14 February 2023

Annual Reserves & Resource Statement and expected impairment

Santos today released its Annual Reserves and Resource Statement. Proved plus probable (2P) reserves were a record 1,745 million barrels of oil equivalent (mmboe) at the end of 2022, an increase of 171 mmboe before production.

Key highlights:

- 166 per cent annual 2P reserves replacement
- 366 per cent three-year 2P reserves replacement
- 2P reserves life of 17 years, based on 2022 production of 103 mmboe
- 165 mmboe 2P reserves added in Alaska following the sanction of Pikka Phase 1
- Reserves also added in Papua New Guinea, Queensland and Cooper Basin before production
- 26 mmboe reduction in Western Australia, primarily from earlier than expected water ingress at the Spar/Halyard field
- 100 million tonnes of CO2 storage capacity and contingent resource maintained

2P reserves increased by 171 mmboe before production in 2022. The annual 2P reserves replacement was 166 per cent and the three-year replacement 366 per cent.

Santos expects to recognise an impairment of approximately US$147 million as a result of the Spar/Halyard reserves reduction and other impairment charges of approximately US$181 million related to other late-life producing and exploration assets.

Santos Managing Director and Chief Executive Officer Kevin Gallagher said the company was pleased to release its Annual Reserves Statement, highlighting strong overall reserves replacement annually and over three years.

“Today’s statement is the result of Santos’ disciplined annual reserves review and accounting processes, which include external audit of approximately 97 per cent of total 2P reserves,” Mr Gallagher said.

The final investment decision on the Pikka Phase 1 project in Alaska in 2022 commercialised 165 mmboe of 2C resources to 2P reserves. This was more than offset by increases in Alaska contingent resources outside the Pikka Phase 1 area attributable to new well data, including the Mitquq and Stirrup discovery wells, seismic reprocessing and integrated reservoir studies.

Consistent application of Santos’ disciplined operating model continued to deliver reserves additions in the onshore assets. The Cooper Basin and Queensland saw additions of 9 mmboe and 10 mmboe 2P reserves, respectively, before production. Reserves were also added in Papua New Guinea before production, primarily in the operated gas fields.

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These reserve additions were partially offset by a 26 mmboe 2P reserves reduction in Western Australia, primarily due to earlier than expected water ingress at the Spar/Halyard field.

After accounting for the Spar/Halyard reduction and 2022 production, Santos had 841 petajoules of 2P sales gas reserves in Western Australia at the end of 2022, providing coverage for existing contracts. In addition, Santos had 1,400 petajoules of 2C sales gas resource in WA at end 2022 and 437 mmboe of total 2C resource when including liquids.

Santos maintains a booking of 100 million tonnes of CO2 storage capacity and contingent resource in the Cooper Basin, which underpins the Moomba carbon capture and storage (CCS) project. The project is on-track for first injection of CO2 in 2024. Santos is also undertaking front-end engineering design work on the proposed Bayu-Undan CCS project and was awarded permits in 2022 to undertake evaluation and appraisal work for the potential storage of CO2 in the Carnarvon and Bonaparte Basins, offshore Western Australia.

Santos expects to recognise an impairment of approximately US$147 million before and after tax in the 2022 full-year results as a result of the Spar/Halyard reserves revision, and other impairment charges of approximately US$181 million before tax (US$77 million after tax) related to other late-life producing assets and exploration and evaluation assets as part of the regular review of asset carrying values.

The expected impairment charges will be excluded from underlying earnings and are subject to finalisation of the full-year accounts, auditor processes and Board approval.

Ends.

Attachment: 2022 Annual Reserves Statement

This ASX announcement was approved and authorised for release by Kevin Gallagher, Managing Director and Chief Executive Officer.

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Reserves Statement
for the year ended 31 December 2022

RESERVES AND RESOURCES

Proved plus probable (2P) reserves increased by 171 million barrels of oil equivalent (mmboe) before production of 103 mmboe to 1,745 mmboe. The annual 2P reserves replacement ratio (RRR) was 166 per cent and the three-year RRR 366 per cent.

