

## California Greenhouse Gas Inventory for 2000-2019 — by Sector and Activity

*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>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
<b>Electricity Generation (In State)</b>	<b>59.22</b>	<b>63.23</b>	<b>49.88</b>	<b>48.24</b>	<b>49.32</b>	<b>45.20</b>	<b>49.99</b>	<b>54.23</b>	<b>54.43</b>	<b>53.43</b>	<b>46.87</b>	<b>42.78</b>	<b>53.90</b>	<b>51.60</b>	<b>52.17</b>	<b>50.97</b>	<b>42.27</b>	<b>38.31</b>	<b>38.63</b>	<b>37.25</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	1.14	1.34	1.35	1.26	1.37	1.07	1.15	0.76	0.65
<i>CHP: Industrial</i>	18.07	16.62	20.16	17.68	15.22	14.71	13.76	13.71	13.55	14.71	12.55	14.26	13.50	14.14	13.95	12.64	11.27	10.40	10.55	9.79
<i>Merchant Owned</i>	32.94	38.85	23.78	24.04	27.52	23.13	26.22	29.26	28.78	27.42	21.40	16.85	25.23	22.82	23.53	22.95	17.24	14.98	15.77	15.65
<i>Transmission and Distribution</i>	0.37	0.34	0.29	0.28	0.26	0.25	0.23	0.20	0.19	0.18	0.16	0.17	0.16	0.20	0.11	0.09	0.07	0.13	0.09	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	10.36	13.68	13.10	13.31	13.92	12.62	11.64	11.46	11.07
<b>Electricity Generation (Imports)</b>	<b>46.04</b>	<b>59.17</b>	<b>59.12</b>	<b>64.70</b>	<b>66.18</b>	<b>62.93</b>	<b>54.78</b>	<b>59.90</b>	<b>65.92</b>	<b>48.13</b>	<b>43.67</b>	<b>46.67</b>	<b>44.50</b>	<b>40.09</b>	<b>36.86</b>	<b>33.99</b>	<b>26.40</b>	<b>24.00</b>	<b>24.62</b>	<b>21.72</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	31.35	27.02	28.15	23.35	22.72	16.67	15.10	13.00	11.77
<i>Transmission and Distribution</i>	0.14	0.15	0.16	0.14	0.14	0.12	0.10	0.10	0.10	0.09	0.08	0.08	0.08	0.10	0.06	0.05	0.03	0.06	0.05	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	15.24	17.40	11.83	13.45	11.22	9.69	8.85	11.57	9.90
<b>Transportation</b>	<b>181.28</b>	<b>181.75</b>	<b>189.29</b>	<b>186.99</b>	<b>188.86</b>	<b>190.99</b>	<b>191.17</b>	<b>191.07</b>	<b>179.86</b>	<b>173.07</b>	<b>170.21</b>	<b>166.77</b>	<b>166.29</b>	<b>166.14</b>	<b>167.42</b>	<b>170.92</b>	<b>174.31</b>	<b>175.63</b>	<b>173.95</b>	<b>170.32</b>
<i>Aviation</i>	4.21	4.02	4.17	4.25	4.49	4.49	4.56	4.97	4.50	4.03	3.84	3.73	3.75	3.93	3.90	4.22	4.44	4.68	4.65	4.36
<i>Not Specified Transportation</i>	4.87	5.02	5.28	5.54	5.92	6.43	6.77	6.78	7.14	6.74	7.12	6.62	6.51	6.48	6.65	6.67	6.20	6.00	5.94	6.02
<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	2.53	2.63	2.73	2.83	2.93
<i>On Road</i>	164.76	165.30	171.57	168.36	169.41	170.20	169.64	169.64	159.79	155.07	151.20	148.08	147.71	147.15	147.85	151.20	155.16	156.57	154.57	151.58
<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	2.63	2.42	2.17	1.83	2.22	1.60
<i>Water-borne</i>	2.93	2.72	3.00	3.13	3.10	3.32	3.36	3.33	3.23	3.04	3.71	3.56	3.60	3.86	3.95	3.89	3.72	3.82	3.74	3.84
<b>Industrial</b>	<b>104.60</b>	<b>102.91</b>	<b>104.14</b>	<b>103.56</b>	<b>106.21</b>	<b>104.76</b>	<b>102.42</b>	<b>99.27</b>	<b>99.69</b>	<b>97.14</b>	<b>101.26</b>	<b>99.79</b>	<b>99.38</b>	<b>102.29</b>	<b>103.36</b>	<b>101.33</b>	<b>100.28</b>	<b>100.27</b>	<b>100.81</b>	<b>99.91</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	9.97	8.96	9.01	8.25	7.98	7.84	7.59	8.10	7.39
<i>Landfills</i>	7.24	7.39	7.34	7.46	7.45	7.61	7.66	7.73	7.87	7.95	8.03	8.09	8.02	8.05	8.09	8.15	8.23	8.31	8.37	8.48
<i>Manufacturing</i>	27.67	26.63	28.39	24.89	25.31	24.52	24.67	22.70	23.22	19.90	22.13	23.56	24.35	25.16	25.39	24.98	24.60	24.41	24.45	25.63
<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	0.15	0.15	0.16	0.17	0.17	0.16
<i>Not Specified Industrial</i>	2.86	2.86	3.04	3.04	3.18	3.59	3.73	3.69	3.65	3.53	3.93	4.01	4.07	4.48	4.67	4.89	5.07	5.11	5.16	4.89
<i>Oil &amp; Gas: Production &amp; Processing</i>	19.08	19.38	18.13	20.68	20.87	19.54	17.50	17.56	18.89	17.75	16.81	16.77	16.76	18.92	19.20	19.27	16.75	16.87	16.68	16.58
<i>Petroleum Marketing</i>	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	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	30.01	29.78	29.36	29.71	28.28	29.70	29.98	30.00	28.75
<i>Solid Waste Treatment</i>	0.13	0.15	0.16	0.17	0.18	0.20	0.21	0.22	0.24	0.25	0.26	0.27	0.29	0.30	0.31	0.33	0.34	0.35	0.36	0.38
<i>Solvents &amp; Chemicals</i>	0.43	0.40	0.35	0.36	0.33	0.35	0.35	0.35	0.35	0.33	0.33	0.32	0.31	0.31	0.31	0.31	0.31	0.32	0.32	0.34
<i>Transmission and Distribution</i>	4.23	4.37	4.63	4.30	4.62	4.55	4.47	4.57	4.59	4.55	4.69	4.71	4.75	4.62	5.32	5.06	5.33	5.22	5.20	5.33
<i>Wastewater Treatment</i>	1.93	1.91	1.93	1.91	1.92	1.91	1.91	1.93	1.90	1.88	1.94	1.92	1.92	1.92	1.94	1.92	1.92	1.93	1.99	1.99
<b>Commercial</b>	<b>14.12</b>	<b>14.08</b>	<b>16.10</b>	<b>15.29</b>	<b>15.83</b>	<b>15.79</b>	<b>16.53</b>	<b>17.07</b>	<b>17.68</b>	<b>18.64</b>	<b>20.09</b>	<b>20.39</b>	<b>20.88</b>	<b>21.43</b>	<b>21.29</b>	<b>22.03</b>	<b>23.19</b>	<b>23.40</b>	<b>23.90</b>	<b>24.17</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	0.46	0.54	0.50	0.52	0.52	0.78	0.85	0.72	0.74
<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	0.11	0.12	0.11	0.11	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	0.23	0.24	0.23	0.24	0.26
<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	1.02	0.85	0.84	0.90	0.94	0.96	1.03

