

# 2018 supplement to the annual report

human energy®









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Cover photo: First production was achieved in November 2018 at the Big Foot deepwater project located in the U.S. Gulf of Mexico. The project is designed for a capacity of 75,000 barrels of oil and 25 million cubic feet of natural gas per day.

Inside front cover photo: Photos above show tie-in operations that took place at Big Foot prior to first production in November 2018. Big Foot is estimated to contain total potentially recoverable resources of more than 200 million oil-equivalent barrels.

# 2018 at a glance

# financial highlights

sales and other operating revenues \$158.9 billion

net income attributable to chevron corporation \$14.8 billion, \$7.74 per share – diluted

return on capital employed 8.2%

cash flow from operating activities \$30.6 billion

cash dividends \$4.48 per share

# corporate strategies

**Financial-return objective** – Deliver industry-leading results and superior shareholder value in any business environment.

#### **Enterprise strategies**

- Invest in people to develop and empower a highly competent workforce that delivers superior results the right way.
- Deliver results through disciplined operational excellence, capital stewardship and cost efficiency.
- Grow profits and returns by using our competitive advantages.
- Differentiate performance through technology and functional expertise.

#### Major business strategies

- Upstream deliver industry-leading returns while developing high-value resource opportunities.
- Downstream grow earnings across the value chain and make targeted investments to lead the industry in returns.
- Midstream deliver operational, commercial and technical expertise to enhance results in upstream and downstream.

# accomplishments

#### **Corporate**

**Safety and environment** – Achieved our best safety record by maintaining industry-leading personal safety rates and outperforming all core personal safety metrics.

**Dividends** – Paid \$8.5 billion in dividends, with 2018 marking the 31st consecutive year of higher annual dividend payouts.

**Stock repurchase program** - Acquired \$1.75 billion of the company's shares of common stock.

Capital and exploratory expenditures – Invested \$20.1 billion in the company's businesses, including \$5.7 billion (Chevron share) of spending by affiliates. Announced 2019 projected expenditures of \$20.0 billion, including \$6.3 billion of affiliate expenditures. Spending in 2019 targets short-cycle, high-return investments, including the Permian Basin and other shale and tight plays, as well as completion of major projects underway and progression of the Future Growth and Wellhead Pressure Management Project (FGP/WPMP) at Tengizchevroil (TCO) in Kazakhstan.

**Investing in the future of energy** – Joined the Oil and Gas Climate Initiative and separately launched the Chevron Future Energy Fund. Both initiatives invest in technology designed to economically lower emissions.

**Portfolio management** – Realized \$2.0 billion in proceeds from asset divestments.

#### **Upstream**

**Exploration** – Achieved an exploration drilling success rate of 61 percent, with 11 discoveries worldwide, and added 2.4 billion barrels of oil-equivalent resources. Made a significant crude oil discovery at the Ballymore prospect in the U.S. Gulf of Mexico. Continued shale and tight resource drilling programs in the United States, Canada and Argentina.

**Portfolio additions** – Added 1.3 million net exploration acres in 2018, including key positions in Brazil, the U.S. Gulf of Mexico and offshore Mexico.

**Production** – Record production of 2.93 million net oil-equivalent barrels per day, more than 7 percent higher than in 2017.

**Shale and tight resources** – Continued progress on the development of the company's significant shale and tight resource position.

- Full-year production in the Permian Basin in Texas and New Mexico increased 71 percent over the prior year.
- Transitioning from appraisal to development drilling in the Duvernay Shale in Canada.
- Initiated a shale appraisal program in November 2018 in the El Trapial Field located in the Vaca Muerta Shale in Argentina.

**Major projects** – Continued progress on the company's development projects to deliver future value.

- Achieved start-up of Train 2 at the Wheatstone Project in Australia.
- Commenced production at the Clair Ridge Project in the United Kingdom and the Big Foot and Stampede projects in the U.S. Gulf of Maxico.
- Achieved first oil from the Tahiti Vertical Expansion Project in the U.S. Gulf of Mexico.
- Advanced construction of the FGP/WPMP at TCO in Kazakhstan.
- Made final investment decision for the Gorgon Stage 2 Project in Australia.

#### **Downstream**

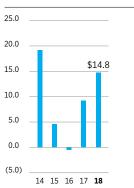
**Refining and marketing** - First production commenced at the new hydrogen plant at the Richmond refinery in California.

**Additives** – Reached a final investment decision for a lubricant additive blending and shipping plant in Ningbo, China.

**Petrochemicals** – Commissioned the ethane cracker at the U.S. Gulf Coast Petrochemicals Project in Texas and reached design capacity during second quarter.

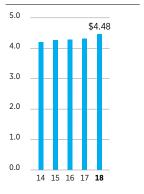
# Net income (loss) attributable to Chevron Corporation

Billions of dollars



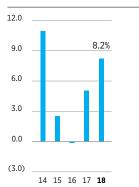
# Annual cash dividends

Dollars per share



# Return on capital employed

Percent



Financial summary				Year end	led December 31
Millions of dollars	2018	2017	2016	2015	2014
Net income (loss) attributable to Chevron Corporation	\$ 14,824	\$ 9,195	\$ (497)	\$ 4,587	\$ 19,241
Sales and other operating revenues	158,902	134,674	110,215	129,925	200,494
Cash dividends – common stock	8,502	8,132	8,032	7,992	7,928
Capital and exploratory expenditures	20,106	18,821	22,428	33,979	40,316
Cash flow from operating activities	30,618	20,338	12,690	19,456	31,475
Total cash and cash equivalents at December 31	9,342	4,813	6,988	11,022	12,785
Total assets at December 31	253,863	253,806	260,078	264,540	264,884
Total debt and capital lease obligations at December 31	34,459	38,763	46,126	38,549	27,784
Total liabilities at December 31	98,221	104,487	113,356	110,654	108,693
Chevron Corporation stockholders' equity at December 31	154,554	148,124	145,556	152,716	155,028
Share repurchases	1,750	-	_	-	5,000

Financial ratios*				Year ended De	ecember 31
	2018	2017	2016	2015	2014
Current ratio	1.3	1.0	0.9	1.3	1.3
Interest coverage ratio	23.4	10.7	(2.6)	9.9	87.2
Debt ratio	18.2 %	20.7 %	24.1 %	20.2 %	15.2 %
Net debt to capital ratio	12.8 %	18.2 %	20.4 %	14.2 %	8.0 %
Return on stockholders' equity	9.8 %	6.3 %	(0.3)%	3.0 %	12.7 %
Return on capital employed	8.2 %	5.0 %	(0.1)%	2.5 %	10.9 %
Return on total assets	5.8 %	3.6 %	(0.2)%	1.7 %	7.4 %
Cash dividends/net income (payout ratio)	57.4 %	88.4 %	(1,616.1)%	174.2 %	41.2 %
Cash dividends/cash from operations	27.8 %	40.0 %	63.3 %	41.1 %	25.2 %
Total stockholder return	(9.8)%	10.5 %	36.4 %	(16.0)%	(6.9)%

 $<sup>^{*}</sup>$  Refer to page 55 for financial ratio definitions.

# **Capital employed**

Millions of dollars	2018	2017	2016	2015	2014
Upstream – United States	\$ 29,473	\$ 28,918	\$ 25,855	\$ 28,172	\$ 29,808
- International	122,187	126,943	130,900	125,043	113,009
- Goodwill	4,518	4,531	4,581	4,588	4,593
– Total	156,178	160,392	161,336	157,803	147,410
Downstream - United States	14,637	13,543	12,353	12,946	12,509
- International	10,675	11,201	10,758	10,802	11,210
– Total	25,312	24,744	23,111	23,748	23,719
All Other	8,611	2,946	8,401	10,884	12,846
Total capital employed	\$ 190,101	\$ 188,082	\$ 192,848	\$ 192,435	\$ 183,975

Year ended December 31

Employees				Year ended	I December 31
Number of employees	2018	2017	2016	2015	2014
Employees excluding service station employees	45,047	48,596	51,953	58,178	61,456
Service station employees	3,591	3,298	3,248	3,316	3,259
Total employed	48,638	51,894	55,201	61,494	64,715

Consolidated statement of income				Year end	ed December 31
Millions of dollars	2018	2017	2016	2015	2014
Revenues and other income					
Total sales and other operating revenues <sup>1</sup>	\$ 158,902	\$ 134,674	\$ 110,215	\$ 129,925	\$ 200,494
Income from equity affiliates	6,327	4,438	2,661	4,684	7,098
Other income	1,110	2,610	1,596	3,868	4,378
Total revenues and other income	166,339	141,722	114,472	138,477	211,970
Costs and other deductions					
Purchased crude oil and products	94,578	75,765	59,321	69,751	119,671
Operating expenses <sup>2</sup>	20,544	19,127	19,902	23,034	25,285
Selling, general and administrative expenses <sup>2</sup>	3,838	4,110	4,305	4,443	4,494
Exploration expenses	1,210	864	1,033	3,340	1,985
Depreciation, depletion and amortization	19,419	19,349	19,457	21,037	16,793
Taxes other than on income <sup>1</sup>	4,867	12,331	11,668	12,030	12,540
Interest and debt expense	748	307	201	-	-
Other components of net periodic benefit costs <sup>2</sup>	560	648	745	-	-
Total costs and other deductions	145,764	132,501	116,632	133,635	180,768
Income (loss) before income tax expense	20,575	9,221	(2,160)	4,842	31,202
Income tax expense (benefit)	5,715	(48)	(1,729)	132	11,892
Net income (loss)	14,860	9,269	(431)	4,710	19,310
Less: Net income attributable to noncontrolling interests	36	74	66	123	69
Net income (loss) attributable to Chevron Corporation	\$ 14,824	\$ 9,195	\$ (497)	\$ 4,587	\$ 19,241

<sup>1 2017, 2016, 2015</sup> and 2014 include excise, value-added and similar taxes of \$7,189, \$6,905, \$7,359 and \$8,186, respectively, collected on behalf of third parties.

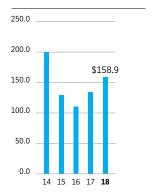
Earnings by major operating area						Year ende	ed De	cember 31
Millions of dollars			2018	2017	2016	2015		2014
Upstream – United States	\$	3	3,278	\$ 3,640	\$ (2,054)	\$ (4,055)	\$	3,327
- International		10	0,038	4,510	(483)	2,094		13,566
– Total		13	3,316	8,150	(2,537)	(1,961)		16,893
Downstream - United States		2	2,103	2,938	1,307	3,182		2,637
- International		1	1,695	2,276	2,128	4,419		1,699
– Total		3	3,798	5,214	3,435	7,601		4,336
All Other*		(2	2,290)	(4,169)	(1,395)	(1,053)		(1,988)
Net income (loss) attributable to Chevro	n Corporation \$	14	4,824	\$ 9,195	\$ (497)	\$ 4,587	\$	19,241

<sup>\*</sup> All Other includes income from worldwide cash management and debt financing activities, corporate administrative functions, insurance operations, real estate activities, and technology companies.

Common stock				Year end	ed De	cember 31
	2018	2017	2016	2015		2014
Number of shares outstanding at December 31 (Millions)	1,888.7	1,890.5	1,877.3	1,868.6		1,865.5
Weighted-average shares outstanding for the year (Millions)	1,897.2	1,882.4	1,872.3	1,867.2		1,882.9
Per-share data						
Net income (loss) attributable to Chevron Corporation						
- Basic	\$ 7.81	\$ 4.88	\$ (0.27)	\$ 2.46	\$	10.21
- Diluted	7.74	4.85	(0.27)	2.45		10.14
Cash dividends	4.48	4.32	4.29	4.28		4.21
Chevron Corporation stockholders' equity at December 31	81.83	78.35	77.53	81.73		83.10

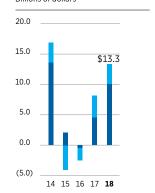
#### Total sales & other operating revenues

Billions of dollars

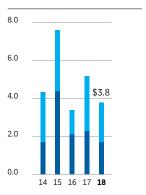


#### **Worldwide Upstream** earnings

Billions of dollars



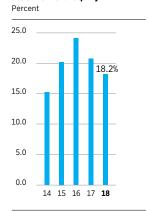
- United States International
- **Worldwide Downstream** earnings



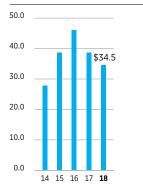
- United States
- International

Beginning in 2018, these taxes are netted in *Taxes other than on income* in accordance with Accounting Standards Update (ASU) 2014-09. <sup>2</sup> 2017 and 2016 adjusted to conform to ASU 2017-07.

#### Ratio of total debt to total debt-plus-Chevron Corporation stockholders' equity



# Total debt at year-end



Consolidated balance sheet						At De	ecember 31
Millions of dollars	2018		2017	2016	2015		2014
Assets							
Cash and cash equivalents	\$ 9,342	\$	4,813	\$ 6,988	\$ 11,022	\$	12,785
Time deposits	950		· -	_	· -		8
Marketable securities	53		9	13	310		422
Accounts and notes receivable, net	15,050		15,353	14,092	12,860		16,736
Inventories:							
Crude oil and petroleum products	3,383		3,142	2,720	3,535		3,854
Chemicals	487		476	455	490		467
Materials, supplies and other	1,834		1,967	2,244	2,309		2,184
Total inventories	5,704		5,585	5,419	6,334		6,505
Prepaid expenses and other current assets	2,922		2,800	3,107	3,904		4,705
Total current assets	34,021		28,560	29,619	34,430		41,161
Long-term receivables, net	1,942		2,849	2,485	2,412		2,817
Investments and advances	35,546		32,497	30,250	27,110		26,912
Properties, plant and equipment, at cost	340,244		344,485	336,077	340,277		327,289
Less: Accumulated depreciation, depletion and amortization	171,037		166,773	153,891	151,881		144,116
Properties, plant and equipment, net	169,207		177,712	182,186	188,396		183,173
Deferred charges and other assets	6,766		7,017	6,838	6,155		6,228
Goodwill	4,518		4,531	4,581	4,588		4,593
Assets held for sale	1,863		640	4,119	1,449		
Total assets	\$ 253,863	\$	253,806	\$ 260,078	\$ 264,540	\$	264,884
Liabilities and equity							
Short-term debt	\$ 5,726	\$	5,192	\$ .,	\$ 4,927	\$	3,790
Accounts payable	13,953		14,565	13,986	13,516		19,000
Accrued liabilities	4,927		5,267	4,882	4,833		5,328
Federal and other taxes on income	1,628		1,600	1,050	1,073		1,761
Other taxes payable	937		1,113	1,027	1,118		1,233
Total current liabilities	27,171		27,737	31,785	25,467		31,112
Long-term debt*	28,733		33,571	35,286	33,622		23,994
Deferred credits and other noncurrent obligations	19,742		21,106	21,553	23,465		23,549
Noncurrent deferred income taxes	15,921		14,652	17,516	20,165		21,626
Noncurrent employee benefit plans	6,654		7,421	7,216	 7,935		8,412
Total liabilities	98,221		104,487	113,356	110,654		108,693
Common stock	1,832		1,832	1,832	1,832		1,832
Capital in excess of par value	17,112		16,848	16,595	16,330		16,041
Retained earnings	180,987		174,106	173,046	181,578		184,987
Accumulated other comprehensive loss	(3,544)		(3,589)	(3,843)	(4,291)		(4,859)
Deferred compensation and benefit plan trust	(240)		(240)	(240)	(240)		(240)
Treasury stock, at cost	(41,593)	$\vdash$	(40,833)	(41,834)	(42,493)		(42,733)
Total Chevron Corporation stockholders' equity	154,554	$\vdash$	148,124	145,556	152,716		155,028
Noncontrolling interests	1,088		1,195	1,166	1,170		1,163
Total equity	155,642	$\perp$	149,319	146,722	153,886		156,191
Total liabilities and equity	\$ 253,863	\$	253,806	\$ 260,078	\$ 264,540	\$	264,884

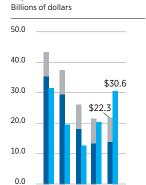
 $<sup>^* \</sup> Includes \ capital \ lease \ obligations \ of \$127,\$94,\$93,\$80 \ and \$68 \ at \ December \ 31 \ for \ 2018, 2017, 2016, 2015 \ and \ 2014, respectively.$ 

Segment assets					At December 31
Millions of dollars	2018	2017	2016	2015	2014
Upstream*	\$ 200,973	\$ 204,913	\$ 211,245	\$ 213,001	\$ 205,922
Downstream	39,488	40,636	38,080	36,386	40,789
Total segment assets	\$ 240,461	\$ 245,549	\$ 249,325	\$ 249,387	\$ 246,711
All Other	13,402	8,257	10,753	15,153	18,173
Total assets	\$ 253,863	\$ 253,806	\$ 260,078	\$ 264,540	\$ 264,884
Includes goodwill associated with the acquisitions of Unocal Corporation in 2005 and Atlas Energy, Inc., in 2011:	\$ 4,518	\$ 4,531	\$ 4,581	\$ 4,588	\$ 4,593

Consolidated statement of cash flows								Year end	ed De	ecember 31
Millions of dollars		2018		2017		2016		2015		2014
Operating activities										
Net income (loss)	\$	14,860	\$	9,269	\$	(431)	\$	4,710	\$	19,310
Adjustments:										
Depreciation, depletion and amortization		19,419		19,349		19,457		21,037		16,793
Dry hole expense		687		198		489		2,309		875
Distributions less than income from equity affiliates <sup>1</sup>		(3,580)		(2,380)		(1,549)		(760)		(2,202)
Net before-tax gains on asset retirements and sales		(619)		(2,195)		(1,149)		(3,215)		(3,540)
Net foreign currency effects		123		131		186		(82)		(277)
Deferred income tax provision		1,050		(3,203)		(3,835)		(1,861)		1,572
Net decrease (increase) in operating working capital <sup>2</sup>		(718)		520		(327)		(1,979)		(540)
Decrease (increase) in long-term receivables		418		(368)		(131)		(59)		(9)
Net decrease (increase) in other deferred charges <sup>2</sup>		-		(254)		178		25		263
Cash contributions to employee pension plans		(1,035)		(980)		(870)		(868)		(392)
Other		13		251		672		199		(378)
Net cash provided by operating activities <sup>1, 2</sup>		30,618		20,338		12,690		19,456		31,475
Investing activities										
Capital expenditures		(13,792)		(13,404)		(18,109)		(29,504)		(35,407)
Proceeds and deposits related to asset sales and returns of investment <sup>1, 2</sup>		2,392		5,096		3,476		5,739		5,729
Net maturities of (investments in) time deposits		(950)		-		-		8		-
Net sales (purchases) of marketable securities		(51)		4		297		122		(148)
Net repayment (borrowing) of loans by equity affiliates		111		(16)		(2,034)		(217)		140
Net sales (purchases) of other short-term investments		-		-		-		44		(207)
Net cash used for investing activities <sup>1, 2</sup>		(12,290)		(8,320)		(16,370)		(23,808)		(29,893)
Financing activities										
Net borrowing (repayments) of short-term obligations		2,021		(5,142)		2,130		(335)		3,431
Proceeds from issuances of long-term debt		218		3,991		6,924		11,091		4,000
Repayments of long-term debt and other financing obligations		(6,741)		(6,310)		(1,584)		(32)		(43)
Cash dividends – common stock		(8,502)		(8,132)		(8,032)		(7,992)		(7,928)
Distributions to noncontrolling interests		(91)		(78)		(63)		(128)		(47)
Net sales (purchases) of treasury shares		(604)		1,117		650		211		(4,412)
Net cash provided by (used for) financing activities		(13,699)		(14,554)		25		2,815		(4,999)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	\$	(91)		65		(53)		(226)		(43)
Net change in cash and cash equivalents and restricted cash		4,538		(2,471)		(3,708)		(1,763)		(3,460)
Cash, cash equivalents and restricted cash at January 1	\$	5,943		8,414		12,122		12,785		16,245
Cash, cash equivalents and restricted cash at December 31	\$	10,481	\$	5,943	\$	8,414	\$	11,022	\$	12,785
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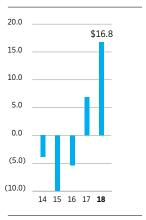
 $<sup>^1\,</sup>$  2017 and 2016 adjusted to conform to ASU 2016-15.  $^2\,$  2017 and 2016 adjusted to conform to ASU 2016-18.

# Cash from operating activities compared with capital expenditures & dividends



- Dividends
- Capital expenditures
- Cash from operating activities

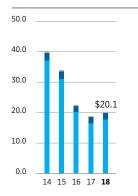
#### Free cash flow\*



<sup>\*</sup> The cash provided by operating activities less capital expenditures.

#### Capital & exploratory expenditures\*





- All Other
- Downstream
- Upstream
- $^{*}$ Includes equity share in affiliates.

# Capital and exploratory expenditures

(Includes equity share in affiliates)					Year end	ded De	cember 31
Millions of dollars		2018	2017	2016	2015		2014
United States							
Exploration	\$	802	\$ 745	\$ 925	\$ 1,680	\$	1,391
Production		6,318	4,398	3,787	5,874		7,354
Other Upstream		8	2	1	28		54
Refining		1,097	771	381	405		373
Marketing		94	48	55	76		66
Chemicals		287	771	1,011	1,354		1,025
Other Downstream		104	66	98	88		185
All Other		243	239	235	418		584
Total United States		8,953	7,040	6,493	9,923		11,032
International							
Exploration		945	528	527	1,339		2,131
Production		9,550	10,566	14,637	21,735		25,228
Other Upstream		34	149	239	461		957
Refining		218	175	115	131		309
Marketing		139	118	128	130		254
Chemicals		75	89	132	110		150
Other Downstream		179	152	152	142		228
All Other		13	4	5	8		27
Total International		11,153	11,781	15,935	24,056		29,284
Worldwide							
Exploration		1,747	1,273	1,452	3,019		3,522
Production		15,868	14,964	18,424	27,609		32,582
Other Upstream		42	151	240	489		1,011
Refining		1,315	946	496	536		682
Marketing		233	166	183	206		320
Chemicals		362	860	1,143	1,464		1,175
Other Downstream		283	218	250	230		413
All Other		256	243	240	426		611
Total Worldwide	\$	20,106	\$ 18,821	\$ 22,428	\$ 33,979	\$	40,316
Memo: Equity share of affiliates' expenditures included abo	ove \$	5,716	\$ 4,743	\$ 3,770	\$ 3,397	\$	3,467

Exploration expenses <sup>1</sup>				Year end	ded De	cember 31
Millions of dollars	2018	2017	2016	2015		2014
Geological and geophysical	\$ 140	\$ 184	\$ 145	\$ 372	\$	404
Unproductive wells drilled	686	199	488	2,309		875
Other <sup>2</sup>	384	481	400	659		706
Total exploration expenses	\$ 1,210	\$ 864	\$ 1,033	\$ 3,340	\$	1,985
Memo: United States	\$ 797	\$ 322	\$ 416	\$ 1,624	\$	586
International	413	542	617	1,716		1,399

<sup>&</sup>lt;sup>1</sup> Consolidated companies only. Excludes amortization of undeveloped leaseholds.
<sup>2</sup> Includes amortization of unproved mineral interest, write-off of unproved mineral interest related to lease relinquishments, oil and gas lease rentals, and research and development costs.

