

Santos Ltd Sustainability Performance Data 2018

All reasonable effort has been made to provide accurate information, however, Santos does not warrant or represent its accuracy.

All data are reported for the 2018 calendar year and as Santos gross operated unless otherwise stated.

Data does not include the Quadrant Energy assets acquired by Santos on 27 November 2018 unless otherwise stated.

Data are presented to nearest significant figure. Where data are unavailable or not applicable, it is left blank, where data is zero or de minimis it is represented as (0).

Greenhouse gas (GHG) emissions and energy consumption (Santos gross operated, unless otherwise stated, financial years)

	Units	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Direct energy consumption	PJ	29	32	34	48	65	65
Indirect energy consumption	PJ	0.2	0.18	0.19	0.19	1.47	1.85
Scope 1 (direct GHG emissions)	MtCO ₂ e	3.68	3.94	4.35	5.04	5.82	5.49
Scope 2 (purchased electricity)	MtCO ₂ e	0.04	0.03	0.03	0.03	0.31	0.39
Scope 3 (product use)	MtCO ₂ e	17.0	18.0	15.5	18.8	20.4	19.1
Scope 1 (Santos equity share)	MtCO ₂ e	2.97	3.36	3.63	3.79	3.79	3.57
Intensity (Santos equity share)	ktCO ₂ e/mmboe	58	65	63	63	63	62
Scope 2 (Santos equity share)	MtCO ₂ e					0.13	0.16
Scope 3 (Santos equity share)	MtCO ₂ e					22.0	20.6
Further details of Scope 1 emissions and flared and vented hydrocarbon (Santos gross operated)							
Emissions of CO ₂	MtCO ₂ e	3.17	3.49	3.86	4.51	5.09	4.99
Emissions of CH ₄	MtCO ₂ e	0.50	0.45	0.48	0.53	0.72	0.49
Emissions of N ₂ O	MtCO ₂ e	0.00	0.00	0.01	0.01	0.01	0.01
Emissions from Fuel	MtCO ₂ e	1.55	1.70	1.67	2.38	3.19	3.18
Emissions from Flare	MtCO ₂ e	0.21	0.30	0.54	0.38	0.25	0.18
Emissions from Vent	MtCO ₂ e	0.38	0.30	0.30	0.30	0.31	0.24
Emissions from CO ₂ Removal	MtCO ₂ e	1.52	1.62	1.81	1.94	2.03	1.85
Emissions from Fugitives	MtCO ₂ e	0.02	0.02	0.02	0.03	0.04	0.04
Volume of flared hydrocarbon	Million m ³	61.3	94.1	212.2	134.8	93.8	56.8
Volume of vented hydrocarbon	Million m ³	38.1	35.4	38.0	45.0	38.7	33.0

Notes:

Emissions and energy are reported on an Australian financial year basis in accordance with the National Greenhouse and Energy Reporting Act, 2007

Scope 1 emissions occur from sources controlled by the company, for example emissions from fuel, flare and vent

Scope 2 emissions are indirect, mainly electricity consumption

Scope 3 emissions represent indirect emissions when Santos' products are combusted by customers to produce energy

Pollutant emissions (Santos Australian operations, gross operated, calendar year)

	Units	2013	2014	2015	2016	2017	2018
Arsenic & compounds	Tonnes	0.016	0.018	0.021	0.022	0.026	0.026
Benzene	Tonnes	42	45	41	30	26	27
Beryllium & compounds	Tonnes	0.004	0.004	0.005	0.006	0.008	0.008
Cadmium & compounds	Tonnes	0.021	0.022	0.020	0.017	0.014	0.017
Carbon monoxide	Tonnes	7,641	10,678	10,148	9,807	8,915	9,674
Chromium III Compounds	Tonnes	0.054	0.050	0.046	0.042	0.041	0.043
Copper & compounds	Tonnes	0.047	0.039	0.032	0.031	0.029	0.031
Cumene	Tonnes	1.3	3.9	4.1	3.4	2.9	3.7
Cyclohexane	Tonnes	33	27	23	23	20	19
Ethylbenzene	Tonnes	47	47	47	40	35	41
n-Hexane	Tonnes	508	486	457	414	366	364
Hydrogen sulphide	Tonnes	35	44	47	61	47	45
Lead & compounds	Tonnes	0.059	0.028	0.026	0.025	0.023	0.025
Mercury & compounds	Tonnes	0.006	0.007	0.006	0.006	0.005	0.006
Methanol	Tonnes	78	57	59	150	147	145
Nickel & compounds	Tonnes	0.035	0.038	0.036	0.034	0.031	0.034
Oxides of Nitrogen	Tonnes	12,257	13,444	11,988	16,215	16,137	16,246
Particulate Matter (less than 2.5 micrometres)	Tonnes	275	314	242	241	225	215
Particulate Matter (less than 10.0 micrometres)	Tonnes	279	313	247	245	229	218
Phenol	Tonnes	21	23	31	33	33	34
Polychlorinated dioxins and furans (TEQ)	Tonnes	0.001	0.000	0.000	0.000	0.000	0.000
Polycyclic aromatic hydrocarbons	Tonnes	0.048	0.006	0.046	0.015	0.005	0.009
Sulphur dioxide	Tonnes	30	38	34	19	20	20
Toluene (methylbenzene)	Tonnes	83	79	74	64	56	53
Total Volatile Organic Compounds	Tonnes	8,897	8,002	7,278	7,350	6,537	5,644
Xylenes	Tonnes	61	63	62	50	44	50

