>180.03</b>	<b>181.67</b>	<b>183.47</b>	<b>183.47</b>	<b>183.40</b>	<b>172.24</b>	<b>165.52</b>	<b>162.07</b>	<b>158.79</b>	<b>158.62</b>	<b>157.27</b>	<b>159.13</b>	<b>163.64</b>
1A3a - Civil Aviation	4.15	4.07	4.12	4.25	4.49	4.49	4.56	4.97	4.50	4.03	3.84	3.71	3.75	3.91	3.89	4.20
1A3aii - Domestic Aviation	3.885	3.829	3.848	3.983	4.254	4.281	4.360	4.755	4.318	3.883	3.717	3.613	3.601	3.774	3.718	4.016
1A3b - Road Transportation	162.35	162.70	168.72	165.43	166.56	167.36	166.91	167.00	157.39	152.85	149.03	145.92	145.67	143.86	144.98	149.42
1A3bi - Cars	66.046	64.501	65.669	61.366	59.783	58.245	57.425	56.907	53.771	53.633	52.271	51.055	51.809	51.893	52.776	55.741
1A3bii - Light-duty Trucks	59.325	61.305	64.905	65.968	66.956	68.040	68.052	67.845	64.517	63.155	61.190	59.661	59.351	58.207	57.947	59.896
1A3biii - Heavy-duty Trucks and Buses	36.626	36.447	37.650	37.552	39.243	40.165	40.448	41.172	37.968	34.880	34.366	33.958	33.267	32.635	32.905	32.407
1A3biv - Motorcycles	0.230	0.298	0.340	0.357	0.368	0.402	0.445	0.473	0.493	0.487	0.463	0.450	0.451	0.445	0.449	0.473
1A3c - Railways	1.88	1.89	2.50	2.86	2.91	3.34	3.53	3.17	2.38	1.95	2.31	2.64	2.47	2.40	2.75	2.42
1A3d - Water-borne Navigation	3.50	3.32	3.63	3.79	3.80	4.05	4.09	4.26	4.01	3.64	3.71	3.56	3.60	3.86	3.95	3.89
1A3di - International Water-borne Navigation (International Bunkers)	1.128	1.184	1.243	1.304	1.369	1.436	1.487	1.573	1.458	1.216	1.367	1.329	1.290	1.478	1.532	1.519
1A3dii - Domestic Water-borne Navigation	2.376	2.138	2.390	2.490	2.432	2.612	2.607	2.684	2.551	2.422	2.344	2.233	2.314	2.385	2.418	2.368
1A3e - Other Transportation	2.63	2.79	2.77	2.84	3.03	3.22	3.32	3.18	2.82	2.25	2.03	2.13	2.23	2.33	2.43	2.53
1A3eii - Off-road	2.631	2.790	2.768	2.843	3.029	3.217	3.315	3.176	2.819	2.246	2.033	2.133	2.234	2.334	2.434	2.533

**California Greenhouse Gas Inventory for 2000-2015 — by IPCC Category**

million tonnes of CO2 equivalent - (based upon IPCC Fourth Assessment Report's 100-yr Global Warming Potentials)