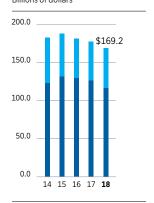
# Properties, plant and equipment

(Includes capital leases)					At [	December 31
Millions of dollars	2018	2017	2016	2015		2014
Additions at cost						
Upstream¹	\$ 11,299	\$ 12,929	\$ 16,516	\$ 26,579	\$	34,608
Downstream	1,537	1,213	903	1,061		1,118
All Other <sup>2</sup>	230	222	204	362		606
Total additions at cost	13,066	14,364	17,623	28,002		36,332
Depreciation, depletion and amortization expense <sup>3</sup>						
Upstream	(18,054)	(17,623)	(17,823)	(19,348)		(14,815)
Downstream	(1,033)	(1,035)	(1,288)	(1,233)		(1,282)
All Other <sup>2</sup>	(332)	(691)	(346)	(456)		(696)
Total depreciation, depletion and amortization expense	(19,419)	(19,349)	(19,457)	(21,037)		(16,793)
Net properties, plant and equipment at December 31						
Upstream <sup>4</sup>	153,129	161,913	165,212	170,584		164,790
Downstream	13,861	13,420	14,290	14,897		15,238
All Other <sup>2</sup>	2,217	2,379	2,684	2,915		3,145
Total net properties, plant and equipment at December 31	\$ 169,207	\$ 177,712	\$ 182,186	\$ 188,396	\$	183,173
Memo: Gross properties, plant and equipment	\$ 340,244	\$ 344,485	\$ 336,077	\$ 340,277	\$	327,289
Accumulated depreciation, depletion and amortization	(171,037)	(166,773)	(153,891)	(151,881)		(144,116)
Net properties, plant and equipment	\$ 169,207	\$ 177,712	\$ 182,186	\$ 188,396	\$	183,173

<sup>&</sup>lt;sup>1</sup> Net of exploratory well write-offs.

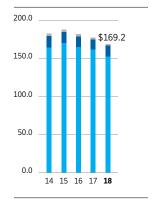
<sup>4</sup> Includes net investment in unproved oil and gas properties: 8,228 \$ 9,790 \$ 12,249 \$ 13,550 \$ 14,490

# Net properties, plant & equipment by geographic area Billions of dollars



United States International

#### Net properties, plant & equipment by function



- All Other
- Downstream
- Upstream

<sup>2</sup> All Other is primarily corporate administrative functions, insurance operations, real estate activities and technology companies.

3 Depreciation expense includes accretion expense of \$654, \$668, \$749, \$715 and \$882 in 2018, 2017, 2016, 2015 and 2014, respectively, and impairments of \$735, \$1,021, \$3,186, \$4,066 and \$1,274 in 2018, 2017, 2016, 2015 and 2014, respectively.

deliver industry-leading returns
while developing high-value resource opportunities



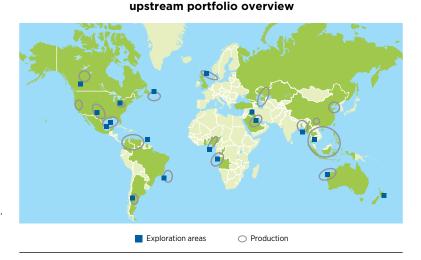
# highlights

Chevron's upstream business has operations in most of the world's key hydrocarbon basins and a portfolio that provides a foundation for future growth. Utilizing its project management expertise, innovative technology, experience in varied operating environments and strong partnership skills, upstream finds and develops resources that help meet global energy demand.

## business strategies

Deliver industry-leading returns while developing highvalue resource opportunities by:

- Sustaining world-class operational excellence.
- High-grading portfolio and effectively allocating capital.
- Delivering enterprise cash and earnings commitments while maintaining competitive margins.
- Leading the industry in the selection and execution of major capital projects.
- Replenishing resources through selective investments in technology, exploration and acquisitions.



# industry conditions

Crude oil prices increased throughout the first three quarters of 2018 due to solid demand combined with OPEC production cuts. Late in the year, continued U.S. shale growth, along with increased production from key oil producing economies, led to excess supply conditions that resulted in a decrease in oil prices. In response, OPEC agreed to new production cuts in early December. The spot price for West Texas Intermediate (WTI) crude oil averaged \$65 per barrel for full-year 2018, compared to \$51 in 2017. The Brent price averaged \$71 per barrel for full-year 2018, compared to \$54 in 2017. The majority of the company's equity crude production is priced based on the Brent benchmark. WTI traded at a discount to Brent throughout 2018. Differentials to Brent have ranged between \$3 and \$10 in 2018 due to pipeline infrastructure constraints, which have restricted flows of inland crude to export outlets on the Gulf Coast. In response to the volatile crude price environment, the company continues to manage its cost structure and optimize its capital spending while still executing its business strategies.

In contrast to price movements in the global market for crude oil, price changes for natural gas in many regional markets are more closely aligned with supply-and-demand conditions in those markets. Fluctuations in the price for natural gas in the United States are closely associated with customer demand relative to the volumes produced in North America. In the United States, prices at Henry Hub averaged \$3.12 per thousand cubic feet (MCF) in 2018, compared to \$2.97 per MCF in 2017. Outside the United States, price changes for natural gas depend on a wide range of supply, demand and regulatory circumstances. Chevron sells natural gas into the domestic pipeline market in most locations. In some locations, Chevron has invested in long-term projects to produce and liquefy natural gas for transport by tanker to other markets. The company's long-term contract prices for liquefied natural gas (LNG) are typically linked to crude oil prices. Most of the equity LNG offtake from the operated Australian LNG projects is committed under binding long-term contracts, with the remainder to be sold in the Asian spot LNG market. The Asian spot market reflects the supply and demand for LNG in the Pacific Basin and is not directly linked to crude oil prices. In 2018, Chevron's international natural gas realizations averaged \$6.29 per MCF, compared to \$4.62 per MCF during 2017.

# financial and operational highlights

In 2018, Chevron's upstream business had strong process and personal safety performance, achieving record low loss-of-containment incidents and outperforming on spill volume targets. Financial results improved substantially, with net income of \$13.3 billion, compared to \$8.2 billion in 2017. Record annual production of 2.93 million oil-equivalent barrels per day was more than 7 percent higher than net oil-equivalent production in 2017. Production increases from shale and tight properties, major capital projects, and base business were partially offset by entitlement effects, the impact of asset sales and normal field declines. Upstream capital and exploratory expenditures were \$17.7 billion in 2018. Portfolio management activities resulted in proceeds of \$1.0 billion, including the sale of assets primarily in the United States. In 2019, the upstream capital and exploratory budget is \$17.3 billion. Approximately \$10.4 billion of planned capital spending is forecasted to sustain currently producing assets, including \$3.6 billion for the Permian Basin and \$1.6 billion for other shale and tight rock investments. Approximately \$5.1 billion is planned for major capital projects underway, including \$4.3 billion of affiliate expenditures associated with the Future Growth and Wellhead Pressure Management Project (FGP/WPMP) at Tengizchevroil (TCO) in Kazakhstan. Global exploration funding is expected to be \$1.3 billion. Remaining upstream spending is primarily related to early stage projects supporting potential future developments.

#### Upstream financial and operating highlights

(Includes equity share in affiliates)

Millions of dollars	2018	2017
Earnings	\$ 13,316	\$ 8,150
Net liquids production (Thousands of barrels per day)	1,782	1,723
Net natural gas production (Millions of cubic feet per day)	6,889	6,032
Net oil-equivalent production (Thousands of barrels per day)	2,930	2,728
Net proved reserves* (Millions of barrels of oil-equivalent)	12,053	11,665
Net unrisked resource base <sup>*</sup> (Billions of barrels of oil-equivalent)	68	69
Capital and exploratory expenditures	\$ 17,657	\$ 16,388

<sup>\*</sup>For definitions of reserves and resources, refer to pages 54 and 55, respectively.

# exploration and portfolio additions

Chevron's exploration focus areas comprise the deepwater U.S. Gulf of Mexico, offshore Western Australia, West Africa, and shale and tight resource plays throughout the United States, Canada and Argentina. The company's exploration activities have added approximately 12.8 billion barrels of potentially recoverable oil-equivalent resources since 2009. Notable exploratory drilling progressed in several areas around the globe during 2018, including the deepwater Gulf of Mexico, the Kurdistan Region of Iraq, and several shale and tight basins. In addition, the company made several important portfolio additions in 2018. Chevron successfully acquired new exploration acreage in multiple locations, including six deepwater blocks offshore Brazil in the pre-salt trend, 30 deepwater blocks in the U.S. waters of the Gulf of Mexico, and one deepwater block in Mexican waters of the Gulf of Mexico.

#### 2018 accomplishments

- Exploration activities added 2.4 billion barrels of potentially recoverable oil-equivalent resources while making 11 discoveries worldwide and achieving an exploration drilling success rate of 61 percent.
- Added 1.3 million net exploration acres.
- Brazil Awarded six deepwater blocks in the Campos and Santos basins.
- Mexico License awarded for Block 22 in the deepwater of the Gulf of Mexico.
- United States Made a significant crude oil discovery at the Ballymore prospect in the Gulf of Mexico and added 30 blocks (29 in lease sales, one through a swap).

#### 2019 outlook

During 2019, the company plans to continue its selective and technology-driven exploration program by investing approximately \$1.3 billion in exploration activities around the world. This planned exploration investment supports established exploration operations and also furthers the evaluation of recently acquired positions in Brazil, Mexico and various other locations. The 2019 drilling plans include 40 exploration and appraisal wells worldwide and the drilling or completion of nine impact wells (a well with a predrill unrisked resource potential of greater than 100 million barrels of oil-equivalent).

#### resources and proved reserves

The company's net unrisked resource base at year-end 2018 decreased slightly from year-end 2017 to 68 billion oil-equivalent barrels. Significant extensions and discoveries and technical revisions in the United States were offset by production and divestments. Included in the resource base are 12.1 billion barrels of net proved oil-equivalent reserves at year-end 2018.

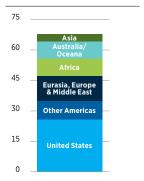
The resources are diversified across geographic regions, with 38 percent located in the United States, 12 percent in Australia, 10 percent in Kazakhstan and 8 percent in Nigeria. The company's resource base is also diversified by type, with liquids representing about 60 percent and natural gas about 40 percent of the total. The company has about 164 trillion cubic feet of unrisked natural gas resources globally, with about half located in Australia and Asia, and is well positioned to supply anticipated growth in Asia-Pacific natural gas demand.

# base business

Successful management of the base business is critical to maintaining the company's crude oil and natural gas production. Chevron drives a disciplined approach to managing the business through targeted investments and proven work processes to minimize decline and downtime and prevent process safety incidents. The company's assets have been operating reliably, with a production efficiency of 95 percent. Through a greater focus on data analytics, the company has been able to gain further insights into the performance of each business unit. Key focus areas for 2019 and beyond are pursuing further productivity and efficiency opportunities by utilizing cross-functional integrated operations centers, designing and deploying digital technology solutions, and advancing data analytics capability.

# 2018 net unrisked resources by region\*

Billions of oil-equivalent barrels



<sup>\*</sup> Refer to page 55 for definition of resources

At December 31

# shale and tight resources

An area of focus for the company is the development of unconventional oil and gas resources located in shale and tight formations. The company has a significant shale and tight resource position, including legacy acreage in the Permian Basin in the United States, as well as newer positions in several other plays elsewhere in the United States, Argentina and Canada. Investment is focused on the liquids-rich shale and tight formations in the Permian Basin, the Vaca Muerta Shale in Argentina and the Duvernay Shale in Canada. In the Permian, the company has implemented a factory development strategy, which utilizes multiwell pads to drill a series of horizontal wells that are completed concurrently using hydraulic fracture stimulation. The company benefited from improved well performance in the Permian in 2018 and is forecasting continued growth in production from these resources over the next several years. Chevron also implemented a factory development strategy for the co-development of its Marcellus and Utica shale resources, which utilizes multiwell pads. Development activities continued in the Loma Campana area of the Vaca Muerta Shale, and a shale appraisal program commenced in 2018 in the El Trapial Field in Argentina. Development pace in Canada's Duvernay Shale is driven by well and execution performance. In the Liard Basin in Canada, the company is focused on identifying the areas with the most potential for development and bringing those resources to production safely and cost effectively. The company shares best practices across all of the shale and tight asset teams to ensure lessons learned are implemented across this asset class.

#### Shale and tight resources - key areas

Location	Basin or play	Net acreage (Thousands of acres)
Argentina	Vaca Muerta	210
Canada	Duvernay	215
Canada	Liard/Horn River	290
United States	Permian (Delaware Basin)	1,200
United States	Permian (Midland Basin)	500
United States	Haynesville	71
United States	Marcellus	428
United States	Utica	462

## major capital projects

Chevron continues to invest in major capital projects that play a significant role in developing resources into reserves and sustaining the company's production growth.

# 2018 accomplishments

- Australia Achieved start-up of LNG Train 2 at the Wheatstone Project.
- Australia Reached a final investment decision for Gorgon Stage 2.
- Kazakhstan Advanced construction of the FGP/WPMP at TCO, including first module delivery and installation.
- United Kingdom Commenced production at the Clair Ridge Project.
- United States Achieved start-up of the Big Foot Project.
- United States Achieved first oil from the Tahiti Vertical Expansion Project.
- United States Commenced production at the Stampede Project.
- United States Commenced front-end engineering design (FEED) for the Anchor project.

#### 2019 outlook

- Australia Achieve start-up of the carbon dioxide capture and injection process for Gorgon.
- Australia Progress Jansz-Io Trunkline Compression Project, including initiation of FEED activities.
- Canada Continue ramp-up of Hebron.
- Kazakhstan Continue construction of the FGP/WPMP at TCO, including progressing the fabrication of pipe racks and process modules, and construction activities in the field.
- United Kingdom Continue ramp-up of Clair Ridge.
- United States Progress FEED activities for the Anchor project.
- United States Continue ramp-up of Big Foot and Stampede in the Gulf of Mexico.

The projects in the table below are considered the most significant in the development portfolio and have commenced production or are in the design or construction phase. Each project has an estimated project cost of more than \$500 million, Chevron share.

Major capital projects				Facility de	sign capacity <sup>1</sup>
Year of start-up <sup>2</sup> /location	Project	Ownership percentage	Operator	Liquids (MBPD)	Natural gas (MMCFPD)
2018					
United Kingdom	Clair Ridge	19.4	Other	120	100
United States	Big Foot	60.0	Chevron	75	25
	Stampede	25.0	Other	80	40
	Tahiti Vertical Expansion	58.0	Chevron	Maintai	n capacity
2019-2022					
Australia	Gorgon Stage 2	47.3	Chevron	Maintai	n capacity
Kazakhstan	TCO Future Growth Project (FGP)	50.0	Affiliate	260³	-
	TCO Wellhead Pressure Management Project (WPMP)	50.0	Affiliate	Maintai	n capacity
United States	Mad Dog 2	15.6	Other	140	-
2023+					
Canada	Kitimat LNG	50.0	Chevron	-	1,600
Indonesia	IDD-Gendalo-Gehem	62.0	Chevron	30	920
United Kingdom	Captain Enhanced Oil Recovery Stage 2	85.0	Chevron	Maintai	n capacity
United States	Anchor	61.3/55.0 <sup>4</sup>	Chevron	75	28

<sup>&</sup>lt;sup>1</sup> MBPD - thousands of barrels per day: MMCFPD - millions of cubic feet per day.

# production outlook

The company estimates that its average worldwide net oil-equivalent production in 2019 will grow 4 to 7 percent compared with 2018, assuming a Brent crude oil price of \$60 per barrel and excluding the impact of anticipated 2019 asset sales. The company's production is expected to grow through the end of the decade as a result of value-driven investment in major capital projects and shale and tight properties and a sharp focus on mitigating base business declines. This growth is driven by the start-up and ramp-up of projects that have been under construction. These include the Gorgon and Wheatstone projects in Australia; the Stampede and Big Foot projects in the deepwater Gulf of Mexico; the Hebron Project in Canada; and the Clair Ridge Project in the United Kingdom. Shale and tight production, led by the Permian Basin and Canada, is anticipated to grow significantly. Infill wells, workovers, brownfield tie-backs and other optimization efforts are being utilized to mitigate base business decline rates.

This outlook for future production levels is subject to many factors and uncertainties, including, among other things, production quotas or other actions that might be imposed by OPEC; sanctions; price effects on entitlement volumes; changes in fiscal terms or restrictions on the scope of company operations; delays in the construction, start-up or ramp-up of projects; fluctuations in demand for natural gas; weather conditions; delays in completion of maintenance turnarounds; greater-than-expected declines from mature fields; potential asset divestments; or other disruptions to operations.

# Projected net production at \$60/bbl MMBOED



<sup>&</sup>lt;sup>1</sup> Includes the effect of asset sales in the public domain.

<sup>&</sup>lt;sup>2</sup> Start-up timing for nonoperated projects per operator's estimate

Represents expected total daily production.

 $<sup>^4</sup>$  Represents 61.3% interest in the northern unit area and 55% interest in the southern unit area.

<sup>&</sup>lt;sup>2</sup> Excludes the effect of asset sales.

# **United States**

Chevron's portfolio in the United States encompasses a diverse group of assets primarily located in the midcontinent region, the Gulf of Mexico, California and the Appalachian Basin. The company was one of the largest liquids producers in the United States in 2018. Net daily oil-equivalent production averaged 791,000 barrels, representing 27 percent of the companywide total.

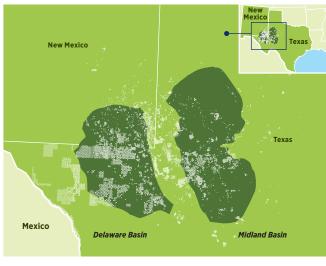
#### **Midcontinent**

The company produces crude oil and natural gas in the midcontinent region of the United States, primarily in Colorado, New Mexico and Texas. In 2018, the company's net daily production in these areas averaged 198,000 barrels of crude oil, 651 million cubic feet of natural gas and 77,000 barrels of natural gas liquids (NGLs). In 2018, the company divested properties in New Mexico, Oklahoma and Texas. The company is pursuing opportunities to increase development efficiency across the region.

#### **Permian Basin**

The company's most significant holdings in the midcontinent region are in the Permian Basin located in West Texas and southeast New Mexico. Chevron has been active in the Permian since 1920 and has one of the largest net acreage positions in the basin, totaling approximately 2.2 million acres (8,903 sq km). More than 80 percent of its leases in the Permian Basin have either low or no royalty payments, providing a substantial competitive advantage. The Permian is composed of several sub-basins, including the Midland and Delaware basins, which hold significant shale and tight resources for development as well as resources that can be developed with conventional methods.

Chevron is one of the largest producers in the Permian Basin. In 2018, the company's net daily production in the basin averaged 159,000 barrels of crude oil, 501 million cubic feet of natural gas and 66,000 barrels of NGLs. Further refinement in reservoir characterization and enhanced use of data analytics has led to total net unrisked oil-equivalent resources estimated to exceed 16.2 billion barrels across Chevron's company-operated and nonoperated joint-venture portfolio.



Chevron interest

In November 2018, Chevron joined forces with other leading Permian energy companies to form the Permian Strategic Partnership. This groundbreaking new industry coalition of 20 companies aims to improve the quality of life for Permian Basin families by partnering with local leaders to develop and implement strategic plans to foster strong schools, safer roads, quality health care, affordable housing and a trained workforce.

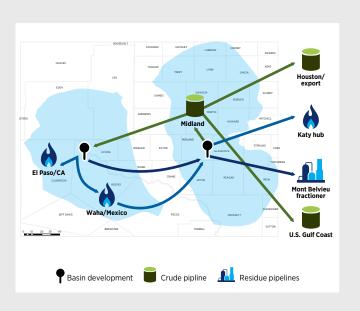
# Permian takeaway position leads to enhanced value

# Chevron is ensuring access to the best markets for crude, gas and NGLs

Chevron moves production via various pipelines and ships to reach multiple markets to capture the highest value for Permian production.

Commercial transactions are structured to support Chevron's long-term production in the Permian Basin. Agreement types include:

- Transport of crude from Midland market to U.S. Gulf Coast.
- Use of a crude export dock in the Houston Ship Channel to reach international markets.
- Committed NGL transportation and fractionation.
- Transport of natural gas to Permian Waha gas market center.
- Transport of natural gas from Waha to other gas market centers.