Notes: Pollutant emissions to air, land and water, including waste transfers, are reported on a calendar year basis in accordance with the Australian National Pollutant Inventory compliance reporting requirements

Waste

	Septic Waste	General Waste Landfill	Recycling
	kilo litres	tonnes	tonnes
New South Wales	49	27	11
Queensland	1,661	1,678	3,666
South Australia	0	5,658	1,121
Western Australia	408	18	12

Water

	Formation Water	Aquifer Injection	Beneficial use	Evaporation	Seawater Discharge	Surface Water Discharge	Groundwater Withdrawal	Seawater Withdrawal	Surface Water Withdrawal
	1000 m3	1000 m3	1000 m3	1000 m3	1000 m3	1000 m3	1000 m3	1000 m3	1000 m3
New South Wales	136	-	20	116	-	-	19	-	-
Queensland	10,031	70	4,481	2,012	-	3,468	160	-	-
South Australia	3,551	62	39	3,450	-	-	1,317	-	-
Western Australia	1,711	-	-	-	6,062	-	-	4,351	-

Footprint of operations

	Tenements	Operations footprint	Rehabilitated sites	Protected areas within tenements	Operations within protected areas
	ha	ha	ha	ha	ha
New South Wales	5,366,113	874	-	180,702	6
Northern Territory	11,583,188	475	1	424,014	-
Queensland	3,733,596	16,500	1,487	163,567	734
South Australia	1,121,024	9,098	3,421	788,577	4,721
Western Australia	3,403,004	226	-	-	-
Papua New Guinea	127,460	7	-	-	-
Vietnam	531,379	-	-	-	-
Total	25,865,764	27,180	4,909	1,556,860	5,461

Notes: Data current as at January 2019

Incidents and spills

	Units	2014	2015	2016	2017	2018
Volume hydrocarbon released	m3	20	382	132	5	78
Number hydrocarbon spills		81	61	42	34	162
Volume produced water released	m3	2,957	2,274	1,499	565	5,460
Number produced water spills		61	36	47	22	90
Regulator instruments received		13	3	1	1	9
Fines received from regulators	A\$	70,500	34,155	8,835	12,190	82,115

Definition: Regulator instruments – notices from environmental regulators that require action to address an identified non-compliance (e.g. penalty infringement notice, environment protection order)

Safety

	2014	2015	2016	2017	2018
Fatalities	0	0	0	0	0
TRCFR *	3.5	2.8	2.2	3.5	4.5
LTIFR *	0.67	0.12	0.14	1.0	0.6
Tier 1 loss of containment incidents	8	4	6	3	4
Tier 2 loss of containment incidents	27	20	11	13	12

* TRCFR and LTIFR are annual rates (e.g. calculated over the 12 months of 2018)

Definitions:

TRCFR – total recordable frequency rate (the number of recordable injuries (lost time injuries, alternate duty injuries, medical treatment injuries) per million hours worked)

LTIFR – lost time injury frequency rate (the number of lost time injuries per million hours worked)

Community Investment

	A\$ M
Environment & Climate Change	0.2
Healthy Living	1.6
Indigenous	0.3
Other	0.1
Regional Communities	8.8
Training & Education	0.4
Total	11.6

Workforce

	Male	Female	Total
Full-time	1,652	370	2,022
Part-time	22	102	124
Graduate / trainee	27	15	42
Total Santos employees	1,701	487	2,188
Seconded (onsite) *	13	4	17
Contractors (onsite)	1,306	292	1,598
External service providers (onsite)	724	119	843
Workforce Total	3,744	902	4,646

* Non-Santos employees seconded into a Santos role

Data includes Santos and Quadrant Energy employees and contractors as at 31 December 2018

Employee Composition

	Under 30 years		30 to 50 years		Over 50 years		Total		%	
	M	F	M	F	M	F	M	F	M	F
Strategic Leader	0.0%	0.0%	18.2%	9.1%	72.7%	0.0%	10	1	90.9%	9.1%
Functional Leader / Manager	0.0%	0.0%	46.1%	10.5%	39.5%	3.9%	65	11	85.5%	14.5%
Team Leader / Supervisor	1.6%	0.3%	55.7%	10.8%	28.5%	3.2%	325	54	85.8%	14.2%
Technical Specialist	0.0%	0.0%	46.8%	18.8%	30.7%	3.7%	169	49	77.5%	22.5%
Team Members	8.8%	4.9%	45.8%	16.8%	20.6%	3.1%	1132	372	75.3%	24.7%
Grand Total	6.4%	3.4%	47.5%	15.7%	23.9%	3.2%	1701	487	77.7%	22.3%
Non Executive Director	0.0%	0.0%	14.3%	0.0%	57.1%	28.6%	5	2	71.4%	28.6%

Data includes Santos and Quadrant Energy employees and contractors as at 31 December 2018