<b>Inventory Emissions</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
<b>1A4 - Other Sectors</b>	<b>44.67</b>	<b>43.60</b>	<b>46.11</b>	<b>45.23</b>	<b>46.37</b>	<b>45.14</b>	<b>46.50</b>	<b>45.11</b>	<b>45.90</b>	<b>43.97</b>	<b>45.55</b>	<b>47.01</b>	<b>44.62</b>	<b>45.14</b>	<b>40.05</b>	<b>40.33</b>
1A4a - Commercial/Institutional	11.47	11.31	13.11	12.84	12.70	12.55	12.83	12.82	12.99	12.89	13.58	13.71	13.41	13.30	12.51	12.77
1A4b - Residential	29.38	28.47	28.62	28.14	29.17	27.98	28.36	28.50	28.82	28.47	29.19	29.64	27.34	28.14	22.87	23.17
1A4c - Agriculture/Forestry/Fishing/Fish Farms	3.81	3.82	4.38	4.25	4.50	4.60	5.30	3.78	4.09	2.61	2.77	3.65	3.88	3.71	4.66	4.39
<b>1B - Fugitive Emissions from Fuels</b>	<b>7.05</b>	<b>7.14</b>	<b>7.49</b>	<b>7.27</b>	<b>7.36</b>	<b>7.73</b>	<b>7.93</b>	<b>7.74</b>	<b>7.76</b>	<b>7.96</b>	<b>7.87</b>	<b>8.18</b>	<b>7.70</b>	<b>8.16</b>	<b>8.39</b>	<b>8.68</b>
<b>1B1 - Solid Fuels</b>	<b>0.04</b>	<b>0.04</b>	<b>0.04</b>	<b>0.04</b>	<b>0.04</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.01</b>	<b>0.02</b>	<b>0.01</b>
<b>1B2 - Oil and Natural Gas</b>	<b>5.78</b>	<b>5.88</b>	<b>6.24</b>	<b>6.03</b>	<b>6.10</b>	<b>6.46</b>	<b>6.68</b>	<b>6.48</b>	<b>6.54</b>	<b>6.52</b>	<b>6.68</b>	<b>6.88</b>	<b>6.83</b>	<b>7.21</b>	<b>7.44</b>	<b>7.51</b>
1B2a - Oil	0.48	0.46	0.47	0.46	0.44	0.46	0.48	0.47	0.46	0.45	0.49	0.52	0.47	0.61	0.64	0.54
1B2ai - Venting	0.067	0.069	0.069	0.071	0.069	0.071	0.073	0.072	0.071	0.066	0.053	0.072	0.061	0.160	0.214	0.151
1B2aii - Flaring	0.057	0.058	0.058	0.059	0.058	0.060	0.061	0.061	0.060	0.055	0.055	0.128	0.106	0.104	0.093	0.085
1B2aiii - All Other	0.358	0.331	0.338	0.330	0.315	0.334	0.341	0.338	0.330	0.324	0.377	0.322	0.305	0.343	0.337	0.303
1B2b - Natural Gas [1]	3.64	3.70	4.03	3.78	3.85	3.89	4.03	4.00	4.08	4.12	4.08	4.07	3.98	3.98	4.00	4.06
<b>1B3 - Geothermal Energy Production</b>	<b>1.13</b>	<b>1.11</b>	<b>1.11</b>	<b>1.10</b>	<b>1.12</b>	<b>1.12</b>	<b>1.10</b>	<b>1.11</b>	<b>1.09</b>	<b>1.31</b>	<b>1.10</b>	<b>1.22</b>	<b>0.83</b>	<b>0.93</b>	<b>0.92</b>	<b>1.15</b>
<b>1B4 - Pollution control devices</b>	<b>0.11</b>	<b>0.11</b>	<b>0.11</b>	<b>0.11</b>	<b>0.11</b>	<b>0.11</b>	<b>0.11</b>	<b>0.11</b>	<b>0.10</b>	<b>0.10</b>	<b>0.06</b>	<b>0.05</b>	<b>0.02</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>2 - Industrial Processes and Product Use</b>	<b>19.6</b>	<b>19.1</b>	<b>19.9</b>	<b>20.4</b>	<b>21.3</b>	<b>22.0</b>	<b>23.0</b>	<b>23.7</b>	<b>23.9</b>	<b>22.2</b>	<b>23.5</b>	<b>28.4</b>	<b>29.6</b>	<b>29.3</b>	<b>30.8</b>	<b>32.5</b>
