

2019 supplement to the annual report



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Cover photo: During 2019, the Permian Basin contributed to another year of record production for Chevron.

Inside front cover photo: Chevron acquired the Pasadena Refinery in 2019. This refinery provides integration with the company's Pascagoula Refinery and Permian equity production.

# 2019 at a glance

## financial highlights

sales and other operating revenues \$139.9 billion net income attributable to chevron corporation \$2.9 billion, \$1.54 per share – diluted return on average capital employed 2.0% cash flow from operating activities \$27.3 billion cash dividends \$4.76 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 continued investment in the future of energy.

#### **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** – Maintained industry-leading workforce safety led by a continued low days-away-from-work rate and a record low rate for serious injuries. Chevron has a strong commitment to process safety, as demonstrated with industry lows in loss-ofcontainment events and in prevention of oil spills to land and water.

**Dividends** – Paid \$9.0 billion in dividends, with 2019 marking the 32nd consecutive year of higher annual dividend payouts per share.

**Stock repurchase program** – Acquired \$4.0 billion of the company's shares of common stock.

Capital and exploratory expenditures – Invested \$21 billion in the company's businesses, including \$6 billion (Chevron share) of spending by affiliates. Announced 2020 projected organic expenditures of \$20 billion, including \$6 billion of affiliate expenditures. Spending in 2020 targets high-return, low-risk 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.

Addressing the energy transition – Chevron has four greenhouse gas (GHG) intensity reduction metrics based on equity ownership. The company is investing in renewable energy such as wind power in the Permian. Chevron expects to reduce GHG emissions by about 40 percent through the Gorgon carbon sequestration project in Australia.

**Portfolio management** – Realized \$2.8 billion in proceeds from asset divestments.

#### Upstream

**Exploration** – Combined conventional and unconventional exploration activities added 2.2 billion barrels of potentially recoverable oil-equivalent resources while making 17 discoveries worldwide and achieving an exploration drilling success rate of 80 percent. Participated in a significant crude oil discovery at the Blacktip prospect in the U.S. Gulf of Mexico. Continued shale and tight resource drilling programs in the United States and Argentina.

**Portfolio additions** – Added 1.1 million conventional net exploration acres in 2019, including key positions in Brazil, offshore Mexico and the U.S. Gulf of Mexico.

**Production** – Record production of 3.06 million net oil-equivalent barrels per day, more than 4 percent higher than 2018.

**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 44 percent over the prior year.
- Continued development drilling in the Duvernay Shale in Canada.
- Continued the Vaca Muerta Shale appraisal program in the El Trapial Field located in Argentina.

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

- In the Gulf of Mexico, made final investment decisions for the Anchor project, the St. Malo Stage 4 waterflood project and the Jack/St. Malo Stage 4 multiphase subsea pump project.
- Achieved start-up of the carbon dioxide sequestration project for Gorgon in Australia.
- Made a final investment decision for the Sarta Phase 1A project in the Kurdistan Region of Iraq.
- Advanced construction of the FGP/WPMP at TCO in Kazakhstan.

#### Downstream

#### **Refining and marketing**

- Acquired the Pasadena Refinery in Texas.
- Completed the Richmond Refinery Modernization Project in California.
- Signed an agreement to acquire retail assets and terminals in Australia.

#### Petrochemicals

- Reached a final investment decision for GS Caltex's olefins mixedfeed cracker project at the Yeosu Refinery in South Korea.
- Chevron Phillips Chemical Company announced agreements to develop a petrochemical complex in Qatar and in the U.S. Gulf Coast region.

#### Net income (loss) attributable to Chevron Corporation Billions of dollars



#### Annual cash dividends





#### **Return on average** capital employed Percent



Financial summary					At December 31
Millions of dollars	2019	2018	2017	2016	2015
Net income (loss) attributable to Chevron Corporation	\$ 2,924	\$ 14,824	\$ 9,195	\$ (497)	\$ 4,587
Sales and other operating revenues	139,865	158,902	134,674	110,215	129,925
Cash dividends – common stock	8,959	8,502	8,132	8,032	7,992
Capital and exploratory expenditures	20,994	20,106	18,821	22,428	33,979
Cash flow from operating activities	27,314	30,618	20,338	12,690	19,456
Total cash and cash equivalents	5,686	9,342	4,813	6,988	11,022
Total assets	237,428	253,863	253,806	260,078	264,540
Total debt and finance lease liabilities	26,973	34,459	38,763	46,126	38,549
Total liabilities	92,220	98,221	104,487	113,356	110,654
Chevron Corporation stockholders' equity	144,213	154,554	148,124	145,556	152,716
Share repurchases under approved programs	4,037	1,750	-	-	-

#### Financial ratios<sup>\*</sup>

Financial ratios <sup>*</sup>				At D	ecember 31
	2019	2018	2017	2016	2015
Current ratio	1.1	1.3	1.0	0.9	1.3
Interest coverage ratio	8.1	23.4	10.7	(2.6)	9.9
Debt ratio	15.8 %	18.2 %	20.7 %	24.1 %	20.2 %
Net debt ratio	12.8 %	13.5 %	18.6 %	21.2 %	15.1 %
Return on stockholders' equity	2.0 %	9.8 %	6.3 %	(0.3)%	3.0 %
Return on total assets	1.2 %	5.8 %	3.6 %	(0.2)%	1.7 %
Cash dividends/net income (payout ratio)	306.4 %	57.4 %	88.4 %	(1,616.1)%	174.2 %
Cash dividends/cash from operations	32.8 %	27.8 %	40.0 %	63.3 %	41.1 %
Total stockholder return	15.2 %	(9.8)%	10.5 %	36.4 %	(16.0)%

\* Refer to page 55 for financial ratio definitions and pages 40 and 41 of the company's 2019 Annual Report on Form 10-K.

#### Capital employed at year end

Capital employed at year end				Δ	t December 31
Millions of dollars	2019	2018	2017	2016	2015
Chevron Corporation Stockholders' Equity	144,213	154,554	148,124	145,556	152,716
Plus: Short-term debt	3,282	5,726	5,192	10,840	4,927
Plus: Long-term debt	23,691	28,733	33,571	35,286	33,622
Plus: Noncontrolling interest	995	1,088	1,195	1,166	1,170
Total capital employed	172,181	190,101	188,082	192,848	192,435

Return on average capital employed				Year ended	December 31
Millions of dollars	2019	2018	2017	2016	2015
Net income (loss) attributable to Chevron Corporation	2,924	14,824	9,195	(497)	4,587
Plus: Interest and debt expense (after-tax)	761	713	264	168	-
Plus: Noncontrolling interest	(79)	36	74	66	122
Net income after adjustments	3,606	15,573	9,533	(263)	4,709
Average capital employed	181,141	189,092	190,465	192,642	188,205
Return on average capital employed	2.0 %	8.2 %	5.0 %	(0.1)%	2.5 %

**Consolidated statement of income** Year ended December 31 Millions of dollars 2019 2018 2017 2016 2015 **Revenues and other income** \$ 139,865 \$ 129,925 Total sales and other operating revenues<sup>1</sup> \$ 158,902 \$ 134,674 \$ 110,215 Income from equity affiliates 3,968 6,327 4,438 2,661 4,684 Other income 2,683 1,110 2,610 1,596 3,868 Total revenues and other income 146,516 166,339 141,722 114,472 138,477 **Costs and other deductions** Purchased crude oil and products 80.113 94,578 75,765 59,321 69,751 Operating expenses<sup>2</sup> 21.385 20.544 19.127 19.902 23.034 Selling, general and administrative expenses<sup>2</sup> 3,838 4,305 4,143 4.110 4.443 1,033 3,340 Exploration expenses 770 1,210 864 Depreciation, depletion and amortization 29,218 19,419 19,349 19,457 21,037 Taxes other than on income<sup>1</sup> 4,136 4,867 12,331 11,668 12,030 Interest and debt expense 798 748 307 201 \_ Other components of net periodic benefit costs<sup>2</sup> 417 560 648 745 **Total costs and other deductions** 140,980 145,764 132,501 116,632 133,635 Income (loss) before income tax expense 20.575 5,536 9.221 (2, 160)4.842 Income tax expense (benefit) 2,691 5,715 (48) (1,729) 132 Net income (loss) 2,845 14,860 9,269 (431) 4,710 Less: Net income (loss) attributable to noncontrolling interests (79) 36 74 66 123 Net income (loss) attributable to Chevron Corporation \$ 2,924 \$ 14,824 9,195 (497) \$ 4,587 \$ \$

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

## Earnings by major operating area

Millions of dolla	rs	2019	2018	2017	2016	2015
Upstream	– United States	\$ (5,094)	\$ 3,278	\$ 3,640	\$ (2,054)	\$ (4,055)
	- International	7,670	10,038	4,510	(483)	2,094
	– Total	2,576	13,316	8,150	(2,537)	(1,961)
Downstream	– United States	1,559	2,103	2,938	1,307	3,182
	- International	 922	1,695	2,276	2,128	4,419
	– Total	2,481	3,798	5,214	3,435	7,601
All Other*		(2,133)	(2,290)	(4,169)	(1,395)	(1,053)
Net income (	loss) attributable to Chevron Corporation	\$ 2,924	\$ 14,824	\$ 9,195	\$ (497)	\$ 4,587

\* 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	led D	ecember 31
		2019	2018	2017	2016		2015
Number of shares outstanding at December 31 (Millions)	1	1,868.0	1,888.7	1,890.5	1,877.3		1,868.6
Weighted-average shares outstanding for the year (Millions)	1	1,882.1	1,897.2	1,882.4	1,872.3		1,867.2
Per share data							
Net income (loss) attributable to Chevron Corporation							
- Basic	\$	1.55	\$ 7.81	\$ 4.88	\$ (0.27)	\$	2.46
- Diluted		1.54	7.74	4.85	(0.27)		2.45
Cash dividends		4.76	4.48	4.32	4.29		4.28
Chevron Corporation Stockholders' Equity (per share)		77.20	81.83	78.35	77.53		81.73

Employees				Year ended	December 31
Number of employees	2019	2018	2017	2016	2015
Employees excluding service station employees	44,679	45,047	48,596	51,953	58,178
Service station employees	3,476	3,591	3,298	3,248	3,316
Total employed	48,155	48,638	51,894	55,201	61,494

#### Total sales & other operating revenues







Billions of dollars

Year ended December 31



(10.0) \_\_\_\_\_\_\_ 15 16 17 18 **19** 

United States
 International

#### Worldwide Downstream earnings

Billions of dollars





International

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



Total debt at year-end Billions of dollars



Consolidated balance sheet						At De	cember 31
Aillions of dollars	2019		2018	2017	2016		2015
Assets							
Cash and cash equivalents	\$ 5,686	\$	9,342	\$ 4,813	\$ 6,988	\$	11,022
Time deposits	-		950	-	-		-
Marketable securities	63		53	9	13		310
Accounts and notes receivable, net	13,325	1	5,050	15,353	14,092		12,860
Inventories:							
Crude oil and petroleum products	3,722		3,383	3,142	2,720		3,535
Chemicals	492		487	476	455		490
Materials, supplies and other	1,634		1,834	1,967	2,244		2,309
Total inventories	5,848		5,704	5,585	5,419		6,334
Prepaid expenses and other current assets	3,407		2,922	2,800	3,107		3,904
Total current assets	28,329	3	34,021	28,560	29,619		34,430
Long-term receivables, net	1,511		1,942	2,849	2,485		2,412
Investments and advances	38,688	3	35,546	32,497	30,250		27,110
Properties, plant and equipment, at cost	326,722	34	10,244	344,485	336,077		340,277
Less: Accumulated depreciation, depletion and amortization	176,228	17	1,037	166,773	153,891		151,881
Properties, plant and equipment, net	150,494	16	59,207	177,712	182,186		188,396
Deferred charges and other assets	10,532		6,766	7,017	6,838		6,155
Goodwill	4,463		4,518	4,531	4,581		4,588
Assets held for sale	3,411		1,863	640	4,119		1,449
Fotal assets	\$ 237,428	\$ 25	53,863	\$ 253,806	\$ 260,078	\$ :	264,540
iabilities and equity							
Short-term debt	\$ 3,282	\$	5,726	\$ 5,192	\$ 10,840	\$	4,927
Accounts payable	14,103	1	3,953	14,565	13,986		13,516
Accrued liabilities	6,589		4,927	5,267	4,882		4,833
Federal and other taxes on income	1,554		1,628	1,600	1,050		1,073
Other taxes payable	1,002		937	1,113	1,027		1,118
Total current liabilities	26,530	2	27,171	27,737	31,785		25,467
Long-term debt*	23,691	2	28,733	33,571	35,286		33,622
Deferred credits and other noncurrent obligations	20,445	1	9,742	21,106	21,553		23,465
Noncurrent deferred income taxes	13,688	1	5,921	14,652	17,516		20,165
Noncurrent employee benefit plans	7,866		6,654	7,421	7,216		7,935
Total liabilities	92,220	g	98,221	104,487	113,356		110,654
Common stock	1,832		1,832	1,832	1,832		1,832
Capital in excess of par value	17,265	1	7,112	16,848	16,595		16,330
Retained earnings	174,945	18	30,987	174,106	173,046		181,578
Accumulated other comprehensive loss	(4,990)	(	(3,544)	(3,589)	(3,843)		(4,291
Deferred compensation and benefit plan trust	(240)		(240)	(240)	(240)		(240
Treasury stock, at cost	(44,599)	(4	1,593)	(40,833)	(41,834)		(42,493
Total Chevron Corporation stockholders' equity	144,213	15	54,554	148,124	145,556		152,716
Noncontrolling interests	995		1,088	1,195	1,166		1,170
Total equity	145,208	15	5,642	149,319	146,722		153,886
fotal liabilities and equity	237,428	\$ 25		253,806	260,078		264,540

