Annex 1E. Oil and Gas Production (IPCC 1A1cii)
to the Technical Support Document for the 2000-2012 California's Greenhouse Gas Emissions Inventory

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Variables Used in the Emissions Estimation Equations

Values last updated on Monday, March 24, 2014

IPCC category = 1A1cii — Fuel Combustion Activities - Energy Industries - Manufacture of Solid Fuels and Other Energy Industries - Other Energy Industries

► ***Sector = Oil & Gas Extraction***

Activity = Fuel combustion - Associated gas

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Associated gas	2000	60,003,174,000 scf	Winkler, 2013
Fuel combustion - Associated gas	2001	50,896,856,000 scf	Winkler, 2013
Fuel combustion - Associated gas	2002	66,937,003,000 scf	Winkler, 2013
Fuel combustion - Associated gas	2003	72,817,985,000 scf	Winkler, 2013
Fuel combustion - Associated gas	2004	71,351,010,000 scf	Winkler, 2013
Fuel combustion - Associated gas	2005	66,293,236,000 scf	Winkler, 2013
Fuel combustion - Associated gas	2006	58,796,133,000 scf	Winkler, 2013
Fuel combustion - Associated gas	2007	58,815,569,000 scf	Winkler, 2013
Fuel combustion - Associated gas	2008	66,815,980,000 scf	Winkler, 2013
Fuel combustion - Associated gas	2009	65,777,908,000 scf	Winkler, 2013
Fuel combustion - Associated gas	2010	67,705,218,000 scf	Winkler, 2013
Fuel combustion - Associated gas	2011	66,550,606,000 scf	Winkler, 2013
Fuel combustion - Associated gas	2012	66,817,622,000 scf	Winkler, 2013
Fuel CH4 emission	2000	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	1.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.0651 g / btu	Wang, 2007
Fuel CO2 emission	2001	0.0651 g / btu	Wang, 2007
Fuel CO2 emission	2002	0.0651 g / btu	Wang, 2007
Fuel CO2 emission	2003	0.0651 g / btu	Wang, 2007
Fuel CO2 emission	2004	0.0651 g / btu	Wang, 2007
Fuel CO2 emission	2005	0.0651 g / btu	Wang, 2007
Fuel CO2 emission	2006	0.0651 g / btu	Wang, 2007
Fuel CO2 emission	2007	0.0651 g / btu	Wang, 2007
Fuel CO2 emission	2008	0.0651 g / btu	Wang, 2007
Fuel CO2 emission	2009	0.0651 g / btu	Wang, 2007
Fuel CO2 emission	2010	0.0651 g / btu	Wang, 2007
Fuel CO2 emission	2011	0.0651 g / btu	Wang, 2007
Fuel CO2 emission	2012	0.0651 g / btu	Wang, 2007
Fuel N2O emission	2000	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	1.000E-07 g / btu	USEPA, 2012b

Fuel N2O emission	2005	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	1.000E-07 g / btu	USEPA, 2012b
Heat content	2000	808 btu / scf	Wang, 2007
Heat content	2001	808 btu / scf	Wang, 2007
Heat content	2002	808 btu / scf	Wang, 2007
Heat content	2003	808 btu / scf	Wang, 2007
Heat content	2004	808 btu / scf	Wang, 2007
Heat content	2005	808 btu / scf	Wang, 2007
Heat content	2006	808 btu / scf	Wang, 2007
Heat content	2007	808 btu / scf	Wang, 2007
Heat content	2008	808 btu / scf	Wang, 2007
Heat content	2009	808 btu / scf	Wang, 2007
Heat content	2010	808 btu / scf	Wang, 2007
Heat content	2011	808 btu / scf	Wang, 2007
Heat content	2012	808 btu / scf	Wang, 2007

Activity = Fuel combustion - Crude oil

- Variable Name -	*- Year -*	*- Value and Units -*	*- Reference -*
Fuel combustion - Crude oil	2000	0 gal	Winkler, 2013
Fuel combustion - Crude oil	2001	0 gal	Winkler, 2013
Fuel combustion - Crude oil	2002	0 gal	Winkler, 2013
Fuel combustion - Crude oil	2003	0 gal	Winkler, 2013
Fuel combustion - Crude oil	2004	0 gal	Winkler, 2013
Fuel combustion - Crude oil	2005	0 gal	Winkler, 2013
Fuel combustion - Crude oil	2006	0 gal	Winkler, 2013
Fuel combustion - Crude oil	2007	0 gal	Winkler, 2013
Fuel combustion - Crude oil	2008	0 gal	Winkler, 2013
Fuel combustion - Crude oil	2009	0 gal	Winkler, 2013
Fuel combustion - Crude oil	2010	0 gal	Winkler, 2013
Fuel combustion - Crude oil	2011	0 gal	Winkler, 2013
Fuel combustion - Crude oil	2012	0 gal	Winkler, 2013
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.0745 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.0745 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.0745 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.0745 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.0745 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.0745 g / btu	USEPA, 2012b