<b>2A - Mineral Industry</b>	<b>5.60</b>	<b>5.35</b>	<b>5.88</b>	<b>5.93</b>	<b>6.11</b>	<b>6.04</b>	<b>5.88</b>	<b>5.71</b>	<b>5.33</b>	<b>3.63</b>	<b>3.49</b>	<b>4.11</b>	<b>4.69</b>	<b>4.97</b>	<b>5.32</b>	<b>5.23</b>
2A1 - Cement Production	5.52	5.28	5.82	5.87	6.03	5.96	5.81	5.66	5.28	3.60	3.46	4.08	4.65	4.93	5.27	5.17
2A2 - Lime Production	0.07	0.07	0.06	0.06	0.08	0.07	0.07	0.05	0.04	0.03	0.03	0.04	0.04	0.04	0.05	0.06
<b>2B - Chemical Industry</b>	<b>0.06</b>	<b>0.05</b>	<b>0.05</b>	<b>0.05</b>	<b>0.05</b>	<b>0.05</b>	<b>0.05</b>	<b>0.06</b>	<b>0.05</b>	<b>0.04</b>	<b>0.05</b>	<b>0.03</b>	<b>0.05</b>	<b>0.05</b>	<b>0.01</b>	<b>0.03</b>
2B2 - Nitric Acid Production	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.05	0.04	0.05	0.03	0.05	0.05	0.01	0.03
<b>2C - Metal Industry</b>	<b>0.07</b>	<b>0.07</b>	<b>0.07</b>	<b>0.07</b>	<b>0.07</b>	<b>0.07</b>	<b>0.07</b>	<b>0.07</b>	<b>0.07</b>	<b>0.06</b>	<b>0.07</b>	<b>0.07</b>	<b>0.06</b>	<b>0.07</b>	<b>0.06</b>	<b>0.05</b>
2C5 - Lead Production	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.07	0.07	0.06	0.07	0.06	0.05
<b>2D - Non-Energy Products from Fuels and Solvent Use</b>	<b>2.46</b>	<b>2.26</b>	<b>2.20</b>	<b>2.07</b>	<b>2.06</b>	<b>2.04</b>	<b>2.00</b>	<b>2.05</b>	<b>1.92</b>	<b>1.74</b>	<b>1.91</b>	<b>1.81</b>	<b>1.68</b>	<b>1.70</b>	<b>1.83</b>	<b>1.90</b>
2D1 - Lubricant Use	2.09	1.92	1.89	1.75	1.77	1.77	1.72	1.78	1.65	1.48	1.65	1.56	1.44	1.52	1.59	1.73
2D3 - Solvent Use	0.37	0.35	0.30	0.31	0.28	0.28	0.28	0.28	0.27	0.26	0.27	0.25	0.24	0.18	0.24	0.17
<b>2E - Electronics Industry</b>	<b>0.52</b>	<b>0.35</b>	<b>0.35</b>	<b>0.35</b>	<b>0.35</b>	<b>0.30</b>	<b>0.36</b>	<b>0.35</b>	<b>0.23</b>	<b>0.20</b>	<b>0.20</b>	<b>0.28</b>	<b>0.26</b>	<b>0.26</b>	<b>0.26</b>	<b>0.26</b>
<b>2F - Product Uses as Substitutes for Ozone Depleting Substances</b>	<b>6.10</b>	<b>6.23</b>	<b>6.52</b>	<b>7.20</b>	<b>7.95</b>	<b>8.75</b>	<b>9.64</b>	<b>10.43</b>	<b>11.27</b>	<b>11.96</b>	<b>13.20</b>	<b>14.21</b>	<b>15.25</b>	<b>16.38</b>	<b>17.42</b>	<b>18.37</b>
<b>2G - Other Product Manufacture and Use</b>	<b>1.52</b>	<b>1.42</b>	<b>1.45</b>	<b>1.38</b>	<b>1.39</b>	<b>1.37</b>	<b>1.39</b>	<b>1.39</b>	<b>1.38</b>	<b>1.28</b>	<b>1.20</b>	<b>1.16</b>	<b>1.12</b>	<b>1.14</b>	<b>1.17</b>	<b>1.39</b>
2G1 - Electrical Equipment	0.51	0.49	0.44	0.42	0.40	0.37	0.33	0.29	0.30	0.27	0.24	0.25	0.24	0.18	0.14	0.42
2G1b - Use of Electrical Equipment	0.51	0.49	0.44	0.42	0.40	0.37	0.33	0.29	0.30	0.27	0.24	0.25	0.24	0.18	0.14	0.42
2G4 - CO2, Limestone or Soda Ash consumption	1.01	0.93	1.00	0.96	0.99	1.00	1.06	1.10	1.08	1.01	0.96	0.91	0.88	0.95	1.03	0.97