\* Includes finance lease liabilities of \$282, \$127, \$94, \$93 and \$80 at December 31 for 2019, 2018, 2017, 2016 and 2015, respectively.

Segment assets					At December 31
Millions of dollars	2019	2018	2017	2016	2015
Upstream*	\$ 186,037	\$ 200,973	\$ 204,913	\$ 211,245	\$ 213,001
Downstream	42,152	39,488	40,636	38,080	36,386
Total segment assets	\$ 228,189	\$ 240,461	\$ 245,549	\$ 249,325	\$ 249,387
All Other	9,239	13,402	8,257	10,753	15,153
Total assets	\$ 237,428	\$ 253,863	\$ 253,806	\$ 260,078	\$ 264,540
<ul> <li>Includes goodwill associated with the acquisitions of Unocal Corporation in 2005 and Atlas Energy, Inc., in 2011:</li> </ul>	\$ 4,463	\$ 4,518	\$ 4,531	\$ 4,581	\$ 4,588

Consolidated statement of cash flows				Year ende	d De	cember 31
Millions of dollars	2019	2018	2017	2016		2015
Operating activities						
Net income (loss)	\$ 2,845	\$ 14,860	\$ 9,269	\$ (431)	\$	4,710
Adjustments:						
Depreciation, depletion and amortization	29,218	19,419	19,349	19,457		21,037
Dry hole expense	172	687	198	489		2,309
Distributions less than income from equity affiliates <sup>1</sup>	(2,073)	(3,580)	(2,380)	(1,549)		(760)
Net before-tax gains on asset retirements and sales	(1,367)	(619)	(2,195)	(1,149)		(3,215)
Net foreign currency effects	272	123	131	186		(82)
Deferred income tax provision	(1,966)	1,050	(3,203)	(3,835)		(1,861)
Net decrease (increase) in operating working capital <sup>2</sup>	1,494	(718)	520	(327)		(1,979)
Decrease (increase) in long-term receivables	502	418	(368)	(131)		(59)
Net decrease (increase) in other deferred charges <sup>2</sup>	(69)	-	(254)	178		25
Cash contributions to employee pension plans	(1,362)	(1,035)	(980)	(870)		(868)
Other	(352)	13	251	672		199
Net cash provided by operating activities <sup>1,2</sup>	27,314	30,618	20,338	12,690		19,456
Investing activities						
Capital expenditures	(14,116)	(13,792)	(13,404)	(18,109)		(29,504)
Proceeds and deposits related to asset sales and returns						
of investment <sup>1, 2</sup>	2,951	2,392	5,096	3,476		5,739
Net maturities of (investments in) time deposits	950	(950)	-	-		8
Net sales (purchases) of marketable securities	2	(51)	4	297		122
Net repayment (borrowing) of loans by equity affiliates	(1,245)	111	(16)	(2,034)		(217)
Net sales (purchases) of other short-term investments	-	-	-	 -		44
Net cash used for investing activities <sup>1, 2</sup>	(11,458)	(12,290)	(8,320)	(16,370)		(23,808)
Financing activities						
Net borrowings (repayments) of short-term obligations	(2,821)	2,021	(5,142)	2,130		(335)
Proceeds from issuances of long-term debt	-	218	3,991	6,924		11,091
Repayments of long-term debt and other financing obligations	(5,025)	(6,741)	(6,310)	(1,584)		(32)
Cash dividends – common stock	(8,959)	(8,502)	(8,132)	(8,032)		(7,992)
Distributions to noncontrolling interests	(18)	(91)	(78)	(63)		(128)
Net sales (purchases) of treasury shares	(2,935)	(604)	1,117	 650		211
Net cash provided by (used for) financing activities	(19,758)	(13,699)	(14,554)	25		2,815
Effect of exchange rate changes on cash, cash equivalents and	770	(01)	65	(53)		(220)
restricted cash	332	(91)	65	(53)		(226)
Net change in cash, cash equivalents and restricted cash	(3,570)	4,538	(2,471)	(3,708)		(1,763)
Cash, cash equivalents and restricted cash at January 1	10,481	5,943	 8,414	 12,122		12,785
Cash, cash equivalents and restricted cash at December 31	\$ 6,911	\$ 10,481	\$ 5,943	\$ 8,414	\$	11,022

 $^1$  2015 is not adjusted to conform to ASU 2016-15.  $^2$  2015 is not adjusted to conform to ASU 2016-18.

#### Free cash flow

Millions of dollars	2019	2018	2017	2016	2015
Net cash provided by operating activities	27,314	30,618	20,338	12,690	19,456
Less Capital Expenditures	14,116	13,792	13,404	18,109	29,504
Free cash flow	\$ 13,198	\$ 16,826	\$ 6,934	\$ (5,419)	\$ (10,048)









Dividends

Capital expenditures

Free cash flow\* Billions of dollars





Cash from operating activities

## Capital & exploratory expenditures\*

Billions of dollars



All Other

Downstream

Upstream

\*Includes equity share in affiliates.

(Includes equity share in affiliates)					Year end	ded De	cember 31
Millions of dollars		2019	2018	2017	2016		2015
United States							
Exploration	\$	832	\$ 802	\$ 745	\$ 925	\$	1,680
Production		7,339	6,318	4,398	3,787		5,874
Other Upstream		26	8	2	1		28
Refining		1,259	1,097	771	381		405
Marketing		143	94	48	55		76
Chemicals		344	287	771	1,011		1,354
Other Downstream		122	104	66	98		88
All Other		365	243	239	235		418
Total United States		10,430	8,953	7,040	6,493		9,923
International							
Exploration		570	945	528	527		1,339
Production		9,020	9,550	10,566	14,637		21,735
Other Upstream		37	34	149	239		461
Refining		210	218	175	115		131
Marketing		173	139	118	128		130
Chemicals		112	75	89	132		110
Other Downstream		425	179	152	152		142
All Other		17	13	4	5		8
Total International		10,564	11,153	11,781	15,935		24,056
Worldwide							
Exploration		1,402	1,747	1,273	1,452		3,019
Production		16,359	15,868	14,964	18,424		27,609
Other Upstream		63	42	151	240		489
Refining		1,469	1,315	946	496		536
Marketing		316	233	166	183		206
Chemicals		456	362	860	1,143		1,464
Other Downstream		547	283	218	250		230
All Other		382	256	243	240		426
Total Worldwide	\$	20,994	\$ 20,106	\$ 18,821	\$ 22,428	\$	33,979
Memo: Equity share of affiliates' expenditures included abov	e \$	6,112	\$ 5,716	\$ 4,743	\$ 3,770	\$	3,397

Exploration expenses <sup>1</sup>	Year en					ded December 31			
Millions of dollars		2019		2018		2017	2016		2015
Geological and geophysical	\$	241	\$	140	\$	184	\$ 145	\$	372
Unproductive wells drilled		173		686		199	488		2,309
Other <sup>2</sup>		356		384		481	400		659
Total exploration expenses	\$	770	\$	1,210	\$	864	\$ 1,033	\$	3,340
Memo: United States	\$	311	\$	797	\$	322	\$ 416	\$	1,624
International		459		413		542	617		1,716

Capital and exploratory expenditures

 <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

Properties, plant and equipment (Includes finance leases)						At	December 31
Millions of dollars		2019	2018	2017	2016		2015
Additions at cost							
Upstream <sup>1</sup>	\$	11,415	\$ 11,299	\$ 12,929	\$ 16,516	\$	26,579
Downstream		1,807	1,537	1,213	903		1,061
All Other <sup>2</sup>		333	230	222	204		362
Total additions at cost		13,555	13,066	14,364	17,623		28,002
Depreciation, depletion and amortization expense <sup>3</sup>							
Upstream		(27,840)	(18,054)	(17,623)	(17,823)		(19,348)
Downstream		(1,125)	(1,033)	(1,035)	(1,288)		(1,233)
All Other <sup>2</sup>		(253)	(332)	(691)	(346)		(456)
Total depreciation, depletion and amortization expense		(29,218)	(19,419)	(19,349)	(19,457)		(21,037)
Net properties, plant and equipment at December 31							
Upstream <sup>4</sup>		133,721	153,129	161,913	165,212		170,584
Downstream		14,512	13,861	13,420	14,290		14,897
All Other <sup>2</sup>		2,261	2,217	2,379	2,684		2,915
Total net properties, plant and equipment at December 31	\$	150,494	\$ 169,207	\$ 177,712	\$ 182,186	\$	188,396
Memo: Gross properties, plant and equipment	\$	326,722	\$ 340,244	\$ 344,485	\$ 336,077	\$	340,277
Accumulated depreciation, depletion and amortization	1	(176,228)	(171,037)	(166,773)	(153,891)		(151,881)
Net properties, plant and equipment	\$	150,494	\$ 169,207	\$ 177,712	\$ 182,186	\$	188,396
<ol> <li>Net of exploratory well write-offs.</li> <li>All Other is primarily corporate administrative functions, insurance operations, real estate activities and technology companies.</li> </ol>							

 
 Sopercitations, real estate activities and recorded provided 2017, 2016 and 2015, respectively. \$ 13,550 <sup>4</sup> Includes net investment in unproved oil and gas properties: 4,025 \$ 8,228 \$ 9,790 \$ 12,249 \$

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



 United States International

#### Net properties, plant & equipment by function Billions of dollars



All Other

Downstream

Upstream

## delivering on Chevron's commitment to ESG

## environment



Protecting the environment Addressing climate change Managing water resources social



Respecting human rights Creating prosperity in communities Valuing diversity and inclusion

## governance



Board diversity and refreshment Transparency in reporting Human capital management

# Chevron is enabling human progress and is committed to becoming an industry leader on ESG issues

Chevron has a long history of protecting the environment. The company is actively addressing climate change and managing water resources. Below are a few recent examples of these focus areas:

- Chevron has invested over \$1 billion in carbon capture and storage projects in Australia and Canada, including Gorgon – the largest carbon sequestration project of its kind in the world. Gorgon's carbon dioxide sequestration system is expected to reduce greenhouse gas emissions by about 40 percent over the life of the Gorgon project.
- Chevron is also partnering with GS Caltex to install forty 100-kilowatt rapid chargers throughout South Korea and open the first Total Energy Service Station in South Korea that offers electric and hydrogen fueling capabilities in addition to traditional fuels.
- Chevron works to manage water resources used during operations. One success story is that more than 99 percent of the water used in Chevron's well completions in the Permian basin came from brackish or recycled sources during 2019.

