

## California Nitrous Oxide Inventory for 2000-2015 — by Sector and Activity

N2O

million tonnes of CO2 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	2015
<b>Electricity Generation (In State)</b>	<b>0.14</b>	<b>0.14</b>	<b>0.14</b>	<b>0.14</b>	<b>0.13</b>	<b>0.13</b>	<b>0.13</b>	<b>0.13</b>	<b>0.13</b>	<b>0.14</b>	<b>0.13</b>	<b>0.12</b>	<b>0.12</b>	<b>0.13</b>	<b>0.13</b>	<b>0.22</b>
<i>CHP: Commercial</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	0.00
<i>CHP: Industrial</i>	0.05	0.06	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.04	0.03	0.03	0.03	0.05
<i>Merchant Owned</i>	0.09	0.08	0.09	0.08	0.08	0.08	0.09	0.08	0.08	0.10	0.09	0.08	0.08	0.09	0.09	0.16
<i>Utility Owned</i>	0.01	0.00	0.00	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
<b>Electricity Generation (Imports)</b>	<b>0.22</b>	<b>0.28</b>	<b>0.27</b>	<b>0.29</b>	<b>0.29</b>	<b>0.28</b>	<b>0.24</b>	<b>0.26</b>	<b>0.29</b>	<b>0.13</b>	<b>0.14</b>	<b>0.14</b>	<b>0.14</b>	<b>0.25</b>	<b>0.11</b>	<b>0.11</b>
<i>Specified Imports</i>	0.16	0.17	0.16	0.16	0.17	0.16	0.13	0.13	0.13	0.12	0.13	0.13	0.12	0.25	0.10	0.11
<i>Unspecified Imports</i>	0.06	0.11	0.11	0.13	0.13	0.12	0.10	0.13	0.16	0.01	0.01	0.01	0.01	0.01	0.01	0.01
<b>Transportation</b>	<b>4.59</b>	<b>4.12</b>	<b>3.81</b>	<b>3.52</b>	<b>3.15</b>	<b>2.82</b>	<b>2.57</b>	<b>2.35</b>	<b>2.10</b>	<b>1.94</b>	<b>1.85</b>	<b>1.73</b>	<b>1.62</b>	<b>1.53</b>	<b>1.44</b>	<b>1.38</b>
<i>Aviation</i>	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03
<i>Not Specified Transportation</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	0.00
<i>Off Road</i>	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01
<i>On Road</i>	4.53	4.07	3.75	3.46	3.09	2.76	2.50	2.28	2.04	1.89	1.80	1.67	1.56	1.47	1.38	1.32
<i>Rail</i>	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01
<i>Water-borne</i>	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	0.01	0.01	0.01
<b>Industrial</b>	<b>0.99</b>	<b>0.99</b>	<b>0.98</b>	<b>0.99</b>	<b>1.02</b>	<b>1.02</b>	<b>1.04</b>	<b>1.05</b>	<b>1.04</b>	<b>1.04</b>	<b>1.11</b>	<b>1.12</b>	<b>1.15</b>	<b>1.16</b>	<b>1.13</b>	<b>1.15</b>
<i>CHP: Industrial</i>	0.04	0.03	0.02	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.04
<i>Landfills</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	0.00
<i>Manufacturing</i>	0.10	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.07	0.08	0.06	0.08	0.08	0.05	0.06
<i>Mining</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	0.00
<i>Not Specified Industrial</i>	0.05	0.06	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
<i>Oil &amp; Gas: Production &amp; Processing</i>	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	0.01	0.01	0.01
<i>Petroleum Refining &amp; Hydrogen Production</i>	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.08	0.08	0.08	0.08	0.08	0.07	0.08	0.08	0.05
<i>Solid Waste Treatment</i>	0.04	0.05	0.05	0.05	0.06	0.06	0.07	0.07	0.07	0.08	0.08	0.09	0.09	0.09	0.10	0.10
<i>Transmission and Distribution</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	0.00
<i>Wastewater Treatment</i>	0.67	0.66	0.68	0.69	0.70	0.69	0.71	0.72	0.73	0.73	0.79	0.82	0.83	0.84	0.85	0.86
<b>Commercial</b>	<b>0.52</b>	<b>0.53</b>	<b>0.53</b>	<b>0.54</b>	<b>0.55</b>	<b>0.55</b>	<b>0.55</b>	<b>0.55</b>	<b>0.56</b>	<b>0.56</b>	<b>0.57</b>	<b>0.57</b>	<b>0.58</b>	<b>0.58</b>	<b>0.59</b>	<b>0.59</b>
<i>CHP: Commercial</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	0.00
<i>Communication</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	0.00
<i>Domestic Utilities</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	0.00
<i>Education</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	0.00
<i>Food Services</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	0.00
<i>Health Care</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	0.00
<i>Hotels</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	0.00
<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	0.56	0.57	0.57
<i>National Security</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	0.00
<i>Not Specified Commercial</i>	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	0.01	0.01	0.01