Fuel CO2 emission	2006	0.0745 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.0745 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.0745 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.0745 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.0745 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.0745 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.0745 g / btu	USEPA, 2012b
Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	138,000 btu / gal	USEPA, 2012b
Heat content	2001	138,000 btu / gal	USEPA, 2012b
Heat content	2002	138,000 btu / gal	USEPA, 2012b
Heat content	2003	138,000 btu / gal	USEPA, 2012b
Heat content	2004	138,000 btu / gal	USEPA, 2012b
Heat content	2005	138,000 btu / gal	USEPA, 2012b
Heat content	2006	138,000 btu / gal	USEPA, 2012b
Heat content	2007	138,000 btu / gal	USEPA, 2012b
Heat content	2008	138,000 btu / gal	USEPA, 2012b
Heat content	2009	138,000 btu / gal	USEPA, 2012b
Heat content	2010	138,000 btu / gal	USEPA, 2012b
Heat content	2011	138,000 btu / gal	USEPA, 2012b
Heat content	2012	138,000 btu / gal	USEPA, 2012b

Activity = Fuel combustion - Distillate

- Variable Name -	*- Year -*	*- Value and Units -*	*- Reference -*
Fuel combustion - Distillate	2000	6,038,000 gal	EIA, 2013b
Fuel combustion - Distillate	2001	7,963,000 gal	EIA, 2013b
Fuel combustion - Distillate	2002	10,389,000 gal	EIA, 2013b
Fuel combustion - Distillate	2003	10,988,500 gal	EIA, 2013b
Fuel combustion - Distillate	2004	11,588,000 gal	EIA, 2013b
Fuel combustion - Distillate	2005	10,417,000 gal	EIA, 2013b
Fuel combustion - Distillate	2006	8,877,000 gal	EIA, 2013b
Fuel combustion - Distillate	2007	12,171,000 gal	EIA, 2013b
Fuel combustion - Distillate	2008	12,226,000 gal	EIA, 2013b
Fuel combustion - Distillate	2009	2,735,000 gal	EIA, 2013b
Fuel combustion - Distillate	2010	2,610,000 gal	EIA, 2013b
Fuel combustion - Distillate	2011	6,525,000 gal	EIA, 2013b
Fuel combustion - Distillate	2012	7,866,000 gal	EIA, 2013b
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b

Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.074 g / btu	USEPA, 2012b
Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	138,000 btu / gal	USEPA, 2012b
Heat content	2001	138,000 btu / gal	USEPA, 2012b
Heat content	2002	138,000 btu / gal	USEPA, 2012b
Heat content	2003	138,000 btu / gal	USEPA, 2012b
Heat content	2004	138,000 btu / gal	USEPA, 2012b
Heat content	2005	138,000 btu / gal	USEPA, 2012b
Heat content	2006	138,000 btu / gal	USEPA, 2012b
Heat content	2007	138,000 btu / gal	USEPA, 2012b
Heat content	2008	138,000 btu / gal	USEPA, 2012b
Heat content	2009	138,000 btu / gal	USEPA, 2012b
Heat content	2010	138,000 btu / gal	USEPA, 2012b
Heat content	2011	138,000 btu / gal	USEPA, 2012b
Heat content	2012	138,000 btu / gal	USEPA, 2012b

Activity = Fuel combustion - Natural gas

- Variable Name -	*- Year -*	*- Value and Units -*	*- Reference -*
Fuel combustion - Natural gas	2000	281,827,430,172 scf	Gough, 2013
Fuel combustion - Natural gas	2001	275,200,560,924 scf	Gough, 2013
Fuel combustion - Natural gas	2002	236,792,903,130 scf	Gough, 2013
Fuel combustion - Natural gas	2003	278,504,500,469 scf	Gough, 2013
Fuel combustion - Natural gas	2004	283,021,458,383 scf	Gough, 2013
Fuel combustion - Natural gas	2005	263,468,671,453 scf	Gough, 2013
Fuel combustion - Natural gas	2006	231,485,960,835 scf	Gough, 2013
Fuel combustion - Natural gas	2007	229,928,174,470 scf	Gough, 2013