# tight rock technology

# Chevron continues to use technology to drive increased well performance

Chevron continues to advance proprietary technology and integrate emerging tight rock technologies and predictive analytics in support of exploration strategies, resource characterization and drilling and completion decisions, which are critical to optimizing the commercialization of our vast unconventional resources. Below are some examples of technology employed by Chevron:

- The company has developed and deployed an advanced regional stratigraphic framework that improves the understanding and prediction of the spatial distribution of mineralogic trends across the Permian Basin. These stratigraphic maps assist in high-grading future opportunities in the Permian. Similarly, Chevron developed a rock quality characterization workflow to support landing zone selection and multi zone development strategies in areas with limited data.
- The company developed proprietary modeling tools that employ machine learning and artificial intelligence to optimize well spacing and completion design, leading to lower development costs.
- The company utilizes a proprietary fracture stimulation optimization tool to increase effectiveness of the reservoir stimulation. This is coupled with surveillance technologies to understand completion effectiveness and drive improvements over time. The approach has lowered completion costs and increased recoverable reserves per well.
- The company utilizes proprietary drilling assembly technology that optimizes bit life and penetration rates through advanced modeling and analytical techniques.
- The company utilizes an integrated reservoir characterization and earth modeling workflow that incorporates detailed rock property data and a fine-scale reservoir/depositional framework into a high-resolution 3-D earth model used to assess optimal landing zone characteristics for unconventional reservoirs. This workflow has resulted in greater geologic accuracy, improved reservoir characterization, and reduced development costs through pad design and completion optimization.



**Photo:** Chevron continues to use technology to drive increased well performance.

# **Shale and tight resources**

The company holds approximately 1.7 million net acres (6,880 sq km) of shale and tight resources in the Midland (approximately 500,000 net acres [2,023 sq km]) and Delaware (approximately 1.2 million net acres [4,856 sq km]) basins in the Permian. This acreage is positioned to deliver significant long-term growth for Chevron due to the presence of multiple stacked formations that enable production from several layers of rock in different geologic zones. Chevron has implemented a factory development strategy in the basin, which utilizes multiwell pads to drill a series of horizontal wells that are completed concurrently using hydraulic fracture stimulation. In addition to company-operated development, Chevron has a strong nonoperated joint-venture and royalty portfolio that drives enhanced value. Chevron is also applying data analytics and technology to drive improvements in well targets and performance. The company is forecasting double-digit production growth that is supported by increased average lateral length and a strong acreage position.

Chevron also holds approximately 71,000 net acres (287 sq km) in the Haynesville Shale in East Texas. In 2018, Chevron executed a lease retention program to maintain land position for a full development program in the future.

In addition, Chevron holds shale and tight resource opportunities in the Piceance Basin in northwestern Colorado.

## **Conventional resources**

Chevron actively manages declines in its conventional oil and gas assets in the midcontinent region, including on its approximately 350,000 net acres (1,416 sq km) in the Central Basin Platform of the Permian Basin. The company is efficiently maintaining production of these conventional resources through well workovers, artificial-lift techniques, facility and equipment optimization, and enhanced recovery methods to maximize the value of these base business operations.

#### **Gulf of Mexico**

During 2018, net daily production in the Gulf of Mexico averaged 186,000 barrels of crude oil, 117 million cubic feet of natural gas and 13,000 barrels of NGLs. As of early 2019, Chevron has an interest in 218 leases in the Gulf of Mexico, 199 of which are located in water depths greater than 1,000 feet (305 m). At the end of 2018, the company was the second-largest leaseholder in the Gulf of Mexico.



#### **Deep Water**

Average net daily production in 2018 was 186,000 barrels of crude oil, 105 million cubic feet of natural gas and 13,000 barrels of NGLs, primarily from the Jack/St. Malo and Tahiti fields, the Perdido Regional Development, and the Caesar/Tonga, Tubular Bells, Blind Faith and Mad Dog fields.

Jack/St. Malo Chevron has a 50 percent interest in the Jack Field and a 51 percent interest in the St. Malo Field. Both fields are company operated and are located in the Walker Ridge area. The company has a 40.6 percent interest in the production host facility, which is designed to accommodate production from the Jack/St. Malo development and third-party tiebacks. Total daily production from the Jack and St. Malo fields in 2018 averaged 139,000 barrels of liquids (71,000 net) and 21 million cubic feet of natural gas (11 million net).

Additional development opportunities for the Jack and St. Malo fields progressed in 2018. Stage 2 of the development plan was completed with four planned wells on production by the end of 2018. Development drilling continued on Stage 3, with two of the three planned wells completed at the end of 2018. One additional well is planned to be drilled in 2019. Proved reserves have been recognized for these phases. Total daily production from the Jack/ St. Malo development has ramped up to a daily rate of approximately 155,000 barrels of crude oil and 39 million cubic feet of natural gas. The Jack and St. Malo fields have an estimated remaining production life of 30 years, and total potentially recoverable oil-equivalent resources are estimated to exceed 500 million barrels. The company continues to study advanced drilling, completion and other production technologies that could be employed in future development phases, with the potential to increase recovery from these fields. The St. Malo Stage 4 waterflood project entered front-end engineering and design (FEED) in 2018, with the final investment decision expected in third quarter 2019. The project includes water injection at the St. Malo field, which would constitute Chevron's first waterflood project in the Wilcox trend. At the end of 2018, proved reserves had not been recognized for this project.

**Tahiti** In 2018, net daily production averaged 51,000 barrels of crude oil, 22 million cubic feet of natural gas and 3,000 barrels of NGLs at the 58 percent-owned and operated Tahiti Field. Infill drilling continued in 2018 with one new infill well being completed. The Tahiti Vertical Expansion Project is developing shallower reservoirs at the Tahiti asset and encompassing four new wells and associated subsea infrastructure. First oil was achieved from three wells in June 2018, and the fourth well is scheduled to come on line in second quarter 2019.

The Tahiti Field has an estimated remaining production life of at least 25 years.



Photo: First oil from the Tahiti Vertical Expansion Project was achieved in June 2018.

Mad Dog Chevron has a 15.6 percent nonoperated working interest in the Mad Dog Field. In 2018, net daily production averaged 8,000 barrels of liquids and 1 million cubic feet of natural gas.

The next development phase, the Mad Dog 2 Project, is planned to develop the southwestern extension of the Mad Dog Field. The development plan includes a new floating production platform with a design capacity of 140,000 barrels of crude oil per day. First oil is expected in 2021. The total potentially recoverable oil-equivalent resources for Mad Dog 2 are estimated to exceed 500 million barrels. Proved reserves have been recognized for the Mad Dog 2 Project.

Big Foot The development plan for the 60 percent-owned and operated Big Foot Project, located in the Walker Ridge area, includes a 15-slot drilling and production tension leg platform with water injection facilities. The facility has a design capacity of 75,000 barrels of crude oil and 25 million cubic feet of natural gas per day. First oil was achieved in November 2018 with ramp-up expected to continue during 2019. The field has an estimated production life of 35 years, and total potentially recoverable oil-equivalent resources are estimated to exceed 200 million barrels.



Photo: First oil was achieved from Big Foot in November 2018.

Stampede Chevron holds a 25 percent nonoperated working interest in the Stampede Project located in the Green Canyon area. First oil was achieved in January 2018. In 2018, total daily production averaged 16,000 barrels of crude oil (4,000 net) and 4 million cubic feet of natural gas (1 million net). Production is expected to continue to ramp up until early 2020. The field has an estimated production life of 30 years.



Photo: Production commenced at Stampede in January 2018 and continues to ramp up.

Anchor The Anchor Field is located in the Green Canyon area, approximately 140 miles (225 km) off the coast of Louisiana, in water depths of approximately 5,000 feet (1,524 m). Chevron has a 61.3 percent interest in the northern unit area and a 55 percent interest in the southern unit area. In 2018, the Chevron-operated Anchor Unit was expanded to include acreage in two additional blocks. FEED activities commenced in 2018. Stage 1 of the Anchor development consists of a seven-well subsea development and semi-submersible floating production unit. The planned facility has a design capacity of 75,000 barrels of crude oil and 28 million cubic feet of natural gas per day. The total potentially recoverable oil-equivalent resources for Anchor are estimated to exceed 450 million barrels. At the end of 2018, proved reserves had not been recognized for this project.

Ballymore Chevron is the operator of Ballymore, a 60 percent-owned field located in the Mississippi Canyon area, approximately 75 miles (120 km) off the coast of Louisiana and 3 miles (5 km) from Chevron's Blind Faith Platform, in water depth of 6,536 feet (1,992 m). In January 2018, the company announced a significant crude oil discovery. Appraisal activities are underway to evaluate the opportunity and identify a cost-effective development plan. The first appraisal well was completed in January 2019, and the results are being evaluated. At the end of 2018, proved reserves had not been recognized for this project.

Whale Chevron has a 40 percent nonoperated working interest in the Whale discovery in the Perdido area, located about 200 miles (322 km) southwest of Houston, Texas. An appraisal well and sidetrack were completed in March 2018. Results of the exploration and appraisal wells are being assessed in parallel to progressing cost-effective development options. At the end of 2018, proved reserves had not been recognized for this project.

**Tigris** In November 2018, Chevron transferred operatorship of the leases under the Tiber and Guadalupe Units following its decision to exit the Tigris project.

**Exploration** During 2018 and early 2019, the company participated in five deepwater wells: three exploration and two appraisal wells. In early 2019, the company began drilling one exploration and one appraisal well.

In 2018, Chevron added 29 leases to the deepwater portfolio through two gulf-wide lease sales. Chevron also added one additional lease through an asset swap.

#### Shelf

Average 2018 net daily production from the Gulf of Mexico shelf, where Chevron holds nonoperated interests in several fields, was 12 million cubic feet of natural gas.

# utilizing technology to add value in the Gulf of Mexico

# Chevron leverages technology and its strong Gulf of Mexico position to deliver increased production

The company is utilizing its strong position in the Gulf of Mexico to optimize field development and performance, leveraging standard solutions and designs while deploying new technology and innovations.

- During 2018, Chevron successfully upgraded the Jack and St. Malo seafloor boosting pumps and increased production by approximately 20,000 barrels of crude oil per day.
- In December 2018, Chevron awarded contracts for the design, construction and operation of a new offshore drilling unit capable of handling pressures of 20,000 psi for use in the Anchor Field.
- Chevron integrates its advanced seismic imaging capabilities with machine learning and high-performance computing that enables reduced processing time and subsurface uncertainty, leading to improved business decisions in exploration and reservoir management.
- Ongoing efforts include standardization of subsea trees and topsides, advancement of cost-competitive tiebacks with shorter cycle times, and alignment of regulations and industry standards for drilling rigs capable of drilling in hightemperature, high-pressure environments.



**Photo:** In December 2018, Chevron awarded contracts for an ultra-deepwater drillship capable of handling pressures of 20,000 psi for use in the Anchor field.

#### **California**

In 2018, Chevron was one of the largest producers in California with net daily oil-equivalent production of 142,000 barrels, composed of 138,000 barrels of crude oil, 25 million cubic feet of natural gas and 400 barrels of NGLs.



Chevron has a 99 percent-owned and operated interest in leases covering most of the Kern River Field. In addition, the company operates leases in the Cymric Field (100 percent-owned), the McKittrick Field (98 percent-owned) and the Midway Sunset Field (94 percent-owned). Chevron also operates and holds interests in the San Ardo, Coalinga and Lost Hills fields. The company's expertise in steamflood operations has resulted in more than a 60 percent crude oil recovery rate at the Kern River Field. Chevron continues to leverage heat management capabilities in the recovery of these hydrocarbons, with emphasis on improved energy efficiency through new technology and processes. Chevron is progressing a project to supply solar power at the Lost Hills Field.

Chevron sold its nonoperated working interest in the Elk Hills Field in April 2018.



**Photo:** A pumpjack near a cogeneration power plant in Coalinga, California.

## **Appalachian Basin**

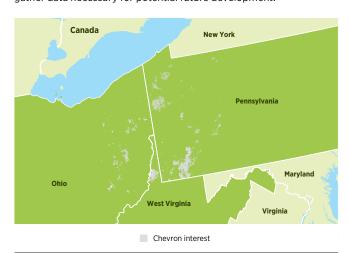
The company is a significant leaseholder in the Marcellus Shale and the Utica Shale, primarily located in southwestern Pennsylvania, the West Virginia panhandle and eastern Ohio. Chevron has implemented a factory development strategy in the basin, which utilizes multiwell pads to drill horizontal wells that are completed using hydraulic fracture stimulation. This strategy enables future co-development of the Marcellus and Utica shales from the same pads in stacked play locations. In 2018, the company's net daily production in these areas averaged 240 million cubic feet of natural gas, 4,000 barrels of NGLs and 1,000 barrels of condensate.



**Photo:** Chevron has implemented a factory development strategy, which enables co-development of the Marcellus and Utica shales from the same pads.

Marcellus Shale The company holds approximately 428,000 net acres (1,732 sq km) in the Marcellus Shale. The company participated in 14 nonoperated wells during 2018. Development is planned to proceed at an optimal pace to achieve efficient factory execution that delivers enhanced well performance and cost effectiveness.

**Utica Shale** The company also holds a position in the Utica Shale, with approximately 462,000 net acres (1,870 sq km). Activity during 2018 included drilling an exploration well in the Utica formation to gather data necessary for potential future development.

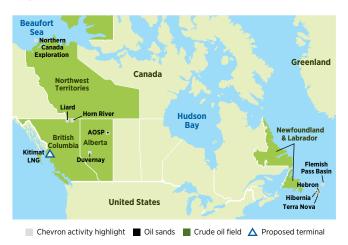


# **Other Americas**

In Other Americas, the company is engaged in upstream activities in Argentina, Brazil, Canada, Colombia, Mexico, Suriname and Venezuela. Net daily oil-equivalent production of 209,000 barrels during 2018 in these countries represented 7 percent of the companywide total.

#### Canada

Chevron has interests in an oil sands project and shale acreage in the province of Alberta; exploration, development and production projects offshore the province of Newfoundland and Labrador in the Atlantic region; a liquefied natural gas (LNG) project and shale acreage in British Columbia; and discovered resource interests in the Beaufort Sea region of the Northwest Territories. Net daily production in 2018 from Canadian operations was 50,000 barrels of crude oil, 79 million cubic feet of natural gas and 53,000 barrels of synthetic oil from oil sands.



#### **Atlantic Canada**

Hibernia Chevron holds a 26.9 percent nonoperated working interest in the Hibernia Field. Chevron also has a 23.7 percent nonoperated working interest in the unitized Hibernia Southern Extension areas of the Hibernia Field that have been developed with a subsea tieback to the Hibernia Platform. Average net daily crude oil production in 2018 was 22,000 barrels.

**Hebron** Chevron holds a 29.6 percent nonoperated working interest in the Hebron Field development. Total daily crude production averaged 60,000 barrels (18,000 net) in 2018 and is expected to continue to ramp up during 2019. This heavy oil field has an expected economic life of 30 years.

**Exploration** Chevron holds a 50 percent-owned and operated interest in Flemish Pass Basin Block EL 1138, with 339,000 net acres (1,374 sq km). The company relinquished its interest in blocks EL 1125 and EL 1126 in 2018.

# **Western Canada**

Athabasca Oil Sands Project (AOSP) The company holds a 20 percent nonoperated working interest in the AOSP near Fort McMurray, Alberta. Oil sands are mined from both the Muskeg River and the Jackpine mines. Bitumen is extracted from the oil sands and transported by pipeline to the Scotford Upgrader near Edmonton, Alberta, where it is upgraded into synthetic oil using hydroprocessing technology. Carbon dioxide emissions from the upgrader are reduced by the Quest carbon capture and storage facilities. In 2018, average net daily synthetic oil production was 53,000 barrels.

**Duvernay Shale** The company holds 215,000 net acres (870 sq km) in the Duvernay Shale in Alberta. Chevron has a 70 percent-owned and operated interest in most of the Duvernay acreage. Learnings from other Chevron-owned shale assets are being applied to continuously lower unit development costs while transitioning to factory development. Duvernay is poised for growth with access to premium Canadian condensate markets, and development pace will be driven by well and execution performance. A total of 122 wells have been tied into production facilities by early 2019. In 2018, net daily production averaged 9,000 barrels of crude oil and 54 million cubic feet of natural gas.



 $\textbf{Photo:} \ \textbf{Execution of a development program in the Duvernay Shale in Alberta is underway.}$ 

Kitimat LNG Chevron holds a 50 percent-owned and operated interest in the proposed Kitimat LNG and Pacific Trail Pipeline projects and a 50 percent operated interest in 290,000 net acres (1,174 sq km) in the Liard and Horn River shale gas basins in British Columbia. The horizontal appraisal drilling program progressed during 2018. The Kitimat LNG Project is planned to include a two-train LNG facility and has a 10.0 million-metric-ton-per-year LNG export license. The total production capacity for the project is expected to be 1.6 billion cubic feet of natural gas per day. Major environmental and LNG export permits and First Nations benefits agreements are in place. Spending is being paced until LNG market conditions and reductions in project costs are sufficient to support the development of this project. At the end of 2018, proved reserves had not been recognized for this project.



Photo: Horizontal appraisal drilling progressed in the Liard Basin in 2018.

#### **Mexico**

The company operates and holds a 33.3 percent interest in Block 3 in the Perdido area of the Gulf of Mexico. The block covers 139,000 net acres (562 sq km). Seismic reprocessing activities continued in 2018.

In January 2018, a Chevron-led consortium was the successful bidder on an exploration license for Block 22 in the deepwater Cuenca Salina area of the Gulf of Mexico. Following license execution in May 2018, the company owns and operates a 37.5 percent interest in Block 22, which covers 267,000 net acres (1,081 sq km). A 3-D seismic licensing agreement was signed in August 2018, and data reprocessing has extended into 2019. An environmental baseline study was completed in October 2018.



# **Argentina**

Chevron holds a 50 percent nonoperated interest in the Loma Campana and Narambuena concessions in the Vaca Muerta Shale covering 73,000 net acres (295 sq km). Chevron also holds an 85 percent-owned and operated interest in the EI Trapial concession covering 94,000 net acres (380 sq km) with both conventional production and Vaca Muerta Shale potential. During 2018, Argentina net daily production averaged 20,000 barrels of crude oil and 24 million cubic feet of natural gas.

Loma Campana Nonoperated development activities continued in 2018 at the Loma Campana concession in the Vaca Muerta Shale, with three rigs on site at year-end. During 2018, 32 horizontal wells were drilled. During 2019, development activity is planned to increase to four rigs. This concession expires in 2048.

El Trapial The company utilizes waterflood operations to mitigate declines at the operated El Trapial Field and continues to evaluate the potential of the Vaca Muerta Shale. Chevron initiated a shale appraisal drilling program in November 2018. The El Trapial concession expires in 2032.

**Exploration** Evaluation of the nonoperated Narambuena Block continued in 2018, with appraisal activity planned for 2019. Chevron conducted an environmental review on the 90 percent-owned and operated Loma del Molle Norte Block, consisting of 43,000 net acres (174 sq km) adjacent to the El Trapial concession.



Chevron activity highlight

# expanded use of real-time digital data

# Sharing of technology enhances drilling performance in Chevron's worldwide shale assets

Chevron is leveraging real-time technology developed for and successfully used in deepwater operations to provide digital solutions for unconventional assets in Argentina, the Permian Basin, Marcellus and other locations around the world. Smart alarm systems and drilling and completion digital infrastructure are being utilized to optimize drilling and fracture performance and cost. These systems also enable remote steering of wells to optimize well placement and improve production outcomes from a central Drilling and Completion Decision Support Center in support of global operations.

Chevron developed and deployed the Digital Oil Field System, an integrated solution for managing the performance of assets, wells and facilities, to multiple assets across the portfolio. The system capabilities include real-time well and facility surveillance workflows, production condition monitoring, flowrate estimation, well diagnostics, and continuous automated validation between well models and field data.

Regular engagement sessions among the company's unconventional asset groups are held to support continuous process improvement, exchange best practices and review benchmark information.



**Photo:** The drilling program in Argentina is one of several areas across Chevron leveraging real-time technology to optimize drilling operations.

#### **Brazil**

During 2018, net daily production in Brazil averaged 10,000 barrels of crude oil and 4 million cubic feet of natural gas. In January 2019, Chevron signed an agreement for the sale of its 51.7 percent interest in the Frade field and its 50 percent-owned and operated interest in Block CE-M715. The sale is expected to close in 2019.

Chevron holds a 37.5 percent nonoperated interest in the Papa-Terra field that expires in 2032.

**Exploration** In 2018, Chevron won six deepwater blocks in the prolific Brazil pre-salt trend within the Campos and Santos basins. In March 2018, Chevron was a successful bidder in four deepwater blocks, and now holds a 40 percent-owned and operated interest in the Santos basin S-M-764 Block and a 40 percent nonoperated interest in three Campos basin blocks, C-M-791, C-M-821 and C-M-823. Chevron was also a successful bidder in June 2018 with a 30 percent nonoperated interest in the Três Marias block and in September 2018 with a 50 percent nonoperated interest in the Saturno block, both in the Santos Basin. The six new blocks in the Brazil pre-salt cover 470,000 net acres (1,902 sq km). In December 2018, Chevron entered into an agreement to farm out 5 percent of its working interest in the Saturno block, resulting in a 45 percent nonoperated interest in this block. Following government approval of this agreement, Chevron's acreage in the Brazil pre-salt reduces to 460,000 net acres (1,860 sq km). Preparatory work for seismic data acquisition and environmental studies have been initiated.



#### Colombia

Chevron's activities in Colombia are focused on the production of natural gas from properties in the Caribbean Sea and adjacent coastal areas of the Guaiira Peninsula. The company operates the offshore Chuchupa and onshore Ballena natural gas fields and receives 43 percent of the production for the remaining life of each field. Net daily production in 2018 averaged 82 million cubic feet of natural gas.



#### **Suriname**

Chevron holds a 33.3 percent and a 50 percent nonoperated working interest in Blocks 42 and 45 offshore Suriname, respectively. The deepwater exploration blocks cover a combined area of approximately 1.1 million net acres (4,622 sq km). Two exploratory wells were drilled in Blocks 42 and 45 in 2018, with additional exploratory drilling activity planned.

#### Venezuela

Chevron's production activities in Venezuela are located in western Venezuela and the Orinoco Belt. During 2018, net daily production averaged 42,000 barrels of crude oil and 9 million cubic feet of natural gas.

Petropiar Chevron holds a 30 percent interest in Petropiar, which operates the heavy oil Huyapari Field, formerly known as Hamaca, under an agreement expiring in 2033.

