

## California Greenhouse Gas Inventory for 2000-2014 — by Sector and Activity

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

Included Emissions	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Electricity Generation (In State)</b>	<b>59.19</b>	<b>63.21</b>	<b>49.88</b>	<b>48.25</b>	<b>49.35</b>	<b>45.25</b>	<b>50.05</b>	<b>54.30</b>	<b>54.50</b>	<b>53.51</b>	<b>46.92</b>	<b>41.36</b>	<b>51.18</b>	<b>49.60</b>	<b>51.81</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	0.86	0.62	0.84	0.88
<i>CHP: Industrial</i>	18.15	16.70	20.24	17.76	15.29	14.79	13.84	13.79	13.63	14.78	12.57	13.84	12.54	12.85	13.89
<i>Merchant Owned</i>	32.96	38.86	23.80	24.05	27.53	23.15	26.23	29.27	28.79	27.42	21.41	15.30	24.22	22.66	23.63
<i>Transmission and Distribution</i>	0.25	0.23	0.20	0.20	0.20	0.20	0.20	0.18	0.18	0.18	0.17	0.17	0.16	0.12	0.09
<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	13.63	13.12	13.32
<b>Electricity Generation (Imports)</b>	<b>45.99</b>	<b>59.12</b>	<b>59.07</b>	<b>64.66</b>	<b>66.15</b>	<b>62.90</b>	<b>54.76</b>	<b>59.90</b>	<b>65.92</b>	<b>48.13</b>	<b>43.67</b>	<b>46.94</b>	<b>44.15</b>	<b>40.24</b>	<b>36.56</b>
<i>Specified Imports</i>	31.64	33.59	32.04	32.51	33.13	32.79	26.73	27.08	27.90	33.05	30.14	31.34	26.59	28.35	23.07
<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	0.08	0.06	0.05
<i>Unspecified Imports</i>	14.27	25.42	26.92	32.05	32.92	30.01	27.95	32.73	37.92	14.99	13.45	15.52	17.48	11.82	13.44
<b>Transportation</b>	<b>178.50</b>	<b>178.77</b>	<b>185.81</b>	<b>183.35</b>	<b>185.11</b>	<b>187.07</b>	<b>187.04</b>	<b>187.14</b>	<b>176.17</b>	<b>169.51</b>	<b>166.20</b>	<b>162.90</b>	<b>162.94</b>	<b>161.46</b>	<b>163.02</b>
<i>Aviation</i>	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
<i>Not Specified Transportation</i>	4.00	4.01	4.08	4.18	4.33	4.61	4.64	4.58	5.09	4.80	5.35	4.94	4.96	5.03	5.25
<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	2.23	2.33	2.43
<i>On Road</i>	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	144.75
<i>Rail</i>	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
<i>Water-borne</i>	3.50	3.32	3.63	3.79	3.79	4.04	4.08	4.24	3.99	3.63	3.65	3.56	3.84	3.92	3.95
<b>Industrial</b>	<b>104.40</b>	<b>102.64</b>	<b>104.22</b>	<b>103.22</b>	<b>105.84</b>	<b>103.89</b>	<b>101.63</b>	<b>98.58</b>	<b>99.31</b>	<b>97.26</b>	<b>100.88</b>	<b>100.76</b>	<b>101.09</b>	<b>103.76</b>	<b>104.22</b>
<i>CHP: Industrial</i>	11.69	10.48	10.65	10.59	12.92	12.41	12.16	11.15	10.40	12.56	12.61	11.15	10.81	10.99	9.64
<i>Landfills</i>	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
<i>Manufacturing</i>	28.13	27.02	28.87	25.28	25.67	24.69	24.93	23.00	23.57	20.38	22.34	23.83	24.62	25.29	25.59
<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	0.17	0.16	0.16
<i>Not Specified Industrial</i>	2.31	2.28	2.42	2.42	2.56	2.67	2.82	2.89	3.05	3.15	3.44	3.52	3.60	3.99	4.22
<i>Oil &amp; Gas Extraction</i>	19.40	19.63	18.36	20.83	20.97	19.64	17.49	17.56	18.83	17.72	16.82	16.77	16.83	19.06	19.25
<i>Petroleum Marketing</i>	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.03	0.03	0.00	0.00
<i>Petroleum Refining and Hydrogen Production</i>	28.46	29.03	29.19	29.82	29.06	29.74	29.63	29.20	28.40	28.31	30.39	30.05	29.81	29.15	29.33
<i>Pipelines</i>	4.16	4.34	4.90	4.28	4.62	4.53	4.55	4.57	4.64	4.63	4.65	4.66	4.61	4.45	5.31
<i>Solid Waste Treatment</i>	0.24	0.26	0.29	0.31	0.33	0.36	0.38	0.40	0.43	0.45	0.47	0.50	0.52	0.54	0.57
<i>Wastewater Treatment</i>	1.93	1.90	1.93	1.91	1.92	1.91	1.91	1.93	1.91	1.89	1.90	1.90	1.89	1.90	1.88
<b>Commercial</b>	<b>14.07</b>	<b>14.01</b>	<b>16.05</b>	<b>15.27</b>	<b>15.83</b>	<b>15.85</b>	<b>16.57</b>	<b>17.12</b>	<b>17.74</b>	<b>18.74</b>	<b>20.20</b>	<b>20.85</b>	<b>21.11</b>	<b>21.64</b>	<b>21.63</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	0.78	0.76	0.71	0.58
<i>Communication</i>	0.19	0.18	0.20	0.19	0.19	0.17	0.19	0.18	0.16	0.16	0.15	0.15	0.14	0.14	0.12
<i>Domestic Utilities</i>	0.25	0.18	0.17	0.37	0.33	0.23	0.29	0.30	0.28	0.28	0.27	0.26	0.26	0.25	0.25
<i>Education</i>	1.22	1.07	1.24	1.09	1.09	1.08	1.12	1.10	1.01	1.03	1.05	1.06	0.99	1.01	0.86
<i>Food Services</i>	1.90	1.97	2.48	2.31	2.28	2.30	2.47	2.43	2.31	2.23	2.23	2.25	2.28	2.32	2.33
<i>Health Care</i>	1.39	1.42	1.65	1.48	1.43	1.43	1.52	1.49	1.45	1.45	1.51	1.55	1.52	1.54	1.47
<i>Hotels</i>	0.63	0.67	0.78	0.69	0.68	0.68	0.75	0.75	0.73	0.70	0.73	0.74	0.73	0.74	0.73