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<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	2.33	2.31	2.32	2.36	2.37	2.38	2.40
<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	1.54	1.56	1.46	1.46	1.50	1.51	1.50	1.54
<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	0.71	0.72	0.73	0.71	0.70	0.72
<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	0.56	0.56	0.56	0.57	0.57	0.58	0.58	0.58	0.59
<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	0.13	0.13	0.14	0.13	0.15	0.16
<i>Not Specified Commercial</i>	4.98	5.18	5.88	6.38	6.68	7.01	7.09	7.58	8.46	8.96	10.28	10.90	11.28	11.87	12.32	13.03	13.66	13.74	14.32	14.33
<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	0.66	0.64	0.49	0.49	0.51	0.53	0.53	0.56
<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	1.09	0.99	1.05	1.11	1.18	1.17	1.21
<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	0.57	0.56	0.56	0.53	0.52	0.53
<b>Residential</b>	<b>31.73</b>	<b>30.80</b>	<b>30.94</b>	<b>30.47</b>	<b>31.50</b>	<b>30.29</b>	<b>30.73</b>	<b>30.89</b>	<b>31.31</b>	<b>31.05</b>	<b>32.13</b>	<b>32.85</b>	<b>30.88</b>	<b>32.04</b>	<b>27.19</b>	<b>27.95</b>	<b>29.28</b>	<b>30.39</b>	<b>30.48</b>	<b>33.02</b>
<i>Household Use</i>	29.38	28.46	28.62	28.14	29.16	27.97	28.35	28.49	28.80	28.46	29.19	29.59	27.31	28.11	22.92	23.33	24.36	25.10	24.84	27.05
<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	0.85	0.85	0.86	0.86	0.86
<i>Not Specified Residential</i>	0.84	0.80	0.78	0.76	0.75	0.71	0.76	0.77	0.86	0.94	1.26	1.57	1.88	2.22	2.55	2.88	3.17	3.54	3.88	4.20
<i>Transmission and Distribution</i>	0.78	0.79	0.79	0.80	0.81	0.83	0.84	0.85	0.85	0.85	0.87	0.87	0.87	0.88	0.88	0.89	0.89	0.89	0.90	0.90
<b>Agriculture &amp; Forestry</b>	<b>30.97</b>	<b>31.15</b>	<b>33.24</b>	<b>33.54</b>	<b>32.83</b>	<b>33.70</b>	<b>34.72</b>	<b>35.22</b>	<b>35.09</b>	<b>32.85</b>	<b>33.68</b>	<b>34.34</b>	<b>35.46</b>	<b>33.83</b>	<b>34.68</b>	<b>33.53</b>	<b>33.29</b>	<b>32.49</b>	<b>32.75</b>	<b>31.75</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	3.88	3.71	4.51	4.40	3.97	3.11	3.23	2.54
<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	0.08	0.08	0.09	0.09	0.10
<i>Ag Soil Management</i>	7.10	6.99	7.24	7.18	7.04	7.09	7.22	6.74	6.51	6.37	6.45	6.34	6.64	6.10	5.91	5.58	5.62	5.61	5.71	5.57
<i>Enteric Fermentation</i>	9.86	9.76	10.39	10.47	10.25	10.55	10.60	11.71	11.46	11.10	11.55	11.40	11.52	11.22	11.28	10.95	10.93	11.14	11.13	10.97
<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	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	11.70	11.64	11.75	11.69	11.63
<i>Rice Cultivation</i>	0.70	0.73	0.76	0.81	0.79	0.86	0.71	0.94	0.71	0.80	0.81	0.85	0.83	0.86	0.78	0.67	0.89	0.65	0.75	0.80
<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>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
California Emissions	468.0	483.1	482.7	482.8	490.7	483.7	480.4	487.7	484.0	454.3	447.9	443.6	451.3	447.4	443.0	440.7	429.0	424.5	425.1	418.2