The project is located in the Orinoco Belt and includes processing and upgrading of extra heavy crude oil into lighter, higher-value synthetic oil. Net daily production averaged 26,000 barrels of liquids and 8 million cubic feet of natural gas during 2018. Sixty-four development wells were drilled in 2018.

Petroboscan The company holds a 39.2 percent interest in Petroboscan, which operates the onshore Boscan Field in western Venezuela under a contract expiring in 2026. During 2018, net daily production averaged 16,000 barrels of liquids and 1 million cubic feet of natural gas. Twenty-one development wells were drilled in 2018.

The company also holds a 25.2 percent interest in Petroindependiente, which operates the LL-652 Field in Lake Maracaibo under a contract expiring in 2026 and a 34 percent interest in Petroindependencia, which includes the Carabobo 3 heavy oil project located in three blocks in the Orinoco Belt. The Petroindependencia contract expires in 2035.

Loran Chevron operates and holds a 60 percent interest in Block 2 offshore Venezuela that is part of a cross-border unitized field including the Manatee Field in Trinidad and Tobago.

#### Greenland

Chevron relinguished its 29.2 percent-owned and operated interest in two exploration blocks off the northeast coast of Greenland in 2018.

# **Africa**

In Africa, the company is engaged in upstream activities in Angola, Nigeria and the Republic of Congo. Net daily oil-equivalent production in this region was 450,000 barrels during 2018, representing 15 percent of the companywide total.

## **Angola**

The company operates and holds a 39.2 percent interest in Block 0, a concession adjacent to the Cabinda coastline, and a 31 percent operated interest in a production-sharing contract (PSC) for deepwater Block 14, located west of Block 0. During 2018, net daily production averaged 107,000 barrels of liquids and 308 million cubic feet of natural gas.

The company has a 36.4 percent interest in Angola LNG Limited, which operates a 5.2 million-metric-ton-per-year LNG plant located in Soyo, Angola.



#### Block 0

Block 0 contains 21 fields that produced a net daily average of 81,000 barrels of liquids in 2018. The Block 0 concession extends through 2030.

Mafumeira Sul First liquified petroleum gas export began in January 2018. Ramp-up continued at the main production facility with total daily production in 2018 averaging 52,000 barrels of liquids (17,000 net) and 147 million cubic feet of natural gas (57 million net) exported to the Angola LNG plant. Six new wells were drilled in 2018.



Photo: Mafumeira Sul ramp-up continued in 2018.

#### Block 14

In 2018, net daily production was 17,000 barrels of liquids from the Benguela Belize-Lobito Tomboco, Belize North, Benguela North, Tombua, Landana and Lianzi fields. Development and production rights for the various producing fields in Block 14 expire beginning in 2023, with the majority of the production held in leases that expire between 2027 and 2031.

# **Angola LNG**

The Angola LNG plant has the capacity to process 1.1 billion cubic feet of natural gas per day. This is the world's first LNG plant supplied with associated gas, where the natural gas is a byproduct of crude oil production. Feedstock for the plant originates from multiple fields and operators. Total daily production in 2018 averaged 685 million cubic feet of natural gas (249 million net) and 23,000 barrels of NGLs (8,500 net).



Photo: Well design optimization has helped reduce drilling days in Angola's Mafumeira field by more than 70 percent in five years.

#### base business success

# Managing base business is key for mature assets

The company focuses on cost-effective management of base business assets. Well design optimization and improved efficiencies helped reduce average drilling days (drilling start to total depth) by more than 70 percent in five years in Mafumeira. The Block 0 base business drilling campaign continued in 2018 and preparation is underway for a new drilling campaign in Block 14 starting in 2019.

The company conducts regular asset performance reviews with subject matter experts to apply best practices and ensure continued asset optimization.

# **Angola-Republic of Congo Joint Development Area**

Chevron is the operator of and holds a 31.3 percent interest in the Lianzi Unitization Zone, located in an area shared equally by Angola and the Republic of Congo. The Lianzi Project is reflected in the production totals in Angola (Block 14) and in the Republic of Congo.

# **Republic of Congo**

Chevron has a 31.5 percent nonoperated working interest in the offshore Haute Mer permit areas (Nkossa and Moho-Bilondo). The licenses for Nkossa and Moho-Bilondo expire in 2027 and 2030, respectively. In addition, the company has a 20.4 percent nonoperated working interest in the offshore Haute Mer B permit area. Average net daily production in 2018 was 49,000 barrels of liquids.

**Exploration** Two exploration wells were drilled in 2018, one in the Moho Bilondo area and a second in the Haute Mer B area.

# **Democratic Republic of the Congo**

Chevron sold its 17.7 percent nonoperated working interest in a concession off the coast of the Democratic Republic of the Congo in April 2018.

#### Liberia

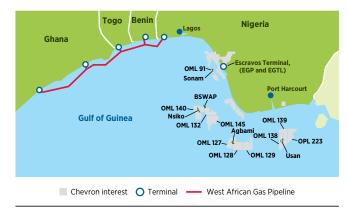
Chevron surrendered its 45 percent interest in Block LB-14 off the coast of Liberia in July 2018.

## Morocco

The company surrendered its interest in the Cap Cantin Deep and Cap Walidia Deep acreage in September 2018.

# **Nigeria**

Chevron operates and holds a 40 percent interest in eight concessions in the onshore and near-offshore regions of the Niger Delta. The company also holds acreage positions in three operated and six nonoperated deepwater blocks, with working interests ranging from 20 to 100 percent. In 2018, net daily production averaged 194,000 barrels of crude oil, 233 million cubic feet of natural gas and 6,000 barrels of liquefied petroleum gas (LPG).



#### **Niger Delta**

In 2018, net daily production from 28 fields in the Niger Delta averaged 66,000 barrels of crude oil, 217 million cubic feet of natural gas and 6,000 barrels of LPG.

Chevron completed the final well in its infill drilling program in the Niger Delta in first quarter 2019. Further infill drilling programs are beginning in 2019.

Chevron is continuing its efforts to monetize recoverable natural gas resources of approximately 17 trillion cubic feet in the Escravos area through a combination of domestic and export sales and use as fuel in company operations. The company is the operator of the Escravos Gas Plant (EGP) with a total processing capacity of 680 million cubic feet per day of natural gas and LPG and condensate export capacity of 58,000 barrels per day. The company is also the operator of the 33,000 barrel-per-day Escravos Gas to Liquids (EGTL) facility. In addition, the company holds a 36.7 percent interest in the West African Gas Pipeline Company Limited, which supplies Nigerian natural gas to customers in Benin, Ghana and Togo.

Sonam Field Development The 40 percent-owned and operated Sonam natural gas field is located in Oil Mining Lease (OML) 91. The Sonam Field Development Project is designed to process natural gas through the EGP facility and deliver it to the domestic gas market. Net daily production in 2018 averaged 10,000 barrels of liquids and 80 million cubic feet of natural gas per day. The drilling program, which included seven wells, was completed in early 2019.



Photo: Production from the Sonam Field development continued to ramp up in 2018.

#### **Deep Water**

In 2018, net daily production from the deep water Agbami and Usan fields averaged 128,000 barrels of crude oil and 16 million cubic feet of natural gas.

Agbami In 2018, net daily production from the Agbami Field averaged 108,000 barrels of crude oil and 12 million cubic feet of natural gas. The 67.3 percent-owned and operated field spans OML 127 and OML 128. The original Agbami development scope has been completed (Agbami 1, 2 and 3). Infill drilling continued in 2018 to further offset field decline, with additional infill drilling planned for 2019. The production licenses that contain the Agbami Field allows the company to produce until 2024.

Usan Chevron holds a 30 percent nonoperated working interest in the Usan Field in OML 138. Net daily production in 2018 averaged 20,000 barrels of crude oil and 4 million cubic feet of natural gas. The PSC expires in 2023.

Bonga SW/Aparo (BSWAP) The Aparo Field in OML 132 and OML 140 and the third-party-owned Bonga SW Field in OML 118 share a common geologic structure and are planned to be developed jointly. Chevron holds a 16.6 percent nonoperated working interest in the unitized area. The development plan involves subsea wells tied back to a floating production, storage and offloading vessel. Work continues to progress toward a final investment decision. At the end of 2018, no proved reserves were recognized for this project.

**Exploration** Chevron operates and holds a 55 percent interest in OML 140, which includes the Nsiko discoveries located 90 miles (145 km) off the coast of the western Niger Delta region in up to 8,000 feet (2,438 m) of water. A 3-D seismic acquisition program is planned for OML 140 and the adjacent OML 132 in 2019. Chevron's 30 percent nonoperated working interest in OML 138 includes the Usan Field and several satellite discoveries and a 27 percent interest in adjacent licenses OML 139 and OML 154. The company continues to work with the operator to evaluate development options for the multiple discoveries in the Usan area, including the Owowo Field which straddles OML 139 and Oil Prospecting License 223.

# **Asia**

In Asia, upstream activities are located in Azerbaijan, Bangladesh, China, Indonesia, Kazakhstan, the Kurdistan Region of Iraq, Myanmar, the Partitioned Zone between Saudi Arabia and Kuwait, the Philippines, Russia, and Thailand. In 2018, net daily oil-equivalent production of 970,000 barrels in this region represented 33 percent of the companywide total.

#### **Azerbaijan**

Chevron holds a 9.6 percent nonoperated interest in Azerbaijan International Operating Company (AIOC) and the crude oil production from the Azeri-Chirag-Gunashli (ACG) fields. AIOC operations are conducted under a PSC that expires in 2049. Chevron also has an 8.9 percent interest in the Baku-Tbilisi-Ceyhan (BTC) pipeline affiliate, which transports the majority of ACG production from Baku, Azerbaijan, through Georgia to Mediterranean deepwater port facilities at Ceyhan, Turkey.

In 2018, average net daily production was 18,000 barrels of crude oil and 10 million cubic feet of natural gas. AIOC production is exported primarily via the BTC pipeline and the Western Route Export Pipeline (WREP), which is operated by AIOC. The 1,099-mile (1,768-km) BTC pipeline has the capacity to transport 1 million barrels per day. The WREP runs 515 miles (829 km) from Baku, Azerbaijan, to the terminal at Supsa, Georgia, on the Black Sea and transported approximately 76,000 barrels per day during 2018.

In 2018, Chevron announced its intent to market its share in AIOC and the BTC pipeline affiliate.



#### Kazakhstan

Chevron has a 50 percent interest in the Tengizchevroil (TCO) affiliate, which operates the Tengiz and Korolev fields, and an 18 percent nonoperated working interest in the Karachaganak Field. Net daily production in 2018 from TCO and Karachaganak was 315,500 barrels of liquids and 507 million cubic feet of natural gas.

#### **Tengiz and Korolev**

TCO is developing the Tengiz and Korolev crude oil fields in western Kazakhstan under a concession agreement that expires in 2033. Net daily production in 2018 averaged 269,000 barrels of crude oil, 387 million cubic feet of natural gas and 19,500 barrels of NGLs. All of TCO's crude oil production was exported through the Caspian Pipeline Consortium (CPC) pipeline.

Capacity and Reliability (CAR) Project The CAR Project was designed to reduce facility bottlenecks and increase plant capacity and reliability. The project was completed and put into operation in second quarter 2018.

# well efficiency is a competitive advantage in Tengiz

# Using the latest seismic imaging techniques improves well planning and results

At TCO, earth scientists are using Chevron's latest seismic imaging techniques to find the optimal targets for production wells several thousand feet below ground. The wells planned and drilled using Chevron's proprietary imaging capabilities have materially improved flowrates, enabling TCO to produce more at lower cost. TCO continues to use this competitive advantage as more wells are drilled and production grows with the FGP/WPMP expansion.



Photo: TCO uses the latest seismic imaging technology to increase production efficiency

**Future Growth and Wellhead Pressure Management Project** (FGP/WPMP) The FGP/WPMP is being managed as a single integrated project. The FGP is designed to increase total daily production by about 260,000 barrels of crude oil and to expand the utilization of sour gas injection technology proven in existing operations to increase ultimate recovery from the reservoir. The WPMP is designed to maintain production levels in existing plants as reservoir pressure declines. First oil is planned for 2022. Proved reserves have been recognized for the FGP/WPMP.

The project advanced in 2018, including construction and operational readiness of the Cargo Transportation Route (CaTRo) facility. During 2018, CaTRo received 28 pre-assembled racks and 12 were successfully set on foundation. Additionally, a major milestone was achieved in September 2018, when the first modular unit of the processing plant arrived at the construction site in Kazakhstan. This module was successfully restacked by the end of the year, along with two gas turbine generator modules.

# future growth and wellhead pressure management project

# Project execution is dependent on close integration of several of Chevron's businesses

The recently completed Cargo Transportation Route facility is an integral part of this project, enabling fabricated equipment from international sites across the globe to be shipped to Tengiz.

Chevron's shipping organization provides transportation support for FGP's large modular equipment movements, and Chevron's power group provided functional expertise for the successful testing of the gas turbine modules and the integration of the new electrical power system equipment.



**Photo:** FGP/WPMP modular component departing the Korea fabrication vard.

#### Karachaganak

The Karachaganak Field is located in northwest Kazakhstan, and operations are conducted under a PSC that expires in 2038. Net daily production during 2018 averaged 27,000 barrels of liquids and 120 million cubic feet of natural gas. Most of the exported liquids were transported through the CPC pipeline. Work continues to identify the optimal scope for the future expansion of the field. At the end of 2018, proved reserves had not been recognized for future expansion.

# Kazakhstan/Russia

CPC The CPC operates a 935-mile (1,505-km) crude oil export pipeline from the Tengiz Field in Kazakhstan to tanker-loading facilities at Novorossiysk on the Russian coast of the Black Sea, providing a key export route for crude oil production from both TCO and Karachaganak. Chevron holds a 15 percent interest in the CPC. During 2018, the CPC pipeline transported an average of 1.3 million barrels of crude oil per day to Novorossiysk, composed of 1.2 million barrels per day from Kazakhstan and 147,000 barrels per day from Russia.

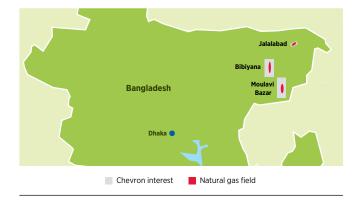


**Photo:** The CPC pipeline provides a key export route for crude oil production from both TCO and Karachaganak

# **Bangladesh**

Chevron operates and holds a 100 percent interest in two onshore PSCs in Bangladesh covering Block 12 (Bibiyana Field) and Blocks 13 and 14 (Jalalabad and Moulavi Bazar fields). The rights to produce from Jalalabad expire in 2030, from Moulavi Bazar in 2033 and from Bibiyana in 2034.

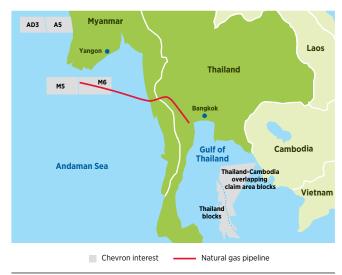
The company sells the natural gas production to the government under long-term sales agreements. In 2018, net daily production averaged 648 million cubic feet of natural gas and 4,000 barrels of condensate.



# **Myanmar**

Chevron has a 28.3 percent nonoperated working interest in a PSC for the production of natural gas from the Yadana, Badamyar and Sein fields, within Blocks M5 and M6, in the Andaman Sea. The PSC expires in 2028 and covers 1.8 million net acres (7,320 sq km). The company also has a 28.3 percent nonoperated working interest in a pipeline company that transports natural gas to the Myanmar-Thailand border for delivery to power plants in Thailand. The remaining volumes are dedicated to the Myanmar market. Net daily natural gas production during 2018 averaged 98 million cubic feet.

**Exploration** Chevron holds a 55 percent-owned and operated interest in Blocks AD3 (1.4 million net acres, or 5,449 sq km) and A5 (1.4 million net acres, or 5,804 sq km). Seismic processing and interpretation continued in 2018.



#### **Thailand**

In the Gulf of Thailand, Chevron has operated and nonoperated working interests in multiple offshore blocks. Operated interests are in the Pattani Basin, with ownership ranging from 35 to 80 percent. Concessions for the producing areas in the Pattani Basin expire between 2022 and 2035. In the Malay Basin, Chevron holds a 16 percent nonoperated working interest in the Arthit Field. Concessions for the producing areas in the Malay Basin expire between 2036 and 2040. The company sells the natural gas production to the domestic market under long-term sales agreements. Net average daily production in 2018 was 66,000 barrels of crude oil and condensate and 1.0 billion cubic feet of natural gas.

Within the Pattani Basin, Chevron holds ownership ranging from 70 to 80 percent of the Erawan concession, which expires in 2022. Following the concession expiration, Chevron expects to transfer the Erawan operations to the Government of Thailand. Erawan concession's net average daily production in 2018 was 46,000 barrels of crude oil and condensate and 800 million cubic feet of natural gas.

**Ubon** The 35 percent-owned and operated Ubon Project in Block 12/27 completed FEED on a Central Processing Platform (CPP) with a floating, storage and offloading vessel for oil export in 2018. The project includes multiple wellhead platforms and infield pipelines to deliver production to the CPP. At the end of 2018, proved reserves had not been recognized for this project.

**Exploration** Chevron holds operated and nonoperated working interests ranging from 30 to 80 percent in the Thailand-Cambodia overlapping claims area. As of year-end 2018, these areas were inactive, pending resolution of border issues between Thailand and Cambodia.

#### China

Chevron operates the 49 percent-owned Chuandongbei Project, which is composed of several natural gas fields located onshore in the Sichuan Basin. This PSC expires in 2038.

The company also has three nonoperated PSCs. In the South China Sea, the company has a 32.7 percent working interest in offshore Block 16/19, with six crude oil fields located in the Pearl River Mouth Basin. In Bohai Bay, the company holds a 16.2 percent working interest in Block 11/19 and a 24.5 percent working interest in the Qinhuangdao (QHD) 32-6 Block. The PSCs for Block 11/19, QHD 32-6 Block and Block 16/19 expire in 2022, 2023 and 2028, respectively. In 2018, net average daily production from these PSCs was 16,000 barrels of crude oil.

Chuandongbei The Xuanhan Gas Plant has three gas processing trains with a design outlet capacity of 258 million cubic feet per day. Total daily production in 2018 averaged 183 million cubic feet of natural gas (84 million net).



Photo: The Chuandongbei Project in China produced an average of 183 million cubic feet per day of natural gas in 2018

## **Philippines**

Chevron holds a 45 percent nonoperated working interest in the offshore Malampaya Field. Net daily production during 2018 averaged 138 million cubic feet of natural gas and 3,000 barrels of condensate. The concession covers 92,000 net acres (374 sq km) and expires in 2024.

#### Indonesia

Chevron's operated interests in Indonesia include one onshore PSC on the island of Sumatra and three PSCs offshore eastern Kalimantan. Net daily production in 2018 from all producing areas in Indonesia averaged 113,000 barrels of liquids and 113 million cubic feet of natural gas.



#### Sumatra

Chevron holds a 100 percent-owned and operated interest in the Rokan PSC, which expires in 2021. Upon expiration of the PSC, Chevron expects to transfer Rokan operations to the Government of Indonesia. Net daily production averaged 104,000 barrels of crude oil and 22 million cubic feet of natural gas in 2018.

#### Kutei Basin

Chevron operates interests offshore eastern Kalimantan in three PSCs in the Kutei Basin: Makassar Strait (72 percent), Rapak (62 percent) and Ganal (62 percent). The PSCs for Makassar Strait, Rapak and Ganal expire in 2020, 2027 and 2028, respectively. Net daily production averaged 3,000 barrels of liquids and 38 million cubic feet of natural gas in 2018.

Chevron relinquished the East Kalimantan PSC in fourth guarter 2018.

Indonesia Deepwater Development There are two deepwater natural gas development projects in the Kutei Basin progressing under a single plan of development. Collectively, these projects are referred to as the Indonesia Deepwater Development. The company's owned and operated interest is 62 percent.

One of these projects, Bangka, includes a two-well subsea tieback to the West Seno Floating Production Unit, and is producing.

For the second project, Gendalo-Gehem, Chevron submitted a revised plan of development to the Government of Indonesia for approval in 2018. Current plans for marketing gas from the project include both domestic sale and LNG export after liquefaction at the state-owned Bontang LNG plant in East Kalimantan. The updated project has a planned design capacity of 920 million cubic feet of natural gas and 30,000 barrels of condensate per day. Chevron continues to work toward a final investment decision, subject to economic competitiveness, timing of government approvals, including extension of the associated PSCs, and securing new LNG sales contracts. This project is expected to monetize potentially recoverable natural gas resources of approximately 3 trillion cubic feet. At the end of 2018, proved reserves had not been recognized for this project.

# **Kurdistan Region of Iraq**

The company holds a 50 percent contractor interest in the Sarta PSC and a 40 percent interest in the Qara Dagh PSC. The Sarta and Qara Dagh blocks cover an area of 90,000 net acres (363 sq km) and 170,000 net acres (689 sq km), respectively.

In July 2018, the company entered into an agreement with the Kurdistan Regional Government for the Qara Dagh block, which allows the company to continue evaluating exploration opportunities within the Qara Dagh block through October 2020.

The company has drilled two exploration wells and an appraisal well in the Sarta block and evaluation of these resource opportunities is ongoing. The Sarta PSC expires in 2047.

In February 2019, Chevron closed an agreement reducing the company's interest in both blocks and transferred operatorship of the Qara Dagh block. Chevron continues to operate the Sarta block through 2021 per a jointly developed transition plan.



#### **Partitioned Zone**

Chevron holds a concession agreement to operate the Kingdom of Saudi Arabia's 50 percent interest in the hydrocarbon resources in the onshore area of the Partitioned Zone between Saudi Arabia and Kuwait. Under the concession agreement, Chevron has the right to Saudi Arabia's 50 percent interest in the hydrocarbon resources. The concession expires in 2039.