Fuel combustion - Natural gas	2008	241,770,190,774 scf	Gough, 2013
Fuel combustion - Natural gas	2009	228,038,669,848 scf	Gough, 2013
Fuel combustion - Natural gas	2010	210,499,912,979 scf	Gough, 2013
Fuel combustion - Natural gas	2011	209,552,434,854 scf	Gough, 2013
Fuel combustion - Natural gas	2012	218,513,424,861 scf	Gough, 2013
Fuel CH4 emission	2000	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	1.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.053 g / btu	USEPA, 2012b
Fuel N2O emission	2000	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	1.000E-07 g / btu	USEPA, 2012b
Heat content	2000	956 btu / scf	EIA, 2013c
Heat content	2001	1,015 btu / scf	EIA, 2013c
Heat content	2002	1,019 btu / scf	EIA, 2013c
Heat content	2003	1,020 btu / scf	EIA, 2013c
Heat content	2004	1,020 btu / scf	EIA, 2013c
Heat content	2005	1,023 btu / scf	EIA, 2013c
Heat content	2006	1,023 btu / scf	EIA, 2013c
Heat content	2007	1,029 btu / scf	EIA, 2013c
Heat content	2008	1,029 btu / scf	EIA, 2013c
Heat content	2009	1,027 btu / scf	EIA, 2013c
Heat content	2010	1,022 btu / scf	EIA, 2013c

Heat content	2011	1,019 btu / scf	EIA, 2013c
Heat content	2012	1,026 btu / scf	USEPA, 2012b

Activity = Fuel combustion - Residual fuel oil

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Residual fuel oil	2000	0 gal	EIA, 2013b
Fuel combustion - Residual fuel oil	2001	14,831,000 gal	EIA, 2013b
Fuel combustion - Residual fuel oil	2002	5,755,000 gal	EIA, 2013b
Fuel combustion - Residual fuel oil	2003	701,000 gal	EIA, 2013b
Fuel combustion - Residual fuel oil	2004	0 gal	EIA, 2013b
Fuel combustion - Residual fuel oil	2005	0 gal	EIA, 2013b
Fuel combustion - Residual fuel oil	2006	0 gal	EIA, 2013b
Fuel combustion - Residual fuel oil	2007	0 gal	EIA, 2013b
Fuel combustion - Residual fuel oil	2008	15,428,000 gal	EIA, 2013b
Fuel combustion - Residual fuel oil	2009	0 gal	EIA, 2013b
Fuel combustion - Residual fuel oil	2010	0 gal	EIA, 2013b
Fuel combustion - Residual fuel oil	2011	0 gal	EIA, 2013b
Fuel combustion - Residual fuel oil	2012	0 gal	EIA, 2013b
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.0751 g / btu	USEPA, 2012b
Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b

Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	150,000 btu / gal	USEPA, 2012b
Heat content	2001	150,000 btu / gal	USEPA, 2012b
Heat content	2002	150,000 btu / gal	USEPA, 2012b
Heat content	2003	150,000 btu / gal	USEPA, 2012b
Heat content	2004	150,000 btu / gal	USEPA, 2012b
Heat content	2005	150,000 btu / gal	USEPA, 2012b
Heat content	2006	150,000 btu / gal	USEPA, 2012b
Heat content	2007	150,000 btu / gal	USEPA, 2012b
Heat content	2008	150,000 btu / gal	USEPA, 2012b
Heat content	2009	150,000 btu / gal	USEPA, 2012b
Heat content	2010	150,000 btu / gal	USEPA, 2012b
Heat content	2011	150,000 btu / gal	USEPA, 2012b
Heat content	2012	150,000 btu / gal	USEPA, 2012b