**California Greenhouse Gas Inventory for 2000-2015 — by IPCC Category**

million tonnes of CO2 equivalent - (based upon IPCC Fourth Assessment Report's 100-yr Global Warming Potentials)

**Inventory Emissions**

**2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015**

<b>2H - Other</b>	<b>3.31</b>	<b>3.35</b>	<b>3.39</b>	<b>3.33</b>	<b>3.31</b>	<b>3.34</b>	<b>3.58</b>	<b>3.67</b>	<b>3.67</b>	<b>3.27</b>	<b>3.36</b>	<b>6.68</b>	<b>6.54</b>	<b>4.69</b>	<b>4.73</b>	<b>5.26</b>
2H3 - Hydrogen Production	3.31	3.35	3.39	3.33	3.31	3.34	3.58	3.67	3.67	3.27	3.36	6.68	6.54	4.69	4.73	5.26
<b>3 - Agriculture, Forestry and Other Land Use</b>	<b>29.4</b>	<b>29.4</b>	<b>31.0</b>	<b>31.4</b>	<b>30.7</b>	<b>31.2</b>	<b>31.7</b>	<b>33.6</b>	<b>33.3</b>	<b>32.6</b>	<b>33.2</b>	<b>33.0</b>	<b>33.9</b>	<b>32.6</b>	<b>32.8</b>	<b>31.7</b>
<b>3A - Livestock</b>	<b>19.62</b>	<b>19.89</b>	<b>21.17</b>	<b>21.61</b>	<b>20.81</b>	<b>21.46</b>	<b>21.81</b>	<b>24.13</b>	<b>24.13</b>	<b>23.41</b>	<b>24.00</b>	<b>23.84</b>	<b>24.47</b>	<b>23.49</b>	<b>23.81</b>	<b>23.25</b>
3A1 - Enteric Fermentation	10.36	10.25	10.91	11.00	10.77	11.08	11.13	12.31	12.04	11.65	12.13	11.98	12.10	11.78	11.85	11.54
3A1a - Cattle	10.01	9.89	10.54	10.60	10.34	10.60	10.66	11.84	11.57	11.17	11.65	11.49	11.61	11.29	11.36	11.05
3A1ai - Dairy Cows	6.743	6.665	7.331	7.417	7.217	7.392	7.547	8.461	8.360	7.995	8.496	8.436	8.488	8.225	8.240	8.081
3A1aii - Other Cattle	3.264	3.221	3.210	3.185	3.125	3.212	3.110	3.376	3.210	3.173	3.154	3.054	3.121	3.070	3.124	2.971
3A1c - Sheep	0.16	0.16	0.15	0.15	0.14	0.14	0.13	0.12	0.12	0.13	0.12	0.12	0.12	0.12	0.12	0.12
3A1d - Goats	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
3A1f - Horses	0.18	0.19	0.20	0.24	0.27	0.31	0.32	0.32	0.32	0.33	0.34	0.35	0.35	0.35	0.35	0.35
3A1h - Swine	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3A2 - Manure Management	9.26	9.64	10.25	10.60	10.04	10.39	10.68	11.82	12.09	11.75	11.86	11.86	12.38	11.71	11.96	11.71
3A2a - Cattle	8.88	9.28	9.88	10.24	9.69	10.02	10.33	11.46	11.77	11.41	11.53	11.52	12.04	11.40	11.67	11.42
3A2ai - Dairy Cows	8.541	8.931	9.504	9.837	9.308	9.625	9.907	11.033	11.354	11.016	11.142	11.140	11.644	11.003	11.244	10.994
3A2aii - Other Cattle	0.342	0.345	0.372	0.399	0.381	0.398	0.418	0.424	0.414	0.396	0.385	0.382	0.396	0.395	0.426	0.426
3A2c - Sheep	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.03
3A2d - Goats	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	0.00
3A2f - Horses	0.06	0.07	0.07	0.08	0.08	0.09	0.09	0.09	0.08	0.08	0.09	0.09	0.09	0.09	0.09	0.09
3A2h - Swine	0.06	0.05	0.06	0.06	0.06	0.06	0.06	0.07	0.04	0.05	0.04	0.05	0.05	0.04	0.05	0.04
3A2i - Poultry	0.21	0.21	0.20	0.19	0.17	0.17	0.17	0.18	0.17	0.17	0.17	0.17	0.17	0.14	0.12	0.13
<b>3C - Aggregate Sources and Non-CO2 Emissions Sources on Land</b>	<b>9.76</b>	<b>9.49</b>	<b>9.88</b>	<b>9.82</b>	<b>9.84</b>	<b>9.77</b>	<b>9.91</b>	<b>9.44</b>	<b>9.18</b>	<b>9.16</b>	<b>9.23</b>	<b>9.16</b>	<b>9.45</b>	<b>9.13</b>	<b>8.96</b>	<b>8.42</b>
3C1 - Emissions from Biomass Burning	0.08	0.06	0.06	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
3C1b - Biomass Burning in Croplands	0.08	0.06	0.06	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
3C2 - Liming	0.27	0.16	0.23	0.24	0.24	0.30	0.48	0.26	0.17	0.17	0.18	0.17	0.23	0.22	0.21	0.19
3C4 - Direct N2O Emissions from Managed Soils	6.42	6.45	6.59	6.57	6.44	6.42	6.39	6.15	6.01	5.92	5.99	5.85	6.08	5.78	5.91	5.49
3C5 - Indirect N2O Emissions from Managed Soils	1.81	1.79	1.83	1.85	1.82	1.84	1.84	1.81	1.80	1.80	1.79	1.80	1.85	1.83	1.81	1.75
3C7 - Rice Cultivations	1.19	1.02	1.15	1.10	1.28	1.14	1.13	1.15	1.12	1.20	1.20	1.26	1.22	1.22	0.96	0.91
<b>4 - Waste</b>	<b>9.3</b>	<b>9.4</b>	<b>9.4</b>	<b>9.5</b>	<b>9.5</b>	<b>9.7</b>	<b>9.8</b>	<b>9.9</b>	<b>10.0</b>	<b>10.2</b>	<b>10.3</b>	<b>10.4</b>	<b>10.4</b>	<b>10.5</b>	<b>10.5</b>	<b>10.6</b>
<b>4A - Solid Waste Disposal</b>	<b>7.22</b>	<b>7.36</b>	<b>7.31</b>	<b>7.43</b>	<b>7.42</b>	<b>7.59</b>	<b>7.65</b>	<b>7.71</b>	<b>7.88</b>	<b>8.02</b>	<b>8.11</b>	<b>8.19</b>	<b>8.20</b>	<b>8.22</b>	<b>8.28</b>	<b>8.40</b>
4A1 - Managed Waste Disposal Sites	7.22	7.36	7.31	7.43	7.42	7.59	7.65	7.71	7.88	8.02	8.11	8.19	8.20	8.22	8.28	8.40
<b>4B - Biological Treatment of Solid Waste</b>	<b>0.13</b>	<b>0.15</b>	<b>0.16</b>	<b>0.17</b>	<b>0.18</b>	<b>0.20</b>	<b>0.21</b>	<b>0.22</b>	<b>0.24</b>	<b>0.25</b>	<b>0.26</b>	<b>0.27</b>	<b>0.29</b>	<b>0.30</b>	<b>0.31</b>	<b>0.33</b>