Beginning in May 2015, production in the Partitioned Zone was shut in as a result of continued difficulties in securing work and equipment permits. As of early 2019, production remains shut in, and the exact timing of a production restart is uncertain and dependent on dispute resolution between Saudi Arabia and Kuwait and the acquisition of necessary permits. Current work is focused on preservation activities and ensuring operational readiness for when resolution between the two governments is achieved.

**Exploration** Processing and interpretation of the 3-D seismic survey, which was acquired in 2016 and covers the entire onshore Partitioned Zone, has been completed. Work is underway to mature several exploration prospects.

# Australia/Oceania

In Australia/Oceania, the company is engaged in upstream activities in Australia and New Zealand. Net daily oil-equivalent production of 426,000 barrels during 2018 in Australia represented 15 percent of the companywide total.

#### **Australia**

Chevron is Australia's largest producer of LNG with total installed liquefaction capacity of 24.5 million tons per year. The company is the operator of two major LNG facilities, Gorgon and Wheatstone, and has a nonoperated working interest in the North West Shelf Venture (NWS Venture). Chevron also has exploration acreage in the Carnarvon Basin and Browse Basin. The company holds net unrisked natural gas resources of approximately 50 trillion cubic feet in Australia. Net daily production in 2018 averaged 42,000 barrels of liquids and 2.3 billion cubic feet of natural gas, primarily from Gorgon, Wheatstone and the NWS Venture.

Gorgon Chevron holds a 47.3 percent interest in the Gorgon Project, which includes the development of the Gorgon and Jansz-Io fields. The project includes a three-train, 15.6 million-metric-ton-per-year LNG facility, a domestic gas plant, and a carbon dioxide capture and injection facility with first injection expected in 2019.

The facilities are located on Barrow Island. Total daily production from all three trains in 2018 averaged 18,000 barrels of condensate (8,500 net) and 2.6 billion cubic feet of natural gas (1.2 billion net). The project's estimated economic life exceeds 40 years.

In April 2018, the company reached a final investment decision for Gorgon Stage 2, which includes 11 new wells in the Gorgon and Jansz-lo fields and additional subsea infrastructure to sustain long-term supply to Gorgon. Drilling of the new wells is expected to begin in second quarter 2019.

The Jansz-Io Trunkline Compression Project is planned to provide access to compression for the Jansz-lo field, as well as future backfill fields connected to the Jansz trunkline. The project supports maintaining gas supply to the Gorgon LNG plant and maximizing the recovery of fields accessing the Jansz trunkline. The project is anticipated to enter FEED in second quarter 2019.

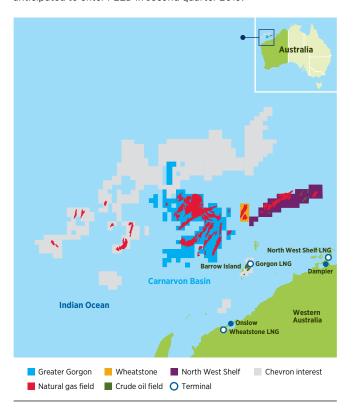




Photo: Two LNG ships load cargo at the Gorgon jetty at Barrow Island.

Wheatstone Chevron holds an 80.2 percent interest in the offshore licenses and a 64.1 percent interest in the LNG facilities associated with the Wheatstone Project. The project includes the development of the Wheatstone and lago fields, a two-train, 8.9 million-metricton-per-year LNG facility, and a domestic gas plant. The facilities are located at Ashburton North on the coast of Western Australia. The total production capacity for the Wheatstone and lago fields and nearby third-party fields is expected to be approximately 1.6 billion cubic feet of natural gas and 30,000 barrels of condensate per day. The project's estimated economic life exceeds 30 years.

LNG Train 2 start-up and first cargo shipment were achieved in June 2018. Total daily production averaged 16,000 barrels of condensate (12,800 net) and 801 million cubic feet of natural gas (642 million net) in 2018.



Photo: Start-up of Wheatstone's second train was achieved in June 2018.

NWS Venture Chevron has a 16.7 percent nonoperated working interest in the NWS Venture in Western Australia. The joint venture operates offshore producing fields and extensive onshore facilities that include five LNG trains and a domestic gas plant.

Net daily production in 2018 averaged 16,000 barrels of crude oil and condensate, 444 million cubic feet of natural gas, and 2,000 barrels of LPG.

Barrow Island Chevron holds a 57.1 percent operating working interest in crude oil production operations at Barrow Island.

**Exploration** The company holds 50 percent-owned and operated interests in four exploration permits in the northern Carnarvon Basin, which cover more than 2.9 million net acres (11,736 sq km). Chevron continued to evaluate exploration potential in the basin during 2018. The company also holds nonoperated working interests ranging from 24.8 to 50 percent in three blocks in the Browse Basin. Relinquishment of the offshore blocks in the Bight Basin is pending Australian government approval.

Chevron has a 100 percent-owned and operated interest in the Clio. Acme and Acme West fields. The company is collaborating with other Carnarvon Basin participants to assess the opportunity of Clio Acme being developed through shared utilization of existing infrastructure and has signed preliminary non-binding letters of agreement to further pursue this opportunity.

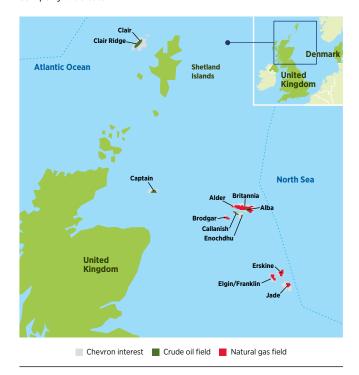
#### **New Zealand**

Chevron holds a 50 percent interest and operates three exploration permits, 57083, 57085 and 57087, in the offshore Pegasus and East Coast basins. These deepwater permits cover 3.1 million net acres (12,545 sq km) and are located approximately 99 miles (160 km) east of Wellington. Seismic processing and interpretation continued in 2018 in preparation for a decision regarding entering the exploration Stage 2 in 2019.



# **Europe**

In Europe, the company is engaged in upstream activities in Denmark and the United Kingdom. Net daily oil-equivalent production in this region of 84,000 barrels during 2018 represented 3 percent of the companywide total.



# **United Kingdom**

Chevron has working interests in 11 offshore producing fields, including four operated fields (Alba, 23.4 percent; Alder, 73.7 percent; Captain, 85 percent; and Erskine, 50 percent) and seven nonoperated fields (Britannia, 32.4 percent; Brodgar, 6.3 percent; Callanish, 16.5 percent; Clair, 19.4 percent; Elgin/Franklin, 3.9 percent; Enochdhu, 50 percent; and Jade, 19.9 percent). In 2018, Chevron announced its intent to market its Central North Sea assets, including Captain.

Net daily production in 2018 averaged 43,000 barrels of liquids and 133 million cubic feet of natural gas.



Photo: First production for the Clair Ridge Project was achieved in November 2018.

Clair Ridge The Clair Ridge Project, located 47 miles (75 km) west of the Shetland Islands, is the second development phase of the Clair Field. Chevron holds a 19.4 percent nonoperated working interest in the project. The design capacity of the project is 120,000 barrels of crude oil and 100 million cubic feet of natural gas per day. First production was achieved in November 2018. The project is estimated to provide incremental potentially recoverable oil-equivalent resources in excess of 600 million barrels. The Clair Field has an estimated production life extending until 2050.

Captain EOR The Captain Enhanced Oil Recovery (EOR) Project is the next development phase of the Captain Field and is designed to increase field recovery by injecting a polymer/water mixture into the Captain reservoir. Stage 1 of the project is an expansion of the existing polymer injection system on the wellhead production platform that includes six new polymer injection wells and modifications to platform facilities. Proved reserves have been recognized for Stage 1. Also, during 2018, FEED activities continued to progress on Captain EOR Stage 2, which involves subsea expansion of the technology. At the end of 2018, proved reserves had not been recognized for Stage 2 of the project.

**Rosebank** In January 2019, the company sold its 40 percent operated working interest in the Rosebank field.

# **Denmark**

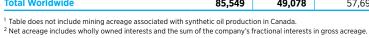
Chevron signed an agreement for the sale of its 12 percent nonoperated working interest in the Danish Underground Consortium in September 2018. The sale is expected to close in 2019, pending regulatory approval. Average net daily production in 2018 was 12,000 barrels of crude oil and 45 million cubic feet of natural gas.

#### **Norway**

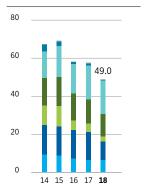
In November 2018, the company divested its 20 percent nonoperated working interest in exploration Block PL 859, located in the Barents Sea.

# upstream operating data

Oil and gas acreage <sup>1, 2</sup>					A	t December 31
	Gross acres					Net acres
Thousands of acres	2018	2018	2017	2016	2015	2014
Consolidated Companies						
Total United States	7,733	6,336	6,381	7,121	8,885	9,444
Other Americas						
Argentina	305	210	167	240	240	240
Brazil	1,423	578	105	105	104	105
Canada	10,268	7,459	13,201	13,218	12,913	13,204
Colombia	200	87	87	87	87	87
Greenland	-	-	-	350	350	350
Mexico	1,128	406	139	<del>.</del>		_
Suriname	2,793	1,142	1,142	1,142	1,396	1,396
Trinidad and Tobago	-	-	-	84	84	84
Venezuela	74	58	58	58	58	58
Total Other Americas	16,191	9,940	14,899	15,284	15,232	15,524
Africa						
Angola	2,257	787	787	802	802	802
Democratic Republic of the Congo	-	-	44	44	44	44
Liberia	-	-	260	260	819	819
Mauritania	-	-	-	-	1,985	-
Morocco	-	-	1,708	2,112	5,415	5,415
Nigeria	3,581	1,552	1,552	1,552	1,552	2,194
Republic of Congo	203	53	56	56	56	63
Sierra Leone	-	-	-	-	-	762
Total Africa	6,041	2,392	4,407	4,826	10,673	10,099
Asia						
Azerbaijan	108	10	10	12	12	12
Bangladesh	186	186	186	186	186	186
China	343	133	134	134	134	1,565
Indonesia	2,423	2,127	3,202	4,683	5,853	5,853
Kazakhstan	67	12	12	12	12	12
Kurdistan Region of Iraq	325	260	90	279	279	355
Myanmar	11,513	4,605	4,407	4,407	4,407	1,826
Partitioned Zone	1,361	681	681	681	681	681
Philippines	206	93	93	93	93	93
Thailand	9,506	3,775	3,797	3,797	3,797	3,843
Vietnam	-	-	-	-	-	339
Total Asia	26,038	11,882	12,612	14,284	15,454	14,765
Australia/Oceania	20,030	11,002	12,012	11,201	13, 13 1	11,700
Australia	21,426	14,719	14,881	12,343	13,061	13,875
New Zealand	6,240	3,120	3,120	3,120	3,216	
Total Australia/Oceania	27,666	17,839	18,001	15,463	16,277	13,875
<u> </u>	27,000	17,033	10,001	13,403	10,277	13,073
<b>Europe</b> Denmark	406	49	49	49	49	49
	400		168	168	49	520
Norway Poland	-	-	100	100	_	
	-			670	2 270	499
Romania	670	- 304	670 170	188	2,239 210	2,239 210
United Kingdom	670					
Total Europe	1,076	353	1,057	1,075	2,498	3,517
Total Consolidated Companies	84,745	48,742	57,357	58,053	69,019	67,224
Equity Share in Affiliates						
Kazakhstan	380	190	190	190	190	190
Venezuela	424	146	146	143	145	145
Total Equity Share in Affiliates	804	336	336	333	335	335
Total Worldwide	85,549	49,078	57,693	58,386	69,354	67,559



# **Oil and gas acreage** Millions of net acres

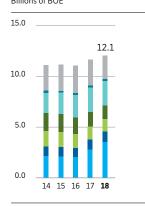




Other Americas United States

# upstream operating data

# **Net proved reserves** Billions of BOE\*

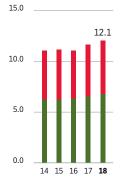


- Affiliates
- Europe
- Australia/Oceania
- Asia
- Africa
- Other Americas
- United States

 $^{*}$ BOE (barrels of oil-equivalent)

#### Net proved reserves liquids & natural gas

Billions of BOE



- Natural gas
- Liquids

Net proved reserves – liquids <sup>1,2</sup>				At	December 31	
Millions of barrels	2018	2017	2016	2015	2014	
Consolidated Companies						
United States	2,402	1,916	1,412	1,386	1,432	
Other Americas	908	840	827	833	772	
Africa	776	839	876	957	1,021	
Asia	579	631	720	790	752	
Australia/Oceania	161	159	158	153	142	
Europe	149	145	138	143	166	
Total Consolidated Companies	4,975	4,530	4,131	4,262	4,285	
Equity Share in Affiliates						
TCO	1,605	1,749	1,909	1,676	1,615	
Other	210	263	288	324	349	
Total Equity Share in Affiliates	1,815	2,012	2,197	2,000	1,964	
Total Worldwide	6,790	6,542	6,328	6,262	6,249	

Refer to page 54 for a definition of net proved reserves. For additional discussion of the company's proved reserves, refer to the company's 2018 Annual Report on Form 10-K.

Includes crude oil, condensate, NGLs and synthetic oil.

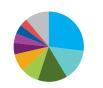
Net proved reserves – natural gas*		At	At December 31		
Billions of cubic feet	2018	2017	2016	2015	2014
Consolidated Companies					
United States	6,709	5,180	3,676	4,242	4,174
Other Americas	863	795	647	714	1,123
Africa	2,815	2,906	2,827	2,937	2,968
Asia	4,310	4,773	5,533	5,956	6,266
Australia/Oceania	13,731	13,559	12,515	11,873	10,941
Europe	305	301	234	224	235
Total Consolidated Companies	28,733	27,514	25,432	25,946	25,707
Equity Share in Affiliates					
TCO	1,934	2,183	2,242	2,268	2,177
Other	909	1,039	1,086	1,223	1,232
Total Equity Share in Affiliates	2,843	3,222	3,328	3,491	3,409
Total Worldwide	31,576	30,736	28,760	29,437	29,116

<sup>\*</sup>Refer to page 54 for a definition of net proved reserves. For additional discussion of the company's proved reserves, refer to the company's 2018 Annual Report on Form 10-K.

# upstream operating data

Net oil-equivalent production				Year ended	December 3
Thousands of barrels per day	2018	2017	2016	2015	2014
Consolidated Companies					
Total United States	791	681	691	720	664
Other Americas					
Argentina	24	23	26	27	25
Brazil	11	13	16	18	2:
Canada	116	98	92	69	69
Colombia	14	16	21	27	3:
Trinidad and Tobago	-	5	12	19	19
Total Other Americas	165	155	167	160	16
Africa					
Angola	108	112	114	119	123
Chad	-	-	-	-	8
Democratic Republic of the Congo	1	2	2	3	
Nigeria	239	250	235	270	28
Republic of Congo	52	38	25	20	1
Total Africa	400	402	376	412	43
Asia					
Azerbaijan	20	25	32	34	2
Bangladesh	112	111	114	123	10
China	29	30	27	24	1
Indonesia	132	164	203	207	18
Kazakhstan	46	55	62	56	5
Myanmar	16	19	21	20	1
Partitioned Zone	-	-	-	28	8
Philippines	26	25	26	23	2
Thailand	236	241	245	238	23
Total Asia	617	670	730	753	749
Australia/Oceania					
Australia	426	256	124	94	9
Total Australia/Oceania	426	256	124	94	9
Europe					
Denmark	19	23	22	24	2
Netherlands	-	-	-	-	
Norway	-	-	-	-	
United Kingdom	65	75	64	59	4
Total Europe	84	98	86	83	8
Total Consolidated Companies	2,483	2,262	2,174	2,222	2,18
Equity Share in Affiliates					
TCO	353	360	348	336	31
Venezuela	44	55	59	64	6
Angola LNG	50	51	13	-	!
Total Equity Share in Affiliates	447	466	420	400	382
Total Worldwide	2,930	2,728	2,594	2,622	2,57

# 2018 net oil-equivalent production by country\* Percentage

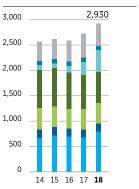




 $<sup>^{</sup>st}$  Includes equity share in affiliates.

# Net oil-equivalent production

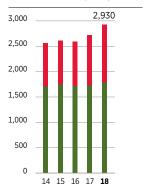
Thousands of barrels per day



- Affiliates
- Europe Australia/Oceania
- Asia
- Africa
- Other Americas
- United States

#### **Net production** liquids & natural gas

Thousands of barrels per day



- Natural gas
- Liquids

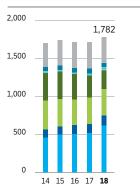
# 2018 net liquids production by country\* Percentage



■ Kazakhstan 17.7% ■ Nigeria 11.2% ■ Indonesia 6.3% ■ Angola 6.0% ■ Canada 5.8% ■ Thailand 3.7% ■ Republic of Congo 2.7%		
<ul> <li>Nigeria</li> <li>Indonesia</li> <li>Angola</li> <li>Canada</li> <li>Thailand</li> <li>Republic of Congo</li> <li>Other</li> <li>11.29</li> <li>11.29</li> <li>11.29</li> <li>11.29</li> <li>11.29</li> <li>11.29</li> </ul>	<ul><li>United States</li></ul>	34.7%
■ Indonesia 6.39 ■ Angola 6.09 ■ Canada 5.89 ■ Thailand 3.79 ■ Republic of Congo 2.79 ■ Other 11.99	<ul><li>Kazakhstan</li></ul>	17.7%
<ul> <li>Angola 6.0%</li> <li>Canada 5.8%</li> <li>Thailand 3.7%</li> <li>Republic of Congo 2.7%</li> <li>Other 11.9%</li> </ul>	Nigeria	11.2%
<ul> <li>Canada 5.89</li> <li>Thailand 3.79</li> <li>Republic of Congo 2.79</li> <li>Other 11.99</li> </ul>	Indonesia	6.3%
■ Thailand 3.7% ■ Republic of Congo 2.7% ■ Other 11.9%	■ Angola	6.0%
<ul><li>Republic of Congo</li><li>Other</li><li>2.7%</li><li>11.9%</li></ul>	Canada	5.8%
■ Other 11.99	Thailand	3.7%
	Republic of Congo	2.7%
* Includes equity share in affiliates.	Other	11.9%
	* Includes equity share in affiliate	es.

# Net liquids production

Thousands of barrels per day

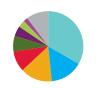


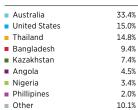
- Affiliates
- Europe
- Australia/Oceania
- Asia
- Africa Other Americas
- United States

Net liquids production				Year ended I	
Thousands of barrels per day	2018	2017	2016	2015	2014
Consolidated Companies					
Total United States	618	519	504	501	456
Other Americas					
Argentina	20	19	20	21	21
Brazil	10	12	16	17	20
Canada	103	87	83	67	67
Total Other Americas	133	118	119	105	108
Africa					
Angola	98	103	106	110	113
Chad	-	-	-	-	8
Democratic Republic of the Congo	1	2	2	2	2
Nigeria	200	213	208	230	246
Republic of Congo	49	36	23	18	14
Total Africa	348	354	339	360	383
Asia					
Azerbaijan	18	23	30	32	26
Bangladesh	4	4	4	3	2
China	16	17	18	24	16
Indonesia	113	137	173	176	149
Kazakhstan	27	33	37	34	31
Partitioned Zone	-	-	-	27	78
Philippines	3	3	3	3	3
Thailand	66	69	71	66	63
Total Asia	247	286	336	365	368
Australia/Oceania					
Australia	42	27	21	21	23
Total Australia/Oceania	42	27	21	21	23
Europe					
Denmark	12	14	14	16	17
Netherlands	-	-	-	-	2
Norway	-	-	-	-	1
United Kingdom	43	50	43	40	32
Total Europe	55	64	57	56	52
Total Consolidated Companies	1,443	1,368	1,376	1,408	1,390
Equity Share in Affiliates					
TCO	288	293	285	277	259
Venezuela	42	52	56	59	59
Angola LNG	9	10	2	_	1
Total Equity Share in Affiliates	339	355	343	336	319
Total Worldwide	1,782	1,723	1,719	1,744	1,709

Net natural gas production*				rear enueu	December 3
Millions of cubic feet per day	2018	2017	2016	2015	2014
Consolidated Companies					
Total United States	1,034	970	1,120	1,310	1,250
Other Americas					
Argentina	24	27	32	36	23
Brazil	4	4	5	5	
Canada	79	65	55	14	10
Colombia	82	96	127	161	186
Trinidad and Tobago	-	29	74	116	112
Total Other Americas	189	221	293	332	337
Africa					
Angola	59	57	52	52	51
Chad	-	-	-	-	2
Democratic Republic of the Congo	-	1	1	1	1
Nigeria	233	223	159	246	236
Republic of Congo	14	14	11	11	11
Total Africa	306	295	223	310	301
Asia					
Azerbaijan	10	11	13	12	12
Bangladesh	648	642	658	720	643
China	84	81	51	-	-
Indonesia	113	163	182	185	214
Kazakhstan	120	132	154	138	126
Myanmar	98	116	128	117	99
Partitioned Zone	-	-	-	5	18
Philippines	138	129	138	122	118
Thailand	1,022	1,031	1,051	1,033	1,046
Total Asia	2,233	2,305	2,375	2,332	2,276
Australia/Oceania					
Australia	2,304	1,372	615	439	442
Total Australia/Oceania	2,304	1,372	615	439	442
Europe					
Denmark	45	53	48	50	51
Netherlands	-	-	_	-	34
United Kingdom	133	155	122	115	88
Total Europe	178	208	170	165	173
Total Consolidated Companies	6,244	5,371	4,796	4,888	4,779
Equity Share in Affiliates					
TCO	387	401	375	348	334
Venezuela	9	15	19	30	27
Angola LNG	249	245	62	3	27
Total Equity Share in Affiliates	645	661	456	381	388
Total Worldwide	6,889	6,032	5,252	5,269	5,167
* Includes natural gas consumed in operations:					
United States	35	37	54	66	7:
International	584	528	432	430	452

2018 net natural gas production by country\* Percentage

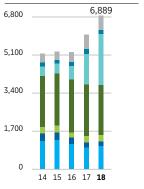




<sup>\*</sup>Includes equity share in affiliates.