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million tonnes of CO2 equivalent - (based upon IPCC Fourth Assessment Report's 100-yr 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>2012</b>	<b>2013</b>	<b>2014</b>
<i>Landscape</i>	0.50	0.51	0.51	0.52	0.53	0.53	0.53	0.54	0.54	0.55	0.55	0.55	0.56	0.57	0.57
<i>National Security</i>	0.20	0.31	0.21	0.19	0.20	0.18	0.21	0.20	0.17	0.18	0.17	0.18	0.16	0.14	0.15
<i>Not Specified Commercial</i>	4.94	5.11	5.83	6.36	6.68	7.06	7.13	7.63	8.53	9.06	10.39	11.04	11.42	12.02	12.49
<i>Offices</i>	0.77	0.55	0.66	0.67	0.70	0.68	0.72	0.63	0.69	0.67	0.68	0.69	0.55	0.54	0.50
<i>Retail &amp; Wholesale</i>	0.82	0.87	1.13	1.03	1.01	1.02	1.11	1.06	0.97	1.00	1.02	1.05	1.18	1.08	1.00
<i>Transportation Services</i>	0.18	0.13	0.13	0.11	0.10	0.09	0.12	0.34	0.51	0.51	0.53	0.56	0.57	0.58	0.58
<b>Residential</b>	<b>30.76</b>	<b>29.84</b>	<b>30.01</b>	<b>29.58</b>	<b>30.66</b>	<b>29.51</b>	<b>29.93</b>	<b>30.11</b>	<b>30.55</b>	<b>30.33</b>	<b>31.43</b>	<b>32.25</b>	<b>30.30</b>	<b>31.47</b>	<b>27.40</b>
<i>Household Use</i>	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	23.73
<i>Landscape</i>	0.74	0.75	0.76	0.77	0.78	0.78	0.79	0.79	0.80	0.80	0.81	0.82	0.83	0.83	0.84
<i>Not Specified Residential</i>	0.64	0.63	0.63	0.67	0.71	0.75	0.78	0.82	0.93	1.06	1.43	1.79	2.14	2.50	2.83
<b>Agriculture &amp; Forestry</b>	<b>31.80</b>	<b>31.72</b>	<b>33.96</b>	<b>34.20</b>	<b>33.82</b>	<b>34.45</b>	<b>35.61</b>	<b>36.20</b>	<b>36.37</b>	<b>34.06</b>	<b>34.92</b>	<b>35.85</b>	<b>36.78</b>	<b>35.36</b>	<b>36.11</b>
<i>Ag Energy Use</i>	3.81	3.82	4.38	4.25	4.50	4.60	5.30	3.78	4.09	2.61	2.77	3.65	3.87	3.71	4.67
<i>Ag Residue Burning</i>	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
<i>Ag Soil Management</i>	6.95	6.78	7.05	7.02	7.01	7.04	7.15	6.92	6.80	6.61	6.73	6.88	6.98	6.72	6.44
<i>Enteric Fermentation</i>	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
<i>Histosol Cultivation</i>	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
<i>Manure Management</i>	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
<i>Rice Cultivation</i>	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
<b>Not Specified</b>	<b>1.20</b>	<b>1.07</b>	<b>0.94</b>	<b>0.98</b>	<b>0.87</b>	<b>0.89</b>	<b>0.89</b>	<b>0.87</b>	<b>0.85</b>	<b>0.79</b>	<b>0.82</b>	<b>0.79</b>	<b>0.78</b>	<b>0.79</b>	<b>0.79</b>
<i>Solvents &amp; Chemicals</i>	1.20	1.07	0.94	0.98	0.87	0.89	0.89	0.87	0.85	0.79	0.82	0.79	0.78	0.79	0.79
<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>
California Emissions	465.9	480.4	479.9	479.5	487.6	479.8	476.5	484.2	481.4	452.3	445.0	441.7	448.3	444.3	441.5