## California Greenhouse Gas Inventory for 2000-2015 — by IPCC Category

million tonnes of CO<sub>2</sub> equivalent - (based upon IPCC Fourth Assessment Report's 100-yr Global Warming Potentials)

<b>Inventory Emissions</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
<b>4D - Wastewater Treatment and Discharge</b>	1.93	1.90	1.93	1.91	1.91	1.90	1.91	1.92	1.90	1.88	1.93	1.96	1.96	1.95	1.95	1.90
4D1 - Domestic Wastewater Treatment and Discharge	1.60	1.59	1.59	1.59	1.59	1.58	1.58	1.59	1.58	1.57	1.62	1.64	1.64	1.64	1.63	1.63
4D2 - Industrial Wastewater Treatment and Discharge	0.33	0.31	0.34	0.32	0.32	0.32	0.33	0.34	0.32	0.31	0.31	0.32	0.32	0.31	0.31	0.27
<b>Summary for Included Emissions</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Included Inventory Emissions	467.19	481.69	480.98	480.94	489.13	481.75	478.70	486.16	482.78	453.34	446.06	442.38	448.97	445.08	441.85	440.36

[1] The exceptional Aliso Canyon natural gas leak event released 1.96 MMTCO<sub>2</sub>e of unanticipated emissions in calendar year 2015 and an additional 0.52 MMTCO<sub>2</sub>e in 2016. These emissions will be mitigated in the future according to legal settlement and are presented alongside but tracked separately from routine inventory emissions.

## California Greenhouse Gas Inventory for 2000-2015 — by IPCC Category

million tonnes of CO<sub>2</sub> equivalent - (based upon IPCC Fourth Assessment Report's 100-yr Global Warming Potentials)

