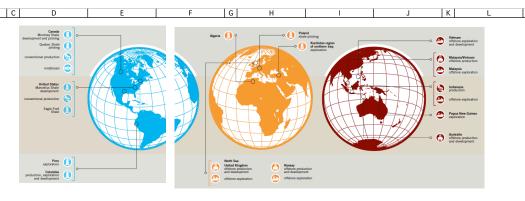
Αĺ I c G Oil and natural gas extraction data Richard Heede 3 4 5 6 7 8 Climate Mitigation Services **Copyright Climate Mitigation Services** File started: 11 January 2005 Last modified: May 2018 Talisman Energy, Canada indicates original Investor-owned 10 **Production / Extraction data** 11 Year Crude Oil & NGL **Natural Gas Background data** 12 Net production Net production Net production Net production Net production Net production 13 14 Million tonnes/yr Million SCM/d 15 16 17 18 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 40 40 41 42 TALISMAN 1952 1953 1954 1955 1956 1957 **Historical Operations Summary** 1958 Years ended December 31 2013 (I) 2012 2011 2010 2009 Daily average production – before royalties 1960 Oil (mbbls/d) 1961 North America 22 19 17 17 25 1963 Southeast Asia 39 37 30 35 38 1964 North Sea 31 70 96 109 117 1965 **Other** 21 22 23 14 16 1966 Natural gas liquids (mbbls/d) 1967 North America 13 1968 Southeast Asia 5 4 4 3 1969 North Sea 4 3 Total oil and liquids 132 162 178 189 211 1971 1972 Natural gas (mmcf/d) 778 North America 985 803 1973 883 899 Southeast Asia 403 516 524 506 1974 1975 North Sea 31 52 104 77 1976 1977 Other 43 42 34 43 44 45 Total natural gas 1.451 1.582 1.491 1.367 1.283 1978 Total (mboe/d) 373 426 426 Δ17 425 1979 WTI (average \$/bbl) 97.97 94.22 95.13 79.53 61.79 46 47 1980 NYMEX gas (average \$/mmbtu) 3.67 2.80 4.07 4.39 4.05 US\$/C\$ exchange rate (year-end) 0.9833 1.0054 0.9555 0.9402 1.0051 48 49 1982 1) 2013 production includes Talisman's share of production from the TSEUK and Equion joint venture 1983 50 51 52 53 54 55 56 57 58 59 60 61 Talisman AnnRpt 2013, page 112. 1985 Talisman AnnRpt 2013 - cover photo 1986 1987 1988 Talisman created as a separate company in 1992 1989 1990 Talisman Talisman 1991 OGJ100 million bbl /yr OGJ100 Bcf/yr OGJ100 OGJ100 10.6 18.9 123.4 181.0 123.4 181.0 1993 10.6 OGJ100 OGJ100 1994 18.9 OGJ100 OGJ100 1995 OGJ100 237.1 OGJ100 62 63 64 1996 35.7 35.7 46.5 OGJ100 OGJ100 236.9 236.9 240.2 OGJ100 OGJ100 46.5 1997 240.2 53.6 57.8 274.0 330.0 274.0 330.0 1998 53.6 OGJ100 OGJ100 57.8 89.4 65 66 67 68 69 70 71 72 73 74 75 76 1999 OGJ100 OGJ100 361.6 361.6 2000 244 89.4 og 988 OGJ100 2001 91.6 91.6 oq 1,010 368.7 368.7 379.2 OGJ100 98.5 98.5 OGJ100 379.2 OGJ100 78.3 OGJ100 398.4 2003 78.3 OGJ100 82.5 91.3 2004 82.5 0GJ100 461.7 461.7 OGJ100 2005 250 91.2 1.319 481.4 481.4 Talisman AnnRpt 2009 2006 262 95.6 1,342 483.0 489.8 Talisman AnnRpt 2009 88.0 81.8 Talisman AnnRpt 2009 Talisman AnnRpt 2009 2007 241 87.8 1,265 455.1 461.7 2008 81.6 1,247 455.2 455.2 77.0 69.0 2009 73.4 462.8 468.3 Talisman AnnRpt 2013 2010 189 69.0 1.367 499.0 499.0 Talisman AnnRpt 2013 2011 65.0 Talisman AnnRpt 2013 178 65.0 Tal 1,491 78 79 2012 59.1 59.1 1,582 577.4 Talisman AnnRpt 2013 2013 48.2 48.2 529.6 529.6 Talisman AnnRpt 2013 80 81 82 83 84 85 2014 Talisman AnnRpt 2014 Talisman data 2014 Talisman data 2014 2015 49 Estim. Jan-Apr 2015 17.9 477 Estim. Jan-Apr 2015 174.1 Estimated Jan-Apr 2015 2016 Repsol acquired Talisman in May 2015 Acq, by Repsol May15 Acq. by Repsol May15 2017 2018 Total na 1,053 1,442 na 8,157 8,850 87