Chevron recently updated the company's long-standing Human Rights policy and continuously invests in communities where it operates. Examples include:

- Chevron is a founding member in the Permian Strategic Partnership (PSP), a coalition of 19 Permian Basin energy companies that work in collaboration with regional communities to improve local education, housing, health care, transportation and workforce development. In 2019, during its first year of existence, the PSP committed more than \$30 million in West Texas and southeastern New Mexico to support major initiatives in these areas.
- In Kazakhstan, Chevron has invested
   \$1.9 billion in employee programs and socio-economic development since 1993.

Chevron believes strong governance is the foundation for delivering strong shareholder value. Examples include:

- The company's Board of Directors is composed of exceptional leaders with diverse backgrounds who help ensure that the company's decisions and actions advance and respond to shareholders' interests while supporting greater transparency.
- The company's diverse workforce and inclusive culture strengthens organizational capability and drives innovation and business growth.
- Workforce health and safety are also key components of Chevron's culture.

## approach to the energy transition



## Chevron is investing in the future and partnering with companies that are developing lower-carbon technologies

- Chevron has established new goals to reduce greenhouse gas (GHG) emission intensity, with the expectation of lowering upstream oil net GHG emission intensity by 5 to 10 percent and upstream natural gas net GHG emission intensity by 2 to 5 percent from 2016 to 2023.
- The company has established companywide flaring and methane intensity reduction measures, which have helped Chevron become an industry leader with one of the lowest methane flaring and venting rates in the Permian basin.
- Chevron is investing in wind and solar power to help run its operations in West Texas and Southern California.
- Chevron is partnering with California dairy farmers to capture methane from their farms and upgrade it to produce renewable natural gas.
- The company's lubricants business is developing high-performance base oils from renewable sources.

In 2019, Chevron continued its involvement in the Oil and Gas Climate Initiative (OGCI), a global collaboration focused on the industry's efforts to seek actions to accelerate and participate in the energy transition. OGCI members seek to lower carbon footprint of energy, industry, and transportation value chains. This includes work to reduce methane emissions, reduce the carbon intensity of upstream oil and gas emissions and facilitate large-scale commercial investment in carbon capture, use and storage.

OGCI Climate Investments is a \$1 billionplus investment fund set up by the OGCI member companies to lower the carbon footprint of the energy and industrial sectors. As a member of OGCI, Chevron has committed to contribute \$100 million to this fund.

## building the pipeline of innovation

#### leveraging technology to push energy's frontiers

Chevron identifies and integrates innovative, externally developed technologies and new business models that have the potential to enhance the way the company produces and delivers affordable, reliable and ever-cleaner energy.

Chevron partners with incubators and accelerators to support the development of breakthrough technology and build the pipeline of innovation into the company.

Chevron's approach to innovation leverages an investment portfolio that tests externally developed technologies for use within the enterprise. In 2019, the company made its 100th investment in a global start-up.

Chevron works to scale external technologies to company operations. One example comes from a digital company's data analytics platform for analyzing time series data. Field trials demonstrated that existing data could be used to make betterinformed decisions in real-time to optimize operations to increase throughput, perform predictive analytics to avoid downtime and run more reliably and efficiently.

# upstream

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



**S** sarens

## highlights

Chevron's upstream business has operations in many of the world's key hydrocarbon basins and a portfolio that provides a foundation for future growth. Utilizing its project management expertise, well factory development strategy, 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 to deliver industry-leading returns on capital.
- Delivering enterprise cash and earnings commitments while maintaining highly 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

The majority of the company's equity crude oil production is priced based on the Brent benchmark. The Brent price averaged \$64 per barrel for the full-year 2019, compared with \$71 in 2018. Brent prices increased through the first-half of 2019 due to OPEC production cuts and U.S. sanctions on Iran and Venezuela. Prices then started to decline due to heightened concerns about a slowing macro economy and weakening oil demand growth amid trade tensions between the United States and China. The WTI price averaged \$57 per barrel for the full-year 2019, compared with \$65 in 2018. WTI traded at a discount to Brent throughout 2019 primarily due to pipeline infrastructure constraints, which have restricted flows of inland crude oil to export outlets on the Gulf Coast. In response to the volatile crude oil price environment, the company continues to manage its cost structure and optimize its capital spending while 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 seasonal supply-and-demand and infrastructure 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 \$2.53 per thousand cubic feet (MCF) in 2019, compared with \$3.12 per MCF in 2018. Increased production in the Permian Basin has resulted in insufficient gas pipeline and fractionation capacity in the near-term, leading to depressed natural gas and natural gas liquids prices in West Texas. A sizable portion of Chevron's U.S. natural gas production comes from the Permian Basin, resulting in natural gas realizations that are significantly lower than the Henry Hub price. 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 many 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 2019, Chevron's international natural gas realizations averaged \$5.83 per MCF, compared with \$6.29 per MCF in 2018.

### financial and operational highlights

In 2019, Chevron's upstream business had strong process and personal safety performance, achieving a record low days-away-from-work rate and a record low loss-of-containment incidents. Net income in 2019 of \$2.6 billion decreased when compared with \$13.3 billion in 2018, reflecting \$10.4 billion of impairment charges primarily relating to gas-related projects, including the Appalachia shale, Kitimat LNG and other upstream locations that are no longer competitive in Chevron's portfolio. Record annual production for the second consecutive year of 3.06 million oilequivalent barrels per day was more than 4 percent higher than in 2018. 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 \$17.8 billion in 2019. Portfolio management activities resulted in proceeds of \$2.6 billion, including the sale of assets in Brazil, Denmark and the United Kingdom. In 2020, the upstream capital and exploratory budget is approximately \$17 billion. Approximately \$11 billion of planned capital spending is forecasted to sustain and grow currently producing assets, including about \$4 billion for Permian unconventional development and about \$1 billion for other international unconventional development. Approximately \$5 billion is planned for major capital projects underway, of which 75 percent is associated with the Future Growth and Wellhead Pressure Management Project (FGP/WPMP) at Tengizchevroil (TCO) in Kazakhstan. Global exploration funding is expected to be about \$1 billion.

Upstream financial and operating highlights (Includes equity share in affiliates)

Millions of dollars	2019	2018
Earnings	\$ 2,576	\$ 13,316
Net liquids production (Thousands of barrels per day)	1,865	1,782
Net natural gas production (Millions of cubic feet per day)	7,157	6,889
Net oil-equivalent production (Thousands of barrels per day)	3,058	2,930
Net proved reserves <sup>*</sup> (Millions of barrels of oil-equivalent)	11,431	12,053
Net unrisked resource base <sup>*</sup> (Billions of barrels of oil-equivalent)	71	68
Capital and exploratory expenditures	\$ 17,824	\$ 17,657



#### 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 and Argentina. The company's exploration activities have added approximately 14.3 billion barrels of potentially recoverable oil-equivalent resources since 2010. Throughout 2019, notable exploratory drilling progressed in the U.S. deepwater Gulf of Mexico as well as shale and tight basins in North & South America. The company also completed several important portfolio additions in 2019. In the U.S. Gulf of Mexico, Chevron successfully added 24 deepwater blocks across two lease sales. In Brazil, Chevron added five pre-salt exploration blocks and in Mexico, Chevron farmed into three deepwater blocks in the Mexican waters of the Gulf of Mexico. Lastly, Chevron added one block in Egypt through its first ever Red Sea licensing round.

#### 2019 accomplishments

- Combined conventional and unconventional exploration activities added 2.2 billion barrels of potentially recoverable oil-equivalent resources while making 17 discoveries worldwide and achieving an exploration drilling success rate of 80 percent.
- United States Participated in crude oil discoveries at the Blacktip and Esox prospects in the Gulf of Mexico and added 49 blocks (24 in lease sales, 25 through commercial transactions).
- United States Continued to core-up robust position in the Permian Basin through trade, swap and acquisition activities. This portfolio optimization should enable long lateral well development and improve portfolio value.
- Mexico Farmed into deepwater Blocks 20, 21 and 23 in the Gulf of Mexico.
- Brazil Successful bidder in five deepwater blocks in the Campos and Santos basins.
- Added 1.1 million conventional net exploration acres across the Mexico farm-in, Brazil bid round and U.S. Gulf of Mexico lease sales.
- Egypt Awarded one oil and gas exploration concession.

#### 2020 outlook

During 2020, the company plans to continue its selective and technology-driven exploration program by investing approximately \$1 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 Mexico, Brazil, Egypt and various other locations. In 2020, the company plans to drill 39 exploration and appraisal wells worldwide, including 11 conventional impact wells. Impact wells are wells that have unrisked gross resource potential of greater than 100 million oil-equivalent barrels.

#### resources and proved reserves

The company's net unrisked resource base at year-end 2019 increased from 68 billion oil-equivalent barrels at year-end 2018 to 71 billion oil-equivalent barrels. Significant extensions and discoveries in the United States were partially offset by production and divestments. Included in the resource base are 11.4 billion barrels of net proved oil-equivalent reserves at year-end 2019.

The resources are diversified across geographic regions, with 45 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 61 percent and natural gas about 39 percent of the total. The company has about 167 trillion cubic feet of unrisked natural gas resources globally, with roughly 40 percent 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 2019 production efficiency of 94 percent. Through a greater focus on data analytics, the company has been able to gain further insights into its performance. Key focus areas for 2020 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 capabilities.







- Australia/Ocea
- Eurasia, Europe & Middle East
- Other Americas
- United States
- \*Refer to page 55 for definition of resources.

#### shale and tight resources

The development of unconventional oil and gas resources located in shale and tight formations is a key focus area for Chevron. 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 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 progressed 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 execution performance and lower development and operating costs in the Permian in 2019 and is forecasting production from these resources to surpass one million barrels oil-equivalent of production per day in 2024. In 2019, development activities continued in the Loma Campana concession in the Vaca Muerta Shale, and a shale appraisal program continued in the El Trapial Field in Argentina. Development pace in Canada's Duvernay Shale is driven by well and execution performance. 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

		At December 31 Net acreage
Location	Basin or play	(Thousands of acres)
Argentina	Vaca Muerta	227
Canada	Duvernay	196
United States	Permian (Delaware Basin)	1,200
United States	Permian (Midland Basin)	500
United States	Haynesville	70

#### 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.

#### 2019 accomplishments

- Australia Achieved start-up of the carbon dioxide sequestration project for Gorgon.
- Australia Initiated front-end engineering and design (FEED) activities for the Jansz-Io Compression Project.
- Canada Continued ramp-up of Hebron, with a total of 14 wells online by the end of 2019.
- Kazakhstan Continued construction of the FGP/WPMP at TCO, including installation of the pipe rack modules and the gas turbine generators. The project was approximately 75 percent complete at year-end 2019.
- Kurdistan Region of Iraq Made a final investment decision for Sarta Phase 1A.
- United Kingdom Continued ramp-up of Clair Ridge, with three wells completed during 2019.
- United States Made final investment decisions for the St. Malo Stage 4 waterflood project and the Jack/St. Malo Stage 4 multiphase subsea pump project in the Gulf of Mexico.
- United States Made a final investment decision for the Anchor project in the Gulf of Mexico.
- United States Continued construction in South Korea for the Mad Dog 2 facility in the Gulf of Mexico.
- United States Commenced FEED for the Whale project in the Gulf of Mexico.
- United States Continued ramp-up of Big Foot in the Gulf of Mexico, with one additional well coming online in 2019.
- United States Continued ramp-up of Stampede in the Gulf of Mexico, with two additional wells coming online in 2019.

#### 2020 outlook

- Australia Progress FEED activities for the Jansz-Io Compression Project.
- Canada Continue ramp-up of Hebron, with five additional wells expected to be completed in 2020.
- Kazakhstan Continue construction of the FGP/WPMP at TCO, including completion of all fabrication and sealift activities.
- Kurdistan Region of Iraq Achieve first oil from the Sarta Phase 1A project.
- United Kingdom Continue ramp-up of Clair Ridge, with three wells expected to be completed during 2020.
- United States Progress the St. Malo Stage 4 waterflood and the Jack/St. Malo multiphase subsea pump projects in the Gulf of Mexico.
- United States Advance construction on the Anchor project in the Gulf of Mexico.
- United States Continue construction of the Mad Dog 2 facility in the Gulf of Mexico.
- United States Reach a final investment decision for the Whale project in the Gulf of Mexico.
- United States Continue ramp-up of Big Foot with one additional well expected to be completed in 2020.