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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>Transportation</b>	<b>50.94</b>	<b>44.02</b>	<b>48.97</b>	<b>43.26</b>	<b>47.36</b>	<b>50.68</b>	<b>53.19</b>	<b>56.03</b>	<b>52.54</b>	<b>52.04</b>	<b>51.39</b>	<b>47.20</b>	<b>44.40</b>	<b>47.06</b>	<b>49.70</b>
<i>Aviation</i>	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
<i>Water-borne</i>	15.75	11.51	13.78	9.46	11.18	14.84	16.40	17.58	17.67	17.84	17.89	13.20	11.70	12.05	12.29
<b>Industrial</b>	<b>0.41</b>	<b>0.54</b>	<b>0.55</b>	<b>0.55</b>	<b>0.10</b>	<b>0.10</b>	<b>0.59</b>	<b>0.62</b>	<b>0.62</b>	<b>0.62</b>	<b>0.62</b>	<b>0.60</b>	<b>0.60</b>	<b>0.60</b>	<b>0.60</b>
<i>Oil &amp; Gas Extraction</i>	0.41	0.54	0.55	0.55	0.10	0.10	0.59	0.62	0.62	0.62	0.62	0.60	0.60	0.60	0.60
<b>Military</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>
<i>Not Specified Military</i>	3.81	4.36	4.13	4.16	3.88	3.41	3.11	2.93	2.77	2.71	3.10	2.68	3.30	2.89	3.55
<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>
International and Interstate Emissions	55.2	48.9	53.6	48.0	51.3	54.2	56.9	59.6	55.9	55.4	55.1	50.5	48.3	50.5	53.8