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N2O

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>
Offices	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
Retail & Wholesale	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
Transportation Services	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>Residential</b>	<b>0.80</b>	<b>0.81</b>	<b>0.82</b>	<b>0.83</b>	<b>0.84</b>	<b>0.83</b>	<b>0.83</b>	<b>0.84</b>	<b>0.86</b>	<b>0.87</b>	<b>0.87</b>	<b>0.88</b>	<b>0.88</b>	<b>0.90</b>	<b>0.91</b>	<b>0.92</b>
Household Use	0.07	0.06	0.06	0.07	0.07	0.05	0.05	0.05	0.06	0.07	0.06	0.06	0.06	0.07	0.07	0.07
Landscape	0.74	0.75	0.76	0.77	0.78	0.78	0.79	0.79	0.80	0.80	0.81	0.82	0.82	0.83	0.84	0.85
<b>Agriculture &amp; Forestry</b>	<b>8.43</b>	<b>8.45</b>	<b>8.70</b>	<b>8.72</b>	<b>8.46</b>	<b>8.51</b>	<b>8.51</b>	<b>8.26</b>	<b>8.06</b>	<b>7.91</b>	<b>7.96</b>	<b>7.82</b>	<b>8.14</b>	<b>7.76</b>	<b>7.87</b>	<b>7.36</b>
Ag Energy Use	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	0.01	0.01	0.01
Ag Residue Burning	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Ag Soil Management	6.84	6.84	7.01	6.98	6.81	6.80	6.75	6.48	6.32	6.22	6.27	6.13	6.39	6.07	6.16	5.67
Histosol Cultivation	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
Manure Management	1.38	1.41	1.50	1.54	1.45	1.50	1.55	1.57	1.53	1.49	1.48	1.48	1.54	1.48	1.50	1.49
<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>
California N2O Emissions	15.7	15.3	15.3	15.0	14.4	14.1	13.9	13.4	13.0	12.6	12.6	12.4	12.6	12.3	12.2	11.7

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N<sub>2</sub>Omillion 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>Transportation</b>	<b>0.34</b>	<b>0.31</b>	<b>0.33</b>	<b>0.31</b>	<b>0.34</b>	<b>0.34</b>	<b>0.35</b>	<b>0.37</b>	<b>0.34</b>	<b>0.34</b>	<b>0.33</b>	<b>0.33</b>	<b>0.32</b>	<b>0.34</b>	<b>0.36</b>	<b>0.38</b>
<i>Aviation</i>	0.30	0.28	0.30	0.29	0.31	0.31	0.32	0.33	0.30	0.29	0.29	0.29	0.28	0.30	0.32	0.35
<i>Water-borne</i>	0.04	0.03	0.03	0.02	0.03	0.04	0.04	0.04	0.04	0.04	0.05	0.04	0.04	0.04	0.04	0.04
<b>Military</b>	<b>0.03</b>	<b>0.04</b>	<b>0.03</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>0.02</b>	<b>0.03</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>
<i>Not Specified Military</i>	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.02
<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 N <sub>2</sub> O Emissions	0.4	0.3	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4

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**N2O**

*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