► *Sector = Pipelines : Natural Gas Pipelines*

Activity = Fuel combustion - Natural gas

- Variable Name -	*- Year -*	*- Value and Units -*	*- Reference -*
Fuel combustion - Natural gas	2000	9,698,399,000 scf	EIA, 2013c
Fuel combustion - Natural gas	2001	10,912,664,000 scf	EIA, 2013c
Fuel combustion - Natural gas	2002	9,610,385,000 scf	EIA, 2013c
Fuel combustion - Natural gas	2003	8,670,105,000 scf	EIA, 2013c
Fuel combustion - Natural gas	2004	12,969,378,000 scf	EIA, 2013c
Fuel combustion - Natural gas	2005	10,775,178,000 scf	EIA, 2013c
Fuel combustion - Natural gas	2006	7,023,196,000 scf	EIA, 2013c
Fuel combustion - Natural gas	2007	8,993,651,000 scf	EIA, 2013c
Fuel combustion - Natural gas	2008	7,744,000,000 scf	EIA, 2013c
Fuel combustion - Natural gas	2009	6,386,000,000 scf	EIA, 2013c
Fuel combustion - Natural gas	2010	9,741,000,000 scf	EIA, 2013c
Fuel combustion - Natural gas	2011	9,978,000,000 scf	EIA, 2013c
Fuel combustion - Natural gas	2012	9,978,000,000 scf	Assume equal to previous year
Fuel CH4 emission	2000	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	1.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.053 g / btu	USEPA, 2012b

Fuel CO2 emission	2011	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.053 g / btu	USEPA, 2012b
Fuel N2O emission	2000	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	1.000E-07 g / btu	USEPA, 2012b
Heat content	2000	956 btu / scf	EIA, 2013c
Heat content	2001	1,015 btu / scf	EIA, 2013c
Heat content	2002	1,019 btu / scf	EIA, 2013c
Heat content	2003	1,020 btu / scf	EIA, 2013c
Heat content	2004	1,020 btu / scf	EIA, 2013c
Heat content	2005	1,023 btu / scf	EIA, 2013c
Heat content	2006	1,023 btu / scf	EIA, 2013c
Heat content	2007	1,029 btu / scf	EIA, 2013c
Heat content	2008	1,029 btu / scf	EIA, 2013c
Heat content	2009	1,027 btu / scf	EIA, 2013c
Heat content	2010	1,022 btu / scf	EIA, 2013c
Heat content	2011	1,019 btu / scf	EIA, 2013c
Heat content	2012	1,019 btu / scf	EIA, 2013c

► *Sector = Pipelines : Non Natural Gas Pipelines*

Activity = Fuel combustion - Natural gas

- Variable Name -	*- Year -*	*- Value and Units -*	*- Reference -*
Fuel combustion - Natural gas	2000	1,293,877,097 scf	Gough, 2013
Fuel combustion - Natural gas	2001	1,449,512,842 scf	Gough, 2013
Fuel combustion - Natural gas	2002	1,509,196,562 scf	Gough, 2013
Fuel combustion - Natural gas	2003	832,538,711 scf	Gough, 2013
Fuel combustion - Natural gas	2004	1,175,584,740 scf	Gough, 2013
Fuel combustion - Natural gas	2005	1,328,883,152 scf	Gough, 2013
Fuel combustion - Natural gas	2006	1,038,780,513 scf	Gough, 2013
Fuel combustion - Natural gas	2007	1,427,150,678 scf	Gough, 2013
Fuel combustion - Natural gas	2008	1,618,129,148 scf	Gough, 2013
Fuel combustion - Natural gas	2009	1,473,387,083 scf	Gough, 2013
Fuel combustion - Natural gas	2010	1,424,959,961 scf	Gough, 2013
Fuel combustion - Natural gas	2011	1,407,060,606 scf	Gough, 2013
Fuel combustion - Natural gas	2012	1,328,017,446 scf	Gough, 2013
Fuel CH4 emission	2000	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	1.000E-06 g / btu	USEPA, 2012b

Fuel CH4 emission	2010	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	1.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.053 g / btu	USEPA, 2012b
Fuel N2O emission	2000	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	1.000E-07 g / btu	USEPA, 2012b
Heat content	2000	956 btu / scf	EIA, 2013c
Heat content	2001	1,015 btu / scf	EIA, 2013c
Heat content	2002	1,019 btu / scf	EIA, 2013c
Heat content	2003	1,020 btu / scf	EIA, 2013c
Heat content	2004	1,020 btu / scf	EIA, 2013c
Heat content	2005	1,023 btu / scf	EIA, 2013c
Heat content	2006	1,023 btu / scf	EIA, 2013c
Heat content	2007	1,029 btu / scf	EIA, 2013c
Heat content	2008	1,029 btu / scf	EIA, 2013c
Heat content	2009	1,027 btu / scf	EIA, 2013c
Heat content	2010	1,022 btu / scf	EIA, 2013c
Heat content	2011	1,019 btu / scf	EIA, 2013c
Heat content	2012	1,026 btu / scf	USEPA, 2012b