Reserves were added in Alaska (+165 mmboe) following the sanction of the Pikka Phase 1 project in Alaska. Reserves were also added pre-production in Papua New Guinea (PNG)(+14 mmboe), Queensland and New South Wales (+10 mmboe) and Cooper Basin (+9 mmboe). These additions were partially offset by a 26 mmboe reduction in Western Australia, primarily from earlier than expected water influx at the Spar/Halyard field.

2P reserves held in international assets now comprise 42 per cent of the Santos' total 2P reserves. A sell-down of 5 per cent of PNG LNG to Kumul Petroleum was announced in September 2022, and is expected to result in a reduction of 65 mmboe on completion.

After production of 103 mmboe, 2P reserves at the end of 2022 were 1,745 mmboe.

2C contingent resources increased to 3,280 mmboe at the end of 2022. Additions were primarily from Alaska where additions more than offset the reduction from Pikka Phase 1 commercialisation, and from the successful Pavo exploration discovery in the Bedout Sub-basin.

CO2 Storage capacity and contingent storage resource volumes remain unchanged from the previous year at 9 million tonnes 2P capacity and 91 million tonnes 2C contingent resource.

RESERVES AND 2C CONTINGENT RESOURCES (SANTOS SHARE AS AT 31 DECEMBER)

Santos share	Unit	2022	2021	% change
Proved reserves	mmboe	1,028	1,009	2%
Proved plus probable reserves	mmboe	1,745	1,676	4%
2C contingent resources	mmboe	3,280	3,219	2%

RESERVES AND 2C CONTINGENT RESOURCES BY PRODUCT (SANTOS SHARE AS AT 31 DECEMBER)

Santos share	Sales gas PJ	Crude oil mmbbl	Condensate mmbbl	LPG 000 tonnes	Total mmboe
Proved reserves	5,090	118	34	382	1,028
Proved plus probable reserves	8,493	217	63	929	1,745
2C contingent resources	14,397	629	153	3,833	3,280

KEY METRICS

Annual proved reserves replacement ratio	119%
Annual proved plus probable reserves replacement ratio	166%
Three-year proved plus probable reserves replacement ratio	366%
Organic annual proved plus probable reserves replacement ratio	162%
Organic three-year proved plus probable reserves replacement ratio	212%
Developed proved plus probable reserves as a proportion of total reserves	37%
Reserves life[1]	17 years

1 2P reserves life as at 31 December 2022 using production of 103 mmboe.

Reserves Statement
for the year ended 31 December 2022
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PROVED RESERVES

Santos share as at 31 December 2022

Asset	Sales gas PJ	Crude oil mmbbl	Condensate mmbbl	LPG 000 tonnes	All products mmboe Developed	Undeveloped	Total
Cooper Basin	247	9	3	382	42	15	57
Queensland & NSW[1]	1,001	-	-	-	118	54	172
PNG	2,206	9	16	-	231	173	403
Northern Australia & Timor-Leste	1,268	-	12	-	-	229	229
Western Australia	368	9	3	-	52	24	76
USA (Alaska)	-	90	-	-	-	90	90
Total 1P	**5,090**	**118**	**34**	**382**	**443**	**585**	**1,028**
Proportion of total proved reserves that are unconventional							17%

1 Queensland proved sales gas reserves include 828 PJ GLNG and 167 PJ other Santos non-operated Eastern Queensland assets.

Proved reserves reconciliation

Product	Unit	2021	Production	Revisions and extensions	Net acquisitions and divestments	2022
Sales gas	PJ	**5,436**	(517)	171	-	**5,090**
Crude oil	mmbbl	**32**	(8)	93	-	**118**
Condensate	mmbbl	**41**	(6)	(1)	-	**34**
LPG	000 tonnes	**442**	(150)	90	-	**382**
Total 1P	**mmboe**	**1,009**	**(103)**	**123**	**-**	**1,028**

Reserves Statement
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PROVED PLUS PROBABLE RESERVES