# Net natural gas production

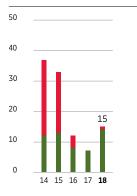
Millions of cubic feet per day



- Affiliates
- EuropeAustralia/Oceania
- Asia
- Africa
- Other Americas
- United States

#### Net productive exploratory wells completed

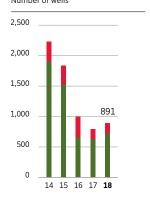




Natural gas ■ Crude oil

# Net productive development wells completed

Number of wells



Natural gas

■ Crude oil

Net wells completed*								Yea	ar ended Decemb	oer 31
	2018		2017		2016		2015		2014	
	Productive	Dry	Productive	Dry	Productive	Dry	Productive	Dry	Productive	Dry
Consolidated Companies										
United States										
Exploratory	13	2	7	1	4	1	16	4	20	12
Development	509	1	435	4	420	4	873	3	1,085	8
Total United States	522	3	442	5	424	5	889	7	1,105	20
Other Americas										
Exploratory	1	1	-	-	4	-	5	1	3	-
Development	43	-	40	-	45	-	99	-	81	-
Total Other Americas	44	1	40	-	49	-	104	1	84	-
Africa										
Exploratory	-	-	-	-	1	1	3	-	1	2
Development	8	-	34	-	17	-	9	-	9	-
Total Africa	8	-	34	-	18	1	12	-	10	2
Asia										
Exploratory	1	-	-	-	3	-	5	1	7	2
Development	289	5	246	2	470	6	828	5	1,025	4
Total Asia	290	5	246	2	473	6	833	6	1,032	6
Australia/Oceania										
Exploratory	-	-	-	-	-	-	1	4	3	-
Development	1	-	-	-	4	-	4	-	9	-
Total Australia/Oceania	1	-	-	-	4	-	5	4	12	-
Europe										
Exploratory	-	1	-	1	-	-	3	-	3	-
Development	2	-	4	-	3	-	2	-	2	-
Total Europe	2	1	4	1	3	-	5	-	5	-
<b>Total Consolidated Companies</b>	867	10	766	8	971	12	1,848	18	2,248	28
Equity Share in Affiliates										
Exploratory	-	-	-	-	-	-	-	-	-	-
Development	39	-	36	-	38	-	26	-	25	1
Total Equity Share in Affiliates	39	-	36	-	38	-	26	-	25	1
Total Worldwide	906	10	802	8	1,009	12	1,874	18	2,273	29

<sup>\*</sup> Net Wells Completed includes wholly owned wells and the sum of the company's fractional interests in jointly owned wells completed during the year, regardless of when drilling was initiated. Completion refers to the installation of permanent equipment for the production of crude oil or natural gas or, in the case of a dry well, the reporting of abandonment to the appropriate agency. Some exploratory wells are not drilled with the intention of producing from the well bore. In such cases, "completion" refers to the completion of drilling. Further categorization of productive or dry is based on the determination as to whether hydrocarbons in a sufficient quantity were found to justify completion as a producing well, whether or not the well is actually going to be completed as a producer.

Net productive wells <sup>1, 2</sup>				At December 31			
	2018	2017	2016	2015	2014		
Consolidated Companies							
United States							
Oil	28,594	29,690	31,679	33,457	32,957		
Gas	1,912	2,380	3,633	7,186	7,098		
Total United States	30,506	32,070	35,312	40,643	40,055		
International							
Oil	14,214	14,560	14,781	14,538	14,017		
Gas	2,283	2,328	2,466	2,273	2,132		
Total International	16,497	16,888	17,247	16,811	16,149		
Total Consolidated Companies	47,003	48,958	52,559	57,454	56,204		
Equity Share in Affiliates							
Oil	554	550	508	490	486		
Gas	-	2	2	2	2		
Total Equity Share in Affiliates	554	552	510	492	488		
Total Worldwide	47,557	49,510	53,069	57,946	56,692		

<sup>1</sup> Net productive wells include wholly owned wells and the sum of the company's fractional interests in wells completed in jointly owned operations.

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Natural gas realizations*				Year end	ded D	ecember 31
Dollars per thousand cubic feet	2018	2017	2016	2015		2014
United States	\$ 1.86 \$	2.10	\$ 1.59	\$ 1.92	\$	3.90
International	6.29	4.62	4.02	4.53		5.78

<sup>\*</sup>U.S. natural gas realizations are based on revenues from net production. International natural gas realizations are based on revenues from liftings and include equity share in affiliates.

Liquids realizations*	Year ended December 31						
Dollars per barrel		2018	2017		2016	2015	2014
United States	\$	58.17	\$ 44.53	\$	35.00	\$ 42.70	\$ 84.13
International		64.25	49.46		38.61	46.52	90.42

<sup>\*</sup>U.S. liquids realizations are based on revenues from net production and include intercompany sales at transfer prices that are at estimated market prices. International liquids realizations are based on revenues from liftings and include equity share in affiliates.

Natural gas sales*				Year ended	December 31
Millions of cubic feet per day	2018	2017	2016	2015	2014
United States	3,481	3,331	3,317	3,913	3,995
International	5,604	5,081	4,491	4,299	4,304
Total	9,085	8,412	7,808	8,212	8,299

 $<sup>^{*}</sup>$ International sales include equity share in affiliates.

Natural gas liquids sales <sup>*</sup>				Year en	ded December 31
Thousands of barrels per day	2018	2017	2016	2015	2014
United States	110	30	30	26	20
International	34	29	24	24	28
Total	144	59	54	50	48

<sup>\*</sup>International sales include equity share in affiliates.

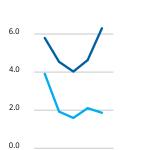
Exploration and development costs*					Year en	nded D	ecember 31
Millions of dollars		2018	2017	2016	2015		2014
United States							
Exploration	\$	782	\$ 729	\$ 913	\$ 1,144	\$	1,222
Development		6,245	4,346	3,814	6,275		8,207
Other Americas							
Exploration		161	81	94	128		196
Development		856	944	1,631	2,048		3,226
Africa							
Exploration		64	57	187	370		666
Development		711	1,136	2,014	3,701		3,771
Asia							
Exploration		93	99	119	413		543
Development		1,095	1,324	1,866	3,924		4,363
Australia/Oceania							
Exploration		56	79	71	259		396
Development		845	2,580	3,733	6,715		7,182
Europe							
Exploration		38	148	37	108		245
Development		278	121	550	995		887
Total Consolidated Companies	,						
Exploration	\$	1,194	\$ 1,193	\$ 1,421	\$ 2,422	\$	3,268
Development	:	10,030	10,451	13,608	23,658		27,636

 $<sup>^{*}</sup>$ Consolidated companies only. Excludes costs of property acquisitions.

### Natural gas realizations

8.0

Dollars per thousand cubic feet



14 15 16 17 **18** 

International\*

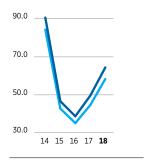
United States

\* Includes equity share in affiliates.

# Liquids realizations

Dollars per barrel

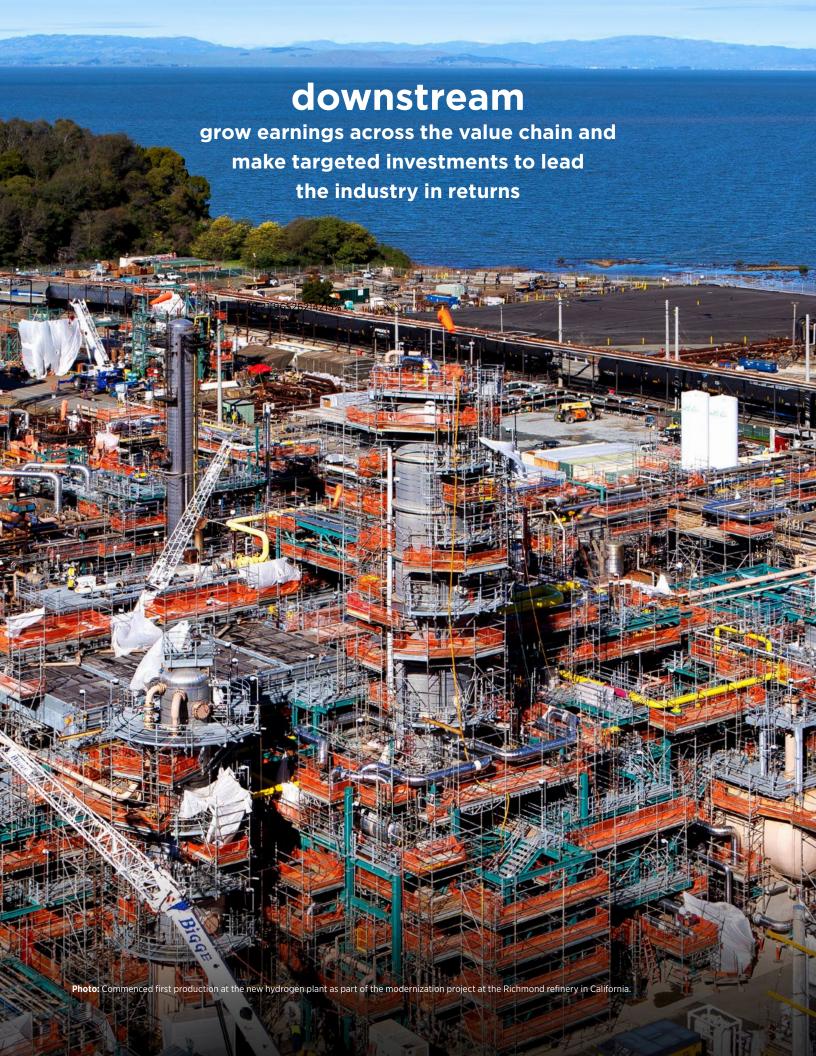
110.0



International\*

United States

\*Includes equity share in affiliates.



#### downstream

# highlights

Downstream has a strong presence in the refining, marketing, trading and transportation of fuels and in the manufacturing and distribution of lubricants, additives and petrochemicals.

# business strategies

Grow earnings across the value chain and make targeted investments to lead the industry in returns by:

- Sustaining world-class operational excellence.
- Driving earnings across the feedstock-to-customer value chain.
- Pursuing targeted growth opportunities.
- · Creating enterprise value.

Fundamental to the company's competitive position and success is the focus on operational excellence in order to drive strong reliability and safety performance.



downstream portfolio overview

The company continues to seek leading returns and to execute capital projects and strategic milestones with excellence. Efforts to grow earnings include aligning the highest-return markets and sales channels with manufacturing assets, achieving sustainable cost efficiencies, and applying innovative technologies. The company targets investments to strengthen leading fuels value chains and to selectively grow petrochemicals, additives and lubricants. Downstream plays a strategic role in Chevron's integrated portfolio, particularly in commercial support, processing of equity crudes, transfer of technology and organizational capabilities.

#### 2018 accomplishments

- Continued strong performance in personal and process safety by outperforming on loss-of-containment incidents, motor vehicle crash rates and spill volume targets.
- Reported earnings of \$3.8 billion.
- Chevron Phillips Chemical Company (CPChem) commenced operations of its world-scale ethane cracker at the Cedar Bayou facility as part of the U.S. Gulf Coast Petrochemicals Project, and reached design capacity during second quarter.
- Reached a final investment decision for a lubricant additive blending and shipping plant in Ningbo, China.
- Commenced first production at the new hydrogen plant as part of the modernization project at the Richmond refinery in California.
- Continued growth of Chevron-branded retail stations in northwestern Mexico, expanding to 135 stations opened by year-end.
- Formed joint venture to expand ExtraMile convenience store offerings, growing to 829 stores at year-end.
- Completed the sale of the Cape Town refinery and marketing and lubricants businesses in South Africa and Botswana.

#### 2019 outlook

The downstream business continues to focus on growing earnings and delivering leading returns. Key objectives include:

- Maintaining focus on safety and system reliability with emphasis on improving the effectiveness of safeguards related to asset integrity and
- Delivering on cost management initiatives and efforts.
- · Advancing projects that further enhance energy efficiency, high-value product yield and refinery feedstock flexibility, including the completion of the Richmond Modernization Project.
- Progressing projects in the chemicals manufacturing business that add capacity and leverage market positions to capture global opportunities, including a final investment decision for GS Caltex's mixed-feed cracker olefins project at the Yeosu Refinery in South Korea.
- Pursuing opportunities to strengthen fuels value chains through targeted investments, including signing an agreement to acquire a refinery located in Pasadena, Texas, in January 2019.
- Continuing development of the company's renewable fuels portfolio, including gasoline, jet, diesel and natural gas.

#### Downstream financial and operating highlights

(Includes equity share in affiliates)

Millions of dollars	2018	2017
Earnings	\$ 3,798	\$ 5,214
Refinery crude oil inputs (Thousands of barrels per day)	1,608	1,661
Refinery capacity at year-end (Thousands of barrels per day)	1,627	1,738
U.S. gasoline and jet fuel yields (Percent of U.S. refinery production)	61%	66%
Refined product sales (Thousands of barrels per day)	2,655	2,690
Motor gasoline sales (Thousands of barrels per day)	963	990
Olefin and polyolefin sales (Thousands of metric tons per year)	4,502	3,915
Specialty, aromatic and styrenic sales (Thousands of metric tons per year)	3,336	2,399
Number of marketing retail outlets at December 31	12,896	13,504
Capital expenditures	\$ 2,193	\$ 2,190

# refining and marketing

The company's refining and marketing activities are coordinated by two geographic businesses, Americas Products and International Products, each focused on optimizing the fuels value chain from crude to customer. The activities of each business include securing raw materials, manufacturing and blending products at its refineries, and selling finished products through its retail and commercial networks. The company has complex refining assets concentrated in the United States and Asia-Pacific.

Chevron continues to leverage proprietary technology, incorporating its patented cleaning additive, Techron, in these markets in order to maintain a leading position in branded fuels.

In 2018, the company completed comprehensive fuel-economy evaluations of its gasolines against its leading competitors. These evaluations leveraged Chevron's deep technical expertise in engine technology, test methods, and statistical data analysis to prove that Chevron's gasolines provide unbeatable fuel economy, which supported the launch of the new Techron "Proven, Unbeatable Mileage" campaign.

# **Americas Products**

The business serves retail and commercial customers in North America and Latin America through the Chevron and Texaco brands. The company supplies customers at approximately 8,900 Chevronand Texaco-branded retail outlets and approximately 40 airports across these markets.

The Americas Products portfolio includes four wholly owned refineries in North America with a crude capacity of approximately 930,000 barrels per day. All of these refineries leverage Chevron's proprietary hydroprocessing technologies, which provide the flexibility to process a wide range of feedstocks into clean, high-value products. The network of service stations in Americas Products is supported and served by 30 proprietary fuel terminals. During 2018, the business sold a daily average of approximately 1.5 million barrels of gasoline and other refined products. In January 2019, the company signed an agreement to acquire a refinery located in Pasadena, Texas.

### Improving refining flexibility, reliability and yield

During 2018, the company continued work on projects to improve refinery flexibility and reliability. At the Richmond refinery in California, the modernization project continued to progress. The project scope includes replacement of some of the refinery's processing equipment with more modern technology that meets or exceeds some of the nation's toughest applicable environmental and safety standards. First production commenced at the new hydrogen plant in November 2018, and full operation of the project is expected in 2019.

At the Salt Lake City refinery in Utah, construction continued on the alkylation retrofit project with the arrival of more than 100 process modules expected over the next several months. Project start-up is expected in 2020.



**Photo:** Chevron formed a joint venture to expand ExtraMile convenience store offerings, growing to 829 stores by year-end.

#### Sustaining a focused marketing portfolio

Across the markets that Chevron serves in the United States and Latin America, the company enjoys strong market positions and continues to capture opportunities to grow market share of motor gasoline and diesel fuel under the Chevron and Texaco brands. In 2018, Chevron continued to grow in northwestern Mexico, securing additional terminal capacity and expanding to 135 branded stations. Through a joint venture, Chevron extended its ExtraMile convenience store brand to 829 locations in the western United States. These opportunities, coupled with the company's growth strategy, are expected to enable the Chevron and Texaco brands to maintain leading market positions.

# **International Products**

The business provides premium-quality Caltex-branded fuel products to retail and commercial customers in Asia-Pacific and the Middle East.

The International Products business has three large refineries in South Korea, Singapore and Thailand. The refinery network, including the company's share of affiliates, has a crude capacity of approximately 700,000 barrels per day.

The company and its affiliates serve customers at approximately 4,000 Caltex-branded retail outlets and approximately 50 airports in Asia-Pacific and the Middle East. The business sold a daily average of 1.2 million barrels of refined products in 2018.

Chevron completed the sale of its interests in the Cape Town refinery, along with the marketing and lubricants businesses in South Africa and Botswana in September 2018.

# improving performance with cutting-edge technology

# Manufacturing sites are applying technology to improve reliability, increase asset productivity and optimize plant performance

Chevron is leveraging advanced digital technologies that employ wireless connectivity, sensors, plant and process data analytics, and mobile worker solutions to improve safety, enhance equipment monitoring and reduce maintenance costs.

In addition, Chevron developed and is deploying a series of novel coating technologies that reduce corrosion rates and extend equipment life for tanks.



**Photo:** The Richmond refinery modernization project is designed to improve reliability.

#### downstream

#### Refineries strategically positioned

The Asia-Pacific refining assets are well positioned to supply growing demand in this region. The 50 percent-owned, GS Caltex operated Yeosu Refinery in South Korea remains one of the world's largest and is targeted for additional investment with the addition of olefins production capability. The company's 60.6 percent-owned refinery in Map Ta Phut, Thailand, continues to supply high-quality petroleum products through the Caltex brand in the Thailand market.

Singapore Refining Company (SRC), Chevron's 50 percent-owned joint venture, processes up to 276,000 barrels of crude per day and manufactures a wide range of petroleum products for customers in the region. Recent upgrades have enabled SRC to produce higher-value gasoline that meets stricter emission standards while increasing energy efficiency, reducing emissions and lowering operating costs. The company continues to progress evaluation and development of upgrading projects to convert low-value products into higher-value products.

# Sustaining a focused marketing portfolio

The company continues to expand in selected growth markets by executing its strategic retail network plan focusing on investor trade class sites, strengthening its retail networks, improving fuels supply chains, and widening third-party partnerships and alliances with growth efforts in Thailand, the Philippines and Malaysia.

# renewable fuels

Chevron is pursuing opportunities with technology providers and start-up companies to develop dairy digester and methane capture systems. A large source of methane emissions to the atmosphere is livestock digestive gases and waste. The captured methane is treated to commercial natural gas specifications and can be used to fuel compressed natural gas vehicles. It can also be used to produce renewable hydrogen for use in refineries or for fuel cell vehicles.

# **lubricants**

Chevron is among the leading global developers and marketers of lubricants and is a leading global producer of premium base oil, with a total capacity of approximately 58,000 barrels per day. The company provides high-quality lubricants products to meet the needs of commercial, industrial, retail and marine customers. Lubricants and coolants are produced and marketed through the Havoline, Delo, Ursa, Meropa, Rando, Clarity and Taro product lines under three brands: Chevron, Texaco and Caltex.

Chevron enables its base oil customers to optimize formulations worldwide by providing a consistent global product slate of premium base oils. Chevron's global supply network includes base oil manufacturing facilities at the refineries in Richmond, California; Pascagoula, Mississippi; and Yeosu, South Korea. It also includes 15 equity-blending facilities, multiple contract-blending facilities and distribution hubs.

Chevron continues to develop products to meet existing and future demand through strategic partnerships with original equipment manufacturers and advanced research at technology centers in the United States, Belgium and Singapore. This research includes the development of high-performing renewable products meeting stringent environmental standards and engine oils that offer fuel economy retention benefits.

Chevron has a technology partnership with an equity affiliate to co-develop high-performance synthetic base oil from plant-based renewable feedstocks.

Chevron's ICONIC Lubrificantes joint venture in Brazil has the largest finished lubricants market share in Brazil. In September 2018, Chevron announced its new Taro Ultra range of International Maritime Organization (IMO) 2020-ready marine cylinder lubricants formulated to meet IMO's global low-sulphur cap that is effective January 2020.

# Chevron focuses on retail customer experience

# The company is applying technology to enhance the customer experience at fueling stations around the world

- In Singapore, Chevron has launched the country's first integrated fuel payment mobile app, which offers motorists a faster mode of payment from the convenience of their car. The fuel payment app also helps drivers easily locate a nearby Caltex service station, enjoy automatic loyalty points collection, exclusive mobile offers and electronic receipts at their fingertips.
- In the United States, Chevron has partnered with PayPal to develop and pilot a mobile payment solution that enables the 75 million local PayPal account holders to purchase fuel and car washes.
- With Honda, Chevron is developing technology that enables drivers to pay for fuel and convenience store items in-dash from their vehicle.



Photo: Ad campaign materials demonstrating the new CaltexGo app.

# additives

Chevron's Oronite subsidiary is a world-leading developer, manufacturer and marketer of quality additives that improve the performance of lubricants and fuels. Oronite conducts research and development for additive component and blended packages to meet the increasingly demanding needs of engine and equipment performance, as well as more stringent regulatory requirements. At year-end 2018, Oronite manufactured, blended, or conducted research and development at 10 locations around the world.

Oronite lubricant additives are blended with refined base oils to produce finished lubricants used primarily in engine applications, including passenger cars, heavy-duty diesel trucks, buses, ships, locomotives and motorcycles. Typically, several additive components, such as dispersants, detergents, oxidation, corrosion and rust inhibitors, and viscosity-index improvers, are combined to meet desired performance specifications. Specialty additives are also marketed for other applications, including power transmission fluids and hydraulic oils.

Oronite fuel additives are used to improve engine performance and extend engine life. The main additive applications are for blended gasoline and gasoline aftermarket products. Many fuel additive packages are unique and blended specifically to individual customer specifications, the most recognized being the additive package branded as Techron and used exclusively in Chevron, Texaco and Caltex fuels and in Techron Concentrate Plus fuel system cleaner. Fuel performance standards vary for customers throughout the world, and specific packages are tailored for each region's markets.