#### upstream

The projects in the table below are considered the most significant in Chevron's development portfolio and have either commenced production or are in the detailed 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)
2020-2023					
Australia	Gorgon Stage 2	47.3	Chevron	Maintai	n capacity
Kazakhstan	TCO Future Growth Project (FGP)	50.0	Affiliate	260 <sup>3</sup>	-
	TCO Wellhead Pressure Management Project (WPMP)	50.0	Affiliate	Maintain capacit	
United States	Mad Dog 2	15.6	Other	140	-
	St. Malo Stage 4 Waterflood	51.0	Chevron	Maintain capa	
2024+					
Australia	Jansz-lo Compression	47.3	Chevron	Maintain capacity	
Nigeria	Bonga SW/Aparo	16.6	Other	150	180
United States	Anchor	75.4/62.9 <sup>4</sup>	Chevron	75	28
	Whale	40.0	Other	100	200

<sup>1</sup> MBPD – thousands of barrels per day; MMCFPD – millions of cubic feet per day.

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

<sup>3</sup> Represents expected total daily production.

<sup>4</sup> Represents 75.4% interest in the northern unit area and 62.9% interest in the southern unit area.

#### production outlook

The company estimates that over the next five years, its average worldwide net oil-equivalent production will grow at a compound rate greater than 3 percent a year, assuming a Brent crude oil price of \$60 per barrel. These estimates include potential asset sale impacts. Production growth is expected as a result of value-driven investment in major capital projects, including the anticipated start-up of the TCO expansion, and shale and tight properties. The Permian Basin alone is forecasted to exceed one million barrels of oil-equivalent production in 2024. Additional growth is driven by the restart of production from the Partitioned Zone as well as the start-up and ramp-up of projects that have been under construction. These include 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. Chevron's shale and tight production, led by the Permian Basin and Argentina, is anticipated to grow significantly over this period. A sharp focus on mitigating base business decline rates continues with efforts including infill wells, workovers, brownfield tiebacks and other optimization strategies.

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)





## **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 2019. Net daily oil-equivalent production averaged 929,000 barrels, representing 30 percent of the companywide total.

### **Midcontinent**

The company produces crude oil and natural gas in the midcontinent region of the United States, primarily in New Mexico and Texas. In 2019, the company's net daily production in these areas averaged 259,000 barrels of crude oil, 835 million cubic feet of natural gas and 120,000 barrels of natural gas liquids (NGLs). The company is improving performance by optimizing factory development execution, its portfolio strategy and global value chain integration.

#### **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 net acres (8,903 sq km). Approximately 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 2019, the company's net daily unconventional production averaged 222,000 barrels of crude oil, 682 million cubic feet of natural gas and 110,000 barrels of NGLs. Conventional production averaged 22,000 barrels of crude oil, 53 million cubic feet of natural gas and 5,000 barrels of NGLs in 2019.



#### **Environmental and social**

Chevron's midcontinent business has established strategies to proactively address greenhouse gas emissions, water use and community matters.

Chevron is a founding member of the Permian Strategic Partnership (PSP), a coalition of Permian producers, service companies and midstream service providers that are partnering with communities and policymakers to address pressures on local infrastructure associated with high levels of industry investment. In 2019, during its first year of existence, the PSP committed over \$30 million to support major initiatives in the areas of education, workforce development, health care and local capacity building. In addition, PSP's advocacy efforts contributed to an increase of approximately \$1 billion in state and federal funding for roadway improvements in West Texas and southeastern New Mexico.

# Chevron is focused on environmentally responsible production in the Permian

- In 2019, a study conducted by Rystad Energy found that Chevron had one of the lowest venting and flaring rates of any company in the Permian Basin. This industry-leading performance in reducing greenhouse gas emissions is the result of deliberate infrastructure planning to bring production to market and an integrated approach across the value chain.
- The company is also investing in renewable energy sources to help power its operations, signing a wind power purchase agreement in July 2019 that is expected to provide 65 megawatts of electricity from renewable sources.
- Chevron's midcontinent business has a dedicated water team, which implements strategies to reduce the amount of fresh water used for well completions in the Permian Basin. In 2019, more than 99 percent of the water used in Chevron's well completions in the Permian Basin came from brackish and recycled sources.



**Photo:** Chevron has industry-leading performance in reducing greenhouse gas emissions in the Permian.

## 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 its vast unconventional resources. Below are some examples where Chevron has employed this technology:

- In 2019, the company achieved a milestone of more than four million feet drilled using remote directional drilling in the Permian. By leveraging the remote operations center's digital infrastructure and technology, remote directional drilling brings a standardized approach to drilling execution, providing more consistent, repeatable performance and increased collaboration with co-located directional drillers and geosteerers. In addition, lessons learned and best practices are more readily shared across multiple rigs as centralized teams are able to support numerous operations.
- Chevron developed and deployed a fracture optimizer tool to all shale and tight assets to optimize perforation design solutions that maximize cluster efficiency and minimize well interference. Application of the perforation design solutions in multiple wells has demonstrated: increased estimated ultimate recovery (EUR) through improved cluster efficiency and enhanced stimulated rock volume; a reduction in completion costs by increasing the number of clusters in a stage and reducing the number of stages per well; and a reduction of well interference.

 Chevron has developed and deployed a suite of digital applications supporting shale and tight development activity in the Permian Basin focused on automation and integration of cross-functional workflows. The portfolio of applications currently includes 15 tools employing a broad array of proprietary machine learning, artificial intelligence and data science solutions supporting portfolio prioritization, rig and fracturing scheduling, and benchmarking and production/ EUR forecasting. Over the past five years, the program has contributed to the Permian's success by automating workflows, improving well performance and driving strategic insights for capital allocation, prioritization, and pursuit of superior basin performance.



Photo: Chevron is deploying tools to optimize shale and tight development.

#### 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.

Throughout 2019, Chevron continued to core-up its already robust position, enabling long lateral well development and improving portfolio value. Additionally, the company had 44 percent production growth, improved estimated ultimate recovery per well and decreased development and production costs. Further refinement in reservoir characterization and enhanced use of data analytics has led to total net unrisked oil-equivalent resources estimated to exceed 21 billion barrels across Chevron's shale and tight portfolio in the Permian.

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. The company is also applying data analytics and technology to drive improvements in identifying well targets, drilling and completions and production performance. In addition to company-operated development, Chevron has a strong nonoperated joint-venture and royalty portfolio that drives enhanced value. Permian unconventional production is expected to exceed 600,000 oil-equivalent barrels in 2020 and grow to more than one million oil-equivalent barrels in 2024.

Chevron also holds approximately 70,000 net acres (283 sq km) in the Haynesville Shale in East Texas. In 2019, Chevron continued active lease retention drilling to maintain a contiguous acreage position for future development of the Haynesville and Cotton Valley formations.

Chevron also 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 360,000 net acres (1,457 sq km) in the Central Basin Platform of the Permian Basin. The company continues to manage the base conventional assets through enhanced recovery methods and operational optimization, as well as by actively evaluating the unconventional potential of these assets.

#### upstream

#### **Gulf of Mexico**

During 2019, net daily production in the Gulf of Mexico averaged 200,000 barrels of crude oil, 112 million cubic feet of natural gas and 12,000 barrels of NGLs. As of early 2020, Chevron has an interest in 257 leases in the Gulf of Mexico, 233 of which are located in water depths greater than 1,000 feet (305 m). At the end of 2019, the company was the third-largest leaseholder in the Gulf of Mexico.



#### **Deep Water**

Average net daily production in 2019 was 200,000 barrels of crude oil, 102 million cubic feet of natural gas and 12,000 barrels of NGLs, primarily from the Jack/St. Malo and Tahiti fields, the Perdido Regional Development, and the Caesar/Tonga, Big Foot, 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 as well as operated and third-party tiebacks. Total daily production from the Jack and St. Malo fields in 2019 averaged 135,000 barrels of liquids (68,000 net) and 22 million cubic feet of natural gas (11 million net).

Additional development opportunities for the Jack and St. Malo fields progressed in 2019. Stage 3 development drilling continued with the final planned well expected to be completed in first-half 2020. Proved reserves have been recognized for this phase. Two additional wells were added to the Jack Field in 2019, with one commencing production and the other reaching total depth. Total potentially recoverable oil-equivalent resources are estimated to exceed 500 million barrels for the Jack and St. Malo fields over an estimated production life of 30 years. 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 reached a final investment decision in August 2019. The project includes two new production wells, three injector wells, and topsides water injection equipment at the St. Malo field. First injection is expected in 2023, leading to Chevron's first waterflood project in the Wilcox trend.

The Stage 4 multiphase subsea pump project also reached a final investment decision in May 2019. This project replaces the existing single-phase subsea pumps with multiphase subsea pump systems in both the Jack and St. Malo fields, designed to lower the bottom hole flowing pressures, increase production rates and improve ultimate recovery. The initial recognition of proved reserves occurred in 2019 for the multiphase subsea pump project.



**Photo:** The St. Malo Stage 4 waterflood project reached a final investment decision in August 2019.

Mad Dog Chevron has a 15.6 percent nonoperated working interest in the Mad Dog Field. In 2019, net daily production averaged 9,000 barrels of liquids and 1 million cubic feet of natural gas.

The next development phase, the Mad Dog 2 Project, is developing the southwestern extension of the Mad Dog Field. The development plan includes a new floating production platform with the capacity to produce up to 140,000 barrels of crude oil per day. Drilling and fabrication are progressing as planned, including the installation of all topsides modules onto the floating production unit under construction in South Korea. First oil from the Mad Dog 2 Project 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.



Photo: First oil from the Mad Dog 2 Project is expected in 2021.

#### upstream

**Big Foot** Chevron has a 60 percent-owned and operated interest in the Big Foot Project, located in the Walker Ridge area. In 2019, net daily production averaged 11,000 barrels of liquids and 2 million cubic feet of natural gas. The project has an estimated production life of 35 years and a design capacity of 75,000 barrels of crude oil and 25 million cubic feet of natural gas per day. Development drilling activities are ongoing, with strong reservoir performance and one additional well coming online in June 2019. One additional well is expected to come online by the end of 2020. Development drilling activities are expected to be completed by 2023, and total potentially recoverable oil-equivalent resources are estimated to exceed 200 million barrels.



**Photo:** Development drilling activities are ongoing for the Big Foot Project, with one additional well coming online in June 2019.

**Stampede** Chevron has a 25 percent nonoperated working interest in the Stampede Field, which is located in the Green Canyon area. In 2019, total daily production averaged 28,000 barrels of liquids (7,000 net) and 6 million cubic feet of natural gas (2 million net). The second and third injection wells were completed and brought online in March and September 2019, respectively. Production ramp-up is expected to continue, with the completion of the final producing well expected to be completed in first-half 2020. The field has an estimated production life of 30 years.

## keeping Chevron workers safe

#### Digital technologies enable Chevron to proactively keep its workforce safe in the various environments where the company operates

In Tengizchevroil operations, geofencing technology keeps employees away from high-risk areas through field integrated planning and Simultaneous Operations (SimOps) visualizations. The SimOps visualization and analysis automatically identifies scheduling conflicts, enabling teams to manage risk, assess timing of future activities in the field and mitigate production losses. Real-time personnel safety devices are providing the foundation for an automated and standardized process for locating and monitoring workforce safety across Chevron's operations.

In Chevron's Gulf of Mexico operations, the workforce has access to low-risk digitized training environments to practice highconsequence tasks without impacting safety or production and streamlines knowledge capture and sharing at scale across the Tahiti Chevron has a 58 percent-owned and operated interest in the Tahiti Field. In 2019, net daily production averaged 51,000 barrels of crude oil, 22 million cubic feet of natural gas and 3,000 barrels of NGLs. The Tahiti Field has an estimated remaining production life of 25 years.