<b>Excluded Emissions</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
<b>1 - Energy</b>	<b>55.3</b>	<b>48.9</b>	<b>53.6</b>	<b>48.0</b>	<b>51.8</b>	<b>54.7</b>	<b>56.9</b>	<b>59.6</b>	<b>55.9</b>	<b>55.4</b>	<b>57.0</b>	<b>54.8</b>	<b>53.9</b>	<b>55.0</b>	<b>57.7</b>	<b>60.2</b>
<b>1A - Fuel Combustion Activities</b>	<b>54.74</b>	<b>48.37</b>	<b>53.09</b>	<b>47.41</b>	<b>51.23</b>	<b>54.08</b>	<b>56.29</b>	<b>58.94</b>	<b>55.30</b>	<b>54.74</b>	<b>56.40</b>	<b>54.18</b>	<b>53.31</b>	<b>54.40</b>	<b>57.08</b>	<b>59.56</b>
<b>1A3 - Transport</b>	<b>50.93</b>	<b>44.01</b>	<b>48.96</b>	<b>43.25</b>	<b>47.35</b>	<b>50.67</b>	<b>53.18</b>	<b>56.01</b>	<b>52.53</b>	<b>52.04</b>	<b>53.30</b>	<b>51.50</b>	<b>50.01</b>	<b>51.51</b>	<b>53.53</b>	<b>56.57</b>
1A3a - Civil Aviation	35.18	32.51	35.19	33.80	36.18	35.84	36.79	38.44	34.87	34.20	33.50	34.00	32.70	35.01	37.41	40.20
1A3ai - International Aviation (International Bunkers)	16.794	15.171	15.722	14.555	15.779	16.187	16.830	17.546	16.619	16.468	16.203	17.049	16.445	17.996	19.725	21.839
1A3aia - Domestic Aviation	18.389	17.334	19.467	19.245	20.396	19.650	19.958	20.899	18.250	17.733	17.297	16.948	16.253	17.016	17.685	18.365
1A3d - Water-borne Navigation	15.75	11.51	13.77	9.45	11.18	14.83	16.39	17.57	17.66	17.84	19.79	17.51	17.32	16.50	16.12	16.37
1A3di - International Water-borne Navigation (International Bunkers)	15.747	11.506	13.772	9.454	11.176	14.835	16.389	17.569	17.660	17.835	19.795	17.506	17.317	16.498	16.118	16.367
<b>1A5 - Non-Specified</b>	<b>3.81</b>	<b>4.36</b>	<b>4.13</b>	<b>4.16</b>	<b>3.88</b>	<b>3.41</b>	<b>3.11</b>	<b>2.93</b>	<b>2.77</b>	<b>2.71</b>	<b>3.10</b>	<b>2.68</b>	<b>3.30</b>	<b>2.89</b>	<b>3.55</b>	<b>2.99</b>
1A5b - Mobile	3.74	4.07	3.64	3.66	3.34	3.31	3.00	2.81	2.68	2.56	2.58	2.31	2.87	2.38	2.38	2.38
1A5bi - Mobile (Aviation Component)	3.736	4.069	3.640	3.661	3.338	3.313	3.004	2.807	2.682	2.562	2.584	2.308	2.874	2.379	2.379	2.379
<b>1B - Fugitive Emissions from Fuels</b>	<b>2.75</b>	<b>2.74</b>	<b>2.75</b>	<b>2.75</b>	<b>2.76</b>	<b>2.77</b>	<b>2.79</b>	<b>2.82</b>	<b>2.82</b>	<b>2.81</b>	<b>2.80</b>	<b>2.80</b>	<b>2.80</b>	<b>2.77</b>	<b>2.79</b>	<b>2.79</b>
<b>1B2 - Oil and Natural Gas</b>	<b>2.75</b>	<b>2.74</b>	<b>2.75</b>	<b>2.75</b>	<b>2.76</b>	<b>2.77</b>	<b>2.79</b>	<b>2.82</b>	<b>2.82</b>	<b>2.81</b>	<b>2.80</b>	<b>2.80</b>	<b>2.80</b>	<b>2.77</b>	<b>2.79</b>	<b>2.79</b>
<b>Summary for Excluded Emissions</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
International and Interstate Emissions	57.5	51.1	55.8	50.2	54.0	56.9	59.1	61.8	58.1	57.6	59.2	57.0	56.1	57.2	59.9	62.4

## California Greenhouse Gas Inventory for 2000-2015 — by IPCC Category

million tonnes of CO2 equivalent - (based upon IPCC Fourth Assessment Report's 100-yr Global Warming Potentials)

