

## California Greenhouse Gas Inventory for 2000-2011 — by Sector and Activity

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

<b>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>Electricity Generation (In State)</b>	<b>59.20</b>	<b>63.22</b>	<b>49.89</b>	<b>48.26</b>	<b>49.35</b>	<b>45.25</b>	<b>50.05</b>	<b>54.31</b>	<b>54.50</b>	<b>55.70</b>	<b>46.67</b>	<b>39.88</b>
<i>CHP: Commercial</i>	0.73	0.67	0.76	0.86	0.69	0.73	0.72	0.78	0.77	1.05	0.79	0.89
<i>CHP: Industrial</i>	18.16	16.70	20.24	17.76	15.30	14.79	13.84	13.79	13.63	17.02	12.36	12.34
<i>Merchant Owned</i>	32.95	38.86	23.79	24.05	27.53	23.15	26.23	29.27	28.78	27.37	21.37	15.29
<i>Transmission and Distribution</i>	0.25	0.24	0.20	0.20	0.20	0.20	0.21	0.18	0.18	0.18	0.17	0.17
<i>Utility Owned</i>	7.10	6.75	4.89	5.38	5.64	6.39	9.06	10.28	11.14	10.07	11.98	11.20
<b>Electricity Generation (Imports)</b>	<b>46.00</b>	<b>59.13</b>	<b>59.08</b>	<b>64.67</b>	<b>66.16</b>	<b>62.92</b>	<b>54.77</b>	<b>59.91</b>	<b>65.93</b>	<b>48.13</b>	<b>43.67</b>	<b>46.95</b>
<i>Specified Imports</i>	31.64	33.60	32.05	32.51	33.13	32.80	26.73	27.08	27.90	33.05	30.14	31.34
<i>Transmission and Distribution</i>	0.09	0.10	0.11	0.10	0.11	0.10	0.09	0.09	0.10	0.09	0.08	0.08
<i>Unspecified Imports</i>	14.27	25.43	26.92	32.05	32.92	30.02	27.96	32.73	37.93	14.99	13.45	15.52
<b>Transportation</b>	<b>178.37</b>	<b>178.73</b>	<b>185.92</b>	<b>185.79</b>	<b>189.63</b>	<b>191.55</b>	<b>192.01</b>	<b>191.71</b>	<b>180.10</b>	<b>174.66</b>	<b>173.83</b>	<b>171.64</b>
<i>Aviation</i>	4.15	4.02	4.11	4.22	4.48	4.48	4.54	4.90	4.44	3.97	3.82	3.74
<i>Not Specified Transportation</i>	3.35	3.27	3.27	3.37	3.54	3.83	3.87	3.96	4.21	4.20	4.38	4.36
<i>Off Road</i>	2.63	2.79	2.77	2.84	3.03	3.22	3.32	3.18	2.82	2.25	2.03	2.13
<i>On Road</i>	162.97	163.54	169.72	168.88	171.83	172.56	172.56	172.43	162.30	158.64	157.57	155.11
<i>Rail</i>	1.88	1.89	2.50	2.70	2.91	3.34	3.53	3.17	2.38	1.94	2.33	2.49
<i>Water-borne</i>	3.39	3.21	3.56	3.77	3.83	4.12	4.20	4.08	3.95	3.66	3.70	3.81
<b>Industrial</b>	<b>102.60</b>	<b>100.75</b>	<b>101.43</b>	<b>100.64</b>	<b>103.11</b>	<b>101.91</b>	<b>99.72</b>	<b>96.83</b>	<b>97.65</b>	<b>93.04</b>	<b>100.20</b>	<b>102.68</b>
<i>CHP: Industrial</i>	11.72	10.48	10.65	10.59	12.92	12.41	12.16	11.15	10.40	10.27	12.49	12.59
<i>Landfills</i>	6.02	6.12	6.06	6.16	6.15	6.29	6.31	6.35	6.46	6.56	6.68	6.73
<i>Manufacturing</i>	29.79	28.97	30.45	26.94	27.14	26.46	26.74	24.90	25.76	22.38	24.71	26.68
<i>Mining</i>	0.86	0.31	0.31	0.34	0.36	0.34	0.11	0.16	0.19	0.14	0.15	0.15
<i>Not Specified Industrial</i>	2.22	2.20	2.34	2.34	2.51	2.66	2.86	2.97	3.14	3.23	3.73	3.83
<i>Oil &amp; Gas Extraction</i>	18.56	18.91	17.50	20.05	20.24	18.93	16.78	16.84	18.06	16.96	16.02	16.07
<i>Petroleum Marketing</i>	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Petroleum Refining</i>	28.39	28.97	29.12	29.76	29.00	29.67	29.56	29.13	28.34	28.26	30.31	30.04
<i>Pipelines</i>	2.68	2.45	2.66	2.12	2.40	2.76	2.77	2.90	2.86	2.80	3.66	4.13
<i>Solid Waste Treatment</i>	0.12	0.13	0.15	0.16	0.17	0.19	0.20	0.22	0.23	0.25	0.26	0.27
<i>Wastewater Treatment</i>	2.22	2.20	2.20	2.19	2.22	2.21	2.21	2.21	2.20	2.20	2.19	2.18
<b>Commercial</b>	<b>15.74</b>	<b>16.40</b>	<b>16.21</b>	<b>16.37</b>	<b>16.84</b>	<b>17.40</b>	<b>18.01</b>	<b>19.01</b>	<b>19.92</b>	<b>20.48</b>	<b>21.46</b>	<b>21.85</b>
<i>CHP: Commercial</i>	1.09	1.05	1.06	0.26	0.62	0.40	0.42	0.49	0.37	0.92	0.92	0.75
<i>Communication</i>	0.22	0.21	0.20	0.20	0.20	0.19	0.21	0.21	0.20	0.19	0.16	0.16
<i>Domestic Utilities</i>	0.28	0.21	0.17	0.40	0.35	0.26	0.32	0.34	0.34	0.32	0.30	0.28
<i>Education</i>	1.39	1.30	1.24	1.19	1.17	1.21	1.24	1.27	1.21	1.18	1.18	1.17
<i>Food Services</i>	2.16	2.39	2.48	2.51	2.44	2.58	2.74	2.80	2.77	2.55	2.51	2.50
<i>Health Care</i>	1.58	1.72	1.65	1.61	1.54	1.61	1.68	1.72	1.73	1.66	1.69	1.72
<i>Hotels</i>	0.72	0.81	0.78	0.75	0.72	0.77	0.83	0.87	0.88	0.81	0.82	0.82