Net Production – After Royalties (1)

Α

Year ended December 31	2013 ⁽²⁾	2012	2011	2010	2009
Oils and liquids (bbls/d)					
North America	27	23	19	18	27
Southeast Asia	24	24	17	22	26
North Sea	32	70	97	113	120
Other	14	14	13	7	9
Total oil and liquids	97	131	146	160	182
Natural gas (mmcf/d)					
North America	774	871	803	718	720
Southeast Asia	346	357	351	339	286
North Sea	9	31	52	104	77
Other	34	33	27	-	-
Total natural gas	1,163	1,292	1,233	1,161	1,083
Total mboe/d	291	347	351	353	362

- In this table, production is reported after the deduction of royalty volumes.
 2) 2013 production includes Talisman's share of production from the TSEUK and Equion joint venture.

Talisman AnnRpt 2013, page 116.

	Light Oil (mmbbls)		Heavy Oil (mmbbls)		Shale Oil (mmbbls)		Shale Gas (bcf)		Non-Snaie Natural Gas (bct)		Natural Gas Liquids (mmbbls)	
As at December 31, 2013	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net
TOTAL EQUITY INVESTMENTS												
Proved Developed Producing	60.2	58.4	-	-	-	-	_	_	76.4	58.9	1.4	1.1
Proved Developed Non-Producing	0.1	0.1	-	-	-	-	-	-	3.5	3.5	0.1	0.1
Proved Undeveloped	18.7	18.0	-	-	-	-	-	-	26.2	26.2	-	-
Total Proved	79.0	76.5	-	-	-	-	-	-	106.1	88.6	1.5	1.2
Total Probable	58.5	57.6	-	-	-	-	-	-	29.1	29.0	0.2	0.2
Total Proved Plus Probable	137.5	134.1	-	-	-	-	-	-	135.2	117.6	1.7	1.4
TOTAL TALISMAN (6)												
Proved Developed Producing	121.6	98.6	36.4	32.7	4.8	3.6	1,124.5	962.4	1,709.0	1,354.3	52.7	37.9
Proved Developed Non-Producing	0.6	0.5	-	-	0.3	0.2	61.9	52.9	95.0	57.2	1.5	0.8
Proved Undeveloped	25.3	23.4	-	-	4.1	3.1	1,297.4	1,117.6	603.6	435.4	41.9	29.2
Total Proved	147.5	122.5	36.4	32.7	9.2	6.9	2,483.8	2,132.9	2,407.6	1,846.9	96.1	67.9
Total Probable	132.7	101.6	5.0	4.3	4.3	3.2	1,061.9	892.4	1,070.7	832.0	38.5	27.8
Total Proved Plus Probable	280.2	224.1	41.4	37.0	13.5	10.1	3,545.7	3,025.3	3,478.3	2,678.9	134.6	95.7

- 1) The prices used for the estimates of reserves are set forth under "Pricing Assumptions" later in this Section.
- 2) North Sea does not include any reserves attributable to Talisman's investment in TSEUK, shown separately under "Equity Investments" in this table.

 3) Southeast Asia includes Indonesia, Malaysia, Vietnam and Australia/Timor-Leste.
- 4) Latin America does not include any reserves attributable to Talisman's investment in Equion, shown separately under "Equity investments" in this table.

 5) Other refers to Algeria.

6) Total Consolidated Entitles plus Total Equity Investments.

Reserves, AnnRpt 2013.