The final well from the Tahiti Vertical Expansion Project was completed in April 2019.

In July 2019, the Tahiti Upper Sands Project reached a final investment decision, and the associated well was spud in September 2019. The scope of the Tahiti Upper Sands Project includes topsides facility enhancements to process high gas rates with start-up anticipated in 2021. The initial recognition of proved reserves occurred in 2019 for this project.



Photo: In July 2019, the Tahiti Upper Sands Project reached a final investment decision.

organization. Chevron's workforce also has access to real-time support from internal and external subject matter experts, leveraging its offshore mobile networks using assistive devices such as augmented reality headsets. The company's operational workforce can directly communicate with Chevron engineers and external vendors to receive on-demand support, diagnostics and troubleshooting, resulting in improved productivity, less production and equipment downtime, and fewer trips offshore.



**Photo:** Leveraging its offshore mobile networks, Chevron's workforce has access to real-time support.

# digitally enhancing the well planning process

#### Integrated digital solutions transform Chevron's well planning across worldwide assets

Chevron is streamlining its well design process with digital technology in multiple areas of production, including its Gulf of Mexico deepwater operations and unconventional assets in the Permian basin, and plans to expand to other asset classes globally, including the Tengizchevroil operations in Kazakhstan. The well design process is inherently complex, with engineers solving thousands of nonlinear, inter-related equations while simultaneously using multiple applications, tools, and procedures. The digital well planning solution integrates key data points, equations, and tools into a single workflow. Having a central location for all well planning data enables engineers to focus on analysis and optimization of well design cost.

This integrated solution enables Chevron to significantly reduce cost through workflow and performance improvements. For example, execution agility and operational transparency are possible when plans and procedures are readily available for drillship execution.



**Photo:** Digital solutions are reducing costs and improving well performance across Chevron's assets.

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 operates and holds a 75.4 percent interest in the northern unit area and a 62.9 percent interest in the southern unit area. Stage 1 of the Anchor development consists of a seven-well subsea development and a semi-submersible floating production unit. A final investment decision was reached in December 2019. The planned facility has a design capacity of 75,000 barrels of crude oil and 28 million cubic feet of natural gas per day. This project is utilizing an ultradeepwater offshore drillship, capable of handling pressures of 20,000 psi in the Anchor Field, which also enables access to other high-pressure resource opportunities across the Gulf of Mexico. The total potentially recoverable oil-equivalent resources for Anchor are estimated to exceed 440 million barrels. The initial recognition of proved reserves occurred in 2019 for this project.

**Ballymore** Chevron is the operator of the Ballymore Field, 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 a water depth of 6,536 feet (1,992 m). 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 a second appraisal well was completed in August 2019. At the end of 2019, 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. A second appraisal well was completed in April 2019. Front-end engineering design (FEED) activities were initiated for this project in August 2019 and a final investment decision is expected in 2020. At the end of 2019, proved reserves had not been recognized for this project.

**Exploration** During 2019 and early 2020, the company participated in seven deepwater wells: four exploration and three appraisal wells. In April 2019, a significant crude oil discovery was announced in the Blacktip prospect in the deepwater Gulf of Mexico. Chevron holds a 20 percent nonoperated working interest in the Blacktip prospect. In October 2019, an oil discovery was announced in the Esox prospect within the Mississippi Canyon Block 726 in the deepwater Gulf of Mexico. The well is expected to be tied into the Tubular Bells production facility in first quarter 2020. Chevron holds a 21.4 percent nonoperated working interest in the Esox prospect. The company plans to drill four exploration and two appraisal wells during 2020 in the deepwater Gulf of Mexico.

In 2019, Chevron added 24 leases to the deepwater portfolio through two gulf-wide lease sales. The company also added 25 additional leases through multiple asset exploration block equity cross assignments and execution of options.

#### Shelf

Average 2019 net daily production from the Gulf of Mexico shelf, where Chevron holds nonoperated interests in several fields, was 10 million cubic feet of natural gas.

#### upstream

#### California

In 2019, Chevron was one of the largest producers in California with net daily oil-equivalent production of 125,000 barrels, primarily composed of 122,000 barrels of crude oil and 16 million cubic feet of natural gas.



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), McKittrick Field (98 percent-owned) and the Midway Sunset Field (95 percentowned). 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. Construction is underway on a new 29-megawatt solar farm that is designed to supply 80 percent of the power needs at the Lost Hills Field and is expected to be completed in first-half 2020.



**Photo:** Construction is underway on a new 29-megawatt solar farm that is designed to supply 80 percent of the power needs at the Lost Hills Field in California.

#### **Appalachian Basin**

In December 2019, the company announced plans to reduce investment and to evaluate strategic alternatives, including divestment scenarios, for its acreage in the Marcellus and Utica Shale areas located in southwestern Pennsylvania, the West Virginia panhandle and eastern Ohio. The company's net daily production in 2019 from these areas averaged 262 million cubic feet of natural gas, 8,000 barrels of NGLs and 2,000 barrels of condensate.



Chevron interest

## **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 216,000 barrels during 2019 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; shale acreage in British Columbia; and discovered resource interests in the Beaufort Sea region of the Northwest Territories. Net daily production in 2019 from Canadian operations was 52,000 barrels of crude oil, 14,000 barrels of condensate and natural gas liquids, 95 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 2019 was 20,000 barrels.



Photo: Average net daily production for Hibernia was 20,000 barrels in 2019

Hebron Chevron holds a 29.6 percent nonoperated working interest in the Hebron Field development. Total daily crude production continued to ramp up during the year, averaging 112,000 barrels (32,000 net) in 2019. A total of 14 wells were online by the end of 2019. Five additional production wells are expected to be completed during 2020. 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).

#### 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 2019, average net daily synthetic oil production was 53,000 barrels.

**Duvernay Shale** The company holds 196,000 net acres (793 sq km) in the Duvernay Shale in Alberta. Chevron has a 70 percent-owned and operated interest in most of the Duvernay acreage. The Duvernay is poised for growth with access to premium Canadian condensate markets, and a factory model development pace will be driven by well and execution performance. A total of 163 wells had been tied into production facilities by early 2020. In 2019, net daily production averaged 14,000 barrels of condensate and natural gas liquids and 79 million cubic feet of natural gas.



**Photo:** A factory model development pace in the Durvernay will be driven by well and execution performance.

Kitimat LNG Chevron holds a 50 percent-owned and operated interest in the Kitimat LNG and Pacific Trail Pipeline projects and a 50 percent operated interest in upstream resource assets in the Liard and Horn River shale gas basins in British Columbia. In December 2019, the company announced plans to not move forward with the Kitimat LNG and Pacific Trail Pipeline projects. Efforts are underway to evaluate strategic alternatives for these projects, including divestment scenarios.

#### upstream

#### **Mexico**

The company owns and operates 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). Initial overall block seismic reprocessing activities concluded in December 2019. Seismic interpretation is commencing in early 2020 for potential exploration drilling in future years.

The company also owns and operates a 37.5 percent interest in Block 22, which covers 267,000 net acres (1,081 sq km) in the deepwater Cuenca Salina area of the Gulf of Mexico. Reprocessing of 3-D seismic data continued in 2019.

In October 2019, Chevron farmed into a 40 percent nonoperated interest of Blocks 20, 21 and 23 in the Cuenca Salina area in the deepwater Gulf of Mexico. Drilling has commenced on the first of two wells planned in 2020. These three blocks cover approximately 589,000 net acres (2,385 sq km).



#### 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). In November 2019, Chevron increased its owned and operated interest from 85 to 100 percent in the El Trapial Field covering 111,000 net acres (450 sq km), with both conventional production and Vaca Muerta Shale potential.

During 2019, net daily production in Argentina averaged 23,000 barrels of crude oil and 25 million cubic feet of natural gas.



Chevron activity highlight

Loma Campana Nonoperated development activities continued in 2019 at the Loma Campana concession in the Vaca Muerta Shale, with an average of four rigs. During 2019, 48 horizontal wells were drilled. 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 has drilled three horizontal wells as part of an eight-well appraisal program, which is expected to be completed in 2020. Pending results of this appraisal program, a development drilling campaign may begin in 2021. The El Trapial concession expires in 2032.



Photo: An eight-well appraisal program of the El Trapial Field is expected to be completed in 2020.

**Exploration** Evaluation of the nonoperated Narambuena Block continued with appraisal activity in 2019, including four horizontal wells drilled in 2019. Pending results of this appraisal program, a development drilling program may begin in 2021. Chevron also has a 90 percent-owned and operated interest with a four-year exploratory concession in the Loma del Molle Norte Block consisting of 43,000 net acres (174 sq km). The Loma del Molle Norte Block is located to the west and adjacent to the El Trapial concession. Chevron is awaiting government approval of the exploration license.

#### Brazil

During 2019, net daily production in Brazil averaged 8,000 barrels of crude oil and 2 million cubic feet of natural gas.

In March 2019, Chevron completed the sale of its 51.7 percent interest in the Frade concession and its 50 percent interest in Block CE-M715.

In February 2020, the company initiated the process to sell its 37.5 percent nonoperated interest in the Papa-Terra oil field.

**Exploration** In October 2019, Chevron was a successful bidder in five deepwater blocks in the Brazil pre-salt trend within the Campos and Santos basins. The contracts for these blocks were executed in February 2020. Chevron now holds interests in eleven exploration blocks covering a total of 824,000 net acres (3,300 sq km).

Chevron holds a 40 percent-owned and operated interest in three blocks, S-M-764 and S-M-766 in the Santos basin and C-M-845 in the Campos basin.

Chevron also holds nonoperated interest in eight blocks. The company holds four blocks in the Campos basin with 40 percent interest (C-M-791, C-M-821, C-M-823 and C-M-825) and two blocks with 35 percent interest (C-M-713 and C-M-659). The other two nonoperated blocks, Saturno with 45 percent interest and Três Marias with 30 percent interest, are located in the Santos basin.

Seismic data acquisition and environmental studies have been initiated. Two exploration wells are anticipated to be drilled in 2020, one each in the Saturno and Três Marias blocks.



Chevron activity highlight

#### Colombia

In November 2019, the company signed an agreement to sell its interests in the offshore Chuchupa and onshore Ballena natural gas fields and expects to close this sale in first-half 2020. Net daily production in 2019 averaged 64 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).

#### Venezuela

Chevron's production activities in Venezuela are located in western Venezuela and the Orinoco Belt. During 2019, net daily production averaged 34,000 barrels of crude oil and 7 million cubic feet of natural gas.

**Petropiar** Chevron holds a 30 percent interest in Petropiar, which operates the heavy oil Huyapari Field 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. Synthetic crude production in 2019 was impacted by operating conditions, including a shutdown of the heavy oil upgrader for part of the year and periods when the plant operated as a blending facility rather than upgrading to synthetic crude oil. Net daily production averaged 21,000 barrels of liquids and 6 million cubic feet of natural gas during 2019. Sixty-nine development wells were drilled in 2019.

Petroboscan Chevron holds a 39.2 percent interest in Petroboscan, which operates the onshore Boscan Field in western Venezuela under a contract expiring in 2026. During 2019, net daily production averaged 13,000 barrels of liquids and 1 million cubic feet of natural gas. Twenty-six development wells were drilled in 2019.

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 field that includes the Manatee Field in Trinidad and Tobago.

#### upstream

## Africa

In Africa, the company is engaged in upstream activities in Angola, Egypt, Nigeria and the Republic of Congo. Net daily oil-equivalent production in this region was 412,000 barrels during 2019, representing 13 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 2019, net daily production averaged 97,000 barrels of liquids and 324 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 74,000 barrels of liquids in 2019. The Block 0 concession extends through 2030.

In November 2019, the Angolan government approved enhanced fiscal terms for four fields, which is expected to improve the economics for continued development of these fields. The first planned development is in the Lifua Field.

Mafumeira Sul Total daily production in 2019 averaged 52,000 barrels of liquids (17,000 net) and 124 million cubic feet of natural gas (49 million net) exported to the Angola LNG plant. Three new wells were drilled in 2019.

