

**California Greenhouse Gas Inventory for 2000-2009**  
 — by Category as Defined in the Scoping Plan

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

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>Transportation</b>	<b>171.71</b>	<b>174.79</b>	<b>181.28</b>	<b>179.39</b>	<b>183.18</b>	<b>186.07</b>	<b>186.64</b>	<b>187.08</b>	<b>177.97</b>	<b>172.92</b>
<b>On Road</b>	<b>159.34</b>	<b>162.16</b>	<b>168.61</b>	<b>166.42</b>	<b>169.64</b>	<b>171.14</b>	<b>171.43</b>	<b>172.45</b>	<b>164.27</b>	<b>160.14</b>
Passenger Vehicles	126.85	129.28	135.63	133.06	134.64	134.81	134.70	134.92	129.44	127.75
Heavy Duty Trucks	32.49	32.88	32.98	33.36	35.00	36.33	36.73	37.53	34.83	32.39
<b>Ships &amp; Commercial Boats</b>	<b>3.27</b>	<b>3.04</b>	<b>3.33</b>	<b>3.49</b>	<b>3.48</b>	<b>3.75</b>	<b>3.81</b>	<b>3.78</b>	<b>3.69</b>	<b>3.48</b>
<b>Aviation (Intrastate)</b>	<b>3.84</b>	<b>3.64</b>	<b>3.92</b>	<b>3.77</b>	<b>4.27</b>	<b>4.74</b>	<b>4.90</b>	<b>5.13</b>	<b>5.09</b>	<b>4.99</b>
<b>Rail</b>	<b>1.86</b>	<b>1.87</b>	<b>2.48</b>	<b>2.83</b>	<b>2.89</b>	<b>3.32</b>	<b>3.50</b>	<b>3.15</b>	<b>2.56</b>	<b>1.94</b>
<b>Unspecified</b>	<b>3.41</b>	<b>4.08</b>	<b>2.94</b>	<b>2.88</b>	<b>2.90</b>	<b>3.11</b>	<b>3.00</b>	<b>2.56</b>	<b>2.36</b>	<b>2.38</b>
<b>Electric Power</b>	<b>105.96</b>	<b>122.90</b>	<b>109.70</b>	<b>113.69</b>	<b>116.27</b>	<b>109.02</b>	<b>105.72</b>	<b>115.08</b>	<b>121.22</b>	<b>103.58</b>
<b>In-State Generation</b>	<b>60.07</b>	<b>63.89</b>	<b>50.75</b>	<b>49.14</b>	<b>50.24</b>	<b>46.21</b>	<b>51.04</b>	<b>55.28</b>	<b>55.40</b>	<b>55.53</b>
Natural Gas	51.06	55.44	42.16	40.94	42.41	38.21	43.21	47.20	48.07	48.90
Other Fuels	6.92	6.38	6.39	6.02	5.62	5.81	5.66	5.90	5.17	5.28
Fugitive and Process Emissions	2.08	2.06	2.20	2.19	2.21	2.19	2.16	2.19	2.16	1.36
<b>Imported Electricity</b>	<b>45.90</b>	<b>59.01</b>	<b>58.96</b>	<b>64.55</b>	<b>66.02</b>	<b>62.80</b>	<b>54.68</b>	<b>59.80</b>	<b>65.82</b>	<b>48.05</b>
Unspecified Imports	14.27	25.42	26.92	32.05	32.90	30.02	27.96	32.72	37.92	14.99
Specified Imports	31.63	33.59	32.04	32.50	33.12	32.78	26.72	27.07	27.90	33.06
<b>Commercial and Residential</b>	<b>42.92</b>	<b>40.99</b>	<b>42.96</b>	<b>41.32</b>	<b>42.67</b>	<b>41.04</b>	<b>41.66</b>	<b>41.92</b>	<b>41.54</b>	<b>42.95</b>
<b>Residential Fuel Use</b>	<b>30.12</b>	<b>28.61</b>	<b>28.77</b>	<b>28.31</b>	<b>29.34</b>	<b>28.08</b>	<b>28.40</b>	<b>28.60</b>	<b>28.13</b>	<b>28.61</b>