Historical Operations Summary

Years ended December 31	2009	2008	2007	2006	2005
Daily average production					
Oil (mbbls/d)					
North America	25	30	32	36	39
UK	85	92	100	100	105
Scandinavia	32	31	29	31	25
Southeast Asia	38	32	41	50	34
Other	16	21	21	22	25
Natural gas liquids (mbbls/d)					
North America	9	10	12	14	14
UK	1	1	2	3	2
Scandinavia	2	2	1	1	1
Southeast Asia	3	4	3	2	2
Synthetic oil (Canada) (mbbls/d)	-	-	-	3	3
Total oil and liquids	211	224	241	262	250
Natural gas (mmcf/d)					
North America	803	856	876	910	915
UK	19	38	88	126	111
Scandinavia	58	19	14	14	9
Southeast Asia	403	334	287	292	284
Total natural gas	1,283	1,247	1,265	1,342	1,319
Total (mboe/d)	425	432	452	485	470
WTI (average US\$/bbl)	61.79	99.65	72.31	66.25	56.70
NYMEX gas (average US\$/mmbtu)	4.05	8.95	6.92	7.26	8.55
US\$/C\$ exchange rate (year-end)	0.9555	0.8166	1.0120	0.8581	0.8577

Talisman Annual Report 2009, page 112.



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Cell: H9

Comment: Rick Heede:

The Early Years: 1992-1997 Initially established in the 1950s as a subsidiary of a super major, the Company was a pioneer in drilling deep exploration wells in the Foothills of the Canadian Rockies. In 1992, shareholders approved the creation of a widely held, independent company. The name, Talisman Energy Inc., was chosen through an employee contest. The rationale for the name was that, with a bit of luck and a lot of hard work, we could achieve something magical. That belief continues today. At the end of 1992, Talisman had an enterprise value of \$500 million and was production was 452,000 boe/d. By 2007, our enterprise value was more than \$20 billion and production was 452,000 boe/d.

www.talisman-energy.com/about_us/history.html

Cell: D12

Comment: Rick Heede:

Oil and gas production for 2000-2001 from El (2003) Top 100, p. 252.

Cell: D66

Comment: Rick Heede:

Energy Intelligence, London.

Line

Cell: D71 Comment: Rick Heede:

Talisman Annual Report 2009, page 112. Net production - before royalties, 2005-2009, of oils and liquids, in thousand bbl per day.

Cell: H71

Comment: Rick Heede:

Talisman Annual Report 2009, page 112. Net production - before royalties, 2005-2009, of natural gas, in million of per day.

Cell: D75

Comment: Rick Heede:

Talisman Annual Report 2013, page 116. Net production - before royalties, of oils and liquids 2009-2013, in thousand bbl per day (erroneously labeled bbls/d). See table above. Production after royalties at page 2 below.

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Cell: H75 Comment: Rick Heede:

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Talisman Annual Report 2013, page 116. Net production - before royalties, of natural gas 2009-2013, in million cf per day. See table above. Production after royalties at page 2 below.

Cell: D80

Comment: Rick Heede:

http://www.marketwired.com/press-release/talisman-energy-2014-fourth-quarter-and-full-year-results-1990180.htm Talisman Annual Reports not available at SEC EDGAR. We did find this 2015 AnnRpt at MarketWired.com, 15Feb2015.

Chart at right.

Cell: H81

Comment: Rick Heede:

GotTalisman oil and gas production for 2014 (Jan-7Mayl 2015 is estimated). Searched SEC EDGAR for Form 40-F for 2015: available, but garbage text. Not yet a seamless acquisition with production data over 2014-2015, though fairly close: Talisman+Repsol 2012 = 968 Bcf; 2013 = 954 Bcf 2014 = 482 Bcf 2015 = 771 Bcf 2016 = 979 Bcf. I adjusted Talisman by assuming 2014 equal to 2013, and added 1Jan-7May 2015. (7May was the 127th day of 2015).

After Talisman production, the Sum of Repsol and Talisman smoothed to:

2012 = 968 Bcf, 2013 = 954 Bcf, 201 4= 982 Bcf, 2015 = 945 Bcf, 2016 = 964 Bcf.

Cell: M184

Comment: Rick Heede:

Talisman

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