<i>CO2 from biogenic materials</i>	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>1 - Energy</b>	<b>16.6</b>	<b>16.8</b>	<b>15.2</b>	<b>18.2</b>	<b>19.8</b>	<b>19.4</b>	<b>19.1</b>	<b>19.0</b>	<b>19.2</b>	<b>21.1</b>	<b>23.3</b>	<b>24.7</b>	<b>24.6</b>	<b>30.0</b>	<b>29.7</b>	<b>28.1</b>
<b>1A - Fuel Combustion Activities</b>	<b>16.56</b>	<b>16.85</b>	<b>15.23</b>	<b>18.16</b>	<b>19.83</b>	<b>19.36</b>	<b>19.10</b>	<b>18.98</b>	<b>19.21</b>	<b>21.07</b>	<b>23.30</b>	<b>24.69</b>	<b>24.59</b>	<b>29.97</b>	<b>29.73</b>	<b>28.15</b>
<b>1A1 - Energy Industries</b>	<b>8.39</b>	<b>8.21</b>	<b>8.02</b>	<b>8.22</b>	<b>8.09</b>	<b>8.50</b>	<b>8.65</b>	<b>8.31</b>	<b>8.30</b>	<b>9.45</b>	<b>9.17</b>	<b>9.63</b>	<b>10.32</b>	<b>12.00</b>	<b>11.51</b>	<b>9.99</b>
1A1a - Main Activity Electricity and Heat Production	8.39	8.21	8.02	8.22	8.09	8.50	8.65	8.31	8.30	9.45	9.17	9.63	10.32	12.00	11.51	9.99
1A1ai - Electricity Generation	5.249	4.790	5.687	5.638	5.414	5.530	5.670	5.343	5.513	7.180	7.143	6.973	7.669	9.164	8.951	7.748
1A1aii - Combined Heat and Power Generation (CHP)	3.137	3.419	2.338	2.581	2.679	2.966	2.983	2.968	2.783	2.266	2.023	2.654	2.655	2.834	2.555	2.237
1A1b - Petroleum Refining	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	0.00
<b>1A2 - Manufacturing Industries and Construction</b>	<b>3.78</b>	<b>4.26</b>	<b>2.64</b>	<b>2.60</b>	<b>2.65</b>	<b>2.91</b>	<b>2.66</b>	<b>2.71</b>	<b>2.42</b>	<b>2.24</b>	<b>2.35</b>	<b>2.54</b>	<b>2.56</b>	<b>2.48</b>	<b>2.22</b>	<b>2.15</b>
1A2f - Non-Metallic Minerals	0.06	0.06	0.07	0.07	0.07	0.07	0.05	0.05	0.06	0.07	0.10	0.09	0.14	0.19	0.23	0.15
1A2k - Construction	0.00	0.00	0.00	0.01	0.02	0.02	0.02	0.01	0.01	0.01	0.03	0.03	0.04	0.08	0.05	0.02
1A2m - Non-specified Industry.	3.72	4.20	2.58	2.52	2.56	2.82	2.59	2.64	2.35	2.16	2.22	2.42	2.37	2.21	1.94	1.98
<b>1A3 - Transport</b>	<b>0.34</b>	<b>0.46</b>	<b>0.57</b>	<b>3.14</b>	<b>4.79</b>	<b>5.11</b>	<b>5.24</b>	<b>5.18</b>	<b>5.41</b>	<b>5.38</b>	<b>8.23</b>	<b>8.88</b>	<b>8.32</b>	<b>10.95</b>	<b>11.45</b>	<b>11.50</b>
1A3a - Civil Aviation	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
1A3b - Road Transportation	0.34	0.46	0.57	3.12	4.77	5.08	5.21	5.15	5.38	5.35	8.19	8.84	8.28	10.91	11.40	11.45
1A3bi - Cars	0.156	0.206	0.247	1.385	2.071	2.158	2.128	2.106	2.219	2.254	3.484	3.726	3.488	4.031	4.409	4.057
1A3bii - Light-duty Trucks	0.140	0.195	0.243	1.488	2.320	2.521	2.521	2.509	2.660	2.653	4.076	4.352	3.992	4.507	4.828	4.341
1A3biii - Heavy-duty Trucks and Buses	0.042	0.054	0.075	0.241	0.365	0.387	0.551	0.521	0.482	0.421	0.598	0.737	0.769	2.338	2.125	3.020
1A3biv - Motorcycles	0.001	0.001	0.001	0.007	0.012	0.014	0.015	0.016	0.019	0.019	0.028	0.030	0.028	0.031	0.034	0.031
1A3d - Water-borne Navigation	0.00	0.00	0.00	0.01	0.02	0.02	0.02	0.02	0.02	0.03	0.04	0.03	0.04	0.04	0.04	0.03
1A3dii - Domestic Water-borne Navigation	0.002	0.001	0.002	0.015	0.019	0.025	0.023	0.024	0.024	0.026	0.037	0.032	0.036	0.037	0.039	0.034