#### Block 14

Block 14 contains nine fields that produced a net daily average of 12,000 barrels of liquids in 2019. Development and production rights for the producing fields in Block 14 expire beginning in 2023. The majority of the production is 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 2019 averaged 746 million cubic feet of natural gas (272 million net) and 30,000 barrels of liquids (11,000 net).

In November 2019, the Angola LNG shareholders entered into an agreement to form a New Gas Consortium to develop non-associated gas offshore Angola, which is expected to supply the Angola LNG plant in the future.

## advanced process control

#### Continued deployment of Advanced Process Control delivers reliability worldwide

In 2019, Chevron continued deployment of Advanced Process Control (APC) to enhance operations at key facilities around the world. Through the collection of real-time data, application of sophisticated optimization algorithms, and enhancement of its control capabilities, the company is delivering higher throughput and reliability worldwide. The deployments follow successful implementation of APC at the Gorgon LNG facility in 2018.

- In Tengizchevroil, the company utilized APC within multiple gathering systems to maximize plant output and reduce cost by optimizing individual well operating variables.
- In Australia, the company deployed APC at the Wheatstone LNG facility to maximize LNG throughput during the summer months resulting in an annual production increase of 2.5 percent.
- In the deepwater Gulf of Mexico, Chevron deployed APC at the Jack/St. Malo facility to produce higher valued crude, optimize chemical usage and enhance recovery of natural gas condensates.
- In Nigeria, the company deployed APC at the Escravos Gas to Liquids plant to maximize diesel production, ensure product quality and enhance its operator capabilities to control process flows throughout the facility.
- In Angola, Chevron deployed APC at the Angola LNG facility to maximize production.



**Photo:** Advanced Process Control is utilized at the Angola LNG facility to maximize production.

#### 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, Nsoko and Moho-Bilondo). The permits for Nkossa, Nsoko and Moho-Bilondo expire in 2027, 2034 and 2030, respectively. A new permit for Nsoko was approved by the government of the Republic of Congo in December 2019 as part of a package that includes improved fiscal terms for Moho-Bilondo. Average net daily production in 2019 was 49,000 barrels of liquids.

**Exploration** In June 2019, the company relinquished its 20.4 percent nonoperated working interest in the Haute Mer B permit area.

### Egypt

Chevron was announced as the winning bidder for an oil and gas exploration concession in Egypt's Red Sea in December 2019.



Chevron activity highlight

### Nigeria

Chevron operates and holds a 40 percent interest in eight concessions in the onshore and near-offshore regions of the Niger Delta with varying expiration dates ranging from 2026 to 2034.

The company also holds acreage positions in three operated and six nonoperated deepwater blocks, with working interests ranging from 20 to 100 percent. In 2019, net daily production averaged 168,000 barrels of crude oil, 215 million cubic feet of natural gas and 5,000 barrels of liquefied petroleum gas (LPG).



#### **Niger Delta**

In 2019, net daily production from 28 fields in the Niger Delta averaged 64,000 barrels of crude oil, 197 million cubic feet of natural gas and 5,000 barrels of LPG. Infill drilling programs continued in 2019.

Chevron is continuing its efforts to monetize recoverable natural gas resources of approximately 18 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 2019 averaged 11,000 barrels of liquids and 89 million cubic feet of natural gas. The drilling program, which includes seven wells, was completed in first quarter 2019.



Photo: The drilling program was completed for Sonam in first quarter 2019.

## digital optimization

#### Remote monitoring instantly locates impacted wells and reduces downtime and costs

Chevron deployed a self-contained, self-powered remote monitoring system that utilizes the area's existing cellular network, enabling each wellsite to transmit sensor data. Chevron's Nigeria business operates more than 300 shallow-water wells in a widespread geographic area, and the scalable solution represents an inexpensive means of providing real-time monitoring and notifications to quickly identify and resolve potential issues with well performance.



Photo: Remote monitoring of Nigeria's offshore platforms reduces downtime and costs.

#### **Deep Water**

In 2019, net daily production from the deep water Agbami and Usan fields averaged 104,000 barrels of crude oil and 18 million cubic feet of natural gas.

Agbami In 2019, net daily production from the Agbami Field averaged 90,000 barrels of crude oil and 14 million cubic feet of natural gas. The 67.3 percent-owned and operated field spans OML 127 and OML 128. Infill drilling continued in 2019 to offset field decline. The production licenses that contain the Agbami Field allow 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 2019 averaged 14,000 barrels of crude oil and 3 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 2019, 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. 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 OML 154.

In 2019, the company initiated the process to evaluate a possible divestment of its 40 percent operated interest in OML 86 and OML 88.

## 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 2019, net daily oil-equivalent production of 979,000 barrels in this region represented 32 percent of the companywide total.



#### Azerbaijan

In November 2019, Chevron signed an agreement to sell its 9.6 percent nonoperated interest in Azerbaijan International Operating Company and its 8.9 percent interest in the Baku-Tbilisi-Ceyhan (BTC) pipeline affiliate. The sale is expected to close in first-half 2020. In 2019, average net daily production was 18,000 barrels of crude oil and 10 million cubic feet of natural gas.

----- Karachaganak-Atyrau transportation system ----- BTC pipeline

#### 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 2019 from TCO and Karachaganak was 339,000 barrels of liquids and 548 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 2019 averaged 290,000 barrels of crude oil, 419 million cubic feet of natural gas and 21,000 barrels of NGLs. All of TCO's 2019 crude oil production was exported through the Caspian Pipeline Consortium (CPC) pipeline. 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. Proved reserves have been recognized for the FGP/WPMP.

The project advanced in 2019, with overall progress at approximately 75 percent at year-end 2019. The WPMP portion, including the Pressure Boost Facility, is expected to start up in late 2022, with the remaining facilities expected to come online in mid-2023. During 2019, the pipe rack modules and the gas turbine generators were installed, and fabrication in three of the four yards was completed. All initial production wells have been drilled and completed.

In 2020, TCO plans to continue construction of the FGP/WPMP, including completion of all fabrication and sealift activities, installing key modules on foundations at the 3rd Generation Plant and progressing other construction work.



Photo: Progress continued for FGP/WPMP, reaching approximately 75 percent completion at year-end 2019.

#### Karachaganak

The Karachaganak Field is located in northwest Kazakhstan, and operations are conducted under a PSC that expires in 2038. Net daily production during 2019 averaged 28,000 barrels of liquids and 129 million cubic feet of natural gas. Most of the exported liquids were transported through the CPC pipeline during 2019. Work continues to identify the optimal scope for the future expansion of the field. At the end of 2019, 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 2019, the CPC pipeline transported an average of 1.4 million barrels of crude oil per day to Novorossiysk, composed of 1.2 million barrels per day from Kazakhstan and 160,000 barrels per day from Russia. In May 2019, CPC shareholders announced a final investment decision on a debottlenecking project, which is expected to further increase capacity.

#### **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 2019, net daily production averaged 638 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 2019 averaged 93 million cubic feet.

**Exploration** Chevron relinquished its 55 percent-owned and operated interest in Blocks AD3 and A5 in March 2019.

#### 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 2019 was 65,000 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. Erawan concession's net average daily production in 2019 was 44,000 barrels of crude oil and condensate and 804 million cubic feet of natural gas.



**Ubon** At the 35 percent-owned and operated Ubon Project in Block 12/27, development plans are being evaluated and are expected to include multiple wellhead platforms and infield pipelines to deliver production to a Floating, Production, Storage and Offloading vessel (FPSO). At the end of 2019, 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 2019, these areas were inactive, pending resolution of border issues between Thailand and Cambodia.

# leveraging technology to protect the environment

## Completed offshore trial of 3-D photogrammetry for marine growth evaluation

In Thailand, Chevron completed the first full-scale trial of Structure from Motion 3-D Photogrammetry for data collection of detailed marine growth on infrastructure. Imagery was collected from the jackets of eight wellhead platforms expected to be decommissioned in 2020 and used to generate a model of the subsea structures and marine growth on them. The model provided key marine growth information needed for purposes of analyzing leave-in-place or reefing alternatives for offshore decommissioning that typically have substantial environmental, safety, cost and technical benefits over removal and onshore decommissioning. The trial also provided baseline data to allow evaluation of the impact of structures in the marine environment and reefing.



**Photo:** In 2019, Chevron completed a 3-D photogrammetry trial to document marine growth on offshore platforms in Thailand.

#### China

In October 2019, Chevron transferred operatorship of the Chuandongbei Project and now has a 49 percent nonoperated working interest in the project, including the Luojiazhai and Gunziping natural gas fields located onshore in the Sichuan Basin. The company relinquished its interest in the Tienshanpo, Dukouhe and Qilibei natural gas fields in April 2019.

The Chuandongbei Xuanhan Gas Plant has three gas processing trains. Net daily production averaged 93 million cubic feet of natural gas in 2019. This PSC expires in 2038.

The company also has three other 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, the QHD 32-6 Block and Block 16/19 expire in 2022, 2023 and 2028, respectively. In 2019, net average daily production from these PSCs was 16,000 barrels of crude oil.



#### **Philippines**

The company signed an agreement in October 2019 to sell its 45 percent nonoperated working interest in the offshore Malampaya Field. The sale is expected to close in first-half 2020. Net daily production during 2019 averaged 136 million cubic feet of natural gas and 3,000 barrels of condensate.

#### 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 2019 from all producing areas in Indonesia averaged 101,000 barrels of liquids and 52 million cubic feet of natural gas.



Chevron interest O Terminal

#### Sumatra

Chevron holds a 100 percent-owned and operated interest in the Rokan PSC, which expires in 2021. Net daily production averaged 99,000 barrels of crude oil and 19 million cubic feet of natural gas in 2019.

#### 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 2027, 2027 and 2028, respectively. Net daily production averaged 2,000 barrels of liquids and 33 million cubic feet of natural gas in 2019.

Indonesia Deepwater Development Chevron has concluded that the Indonesia Deepwater Development held by the Kutei Basin PSCs does not compete in its portfolio and is evaluating strategic alternatives for the company's 62 percent-owned and operated interest.

#### **Kurdistan Region of Iraq**

The company holds a 50 percent 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.



A final investment decision for the Sarta Stage 1A project was made in January 2019. Site civil works and construction started in mid-2019, and first oil is expected in second-half 2020. At the end of 2019, proved reserves had not been recognized for this project. Chevron will operate the Sarta block through 2021 and plans to transition to partner operations thereafter provided certain milestones are achieved.

An exploration well is planned in the Qara Dagh PSC for third quarter 2020. The Qara Dagh agreement expires in October 2020, and the Sarta PSC expires in 2047.



Photo: First oil is expected from Sarta Stage 1A in second-half 2020.

### **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 develop Saudi Arabia's 50 percent interest in the hydrocarbon resources. The concession expires in 2039.

Production has been shut in since May 2015 as a result of difficulties securing work and equipment permits and a dispute between the governments of Saudi Arabia and Kuwait.

In December 2019, the governments of Saudi Arabia and Kuwait signed a memorandum of understanding to resolve the dispute and allow production to restart in the Partitioned Zone. In mid-February 2020, pre-startup activities commenced. The company expects production to ramp up to pre-shut-in levels within one to two years.

## Europe

In Europe, net daily oil-equivalent production averaged 67,000 barrels during 2019, representing 2 percent of the companywide total.

#### **United Kingdom**

Chevron sold its 40 percent interest in Rosebank in January 2019. In November 2019, the company sold its Central North Sea assets, including its interest in the Captain Field.

Net daily production in 2019 averaged 44,000 barrels of liquids and 108 million cubic feet of natural gas.



Chevron interest Crude oil field

**Clair** Chevron holds a 19.4 percent nonoperated working interest in the Clair Field, located 47 miles (75 km) west of the Shetland Islands. Clair Ridge is the second development phase of the Clair Field, with a design capacity of 120,000 barrels of crude oil and 100 million cubic feet of natural gas per day. First production was achieved in November 2018 and continues to ramp up, with three new wells added in 2019 aligned with the planned 36-well design. An additional three wells are expected to be completed during 2020. Full production capacity at Clair Ridge is not expected until 2028 when the final wells are completed. 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.