California Environmental Protection Agency

 Air Resources Board

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<b>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>
National Security	0.23	0.37	0.21	0.21	0.21	0.21	0.23	0.23	0.21	0.20	0.19	0.20
Not Specified Commercial	6.07	6.47	6.52	7.25	7.66	8.16	8.17	8.74	9.59	10.15	11.17	11.70
Offices	0.87	0.67	0.66	0.73	0.75	0.77	0.80	0.73	0.83	0.77	0.77	0.77
Retail & Wholesale	0.93	1.05	1.13	1.12	1.09	1.14	1.23	1.22	1.16	1.14	1.15	1.16
Transportation Services	0.20	0.15	0.13	0.12	0.10	0.10	0.14	0.40	0.61	0.59	0.60	0.62
<b>Residential</b>	<b>31.58</b>	<b>30.58</b>	<b>30.68</b>	<b>30.24</b>	<b>31.31</b>	<b>30.05</b>	<b>30.43</b>	<b>30.60</b>	<b>31.03</b>	<b>30.77</b>	<b>31.86</b>	<b>32.67</b>
Household Use	29.65	28.72	28.88	28.41	29.45	28.18	28.54	28.69	29.03	28.65	29.38	29.85
Not Specified Residential	1.93	1.86	1.80	1.83	1.86	1.87	1.89	1.91	2.00	2.12	2.48	2.82
<b>Agriculture &amp; Forestry</b>	<b>29.04</b>	<b>29.23</b>	<b>32.39</b>	<b>32.84</b>	<b>32.57</b>	<b>32.81</b>	<b>33.95</b>	<b>32.94</b>	<b>33.88</b>	<b>31.69</b>	<b>31.68</b>	<b>32.24</b>
Ag Energy Use	3.82	3.83	4.39	4.37	4.52	4.63	5.33	3.80	3.92	2.65	2.81	3.66
Ag Residue Burning	0.08	0.06	0.06	0.06	0.06	0.07	0.06	0.07	0.07	0.07	0.07	0.08
Ag Soil Management	7.93	7.53	9.54	9.54	9.54	9.09	9.19	8.44	8.98	8.19	8.47	8.13
Enteric Fermentation	8.32	8.48	8.72	8.84	8.76	9.05	9.14	9.70	9.67	9.52	9.36	9.34
Histosol Cultivation	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Manure Management	8.17	8.68	8.96	9.33	8.92	9.27	9.54	10.22	10.55	10.53	10.24	10.28
Rice Cultivation	0.57	0.49	0.55	0.53	0.61	0.55	0.54	0.55	0.54	0.58	0.57	0.60
<b>Not Specified</b>	<b>0.36</b>	<b>0.32</b>	<b>0.23</b>	<b>0.27</b>	<b>0.21</b>	<b>0.20</b>	<b>0.22</b>	<b>0.22</b>	<b>0.23</b>	<b>0.21</b>	<b>0.22</b>	<b>0.21</b>
Solvents & Chemicals	0.36	0.32	0.23	0.27	0.21	0.20	0.22	0.22	0.23	0.21	0.22	0.21
<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>
Gross California Emissions	462.90	478.36	475.82	479.08	489.18	482.09	479.18	485.54	483.22	454.69	449.59	448.11