Natural Gas	28.51	27.34	27.45	26.58	27.29	25.89	26.47	26.64	25.79	26.30
Other Fuels	1.61	1.27	1.32	1.72	2.04	2.19	1.93	1.96	2.34	2.32
<b>Commercial Fuel Use</b>	<b>11.69</b>	<b>11.32</b>	<b>13.12</b>	<b>12.76</b>	<b>12.71</b>	<b>12.56</b>	<b>12.84</b>	<b>12.83</b>	<b>13.03</b>	<b>13.41</b>
Natural Gas	10.24	10.07	11.86	11.34	11.13	10.90	11.58	11.45	11.22	11.41
Other Fuels	1.45	1.25	1.26	1.41	1.59	1.66	1.26	1.38	1.82	2.00
<b>Commercial Cogeneration Heat Output</b>	<b>1.11</b>	<b>1.05</b>	<b>1.07</b>	<b>0.26</b>	<b>0.62</b>	<b>0.40</b>	<b>0.42</b>	<b>0.49</b>	<b>0.37</b>	<b>0.92</b>
<b>Industrial</b>	<b>96.62</b>	<b>93.34</b>	<b>94.29</b>	<b>91.58</b>	<b>93.49</b>	<b>92.75</b>	<b>92.31</b>	<b>89.78</b>	<b>87.09</b>	<b>81.36</b>
<b>Refineries</b>	<b>29.30</b>	<b>29.83</b>	<b>29.98</b>	<b>30.63</b>	<b>29.80</b>	<b>30.93</b>	<b>32.05</b>	<b>31.68</b>	<b>31.18</b>	<b>28.71</b>
<b>General Fuel Use</b>	<b>22.57</b>	<b>21.04</b>	<b>22.46</b>	<b>18.61</b>	<b>19.05</b>	<b>18.16</b>	<b>18.00</b>	<b>16.95</b>	<b>16.59</b>	<b>17.18</b>
Natural Gas	17.12	14.58	15.14	11.93	12.76	12.68	12.35	11.52	10.83	11.05
Other Fuels	5.45	6.46	7.32	6.68	6.29	5.47	5.65	5.43	5.76	6.13
<b>Oil &amp; Gas Extraction [1]</b>	<b>17.60</b>	<b>17.03</b>	<b>15.86</b>	<b>16.82</b>	<b>16.48</b>	<b>15.35</b>	<b>13.98</b>	<b>14.60</b>	<b>13.95</b>	<b>13.40</b>
Fuel Use	16.91	16.19	15.13	16.08	16.11	15.00	13.21	13.80	13.16	12.61
Fugitive Emissions	0.69	0.83	0.73	0.74	0.37	0.35	0.77	0.80	0.79	0.79
<b>Cement Plants</b>	<b>9.40</b>	<b>9.50</b>	<b>9.60</b>	<b>9.70</b>	<b>9.80</b>	<b>9.90</b>	<b>9.73</b>	<b>9.13</b>	<b>8.64</b>	<b>5.72</b>
Clinker Production	5.43	5.52	5.60	5.68	5.77	5.85	5.80	5.55	5.31	3.60
Fuel Use	3.96	3.98	4.00	4.02	4.03	4.05	3.93	3.58	3.33	2.12
<b>Cogeneration Heat Output</b>	<b>11.96</b>	<b>10.60</b>	<b>10.71</b>	<b>10.68</b>	<b>13.00</b>	<b>12.52</b>	<b>12.27</b>	<b>11.23</b>	<b>10.50</b>	<b>10.22</b>
<b>Other Fugitive and Process Emissions</b>	<b>5.78</b>	<b>5.34</b>	<b>5.68</b>	<b>5.13</b>	<b>5.36</b>	<b>5.89</b>	<b>6.28</b>	<b>6.19</b>	<b>6.23</b>	<b>6.12</b>
<b>Recycling and Waste</b>	<b>6.55</b>	<b>6.65</b>	<b>6.61</b>	<b>6.71</b>	<b>6.68</b>	<b>7.00</b>	<b>7.09</b>	<b>7.06</b>	<b>7.26</b>	<b>7.32</b>
<b>Landfills [2]</b>	<b>6.13</b>	<b>6.21</b>	<b>6.14</b>	<b>6.23</b>	<b>6.17</b>	<b>6.47</b>	<b>6.54</b>	<b>6.49</b>	<b>6.66</b>	<b>6.70</b>
<b>Composting</b>	<b>0.42</b>	<b>0.44</b>	<b>0.46</b>	<b>0.48</b>	<b>0.51</b>	<b>0.53</b>	<b>0.55</b>	<b>0.57</b>	<b>0.60</b>	<b>0.62</b>