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million tonnes of CO<sub>2</sub> equivalent - (based upon IPCC Fourth Assessment Report's 100-yr 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>2012</b>	<b>2013</b>	<b>2014</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>7.75</b>	<b>7.28</b>	<b>7.99</b>	<b>7.75</b>	<b>8.68</b>	<b>9.02</b>
<i>CHP: Commercial</i>	0.13	0.05	0.08	0.15	0.15	0.19	0.18	0.16	0.15	0.08	0.01	0.13	0.07	0.17	0.19
<i>CHP: Industrial</i>	1.69	2.33	1.64	1.80	1.36	1.24	1.22	1.23	1.09	0.93	0.94	1.16	1.31	1.36	1.19
<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	6.16	5.78	6.49	7.05
<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	0.59	0.67	0.59
<b>Electricity Generation (Imports)</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.44</b>	<b>0.82</b>	<b>0.28</b>	<b>1.30</b>	<b>2.01</b>	<b>1.31</b>
<i>Specified Imports</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.82	0.28	1.30	2.01	1.31
<b>Transportation</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>8.89</b>	<b>8.33</b>	<b>11.02</b>	<b>11.62</b>
<i>Aviation</i>	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
<i>On Road</i>	0.34	0.46	0.57	3.12	4.77	5.08	5.21	5.15	5.38	5.35	8.19	8.85	8.28	10.97	11.57
<i>Water-borne</i>	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
<b>Industrial</b>	<b>12.15</b>	<b>12.79</b>	<b>11.09</b>	<b>11.11</b>	<b>11.81</b>	<b>12.66</b>	<b>12.73</b>	<b>12.96</b>	<b>12.79</b>	<b>12.53</b>	<b>12.67</b>	<b>13.22</b>	<b>13.37</b>	<b>13.42</b>	<b>13.44</b>
<i>CHP: Industrial</i>	1.29	1.03	0.61	0.62	1.14	1.49	1.52	1.52	1.48	1.23	1.06	1.29	1.21	1.23	1.12
<i>Landfills</i>	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
<i>Manufacturing</i>	0.06	0.07	0.07	0.10	0.13	0.13	0.10	0.10	0.11	0.11	0.19	0.17	0.23	0.31	0.33
<i>Not Specified Industrial</i>	3.72	4.19	2.57	2.50	2.53	2.78	2.56	2.61	2.31	2.13	2.16	2.37	2.33	2.16	2.16
<i>Petroleum Refining and Hydrogen Production</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	0.00	0.00	0.00
<i>Solid Waste Treatment</i>	0.80	0.87	0.95	1.03	1.11	1.19	1.26	1.34	1.42	1.50	1.57	1.65	1.73	1.81	1.88
<b>Commercial</b>	<b>0.60</b>	<b>0.60</b>	<b>0.61</b>	<b>0.64</b>	<b>0.64</b>	<b>0.44</b>	<b>0.43</b>	<b>0.45</b>	<b>0.47</b>	<b>0.53</b>	<b>0.50</b>	<b>0.54</b>	<b>0.48</b>	<b>0.56</b>	<b>0.55</b>
<i>CHP: Commercial</i>	0.02	0.01	0.01	0.01	0.03	0.05	0.06	0.07	0.06	0.03	0.01	0.07	0.06	0.07	0.07
<i>Not Specified Commercial</i>	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
<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>2.38</b>	<b>2.66</b>	<b>3.50</b>	<b>3.05</b>	<b>3.12</b>	<b>2.91</b>	<b>4.02</b>	<b>4.02</b>
<i>Household Use</i>	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
<b>Agriculture &amp; Forestry</b>	<b>1.39</b>	<b>1.16</b>	<b>1.17</b>	<b>1.21</b>	<b>1.23</b>	<b>1.22</b>	<b>1.24</b>	<b>1.29</b>	<b>1.39</b>	<b>1.41</b>	<b>1.45</b>	<b>1.53</b>	<b>1.55</b>	<b>1.55</b>	<b>1.51</b>
<i>Ag Energy Use</i>	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
<i>Ag Residue Burning</i>	1.39	1.16	1.17	1.20	1.21	1.20	1.22	1.28	1.38	1.41	1.44	1.49	1.50	1.52	1.47
<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>	<b>2012</b>	<b>2013</b>	<b>2014</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	41.3	41.5

**California Greenhouse Gas Inventory for 2000-2014 — by Sector and Activity**

*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**

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