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<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>Transportation</b>	<b>50.95</b>	<b>44.03</b>	<b>48.98</b>	<b>43.13</b>	<b>47.37</b>	<b>50.69</b>	<b>53.20</b>	<b>56.28</b>	<b>52.65</b>	<b>52.08</b>	<b>51.37</b>	<b>46.99</b>
<i>Aviation</i>	35.19	32.52	35.20	33.81	36.19	35.85	36.80	38.46	34.88	34.21	33.51	34.01
<i>Water-borne</i>	15.75	11.51	13.78	9.32	11.19	14.84	16.40	17.82	17.77	17.87	17.85	12.98
<b>Military</b>	<b>3.81</b>	<b>4.36</b>	<b>4.13</b>	<b>4.18</b>	<b>3.88</b>	<b>3.41</b>	<b>3.11</b>	<b>2.93</b>	<b>2.77</b>	<b>2.70</b>	<b>3.16</b>	<b>2.99</b>
<i>Not Specified Military</i>	3.81	4.36	4.13	4.18	3.88	3.41	3.11	2.93	2.77	2.70	3.16	2.99
<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>
International and Interstate Emissions	54.76	48.39	53.11	47.30	51.26	54.11	56.31	59.20	55.42	54.79	54.53	49.98

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

<b>CO<sub>2</sub> from biogenic materials</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>Electricity Generation (In State)</b>	<b>7.07</b>	<b>7.17</b>	<b>7.41</b>	<b>7.60</b>	<b>6.92</b>	<b>6.96</b>	<b>7.07</b>	<b>6.73</b>	<b>6.76</b>	<b>8.55</b>	<b>7.27</b>	<b>8.06</b>
<i>CHP: Commercial</i>	0.13	0.05	0.08	0.15	0.15	0.19	0.18	0.16	0.15	0.05	0.01	0.12
<i>CHP: Industrial</i>	1.69	2.33	1.64	1.80	1.36	1.24	1.22	1.23	1.09	1.76	0.94	1.18
<i>Merchant Owned</i>	5.12	4.68	5.56	5.47	5.28	5.36	5.50	5.17	5.34	6.44	5.95	6.23
<i>Utility Owned</i>	0.13	0.11	0.12	0.17	0.14	0.17	0.17	0.18	0.18	0.30	0.37	0.53
<b>Industrial</b>	<b>11.35</b>	<b>11.89</b>	<b>10.09</b>	<b>10.01</b>	<b>10.63</b>	<b>11.39</b>	<b>11.35</b>	<b>11.48</b>	<b>11.24</b>	<b>10.14</b>	<b>10.94</b>	<b>11.16</b>
<i>CHP: Industrial</i>	1.29	1.03	0.61	0.62	1.14	1.49	1.52	1.52	1.48	0.42	1.06	1.26
<i>Landfills</i>	6.28	6.60	6.84	6.82	6.89	7.04	7.22	7.31	7.38	7.47	7.57	7.60
<i>Manufacturing</i>	0.06	0.06	0.07	0.07	0.07	0.07	0.05	0.05	0.06	0.07	0.10	0.09
<i>Not Specified Industrial</i>	3.72	4.19	2.57	2.50	2.53	2.78	2.56	2.59	2.32	2.18	2.21	2.21
<i>Petroleum Refining</i>	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>Commercial</b>	<b>0.60</b>	<b>0.59</b>	<b>0.61</b>	<b>0.63</b>	<b>0.64</b>	<b>0.44</b>	<b>0.42</b>	<b>0.45</b>	<b>0.46</b>	<b>0.46</b>	<b>0.41</b>	<b>0.48</b>
<i>CHP: Commercial</i>	0.02	0.01	0.01	0.01	0.03	0.05	0.06	0.07	0.06	0.06	0.01	0.08
<i>Not Specified Commercial</i>	0.58	0.59	0.60	0.63	0.61	0.39	0.36	0.38	0.41	0.40	0.40	0.40
<b>Residential</b>	<b>3.47</b>	<b>3.33</b>	<b>3.38</b>	<b>3.56</b>	<b>3.65</b>	<b>2.43</b>	<b>2.15</b>	<b>2.32</b>	<b>2.55</b>	<b>2.44</b>	<b>2.38</b>	<b>3.12</b>
<i>Household Use</i>	3.47	3.33	3.38	3.56	3.65	2.43	2.15	2.32	2.55	2.44	2.38	3.12
<b>Agriculture &amp; Forestry</b>	<b>1.39</b>	<b>1.16</b>	<b>1.16</b>	<b>1.20</b>	<b>1.18</b>	<b>1.26</b>	<b>1.17</b>	<b>1.32</b>	<b>1.32</b>	<b>1.38</b>	<b>1.39</b>	<b>1.44</b>
<i>Ag Residue Burning</i>	1.39	1.16	1.16	1.20	1.18	1.26	1.17	1.32	1.32	1.38	1.39	1.44
<b>Summary for CO<sub>2</sub> from biogenic materials</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>
Carbon dioxide from Biogenic sources	23.88	24.15	22.65	22.99	23.03	22.47	22.16	22.30	22.33	22.96	22.38	24.26



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**Forested Lands & Wood Products** ————— **2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011**

This section of the inventory is currently under development

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