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	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>High GWP</b>	<b>10.76</b>	<b>11.29</b>	<b>11.89</b>	<b>12.59</b>	<b>13.34</b>	<b>13.88</b>	<b>14.54</b>	<b>14.81</b>	<b>15.77</b>	<b>16.32</b>
<b>Ozone Depleting Substance (ODS) Substitutes</b>	<b>8.55</b>	<b>9.25</b>	<b>10.02</b>	<b>10.77</b>	<b>11.53</b>	<b>12.14</b>	<b>12.71</b>	<b>13.08</b>	<b>13.95</b>	<b>14.51</b>
<b>Electricity Grid SF6 Losses [3]</b>	<b>1.25</b>	<b>1.24</b>	<b>1.16</b>	<b>1.14</b>	<b>1.13</b>	<b>1.12</b>	<b>1.07</b>	<b>1.01</b>	<b>1.03</b>	<b>1.03</b>
<b>Semiconductor Manufacturing [2]</b>	<b>0.97</b>	<b>0.80</b>	<b>0.71</b>	<b>0.68</b>	<b>0.68</b>	<b>0.62</b>	<b>0.76</b>	<b>0.73</b>	<b>0.78</b>	<b>0.78</b>
<b>Agriculture [4]</b>	<b>28.95</b>	<b>29.10</b>	<b>32.26</b>	<b>30.67</b>	<b>32.34</b>	<b>32.61</b>	<b>33.75</b>	<b>32.91</b>	<b>33.68</b>	<b>32.13</b>
<b>Livestock</b>	<b>16.43</b>	<b>17.10</b>	<b>17.63</b>	<b>16.27</b>	<b>17.58</b>	<b>18.19</b>	<b>18.52</b>	<b>19.72</b>	<b>19.90</b>	<b>19.64</b>
Enteric Fermentation (Digestive Process)	8.24	8.40	8.65	8.32	8.68	8.97	9.05	9.47	9.45	9.30
Manure Management	8.18	8.69	8.98	7.95	8.90	9.22	9.47	10.26	10.45	10.35
<b>Crop Growing &amp; Harvesting</b>	<b>8.70</b>	<b>8.20</b>	<b>10.26</b>	<b>10.05</b>	<b>10.26</b>	<b>9.82</b>	<b>9.92</b>	<b>9.40</b>	<b>9.91</b>	<b>9.84</b>
Fertilizers	7.25	6.96	8.87	8.67	8.80	8.38	8.30	7.97	8.53	8.44
Soil Preparation and Disturbances	1.37	1.18	1.34	1.31	1.40	1.37	1.55	1.36	1.31	1.32
Crop Residue Burning	0.08	0.06	0.06	0.06	0.06	0.07	0.06	0.07	0.07	0.07
<b>General Fuel Use</b>	<b>3.82</b>	<b>3.81</b>	<b>4.37</b>	<b>4.35</b>	<b>4.50</b>	<b>4.60</b>	<b>5.30</b>	<b>3.78</b>	<b>3.87</b>	<b>2.65</b>
Diesel	2.51	2.68	3.02	3.09	3.15	3.38	3.85	2.66	2.98	1.77
Natural Gas	1.00	0.75	0.94	0.85	0.82	0.69	0.88	0.79	0.72	0.70
Gasoline	0.31	0.38	0.41	0.41	0.52	0.52	0.57	0.33	0.17	0.17
Other Fuels	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
<b>Forestry</b>	<b>0.19</b>	<b>0.19</b>	<b>0.19</b>	<b>0.19</b>	<b>0.19</b>	<b>0.19</b>	<b>0.19</b>	<b>0.19</b>	<b>0.19</b>	<b>0.19</b>
<b>Wildfire (CH<sub>4</sub> &amp; N<sub>2</sub>O Emissions)</b>	<b>0.19</b>	<b>0.19</b>	<b>0.19</b>	<b>0.19</b>	<b>0.19</b>	<b>0.19</b>	<b>0.19</b>	<b>0.19</b>	<b>0.19</b>	<b>0.19</b>
<b>Total Gross Emissions</b>	<b>463.65</b>	<b>479.25</b>	<b>479.18</b>	<b>476.14</b>	<b>488.16</b>	<b>482.54</b>	<b>481.89</b>	<b>488.83</b>	<b>484.72</b>	<b>456.77</b>
<b>Forestry Net Emissions</b>	<b>-4.49</b>	<b>-4.30</b>	<b>-4.16</b>	<b>-4.16</b>	<b>-4.16</b>	<b>-4.03</b>	<b>-3.87</b>	<b>-3.94</b>	<b>-3.84</b>	<b>-3.80</b>

**Total Net Emissions 459.17 474.95 475.02 471.98 484.00 478.52 478.02 484.89 480.88 452.97**

[1] Reflects emissions from combustion of natural gas, diesel, and lease fuel plus fugitive emissions

[2] These categories are listed in the Industrial sector of ARB's GHG Emission Inventory sectors

[3] This category is listed in the Electric Power sector of ARB's GHG Emission Inventory sectors

[4] Reflects use of updated USEPA models for determining emissions from livestock and fertilizers