Santos share as at 31 December 2022

Asset	Sales gas PJ	Crude oil mmbbl	Condensate mmbbl	LPG 000 tonnes	All products mmboe Developed	Undeveloped	Total
Cooper Basin	605	16	7	905	85	49	134
Queensland & NSW[1]	1,915	-	-	-	129	200	329
PNG	3,085	20	25	-	328	246	574
Northern Australia & Timor-Leste	2,048	-	24	24	1	374	375
Western Australia	841	17	7	-	110	58	168
USA (Alaska)	-	165	-	-	-	165	165
Total 2P	**8,493**	**217**	**63**	**929**	**653**	**1,092**	**1,745**
Proportion of total proved plus probable reserves that are unconventional							19%

1 Queensland proved plus probable sales gas reserves include 1,479 PJ GLNG and 430 PJ other Santos non-operated Eastern Queensland assets.

Proved plus probable reserves reconciliation

Product	Unit	2021	Production	Revisions and extensions	Net acquisitions and divestments	2022
Sales gas	PJ	**8,967**	(517)	16	27	**8,493**
Crude oil	mmbbl	**59**	(8)	166	-	**217**
Condensate	mmbbl	**71**	(6)	(2)	-	**63**
LPG	000 tonnes	**1,046**	(150)	32	-	**929**
Total 2P	**mmboe**	**1,676**	**(103)**	**167**	**5**	**1,745**

Reserves Statement
for the year ended 31 December 2022
continued

2C CONTINGENT RESOURCES

Santos share as at 31 December 2022

Asset	Sales gas PJ	Crude oil mmbbl	Condensate mmbbl	LPG 000 tonnes	All products mmboe
Cooper Basin	1,207	28	17	1,704	266
Queensland & NSW	2,982	-	-	-	513
PNG	4,698	1	54	-	860
Northern Australia & Timor-Leste	4,110	-	63	-	766
Western Australia	1,400	161	18	2,130	437
USA (Alaska)	-	438	-	-	438
Total 2C	**14,397**	**629**	**153**	**3,833**	**3,280**

2C Contingent resources reconciliation

Product	Unit	2021	Revisions and extensions	Discoveries	Net acquisitions and divestments	2022
Total 2C	**mmboe**	**3,219**	**5**	**36**	**19**	**3,280**

CO2 STORAGE

Storage capacity and 2C contingent resources as at 31 December 2022

Santos share	Unit	2022	2021	% change
Proved capacity	MtCO2	6	6	-
Proved plus probable capacity	MtCO2	9	9	-
2C contingent resources	MtCO2	91	91	-

Reserves Statement
for the year ended 31 December 2022
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Notes