#### Denmark

Chevron sold its 12 percent nonoperated working interest in the Danish Underground Consortium in April 2019.



Photo: Clair production continued to ramp up in 2019.

## Australia/Oceania

Net daily oil-equivalent production of 455,000 barrels during 2019 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 projects, 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 the Browse Basin. The company holds net unrisked natural gas resources of approximately 50 trillion cubic feet in Australia. Net daily production in 2019 averaged 45,000 barrels of liquids and 2.5 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-lo fields. The project includes a three-train, 15.6 million-metric-ton-per-year LNG facility, a domestic gas plant, and a carbon dioxide sequestration facility. Start-up of the carbon dioxide system was achieved in August 2019 with full injection rate anticipated by first quarter 2020. Once fully operational, Gorgon's carbon dioxide sequestration system is expected to reduce greenhouse gas emissions by about 40 percent.

The facilities are located on Barrow Island. Total daily production from all three trains in 2019 averaged 16,000 barrels of condensate (8,000 net) and 2.3 billion cubic feet of natural gas (1.1 billion net). The project's estimated economic life exceeds 40 years.

The company commenced drilling 11 new wells for Gorgon Stage 2 during 2019. This project sustains long-term supply to Gorgon and is expected to be completed in 2022.

The Jansz-Io Compression Project entered FEED in March 2019 and is planned to provide access to compression for the Jansz-Io 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.

# optimizing plant performance through data science and machine learning

In Australia, unlocking value from operational data collected by hundreds of thousands of sensors on its LNG plants is a priority, and Chevron has been investing in the latest data science and advanced analytic technologies

Chevron uses data science to optimize production and minimize downtime. Examples of these solutions include predictive modeling of a separation unit and rotating equipment. This equipment is critical to safe and reliable operations of an LNG plant or an offshore platform. The gas turbines that generate power to operate the LNG plant are similar in design and size to commercial aircraft jet engines. Rotating equipment is monitored remotely by a specialized team that uses technology such as machine learning to guide the planning and timing of maintenance activities.





**Photo:** Chevron is unlocking the value of operational data to optimize production and minimize downtime at the company's LNG plants in Australia.



Photo: In 2019, Wheatstone production capacity increased as the facilities demonstrated high reliability and improved processing capability by implementing Advanced Process Control, upgrading gas turbines and optimizing operations.

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-metric-ton-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. In 2019, Wheatstone production capacity increased as the facilities demonstrated high reliability and improved processing capability by implementing Advanced Process Control, upgrading gas turbines and optimizing operations. The project's estimated economic life exceeds 30 years.

Total daily production averaged 22,000 barrels of condensate (18,000 net) and 1.2 billion cubic feet of natural gas (943 million net) in 2019.

**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 2019 averaged 15,000 barrels of crude oil and condensate, 417 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 2019. 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 was finalized in April 2019.

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 nonbinding letters of agreement to further pursue this opportunity.

#### **New Zealand**

In September 2019, Chevron relinquished its 50 percent operated interest in three exploration permits in the offshore Pegasus and East Coast basins.

#### upstream operating data

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

## 80 60 40 35.1 20 0 15 16 17 18 **19**

Affiliates Europe

- Australia/Oceania
- Asia

Africa

- Other Americas
- United States

Oil and gas acreage <sup>1, 2</sup>					At	December 31
	Gross acres					Net acres
Thousands of acres	2019	2019	2018	2017	2016	2015
Consolidated Companies						
Total United States	7,814	6,100	6,336	6,381	7,121	8,885
Other Americas						
Argentina	305	227	210	167	240	240
Brazil	2,176	853	578	105	105	104
Canada	10,073	7,465	7,459	13,201	13,218	12,913
Colombia	200	87	87	87	87	87
Greenland	-	-	-	-	350	350
Mexico	2,602	995	406	139	-	-
Suriname	2,793	1,142	1,142	1,142	1,142	1,396
Trinidad and Tobago	-	-	-	-	84	84
Venezuela	74	58	58	58	58	58
Total Other Americas	18,223	10,827	9,940	14,899	15,284	15,232
Africa						
Angola	2,257	787	787	787	802	802
Democratic Republic of the Congo	-	-	-	44	44	44
Liberia	-	-	-	260	260	819
Mauritania	-	-	-	-	-	1,985
Morocco	-	-	-	1,708	2,112	5,415
Nigeria	3,581	1,552	1,552	1,552	1,552	1,552
Republic of Congo	117	37	53	56	56	56
Total Africa	5,955	2,376	2,392	4,407	4,826	10,673
Asia						
Azerbaijan	108	10	10	10	12	12
Bangladesh	186	186	186	186	186	186
China	201	63	133	134	134	134
Indonesia	2,423	2,128	2,127	3,202	4,683	5,853
Kazakhstan	67	12	12	12	12	12
Kurdistan Region of Iraq	332	145	260	90	279	279
Myanmar	6,460	1,825	4,605	4,407	4,407	4,407
Partitioned Zone	1,361	681	681	681	681	681
Philippines	206	93	93	93	93	93
Thailand	9,499	3,773	3,775	3,797	3,797	3,797
Total Asia	20,843	8,916	11,882	12,612	14,284	15,454
Australia/Oceania						
Australia	12,943	6,509	14,719	14,881	12,343	13,061
New Zealand	-	-	3,120	3,120	3,120	3,216
Total Australia/Oceania	12,943	6,509	17,839	18,001	15,463	16,277
Europe		-				
Denmark	_	_	49	49	49	49
Norway	_	_	-	168	168	-
Romania	_	_	-	670	670	2,239
United Kingdom	-	-	304	170	188	210
Total Europe	-	-	353	1,057	1,075	2,498
Total Consolidated Companies	65,778	34,728	48,742	57,357	58,053	69,019
Equity Share in Affiliates		,, =•	,	0.,007		00,010
Kazakhstan	380	190	190	190	190	190
Venezuela	424	146	146	146	143	190
Total Equity Share in Affiliates	804	336	336	336	333	335
Total Worldwide	66,582	35,064	49,078	57,693	58,386	69,354

<sup>1</sup> Table does not include mining acreage associated with synthetic oil production in Canada.
<sup>2</sup> Net acreage includes wholly owned interests and the sum of the company's fractional interests in gross acreage.
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## upstream operating data

## Net proved reserves - liquids<sup>1, 2</sup>

Net proved reserves – liquids <sup>1,2</sup>				At	December 31
Millions of barrels	2019	2018	2017	2016	2015
Consolidated Companies					
United States	2,430	2,402	1,916	1,412	1,386
Other Americas	876	908	840	827	833
Africa	713	776	839	876	957
Asia	513	579	631	720	790
Australia/Oceania	170	161	159	158	153
Europe	69	149	145	138	143
Total Consolidated Companies	4,771	4,975	4,530	4,131	4,262
Equity Share in Affiliates					
TCO	1,576	1,605	1,749	1,909	1,676
Other	174	210	263	288	324
Total Equity Share in Affiliates	1,750	1,815	2,012	2,197	2,000
Total Worldwide	6,521	6,790	6,542	6,328	6,262

<sup>1</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 2019 Annual Report on Form 10-K.
 <sup>2</sup> Includes crude oil, condensate, NGLs and synthetic oil.

Net proved reserves – natural gas <sup>*</sup>				At	December 31
Billions of cubic feet	2019	2018	2017	2016	2015
Consolidated Companies					
United States	4,728	6,709	5,180	3,676	4,242
Other Americas	736	863	795	647	714
Africa	2,758	2,815	2,906	2,827	2,937
Asia	3,681	4,310	4,773	5,533	5,956
Australia/Oceania	14,658	13,731	13,559	12,515	11,873
Europe	26	305	301	234	224
Total Consolidated Companies	26,587	28,733	27,514	25,432	25,946
Equity Share in Affiliates					
TCO	2,004	1,934	2,183	2,242	2,268
Other	866	909	1,039	1,086	1,223
Total Equity Share in Affiliates	2,870	2,843	3,222	3,328	3,491
Total Worldwide	29,457	31,576	30,736	28,760	29,437

\*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 2019 Annual Report on Form 10-K.

# **Net proved reserves** Billions of BOE<sup>\*</sup>





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

3.6% 3.6%

9.5%

#### 2019 net oil-equivalent production by country\*

Percentage

United States 30.4% Australia 14.9% Kazakhstan 14.1% Thailand 7.8% Nigeria 6.8% Angola 4.9% Canada 4.4%

Other
 \* Includes equity share in affiliates.

Indonesia

Bangladesh

#### Net oil-equivalent production



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

#### Net production liquids & natural gas

Thousands of barrels per day



Natural gas

Liquids

2019	2018	2017	2016	201
929	791	681	691	720
27	24	23	26	2
8	11	13	16	18
135	116	98	92	69
11	14	16	21	2
-	-	5	12	1
181	165	155	167	16
95	108	112	114	119
-	1	2	2	
209	239	250	235	27
52	52	38	25	2
356	400	402	376	41
20	20	25	32	3
110	112	111	114	12
31	29	30	27	2
109	132	164	203	20
49	46	55	62	5
15	16	19	21	2
-	-	-	-	2
26	26	25	26	2
238	236	241	245	23
598	617	670	730	75
455	426	256	124	9
455	426	256	124	9
5	19	23	22	2
62	65	75	64	5
67	84	98	86	8
2.586	2.483	2,262	2,174	2,22
_,	_,	_,	_,	_,
381	353	360	348	33
				6
				0
				400
				2,62
	27 8 135 11 - 181 95 - 209 52 356 20 100 110 31 109 49 15 - 26 238 598 598 455 455 5 62	929       791         27       24         8       11         135       116         11       14         -       -         181       165         95       108         -       1         209       239         52       52         356       400         20       20         110       112         31       29         109       132         49       46         15       16         -       -         26       26         238       236         598       617         455       426         5       19         62       65         67       84         2,586       2,483         351       353         34       56         50       447	929         791         681           27         24         23           8         11         13           135         116         98           11         14         16           -         -         5           181         165         155           95         108         112           -         1         2           209         239         250           52         52         38           356         400         402           20         20         25           110         112         111           31         29         30           109         132         164           49         46         55           15         16         19           15         16         19           -         -         -           26         26         25           238         236         241           598         617         670           455         426         256           55         19         23           62         65	929         791         681         691           27         24         23         26           8         11         13         16           135         116         98         92           11         14         16         21           -         -         5         12           11         14         16         21           -         -         5         12           11         1         2         2           209         239         250         235           52         52         38         25           356         400         402         376           20         20         25         32           110         112         111         114           31         29         30         27           109         132         164         203           49         46         55         62           15         16         19         21           -         -         -         -           26         25         26         256           15         16

Net liquids production				Year ended	December 31
Thousands of barrels per day	2019	2018	2017	2016	2015
Consolidated Companies					
Total United States	724	618	519	504	501
Other Americas					
Argentina	23	20	19	20	21
Brazil	8	10	12	16	17
Canada	119	103	87	83	67
Total Other Americas	150	133	118	119	105
Africa					
Angola	86	98	103	106	110
Democratic Republic of the Congo	-	1	2	2	2
Nigeria	173	200	213	208	230
Republic of Congo	49	49	36	23	18
Total Africa	308	348	354	339	360
Asia					
Azerbaijan	18	18	23	30	32
Bangladesh	4	4	4	4	3
China	16	16	17	18	24
Indonesia	101	113	137	173	176
Kazakhstan	28	27	33	37	34
Partitioned Zone	-	-	-	-	27
Philippines	3	3	3	3	3
Thailand	65	66	69	71	66
Total Asia	235	247	286	336	365
Australia/Oceania					
Australia	45	42	27	21	21
Total Australia/Oceania	45	42	27	21	21
Europe					
Denmark	3	12	14	14	16
United Kingdom	44	43	50	43	40
Total Europe	47	55	64	57	56
Total Consolidated Companies	1,509	1,443	1,368	1,376	1,408
Equity Share in Affiliates					
TCO	311	288	293	285	277
Venezuela	34	42	52	56	59
Angola LNG	11	9	10	2	-
Total Equity Share in Affiliates	356	339	355	343	336
Total Worldwide	1,865	1,782	1,723	1,719	1,744

2019 net liquids production by country\* Percentage

United States	38.8%
<ul> <li>Kazakhstan</li> </ul>	18.2%
Nigeria	9.3%
Canada	6.4%
Indonesia	5.4%
Angola	5.2%
Thailand	3.5%
Republic of Congo	2.6%
Other	10.6%
* Includes equity share in aff	iliatos

Includes equity share in affiliates.