#### Expanding in key growth markets

Oronite has a strong foundation to support long-term international growth with its global manufacturing coverage and versatile crosscontinent supply network. The majority of global volume growth is expected in Asia, where Oronite's Singapore plant is the largest additives manufacturing plant in the region.

In June 2018, a final investment decision was reached for a lubricant additive blending and shipping plant in Ningbo, China, with groundbreaking activities taking place in October 2018. Estimated completion of the facility is 2020, with commercial production anticipated to begin in 2021.



Photo: The groundbreaking ceremony for a new additive manufacturing plant in Ningbo, China took place in October 2018.

# Oronite leverages technology to address evolving engine design and regulatory requirements

# The company is advancing product line technology to meet industry needs

Oronite continues to develop new products that provide improved performance for evolving engine designs and regulatory requirements, including the development of:

- · Additives packages for newer, downsized, higherperformance automobile engines.
- Additive formulations designed to benefit natural gas engines.
- · Additives used to satisfy lower marine bunker fuel sulphur requirements.



Photo: A researcher at Oronite's laboratories in Richmond, California, uses advanced chromatography techniques to aid in the design of additives required for multigrade engine oils.

#### downstream

# petrochemicals

The company has a broad, worldwide petrochemicals portfolio producing both olefins and aromatics. The company's petrochemical activities are conducted through two joint ventures, CPChem and GS Caltex.

#### **CPChem**

CPChem is a 50 percent-owned affiliate. It is one of the world's leading producers of olefins, polyolefins and alpha olefins and is a leading supplier of aromatics and polyethylene pipe, in addition to participating in the specialty chemical and specialty plastics markets. At year-end 2018, CPChem owned or had joint-venture interests in 28 manufacturing facilities and two research and development centers around the world. CPChem markets its products through leading brands such as Marlex, AlphaPlus, Scentinel, Synfluid and Soltrol.

#### Leveraging advantaged feedstock position

In March 2018, as part of the U.S. Gulf Coast Petrochemical Project, CPChem commenced operations of a new ethane cracker with an annual design capacity of 1.5 million metric tons of ethylene at the Cedar Bayou facility, and reached design capacity during second quarter 2018. The project benefits from advantaged feedstock sourced from shale resource development in North America. CPChem's strong positions in North America and the Middle East allow it to leverage the availability of competitive feedstocks and meet growing global demand.



Photo: Start-up of the new ethane cracker was achieved at CPChem's U.S. Gulf Coast Petrochemical Project in March 2018.

# **GS Caltex**

Chevron also maintains an important role in the petrochemicals business through the operations of GS Caltex, a 50 percent-owned affiliate located in South Korea. GS Caltex is a leading manufacturer of petrochemicals. With one of the largest single-facility aromatics plants in the world, the Yeosu complex has a production capacity of 2.8 million metric tons per year of aromatics, including benzene, toluene and xylene. These are base chemicals used to produce a range of products, including adhesives, plastics and textile fibers. GS Caltex also produces polypropylene, which is used to make automotive and home appliance parts, food packaging, laboratory equipment, and textiles. GS Caltex expects to reach a final investment decision in first quarter 2019 to build an olefins mixedfeed cracker and polyethylene unit within the existing refining and aromatics facilities. The new plant is expected to supply an additional 700,000 tons of ethylene and 500,000 tons of polyethylene a year to local markets when it is completed.

# consumers benefit from CPChem's research and technology

### Research and development are key priorities for CPChem

CPChem currently holds more than 2,500 patents and patent applications in the areas of petrochemical and polymer research, new catalyst development, and product and process development.

- The proprietary MarTECH loop slurry process for polyethylene production is a widely licensed process. CPChem successfully scaled up application of the MarTECH loop slurry technology in two world-scale-sized polyethylene units commissioned as part of CPChem's U.S. Gulf Coast project.
- The Aromax technology is the lowest-cost process for onpurpose production of benzene.
- Other proprietary technologies include on-purpose 1-hexene technology and proprietary primary normal alpha olefin technology.



Photo: CPChem successfully applied the MarTECH loop slurry technology in the two polyethylene units as part of the U.S. Gulf Coast Petrochemicals project.

# supply and trading

Supply and trading (S&T) provides commercial support to upstream and downstream. S&T applies its knowledge of commodity markets, the crude-to-customer value chain and transportation logistics in the crude oil, natural gas, and refined products markets to maximize the value of enterprise assets and enable the commercial success of upstream and downstream. S&T buys, sells and supplies crude oil, refined products, gas and gas liquids to support the company's crude and gas production operations and its refining and marketing network. Activities include the integration of equity crude oil from the upstream operations into the company's refining network and the commercialization of Chevron's equity liquefied natural gas (LNG) volumes.

# transportation

The company's transportation businesses, including pipeline and shipping operations, are responsible for transporting a variety of products to customers worldwide. Transportation activities are aligned with the needs of the upstream, refining and marketing businesses.

# **Pipeline**

Chevron owns and operates a network of crude oil, natural gas and product pipelines and other infrastructure assets in the United States. Chevron's Pipeline Control Center in Houston, Texas, utilizes advanced leak detection systems and damage prevention systems to safely move more than 1.4 million barrels of oil-equivalent per day. In addition, Chevron operates pipelines for its 50 percent-owned CPChem affiliate. The company also has direct and indirect interests in other U.S. and international pipelines.

Refer to pages 23 through 25 in the upstream section for information on the West African Gas Pipeline, the Baku-Tbilisi-Ceyhan pipeline, the Western Route Export Pipeline and the Caspian Pipeline Consortium.

# **Shipping**

Chevron's corporate marine center of expertise provides safe, reliable and cost-competitive marine transportation, manages marine risk and provides marine operational, technical and commercial support to the enterprise, with marine specialists in 20 countries. The company operates a fleet of conventional crude tankers, product carriers and LNG carriers. These vessels transport crude oil, LNG, refined products and feedstocks in support of global upstream and downstream businesses.

# investing in the future of energy

# Chevron is proud to invest in breakthrough technologies that enable the future of energy

The company addresses key business needs now and into the future through the pursuit and integration of new business solutions and innovative energy technologies. In 2018, the company managed more than \$350 million in venture capital investments and introduced or deployed more than 20 new technologies across the enterprise. Chevron also launched the Future Energy Fund with an initial \$100 million commitment targeted at reducing emissions from oil and gas and investing in low-carbon energy value chains. Some examples of recent investments include:

- A November 2018 investment in ChargePoint, which is charging technology designed to support every aspect of electric vehicle charging, focusing on fleet vehicle solutions.
- In December 2018, the fund invested in Natron Energy contributing to Natron's development of stationary energy storage systems at electric vehicle charging stations.
- A third investment was made in December 2018 to support Carbon Engineering, which will help commercialize the next generation of carbon capture technology while advancing efforts in carbon conversion.



Photo: Chevron is proud to invest in breakthrough technologies that enable the future of energy

#### Refinery capacities and crude oil inputs

Remiery capacities and crude on mpu	เร				Year ended D	ecemper 31
	Refinery capacity				Refinery crud	de oil inputs
Thousands of barrels per day	At December 31, 2018	2018	2017	2016	2015	2014
United States – Consolidated						
El Segundo, California	269	273	251	267	258	221
Kapolei, Hawaii <sup>1</sup>	-	-	-	37	47	47
Pascagoula, Mississippi	351	332	349	355	322	329
Richmond, California	257	249	248	188	245	229
Salt Lake City, Utah	55	51	53	53	52	45
Total United States - Consolidated	932	905	901	900	924	871
International - Consolidated						
Canada – Burnaby, British Columbia <sup>2</sup>	-	-	40	51	46	49
South Africa - Cape Town <sup>3</sup>	-	49	68	78	69	72
Thailand – Map Ta Phut	157	160	152	162	164	141
Total International – Consolidated	157	209	260	291	279	262
International – Equity Shares in Affiliates						
Australia - Brisbane (50%) <sup>4</sup>	-	-	-	-	12	50
Australia – Sydney (50%) <sup>4</sup>	-	-	-	-	-	39
New Zealand – Whangarei (11.4%) <sup>5</sup>	-	-	-	-	5	13
Pakistan – Karachi (<1%)	-	-	3	3	3	4
Singapore - Pulau Merlimau (50%)	138	116	127	121	118	109
South Korea - Yeosu (50%)	400	378	370	373	361	342
Total International – Equity Share in Affiliates	538	494	500	497	499	557
Total International	695	703	760	788	778	819
Total Worldwide	1,627	1.608	1.661	1.688	1.702	1.690

- $^{\rm 1}$  Chevron sold its interest in this refinery in November 2016.  $^{\rm 2}$  Chevron sold its interest in this refinery in September 2017.
- <sup>3</sup> Chevron sold its interest in this refinery in September 2018.
- <sup>4</sup> Chevron sold its interest in Caltex Australia Limited in April 2015.
- <sup>5</sup> Chevron sold its interest in this refinery in June 2015.

### Refinery capacities at year-end 2018

Refinery capacities at year-end 2018	Chevron share of capacities <sup>1</sup>								
Thousands of barrels per day	Atmospheric distillation <sup>2</sup>	Catalytic cracking <sup>3</sup>	Hydro- cracking⁴	Residuum conversion <sup>5</sup>	Lubricants <sup>6</sup>				
United States - Consolidated									
El Segundo, California	269	67	50	69	-				
Pascagoula, Mississippi	351	79	107	94	25				
Richmond, California	257	81	147	-	20				
Salt Lake City, Utah	55	14	-	9	-				
Total United States - Consolidated	932	241	304	172	45				
International – Consolidated									
Thailand – Map Ta Phut	157	37	-	-	-				
Total International – Consolidated	157	37	-	-	-				
International – Equity Shares in Affiliates <sup>7</sup>									
Singapore - Pulau Merlimau (50%)	138	22	16	15	-				
South Korea - Yeosu (50%)	400	73	77	-	12				
Total International – Equity Share in Affiliates	538	95	93	15	12				
Total International	695	132	93	15	12				
Total Worldwide	1,627	373	397	187	57				

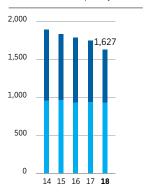


<sup>&</sup>lt;sup>2</sup> Atmospheric distillation is the first distillation cut. Crude oil is heated at atmospheric pressure and separates into a full boiling range of products, such as liquid

#### Refinery capacity at December 31

Year ended December 31

Thousands of barrels per day

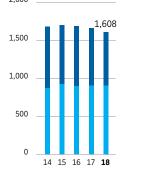


- International\*
- United States
- \*Includes equity share in affiliates.

#### Refinery crude oil inputs

Thousands of barrels per day





- International\*
- United States

petroleum gases, gasoline, naphtha, kerosene, gas oil and residuum.

<sup>3</sup> Catalytic cracking uses solid catalysts at high temperatures to produce gasoline and other lighter products from gas-oil feedstocks.

<sup>4</sup> Hydrocracking combines feedstocks and hydrogen at high pressure and temperature in the presence of a catalyst to reduce impurities and produce lighter products,

such as gasoline, diesel and jet fuel.

5 Residuum conversion includes thermal cracking, visbreaking and coking processes, which rely primarily on heat to convert heavy residuum feedstock to the maximum production of lighter boiling products.

6 Lubricants capacity is based on dewaxed base oil production.

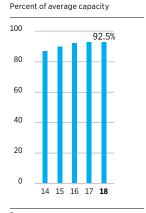
7 Excludes the Pakistan refinery affiliate.

<sup>\*</sup>Includes equity share in affiliates.

Year ended December 31

Year ended December 31

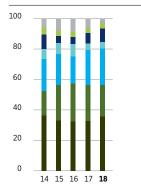
# Worldwide refinery crude distillation utilization\*



 $<sup>^{</sup>st}$  Includes equity share in affiliates.

### Sources of crude oil input for worldwide refineries\*

Percentage of total input

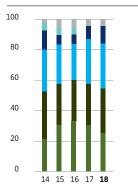




Mexico ■ Middle East

#### Sources of crude oil input for U.S. refineries\*

Percentage of total input



<sup>■</sup> Other United States

# Refinery crude distillation utilization

(Includes equity share in affiliates)				Year ende	d December 31
Percentage of average capacity	2018	2017	2016	2015	2014
United States	97.1	98.1	93.4	96.1	90.9
Asia-Pacific	94.2	92.1	93.4	86.2	84.9
Africa-Pakistan	45.6	62.1	71.3	63.4	65.6
Other	-	72.5	91.9	83.7	89.9
Worldwide	92.5	92.7	92.0	89.8	86.8

# Sources of crude oil input for worldwide refineries\*

•					
Percentage of total input	2018	2017	2016	2015	2014
Middle East	35.8	32.8	32.4	33.1	36.2
South America	20.4	23.5	24.9	23.3	16.3
United States	24.2	23.0	17.8	20.1	21.0
Asia-Pacific	4.0	4.3	8.1	7.4	6.3
Mexico	9.1	6.8	4.8	4.7	9.7
Africa	3.6	3.5	3.4	3.4	4.7
Other	2.9	6.1	8.6	8.0	5.8
Total	100.0	100.0	100.0	100.0	100.0

<sup>\*</sup> Consolidated companies only.

Sources of crude oil input for U.S. refineries				Year ended D	ecember 31
Percentage of total input	2018	2017	2016	2015	2014
South America	25.1	30.3	32.9	30.3	21.2
Middle East	29.3	27.1	27.1	27.1	31.4
United States - excluding Alaska North Slope	22.1	22.1	20.0	20.6	22.5
United States - Alaska North Slope	7.6	7.4	3.6	5.5	5.0
Mexico	11.2	8.8	6.3	6.1	12.6
Asia-Pacific	-	_	4.3	4.7	4.3
Other	4.7	4.3	5.8	5.7	3.0
Total	100.0	100.0	100.0	100.0	100.0

<sup>\*</sup> Consolidated companies only.

# Refinery production of refined products\*

Thousands of barrels per day	2018	2017	2016	2015	2014
United States					
Gasoline	442	444	450	439	413
Diesel/Gas oil	178	183	188	205	184
Jet fuel	229	210	197	197	196
Fuel oil	42	31	34	38	43
Other	133	128	120	127	115
Total United States	1,024	996	989	1,006	951
International					
Gasoline	60	88	102	94	87
Diesel/Gas oil	83	96	110	105	97
Jet fuel	20	26	28	27	25
Fuel oil	24	28	31	26	26
Other	27	30	32	38	30
Total International	214	268	303	290	265
Worldwide					
Gasoline	502	532	552	533	500
Diesel/Gas oil	261	279	298	310	281
Jet fuel	249	236	225	224	221
Fuel oil	66	59	65	64	69
Other	160	158	152	165	145
Total Worldwide	1,238	1,264	1,292	1,296	1,216

<sup>\*</sup> Consolidated companies only.

Asia-Pacific

 $<sup>^{*}</sup>$  Consolidated companies only.

Asia-Pacific ■ Middle East

<sup>■</sup> Mexico ■ South America \* Consolidated companies only.

Refined product sales	Y				
Thousands of barrels per day	2018	2017	2016	2015	2014
United States					
Gasoline	627	625	631	621	615
Diesel/Gas oil	188	179	182	215	217
Jet fuel	255	242	242	232	222
Fuel oil	48	48	59	59	63
Other <sup>1</sup>	100	103	99	101	93
Total United States	1,218	1,197	1,213	1,228	1,210
International <sup>2</sup>					
Gasoline	336	365	382	389	403
Diesel/Gas oil	446	490	468	478	498
Jet fuel	276	274	261	271	249
Fuel oil	177	162	144	159	162
Other <sup>1</sup>	202	202	207	210	189
Total International	1,437	1,493	1,462	1,507	1,501
Worldwide <sup>2</sup>					
Gasoline	963	990	1,013	1,010	1,018
Diesel/Gas oil	634	669	650	693	715
Jet fuel	531	516	503	503	471
Fuel oil	225	210	203	218	225
Other <sup>1</sup>	302	305	306	311	282
Total Worldwide	2,655	2,690	2,675	2,735	2,711
Other primarily includes naphtha, lubricants, asphalt and coke.     Includes share of equity affiliates' sales:	373	366	377	420	475

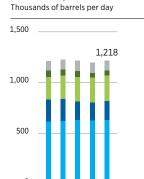
# Natural gas liquid sales

(Includes equity share in affiliates)				Year ended	December 31
Thousands of barrels per day	2018	2017	2016	2015	2014
United States	74	109	115	127	121
International	62	64	61	65	58
Total	136	173	176	192	179

#### Marketing retail outlets<sup>1, 2</sup>

marketing retail (	Juliela								At D	ecember 31	
	2018		2017		20:	2016		2015		2014	
	Company	Other	Company	Other	Company	Other	Company	Other	Company	Other	
United States	313	7,534	321	7,422	325	7,489	366	7,493	380	7,550	
Canada	-	-	-	-	137	43	138	41	150	20	
Latin America	24	1,065	29	857	38	773	48	716	62	679	
Asia-Pacific	125	1,385	133	1,400	146	1,430	174	1,529	204	1,530	
Africa-Pakistan	-	-	183	651	187	642	191	633	343	1,023	
Total	462	9,984	666	10,330	833	10,377	917	10,412	1,139	10,802	

#### U.S. refined product sales



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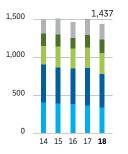


Jet fuel ■ Diesel/Gas oil Gasoline

#### International refined product sales\*

Thousands of barrels per day

2,000

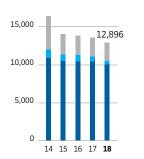


- Other
- Fuel oil
- Jet fuel
- Diesel/Gas oil
- Gasoline

#### Marketing retail outlets

Number of outlets

20,000



- Affiliates
- Company
- Retailer

Excludes outlets of equity affiliates totaling 2,450, 2,508, 2,599, 2,651 and 4,436 for 2018, 2017, 2016, 2015 and 2014, respectively.
 Company outlets are motor vehicle outlets that are company owned or leased. These outlets may be either company operated or leased to a dealer. Other outlets consist of all remaining branded outlets that are owned by others and supplied with branded products.

<sup>\*</sup>Includes equity share in affiliates.

# CPChem plant capacities and products at year-end 2018<sup>1</sup>

_				Normal alpha				
Thousands of metric tons per year	Benzene	Cyclohexane	Ethylene	olefins	Polyethylene	Propylene	Styrene	Other
United States – Wholly Owned								
Baytown, Texas (Cedar Bayou)	-	-	2,434	1,060	980	465	-	V
Borger, Texas	-	-	-	-	-	-	-	
Conroe, Texas	-	-	-	-	-	-	-	
Old Ocean, Texas (Sweeny)	-	-	1,991	-	1,000	395	-	-
Orange, Texas	-	-	-	-	440	-	-	-
Pasadena, Texas	-	-	-	-	985	-	-	-
Pascagoula, Mississippi	725	-	-	-	-	-	-	-
Port Arthur, Texas	-	480	855	_	_	350	-	-
Seven other locations	-	-	-	_	_	-	-	
Total United States - Wholly Owned	725	480	5,280	1,060	3,405	1,210	-	V
United States - Affiliates								
Allyn's Point, Connecticut (50%)	-	-	-	-	-	-	-	
Hanging Rock, Ohio (50%)	-	-	-	-	-	-	-	
Joliet, Illinois (50%)	-	-	-	-	-	-	-	
Marietta, Ohio (50%)	-	-	-	-	-	-	-	
St. James, Louisiana (50%)	-	-	-	-	-	-	475	-
Torrance, California (50%)	-	-	-	-	-	-	-	
Total United States – Affiliates	-	-	-	-	-	-	475	V
Total United States	725	480	5,280	1,060	3,405	1,210	475	√
International – Wholly Owned								
Belgium, Beringen	-	-	-	-	-	-	-	$\checkmark$
Belgium, Tessenderlo	-	-	-	-	-	-	-	
Total International – Wholly Owned	-	-	-	-	-	-	-	√
International - Affiliates								
Colombia, Cartagena (50%)	-	-	-	_	_	_	-	
Qatar, Mesaieed (49%)	-	-	255	200	395	_	-	-
Qatar, Ras Laffan (6%)	-	-	340	_	_	-	-	-
Saudi Arabia, Al Jubail (50%)	425	180	105	_	_	75	375	
Saudi Arabia, Al Jubail (35%)	_	_	425	35	385	155	_	
Singapore (50%)	-	-	-	-	200	-	-	-
Total International – Affiliates	425	180	1,125	235	980	230	375	√
Total International	425	180	1,125	235	980	230	375	√
iotal international	723		-,					•

# Olefin, polyolefin, specialty, aromatic and styrenic sales

(Represents equity share in CPChem and GS Caltex)				Year ended D	ecember 31
Thousands of metric tons per year	2018	2017	2016	2015	2014
Olefin and polyolefin sales	4,502	3,915	3,972	4,145	4,110
Specialty, aromatic and styrenic sales	3.336	2.399	3.442	3.392	3.564

 <sup>&</sup>lt;sup>1</sup> Includes CPChem's share of equity affiliates.
 <sup>2</sup> Capacities represent typical calendar-day processing rates for feedstocks to process units, determined over extended periods of time. Capacities may vary from actual depending on feedstock qualities, maintenance schedules and external factors.

 $<sup>^3\,</sup> Other\, includes\, paraxylene,\, polyalphaole fins,\, polypropylene,\, polystyrene,\, performance\, pipe\, and\, specialty\, chemicals.$ 

# digital technology



# digital technology

**Digital ambition** Chevron has a proud history of innovation. Since the company's beginning, it has embraced new technologies to drive the business forward. The world today is changing at an accelerated pace, and Chevron is changing with it. To win in a fast-changing world, the company empowers the workforce to make better, faster decisions supported by digital technologies and a culture of innovation. Chevron is transforming the way employees work and is leveraging digital technologies to solve some of the most complex challenges in the energy industry.

**Driving business value** Transforming the way Chevron works digitally is not just about the technology, it is about leveraging the technology to derive additional value from the business and differentiating the company's performance. The company is accelerating the deployment of digital technologies to improve revenues, reduce costs, increase reliability and improve safety. In 2018 alone, Chevron's data science and data analytics program generated more than \$200 million in value across the company.