1. This reserves statement:
   a. is based on, and fairly represents, information and supporting documentation prepared by, or under the supervision of, the qualified petroleum reserves and resources evaluators listed in note 15 of this reserves statement. Details of each qualified petroleum reserves and resources evaluator's employment and professional organisation membership are set out in note 15 of this reserves statement; and
   b. as a whole has been approved by Paul Lyford, who is a qualified petroleum reserves and resources evaluator and whose employment and professional organisation membership details are set out in note 15 of this reserves statement; and
   c. is issued with the prior written consent of Paul Lyford as to the form and context in which the estimated petroleum reserves and contingent resources and the supporting information are presented.
2. The estimates of petroleum reserves, contingent resources and CO2 storage quantities contained within this reserves statement are as at 31 December 2022.
3. Santos prepares its petroleum reserves and contingent resources estimates in accordance with the 2018 Petroleum Resources Management System (PRMS) and CO2 Storage capacity and contingent resource estimates, in accordance with the 2017 CO2 Storage Resources Management System (SRMS) sponsored by the Society of Petroleum Engineers (SPE).
4. This reserves statement is subject to risk factors associated with the oil and gas industry. It is believed that the expectations of petroleum reserves and contingent resources reflected in this statement are reasonable, but they may be affected by a range of variables that could cause actual results or trends to differ materially, including, but not limited to: price fluctuations, actual demand, currency fluctuations, geotechnical factors, drilling and production results, gas commercialisation, development progress, operating results, engineering estimates, loss of market, industry competition, environmental risks, physical risks, legislative, fiscal and regulatory developments, economic and financial market conditions in various countries, approvals and cost estimates.
5. All estimates of petroleum reserves, contingent resources and CO2 Storage reported by Santos are prepared by, or under the supervision of, a qualified petroleum reserves and resources evaluator or evaluators. Processes are documented in the Santos Reserves Policy, which is overseen by a Reserves Committee. The frequency of reviews is dependent on the magnitude of the petroleum reserves and contingent resources and changes indicated by new data. If the changes are material, they are reviewed by the Santos internal technical leaders and externally audited.
6. Santos engages independent experts Gaffney, Cline & Associates; Netherland, Sewell & Associates, Inc.; RISC Advisory Pty Ltd; and Ryder Scott Company to audit and/or evaluate reserves, contingent resources and CO2 storage. Each auditor found, based on the outcomes of its respective audit and evaluation, and its understanding of the estimation processes employed by Santos, that Santos' 31 December 2022 petroleum reserves, contingent resources and CO2 storage quantities in aggregate compare reasonably to those estimates prepared by each auditor. Thus, in the aggregate, the total volumes summarised in the tables included in this reserves statement represent a reasonable estimate of Santos' petroleum reserves, contingent resources and CO2 storage position as at 31 December 2022.
7. Unless otherwise stated, all references to petroleum reserves, contingent resources and CO2 storage quantities in this reserves statement are Santos' net share.
8. Reference points for Santos' petroleum reserves and contingent resources and production are defined points within Santos' operations where normal exploration and production business ceases, and quantities of produced product are measured under defined conditions prior to custody transfer. Fuel, flare and vent consumed to the reference points are excluded.
9. Petroleum reserves, contingent resources and CO2 storage are aggregated by arithmetic summation by category and, as a result, proved reserves may be a very conservative estimate due to the portfolio effects of arithmetic summation.
10. Petroleum reserves, contingent resources and CO2 storage quantities are typically prepared by deterministic methods with support from probabilistic methods.
11. Any material concentrations of undeveloped petroleum reserves that have remained undeveloped for more than 5 years: (a) are intended to be developed when required to meet contractual obligations; and (b) have not been developed to date because they have not yet been required to meet contractual obligations. Development will comprise well construction and connection activities.
12. The petroleum reserves replacement ratio is the ratio of the change in petroleum reserves (excluding production) divided by production. Organic reserves replacement ratio excludes net acquisitions and divestments.
13. Information on petroleum reserves, contingent resources and CO2 storage quoted in this reserves statement is rounded to the nearest whole number. Some totals in the tables may not add due to rounding. Items that round to zero are represented by the number 0, while items that are actually zero are represented with a dash (-).
14. Santos define Unconventional accumulations as continuous-type deposits that cannot be recovered with traditional recovery projects primarily due to reservoir permeability that impedes natural mobility, ie coal seam, shale and tight gas.
15. Qualified Petroleum Reserves and Resources Evaluators

Name	Employer	Professional Organisation
P Lyford	Santos Ltd	SPE, SPEE
N Pink	Santos Ltd	SPE, SPEE
A White	Santos Ltd	SPE
D Nicolson	Santos Ltd	SPE
S Lawton	Santos Ltd	SPE
A Western	Santos Ltd	SPE
M Ireland	Santos Ltd	SPE, SPEE
J Hattner	NSAI	SPE, AAPG

SPE: Society of Petroleum Engineers

SPEE: Society of Petroleum Evaluation Engineers

AAPG: American Association of Petroleum Geologists

Abbreviations and conversion factors

Abbreviations

1P	proved reserves
2P	proved plus probable reserves
GJ	gigajoules
LNG	liquefied natural gas
LPG	liquefied petroleum gas
mmbbl	million barrels
mmboe	million barrels of oil equivalent
NGLs	natural gas liquids
PJ	petajoules
tcf	trillion cubic feet
TJ	terajoules

Conversion factors

Sales gas and ethane, 1 PJ	171,937 boe
Crude oil, 1 barrel	1 boe
Condensate, 1 barrel	0.935 boe
LPG, 1 tonne	8.458 boe