<b>1A4 - Other Sectors</b>	<b>4.05</b>	<b>3.92</b>	<b>3.99</b>	<b>4.20</b>	<b>4.28</b>	<b>2.84</b>	<b>2.54</b>	<b>2.78</b>	<b>3.08</b>	<b>4.00</b>	<b>3.56</b>	<b>3.63</b>	<b>3.38</b>	<b>4.54</b>	<b>4.55</b>	<b>4.52</b>
1A4a - Commercial/Institutional	0.58	0.59	0.60	0.63	0.61	0.39	0.36	0.39	0.41	0.50	0.49	0.47	0.42	0.48	0.48	0.48
1A4b - Residential	3.47	3.33	3.38	3.56	3.65	2.43	2.15	2.38	2.66	3.50	3.05	3.12	2.91	4.02	4.02	4.02
1A4c - Agriculture/Forestry/Fishing/Fish Farms	0.00	0.00	0.00	0.01	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.04	0.05	0.03	0.04	0.01
<b>3 - Agriculture, Forestry and Other Land Use</b>	<b>1.4</b>	<b>1.2</b>	<b>1.2</b>	<b>1.2</b>	<b>1.2</b>	<b>1.2</b>	<b>1.2</b>	<b>1.3</b>	<b>1.4</b>	<b>1.4</b>	<b>1.4</b>	<b>1.5</b>	<b>1.5</b>	<b>1.5</b>	<b>1.5</b>	<b>1.5</b>
<b>3C - Aggregate Sources and Non-CO2 Emissions Sources on Land</b>	<b>1.39</b>	<b>1.16</b>	<b>1.17</b>	<b>1.20</b>	<b>1.21</b>	<b>1.20</b>	<b>1.22</b>	<b>1.28</b>	<b>1.38</b>	<b>1.41</b>	<b>1.44</b>	<b>1.49</b>	<b>1.49</b>	<b>1.52</b>	<b>1.47</b>	<b>1.49</b>
<b>3C1 - Emissions from Biomass Burning</b>	<b>1.39</b>	<b>1.16</b>	<b>1.17</b>	<b>1.20</b>	<b>1.21</b>	<b>1.20</b>	<b>1.22</b>	<b>1.28</b>	<b>1.38</b>	<b>1.41</b>	<b>1.44</b>	<b>1.49</b>	<b>1.49</b>	<b>1.52</b>	<b>1.47</b>	<b>1.49</b>
3C1b - Biomass Burning in Croplands	1.39	1.16	1.17	1.20	1.21	1.20	1.22	1.28	1.38	1.41	1.44	1.49	1.49	1.52	1.47	1.49
<b>4 - Waste</b>	<b>7.1</b>	<b>7.5</b>	<b>7.8</b>	<b>7.9</b>	<b>8.0</b>	<b>8.3</b>	<b>8.5</b>	<b>8.7</b>	<b>8.9</b>	<b>9.1</b>	<b>9.3</b>	<b>9.4</b>	<b>9.6</b>	<b>9.7</b>	<b>9.8</b>	<b>10.0</b>
<b>4A - Solid Waste Disposal</b>	<b>6.28</b>	<b>6.62</b>	<b>6.88</b>	<b>6.86</b>	<b>6.90</b>	<b>7.08</b>	<b>7.28</b>	<b>7.39</b>	<b>7.47</b>	<b>7.57</b>	<b>7.68</b>	<b>7.73</b>	<b>7.87</b>	<b>7.91</b>	<b>7.95</b>	<b>8.00</b>
4A1 - Managed Waste Disposal Sites	6.28	6.62	6.88	6.86	6.90	7.08	7.28	7.39	7.47	7.57	7.68	7.73	7.87	7.91	7.95	8.00
<b>4B - Biological Treatment of Solid Waste</b>	<b>0.80</b>	<b>0.87</b>	<b>0.95</b>	<b>1.03</b>	<b>1.11</b>	<b>1.19</b>	<b>1.26</b>	<b>1.34</b>	<b>1.42</b>	<b>1.50</b>	<b>1.57</b>	<b>1.65</b>	<b>1.73</b>	<b>1.81</b>	<b>1.88</b>	<b>1.96</b>

**California Greenhouse Gas Inventory for 2000-2015 — by IPCC Category**

*million tonnes of CO2 equivalent - (based upon IPCC Fourth Assessment Report's 100-yr Global Warming Potentials)*

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>CO2 from biogenic materials</b>																
<b>Summary for CO2 from biogenic material</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Carbon dioxide from Biogenic sources	25.0	25.5	24.2	27.3	29.0	28.8	28.9	29.0	29.5	31.5	34.0	35.6	35.7	41.2	41.0	39.6

**California Greenhouse Gas Inventory for 2000-2015 — by IPCC Category**

*million tonnes of CO2 equivalent - (based upon IPCC Fourth Assessment Report's 100-yr Global Warming Potentials)*

**Forested Lands & Wood Products**    **2000**   **2001**   **2002**   **2003**   **2004**   **2005**   **2006**   **2007**   **2008**   **2009**   **2010**   **2011**   **2012**   **2013**   **2014**   **2015**

**This section of the inventory is currently under development**