**Safety** Chevron's sustained focus on leveraging engineered safeguards and technology has led to continued improvements in the company's safety performance. This includes seeking new ways to protect people and the environment, including removing the workforce from high-risk situations.

Real-time location systems are being used to improve personnel control around potentially hazardous situations. With millions of crane lifts across the company's operations every year, a crane safety solution is being piloted in the Gulf of Mexico. This real-time location system uses ultra-wide band and wearable technology to alert workers when they are potentially walking under a crane load.

At the Chevron Oronite Singapore manufacturing plant, real-time location systems are used to improve safety at the facility by embedding radio-frequency identification tags in monitors worn by all plant workers. With these sensors, a "smart plant" has been created that can account for the location of all workers at all times. In high-risk processing areas, geofencing is used to control access, and in the event of an emergency, personnel can be located in real-time.



**Photo:** The Gulf of Mexico crane safety solution pilot alerts workers potentially moving into a high-risk area, ensuring they work safely while around cranes and heavy loads.

**Revenue** Using innovative technologies has enabled Chevron to enhance cash flow and earnings, while maintaining competitive margins. Application of technology enables new life from older fields and greater yields from the downstream and chemicals businesses.

The Gorgon liquefied natural gas (LNG) plant has integrated more digital technology than any facility ever built by Chevron. Real-time data is collected from thousands of sensors placed throughout the operation. Populating sophisticated optimization-algorithms with this data, the plant delivers higher throughput and reliability than could be achieved with traditional control technology. Advanced Process Control (APC) technology is being deployed across all Chevron's complex facilities world-wide. The implementation of APC at Gorgon was one of the fastest in the LNG industry, generating value of more than \$240 million.



**Photo:** Implementation of Advanced Process Control technology at Gorgon was one of the fastest in the industry.

To support the rapid growth of Chevron's unconventional production, a suite of tools has been developed that enable the workforce to increase work throughput in a competitive, short-cycle environment. The Factory Integrated Tools (FIT) Program digitizes key processes, providing the foundation of high-quality data, transparency and visibility. Tools in this suite include: a data foundation system comprising of public data augmented with Chevron proprietary well information; a portfolio tool for scheduling and rig sequencing; and a production analysis tool to optimize completions and compare against competitor benchmarking. FIT supports key decision-making and creates a platform to accelerate performance improvement.

# technology

**Cost** Chevron continues its journey to reduce structural costs and improve efficiencies across its operations. Digital innovation is an important lever to enable Chevron to compete in a low-cost world.

Chevron gathers data from over one-million sensors placed throughout all global operations. This number is growing by more than 100,000 sensors every year. With streaming data from these devices, data analytics, artificial intelligence, and machine learning can be applied to provide real-time insights that improve operations around the world.

One way this data is leveraged is through integrated Decision Support Centers (DSC), which have been established in every upstream business unit. These DSCs allow Chevron to pool expertise, integrate complex workflows and centralize real-time decisions which increases operational efficiency and asset productivity.

The Drilling & Completions Decision Support Center monitors the drilling of all complex wells across the globe and centralizes key processes such as shale-and-tight focused geo-steering and fracture monitoring.



Photo: Chevron has decision support centers across upstream operations enabling real time decision making with centralized experts.

**Reliability** Chevron's commitment to technology captures value by managing assets more reliably.

The company is conducting autonomous inspections of critical vessels and piping in multiple company locations worldwide. In addition to using drones for aerial inspections, the company utilizes them to perform inspections in enclosed environments. This allows inspections to be completed inside confined spaces while relaying data to engineers outside.



Photo: Drones are revolutionizing inspections by collecting data while ensuring assets and personnel operate safely

Chevron is using new sensor technology for pressure, level, and temperature monitoring to advance real-time decision making and maintenance planning. The company has created a "smart lid" on chemical tanks in the San Joaquin Valley. Using sensors creatively installed in the tank lids, this data can be collected in real-time and sent to vendors, automating the supply chain, reducing inefficiencies, and improving chemical performance reliability.

# connecting employees around the world

# Chevron is leveraging technology to reduce costs and improve safety

HoloLens, an augmented reality headset. connects field personnel with subject matter experts located around the world to troubleshoot problems faster and more efficiently. The company has deployed more than 150 HoloLens devices worldwide.



Photo: HoloLens and augmented reality technology enable expert troubleshooting while removing non-critical personnel from the operating environment.

Digital strategy Chevron's approach to ongoing digital innovation is uniquely designed to complement the company's culture.

The investment strategy takes a portfolio approach, balancing near-term value creation and ownership in the business with centralized projects ensuring long-term scalability and maximized value.

Innovation in the business For top-tier assets, including Permian, Tengiz, Gorgon and Wheatstone, critical focus areas have been identified where digital investments will address opportunities for material differentiation in performance.



Photo: Critical focus areas have been identified where digital investments will address opportunities for material differentiation in performance in key assets like Wheatstone.

# glossary of energy and financial terms

# energy terms

Acreage Land leased for crude oil and natural gas exploration and production.

Additives Specialty chemicals incorporated into fuels and lubricants that enhance the performance of the finished product.

Barrels of oil-equivalent A unit of measure to quantify crude oil, natural gas liquids and natural gas amounts using the same basis. Natural gas volumes are converted to barrels on the basis of energy content. See oil-equivalent gas and production.

**Condensate** Hydrocarbons that are in a gaseous state at reservoir conditions, but condense into liquid as they travel up the well bore and reach surface conditions.

**Development** Drilling, construction and related activities following discovery that are necessary to begin production and transportation of crude oil and/or natural gas.

Enhanced recovery Techniques used to increase or prolong production from crude oil and natural gas reservoirs.

**Exploration** Searching for crude oil and/or natural gas by utilizing geological and topographical studies, geophysical and seismic surveys, and drilling of wells.

Gas-to-liquids (GTL) A process that converts natural gas into highquality liquid transportation fuels and other products.

Liquefied natural gas (LNG) Natural gas that is liquefied under extremely cold temperatures to facilitate storage or transportation in specially designed vessels.

Liquefied petroleum gas (LPG) Light gases, such as butane and propane, that can be maintained as liquids while under pressure.

Natural gas liquids (NGLs) Separated from natural gas, these include ethane, propane, butane and natural gasoline.

Oil-equivalent gas The volume of natural gas needed to generate the equivalent amount of heat as a barrel of crude oil. Approximately 6,000 cubic feet of natural gas is equivalent to one barrel of crude oil.

Oil sands Naturally occurring mixture of bitumen (a heavy, viscous form of crude oil), water, sand and clay. Using hydroprocessing technology, bitumen can be refined to yield synthetic oil.

**Petrochemicals** Compounds derived from petroleum. These include: aromatics, which are used to make plastics, adhesives, synthetic fibers and household detergents; and olefins, which are used to make packaging, plastic pipes, tires, batteries, household detergents and synthetic motor oils.

Production Total production refers to all the crude oil (including synthetic oil), NGLs and natural gas produced from a property. Net production is the company's share of total production after deducting both royalties paid to landowners and a government's agreed-upon share of production under a PSC. Liquids production refers to crude oil, condensate, NGLs and synthetic oil volumes. Oil-equivalent production is the sum of the barrels of liquids and the oil-equivalent barrels of natural gas produced. See barrels of oil-equivalent, oil-equivalent gas and production-sharing contract.

Production-sharing contract (PSC) An agreement between a government and a contractor (generally an oil and gas company) whereby production is shared between the parties in a prearranged manner. The contractor typically incurs all exploration, development and production costs, which are subsequently recoverable out of an agreed-upon share of any future PSC production, referred to as cost recovery oil and/or gas. Any remaining production, referred to as profit oil and/or gas, is shared between the parties on an agreedupon basis as stipulated in the PSC. The government may also retain a share of PSC production as a royalty payment, and the contractor typically owes income tax on its portion of the profit oil and/or gas. The contractor's share of PSC oil and/or gas production and reserves varies over time, as it is dependent on prices, costs and specific

Refinery utilization Represents average crude oil consumed in fuel and asphalt refineries for the year, expressed as a percentage of the refineries' average annual crude unit capacity.

Reserves Crude oil and natural gas contained in underground rock formations called reservoirs and saleable hydrocarbons extracted from oil sands, shale, coalbeds and other nonrenewable natural resources that are intended to be upgraded into synthetic oil or gas. Net proved reserves are the estimated quantities that geoscience and engineering data demonstrate with reasonable certainty to be economically producible in the future from known reservoirs under existing economic conditions, operating methods and government regulations and exclude royalties and interests owned by others. Estimates change as additional information becomes available. Oil-equivalent reserves are the sum of the liquids reserves and the oil-equivalent gas reserves. See barrels of oil-equivalent and oilequivalent gas. The company discloses only net proved reserves in its filings with the U.S. Securities and Exchange Commission. Investors should refer to proved reserves disclosures in Chevron's Annual Report on Form 10-K for the year ended December 31, 2018.

**Resources** Estimated quantities of oil and gas resources are recorded under Chevron's 6P system, which is modeled after the Society of Petroleum Engineers' Petroleum Resource Management System, and include quantities classified as proved, probable and possible reserves, plus those that remain contingent on commerciality. Unrisked resources, unrisked resource base and similar terms represent the arithmetic sum of the amounts recorded under each of these classifications. Recoverable resources, potentially recoverable volumes and other similar terms represent estimated remaining quantities that are expected to be ultimately recoverable and produced in the future, adjusted to reflect the relative uncertainty represented by the various classifications. These estimates may change significantly as development work provides additional information. At times, original oil in place and similar terms are used to describe total hydrocarbons contained in a reservoir without regard to the likelihood of their being produced. All of these measures are considered by management in making capital investment and operating decisions and may provide some indication to stockholders of the resource potential of oil and gas properties in which the company has an interest.

**Shale gas** Natural gas produced from shale rock formations where the gas was sourced from within the shale itself. Shale is very fine-grained rock, characterized by low porosity and extremely low permeability. Production of shale gas normally requires formation stimulation such as the use of hydraulic fracturing (pumping a fluid-sand mixture into the formation under high pressure) to help produce the gas.

Synthetic oil A marketable and transportable hydrocarbon liquid, resembling crude oil, that is produced by upgrading highly viscous or solid hydrocarbons, such as extra-heavy crude oil or oil sands.

**Tight oil** Liquid hydrocarbons produced from shale (also referred to as shale oil) and other rock formations with extremely low permeability. As with shale gas, production from tight oil reservoirs normally requires formation stimulation such as hydraulic fracturing.

Unconventional oil and gas resources Hydrocarbons contained in formations over very large areas with extremely low permeability that are not influenced by buoyancy. In contrast, conventional resources are contained within geologic structures/stratigraphy and float buoyantly over water. Unconventional resources include shale gas, coalbed methane, crude oil and natural gas from tight rock formations, tar sands, kerogen from oil shale, and gas hydrates that cannot commercially flow without well stimulation.

Wells Oil and gas wells are classified as either exploration or development wells. Exploration wells are wells drilled to find a new field or to find a new reservoir in a field previously found to be productive of oil and gas in another reservoir. Appraisal wells are exploration wells drilled to confirm the results of a discovery well. Delineation wells are exploration wells drilled to determine the boundaries of a productive formation or to delineate the extent of a find. Development wells are wells drilled in an existing reservoir in a proved oil- or gas-producing area. Completed wells are wells in which drilling work has been completed and that are capable of producing. Dry wells are wells completed as dry holes, that is, wells not capable of producing in commercial quantities.

# financial terms

Capital employed The sum of Chevron Corporation stockholders' equity, total debt and noncontrolling interests. Average capital employed is computed by averaging the sum of capital employed at the beginning and end of the year.

Cash flow from operating activities Cash generated from the company's businesses; an indicator of a company's ability to fund capital programs and stockholder distributions. Excludes cash flows related to the company's financing and investing activities.

Current ratio Current assets divided by current liabilities.

Debt ratio Total debt, including capital lease obligations, divided by total debt plus Chevron Corporation stockholders' equity.

**Earnings** Net income attributable to Chevron Corporation as presented on the Consolidated Statement of Income.

Free cash flow The cash provided by operating activities less capital expenditures.

**Goodwill** An asset representing the future economic benefits arising from the other assets acquired in a business combination that are not individually identified and separately recognized.

Interest coverage ratio Income before income tax expense, plus interest and debt expense and amortization of capitalized interest, less net income attributable to noncontrolling interests, divided by before-tax interest costs.

Margin The difference between the cost of purchasing, producing and/or marketing a product and its sales price.

Net debt to capital ratio Total debt less the sum of cash and cash equivalents, time deposits, and marketable securities, as a percentage of total debt plus Chevron Corporation's stockholders' equity.

Return on capital employed (ROCE) Ratio calculated by dividing earnings (adjusted for after-tax interest expense and noncontrolling interests) by average capital employed.

Return on stockholders' equity Ratio calculated by dividing earnings by average Chevron Corporation stockholders' equity. Average Chevron Corporation stockholders' equity is computed by averaging the sum of the beginning-of-year and end-of-year balances.

Return on total assets Ratio calculated by dividing earnings by average total assets. Average total assets is computed by averaging the sum of the beginning-of-year and end-of year balances.

**Total stockholder return** The return to stockholders as measured by stock price appreciation and reinvested dividends for a period of time.

# additional information

# publications and other news sources

Additional information relating to Chevron is contained in its 2018 Annual Report to stockholders and its Annual Report on Form 10-K for the fiscal year ended December 31, 2018, filed with the U.S. Securities and Exchange Commission. Copies of these reports are available on the company's website, www.chevron.com, or may be requested by writing to:

**Chevron Corporation** Investor Relations 6001 Bollinger Canyon Road, A3140 San Ramon, CA 94583-2324 925 842 5690 Email: invest@chevron.com

The 2018 Corporate Responsibility Report is scheduled to be available in May 2019 on the company's website, www.chevron.com, or may be requested by writing to:

**Chevron Corporation** Corporate Affairs 6001 Bollinger Canyon Road, Building G San Ramon, CA 94583-2324

For additional information about the company and the energy industry, visit Chevron's website, www.chevron.com. It includes articles, news releases, speeches, quarterly earnings information and the Proxy Statement.

# legal notice

As used in this report, the terms "Chevron," "the company" and "its" may refer to Chevron Corporation, one or more of its consolidated subsidiaries, or to all of them taken as a whole, but unless the context clearly indicates otherwise, the term should not be read to include "affiliates" of Chevron, that is, those companies accounted for by the equity method (generally owned 50 percent or less) or investments accounted for by the non-equity method. All of these terms are used for convenience only and are not intended as a precise description of any of the separate companies, each of which manages its own affairs.

# trademark notice

AlphaPlus, Caltex, Chevron, the Chevron Hallmark, Clarity, Delo, Havoline, Human Energy, ICONIC, Isodewaxing, Marlex, MarTECH MAXDRILL, Meropa, Oronite, Rando, Scentinel, Soltrol, Synfluid, Taro, Techron, Texaco and Ursa are registered trademarks of Chevron Intellectual Property LLC.

All other trademarks are the property of their respective owners.

# CAUTIONARY STATEMENT RELEVANT TO FORWARD-LOOKING INFORMATION FOR THE PURPOSE OF "SAFE HARBOR" PROVISIONS OF THE PRIVATE SECURITIES LITIGATION REFORM ACT OF 1995

This 2018 Supplement to the Annual Report of Chevron Corporation contains forward-looking statements relating to Chevron's operations that are based on management's current expectations, estimates and projections about the petroleum, chemicals and other energy-related industries. Words or phrases such as "anticipates," "expects," "intends," "plans," "targets," "forecasts," "projects," "believes," "schedules," "estimates," "positions," "pursues," "may," "could," "should," "will," "budgets," "outlook," "trends," "guidance," "focus," "on schedule," "on track," "is slated," "goals," "objectives," "strategies," "opportunities" and similar expressions are intended to identify such forward-looking statements. These statements are not guarantees of future performance and are subject to certain risks, uncertainties and other factors, many of which are beyond the company's control and are difficult to predict. Therefore, actual outcomes and results may differ materially from what is expressed or forecasted in such forward-looking statements. The reader should not place undue reliance on these forwardlooking statements, which speak only as of the date of this report. Unless legally required, Chevron undertakes no obligation to update publicly any forwardlooking statements, whether as a result of new information, future events or otherwise.

Among the important factors that could cause actual results to differ materially from those in the forward-looking statements are: changing crude oil and natural gas prices; changing refining, marketing and chemicals margins; the company's ability to realize anticipated cost savings and expenditure reductions; actions of competitors or regulators; timing of exploration expenses; timing of crude oil liftings; the competitiveness of alternate-energy sources or product substitutes; technological developments; the results of operations and financial condition of the company's suppliers, vendors, partners and equity affiliates, particularly during extended periods of low prices for crude oil and natural gas; the inability or failure of the company's joint-venture partners to fund their share of operations and development activities; the potential failure to achieve expected net production from existing and future crude oil and natural gas development projects; potential delays in the development, construction or start-up of planned projects; the potential disruption or interruption of the company's operations due to war, accidents, political events, civil unrest, severe weather, cyber threats and terrorist acts, crude oil production quotas or other actions that might be imposed by the Organization of Petroleum Exporting Countries, or other natural or human causes beyond the company's control; changing economic, regulatory and political environments in the various countries in which the company operates; general domestic and international economic and political conditions; the potential liability for remedial actions or assessments under existing or future environmental regulations and litigation; significant operational, investment or product changes required by existing or future environmental statutes and regulations, including international agreements and national or regional legislation and regulatory measures to limit or reduce greenhouse gas emissions; the potential liability resulting from other pending or future litigation; the company's future acquisition or disposition of assets or shares or the delay or failure of such transactions to close based on required closing conditions; the potential for gains and losses from asset dispositions or impairments; government-mandated sales, divestitures, recapitalizations, industry-specific taxes, tariffs, sanctions, changes in fiscal terms or restrictions on scope of company operations; foreign currency movements compared with the U.S. dollar; material reductions in corporate liquidity and access to debt markets; the effects of changed accounting rules under generally accepted accounting principles promulgated by rule-setting bodies; the company's ability to identify and mitigate the risks and hazards inherent in operating in the global energy industry; and the factors set forth under the heading "Risk Factors" on pages 18 through 21 on the company's 2018 Annual Report on Form 10-K. Other unpredictable or unknown factors not discussed in this report could also have material adverse effects on forward-looking statements.

Certain terms, such as "unrisked resources," "unrisked resource base," "recoverable resources" and "original oil in place," among others, may be used in this report to describe certain aspects of the company's portfolio and oil and gas properties beyond the proved reserves. For definitions of, and further information regarding, these and other terms, see the "glossary of energy and financial terms" on pages 54 and 55 of this report.

As used in this report, the term "project" may describe new upstream development activity, individual phases in a multiphase development, maintenance activities, certain existing assets, new investments in downstream and chemicals capacity, investments in emerging and sustainable energy activities, and certain other activities. All of these terms are used for convenience only and are not intended as a precise description of the term "project" as it relates to any specific

This publication was issued in March 2019 solely for the purpose of providing additional Chevron financial and statistical data. It is not a circular or prospectus regarding any security or stock of the company, nor is it issued in connection with any sale, offer for sale of or solicitation of any offer to buy any securities. This report supplements the Chevron Corporation 2018 Annual Report to stockholders and should be read in conjunction with it. The financial information contained in this 2018 Supplement to the Annual Report is expressly qualified by reference to the 2018 Annual Report, which contains audited financial statements, "Management's Discussion and Analysis of Financial Condition and Results of Operations," and other supplemental data.

# chevron history

#### 1879

Incorporated in San Francisco, California, as the Pacific Coast Oil Company.

#### 1900

Acquired by the West Coast operations of John D. Rockefeller's original Standard Oil Company.

#### 1911

Emerged as an autonomous entity – Standard Oil Company (California) – following U.S. Supreme Court decision to divide the Standard Oil conglomerate into 34 independent companies.

#### 1926

Acquired Pacific Oil Company to become Standard Oil Company of California (Socal).

#### 1936

Formed the Caltex Group of Companies, jointly owned by Socal and The Texas Company (later became Texaco), to combine Socal's exploration and production interests in the Middle East and Indonesia and provide an outlet for crude oil through The Texas Company's marketing network in Africa and Asia.

#### 1947

Acquired Signal Oil Company, obtaining the Signal brand name and adding 2,000 retail stations in the western United States.

#### 1961

Acquired Standard Oil Company (Kentucky), a major petroleum products marketer in five southeastern states, to provide outlets for crude oil from southern Louisiana and the U.S. Gulf of Mexico, where the company was a major producer.

# 1984

Acquired Gulf Corporation – nearly doubling the company's crude oil and natural gas activities – and gained a significant presence in industrial chemicals, natural gas liquids and coal. Changed name to Chevron Corporation to identify with the name under which most products were marketed

#### 1988

Purchased Tenneco Inc.'s U.S. Gulf of Mexico crude oil and natural gas properties, becoming one of the largest U.S. natural gas producers.

#### 1993

Formed Tengizchevroil, a joint venture with the Republic of Kazakhstan, to develop and produce the giant Tengiz Field, becoming the first major Western oil company to enter newly independent Kazakhstan.

#### 1999

Acquired Rutherford-Moran Oil Corporation. This acquisition provided inroads to Asian natural gas markets.

#### 2001

Merged with Texaco Inc. and changed name to ChevronTexaco Corporation. Became the second-largest U.S.-based energy company.

#### 2002

Relocated corporate headquarters from San Francisco, California, to San Ramon, California.

#### 2005

Acquired Unocal Corporation, an independent crude oil and natural gas exploration and production company. Unocal's upstream assets bolstered Chevron's already-strong position in the Asia-Pacific, U.S. Gulf of Mexico and Caspian regions. Changed name to Chevron Corporation to convey a clearer, stronger and more unified presence in the global marketplace.

#### 2011

Acquired Atlas Energy, Inc., an independent U.S. developer and producer of shale gas resources. The acquired assets provided a targeted, high-quality core acreage position, primarily in the Marcellus Shale.





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