#### **Net liquids production**

Thousands of barrels per day



Affiliates

Australia/Oceania

- Other AmericasUnited States

Europe

Asia Africa

34.4%

14.5%

8.9% 7.7% 4.5%

3.0%

1.9%

8.0%

# 2019 net natural gas production by country\* Percentage

 Australia United States 17.1% Thailand

Bangladesh
Kazakhstan
Angola

Nigeria Philippines

Other

\* Includes equity share in affiliates.

#### Net natural gas production



- Affiliates
- Europe
- Australia/Oceania
- Asia
- Africa

Other Americas

United States

Net natural gas production <sup>*</sup>				Year ended	December 3
fillions of cubic feet per day	2019	2018	2017	2016	201
Consolidated Companies					
Total United States	1,225	1,034	970	1,120	1,31
Other Americas					
Argentina	25	24	27	32	3
Brazil	2	4	4	5	
Canada	95	79	65	55	1
Colombia	64	82	96	127	16
Trinidad and Tobago	-	-	29	74	11
Total Other Americas	186	189	221	293	33
Africa					
Angola	52	59	57	52	5
Democratic Republic of the Congo	-	-	1	1	
Nigeria	215	233	223	159	24
Republic of Congo	13	14	14	11	1
Total Africa	280	306	295	223	31
Asia					
Azerbaijan	10	10	11	13	1
Bangladesh	638	648	642	658	72
China	93	84	81	51	
Indonesia	52	113	163	182	18
Kazakhstan	129	120	132	154	13
Myanmar	93	98	116	128	11
Partitioned Zone	-	-	-	-	
Philippines	136	138	129	138	12
Thailand	1,038	1,022	1,031	1,051	1,03
Total Asia	2,189	2,233	2,305	2,375	2,33
Australia/Oceania					
Australia	2,460	2,304	1,372	615	43
Total Australia/Oceania	2,460	2,304	1,372	615	43
Europe					
Denmark	11	45	53	48	5
United Kingdom	108	133	155	122	11
Total Europe	119	178	208	170	16
Total Consolidated Companies	6,459	6,244	5,371	4,796	4,88
Equity Share in Affiliates					
тсо	419	387	401	375	34
Venezuela	7	9	15	19	3
Angola LNG	272	249	245	62	
Fotal Equity Share in Affiliates	698	645	661	456	38
Fotal Worldwide	7,157	6,889	6,032	5,252	5,26
* Includes natural gas consumed in operations:					
United States	36	35	37	54	6
International	602	584	528	432	43
Total	670	610	FCF	106	

638

619

565

486

496

Total

Net wells completed <sup>*</sup>								Yea	r ended Decemb	oer 31
	2019		2018		2017		2016		2015	
	Productive	Dry	Productive	Dry	Productive	Dry	Productive	Dry	Productive	Dry
Consolidated Companies										
United States										
Exploratory	10	2	13	2	7	1	4	1	16	4
Development	682	1	509	1	435	4	420	4	873	3
Total United States	692	3	522	3	442	5	424	5	889	7
Other Americas										
Exploratory	-	-	1	1	-	-	4	-	5	1
Development	36	-	43	-	40	-	45	-	99	-
Total Other Americas	36	-	44	1	40	-	49	-	104	1
Africa										
Exploratory	-	-	-	-	-	-	1	1	3	-
Development	26	-	8	-	34	-	17	-	9	-
Total Africa	26	-	8	-	34	-	18	1	12	-
Asia										
Exploratory	-	-	1	-	-	-	3	-	5	1
Development	181	2	289	5	246	2	470	6	828	5
Total Asia	181	2	290	5	246	2	473	6	833	6
Australia/Oceania										
Exploratory	-	-	-	-	-	-	-	-	1	4
Development	-	-	1	-	-	-	4	-	4	-
Total Australia/Oceania	-	-	1	-	-	-	4	-	5	4
Europe										
Exploratory	-	-	-	1	-	1	-	-	3	-
Development	1	-	2	-	4	-	3	-	2	-
Total Europe	1	-	2	1	4	1	3	-	5	-
Total Consolidated Companies	936	5	867	10	766	8	971	12	1,848	18
Equity Share in Affiliates										
Exploratory	-	-	-	-	-	-	-	-	-	-
Development	43	-	39	-	36	-	38	-	26	-
Total Equity Share in Affiliates	43	-	39	-	36	-	38	-	26	-
Total Worldwide	979	5	906	10	802	8	1.009	12	1.874	18

Net productive exploratory wells completed

Number of wells



Natural gas
 Crude oil

Net productive development wells completed



Natural gasCrude oil

\* 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 D	ecember 31
	2019	2018	2017	2016	2015
Consolidated Companies					
United States					
Oil	28,179	28,594	29,690	31,679	33,457
Gas	1,978	1,912	2,380	3,633	7,186
Total United States	30,157	30,506	32,070	35,312	40,643
International					
Oil	14,145	14,214	14,560	14,781	14,538
Gas	2,167	2,283	2,328	2,466	2,273
Total International	16,312	16,497	16,888	17,247	16,811
Total Consolidated Companies	46,469	47,003	48,958	52,559	57,454
Equity Share in Affiliates					
Oil	588	554	550	508	490
Gas	-	-	2	2	2
Total Equity Share in Affiliates	588	554	552	510	492
Total Worldwide	47,057	47,557	49,510	53,069	57,946

<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.

<sup>2</sup> Includes wells producing or capable of producing and injection wells temporarily functioning as producing wells. Wells that produce both crude oil and natural gas are classified as oil wells.

#### Natural gas realizations Dollars per thousand cubic feet



International\* United States

\* Includes equity share in affiliates.

#### **Liquids realizations**

Dollars per barrel



International<sup>\*</sup>

United States

\* Includes equity share in affiliates.

Natural gas realizations <sup>*</sup>				Year ended De	ecember 31
Dollars per thousand cubic feet	2019	2018	2017	2016	2015
United States	\$ 1.09 \$	1.86 \$	2.10 \$	1.59 \$	1.92
International	5.83	6.29	4.62	4.02	4.53

\*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

#### Liquide realizations\*

Liquids realizations <sup>*</sup>				Year ended D	ecember 31
Dollars per barrel	2019	2018	2017	2016	2015
United States	\$ 48.54 \$	58.17 \$	44.53 \$	35.00 \$	42.70
International	58.14	64.25	49.46	38.61	46.52

\*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 <sup>*</sup>				Year ended	December 31
Millions of cubic feet per day	2019	2018	2017	2016	2015
United States	4,016	3,481	3,331	3,317	3,913
International	5,869	5,604	5,081	4,491	4,299
Total	9,885	9,085	8,412	7,808	8,212

\* International sales include equity share in affiliates.

#### tural gas liquids salos\*

Natural gas líquids sales				Year er	nded December 31
Thousands of barrels per day	2019	2018	2017	2016	2015
United States	130	110	30	30	26
International	34	34	29	24	24
Total	164	144	59	54	50

\* International sales include equity share in affiliates.

#### Exploration and development costs<sup>\*</sup> Year ended December 31 Millions of dollars 2019 2018 2017 2016 2015 **United States** Exploration \$ 793 \$ 782 \$ 729 \$ 913 \$ 1,144 Development 7,072 6,245 4,346 3,814 6,275 **Other Americas** Exploration 214 161 81 94 128 1,631 Development 944 2,048 1,216 856 Africa 57 Exploration 65 64 187 370 279 Development 711 1,136 2,014 3,701 Asia Exploration 36 93 99 119 413 1,020 1,095 1,324 1,866 Development 3,924 Australia/Oceania Exploration 59 56 79 71 259 Development 518 845 2.580 6.715 3.733 Europe Exploration 11 38 148 37 108 199 278 995 Development 121 550 **Total Consolidated Companies** Exploration 1,178 \$ 1,194 \$ 1.193 \$ 1,421 \$ 2,422 \$ Development 10,304 10,030 10.451 13,608 23,658

\* Consolidated companies only. Excludes costs of property acquisitions.

# downstream

grow earnings across the value chain and make targeted investments to lead the industry in returns

Photo: Chevron Phillips Chemical Company announced agreements in 2019 to develop petrochemical complexes in Qatar and in the U.S. Gulf Coast region.

# 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.

Refinery
 Major petrochemical manufacturing facilities

Fundamental to the company's competitive position and

success is the focus on operational excellence in order to drive strong reliability and safety performance.

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, including renewables, 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.

#### 2019 accomplishments

- Continued strong performance in personal and process safety by outperforming targets on loss-of-containment incidents and major motor vehicle crash rates. There were no fatalities or severe Tier 1 loss-of-containment incidents in 2019.
- Achieved full operational capacity at the Richmond Refinery Modernization Project in January 2019.
- Reached a final investment decision in February 2019 for GS Caltex's olefins mixed-feed cracker project at the Yeosu Refinery in South Korea.
- In May 2019, acquired the Pasadena Refinery in Texas.
- Invested in a joint venture in June 2019 to capture and market dairy biomethane as renewable natural gas in California.
- Continued growth in northwestern Mexico, securing additional terminal capacity and expanding to nearly 200 Chevron-branded retail stations.
- Acquired two fuel terminals in Colombia with a combined capacity of 350,000 barrels.
- Extended the ExtraMile convenience store brand to 941 locations in the western United States.
- Chevron Phillips Chemical Company (CPChem) announced agreements to develop a petrochemical complex in Qatar and in the U.S. Gulf Coast region.
- In December 2019, signed an agreement to acquire retail assets and terminals in Australia to strengthen Chevron's Asia fuels marketing position.

#### 2020 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 loss of containment.
- Delivering on cost management efforts.
- Advancing projects that further enhance energy efficiency, high-value product yield and refinery feedstock flexibility, including continuing construction on the alkylation retrofit project at the Salt Lake City Refinery.
- Progressing projects in the chemicals manufacturing business that add capacity and leverage market positions to capture global opportunities, including advancing CPChem's petrochemical projects in Qatar and in the U.S. Gulf Coast region and advancing GS Caltex's olefins mixed-feed cracker project at the Yeosu Refinery in South Korea.
- Progressing the lubricant additive blending and shipping plant in Ningbo, China, with commercial production anticipated in 2021.
- Targeting to close the acquisition of the new Australian retail assets and terminals in second-half 2020.
- Continuing development of the company's renewable fuels portfolio, including gasoline, jet, diesel and natural gas with renewable content.

#### Downstream financial and operating highlights (Includes equity share in affiliates)

Millions of dollars	2019	2018
Earnings	\$ 2,481	\$ 3,798
Refinery crude oil inputs (Thousands of barrels per day)	1,564	1,608
Refinery capacity at year-end (Thousands of barrels per day)	1,748	1,627
U.S. gasoline, diesel and jet fuel yields (Percent of U.S. refinery production)	84 %	83 %
Refined product sales (Thousands of barrels per day)	2,577	2,655
Motor gasoline sales (Thousands of barrels per day)	956	963
Olefin and polyolefin sales (Thousands of metric tons per year)	4,261	4,502
Specialty, aromatic and styrenic sales (Thousands of metric tons per year)	3,571	3,886
Number of marketing retail outlets at December 31	13,051	12,902
Capital expenditures	\$ 2,788	\$ 2,193

# 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 technology, incorporating its exclusive cleaning additive, Techron, into these markets in order to maintain a leading position in branded fuels.

Chevron maintains a focus on optimizing the value chain to maximize returns. Through integration of its crude supply and refining processing capabilities, the company is able to provide real-time economic decisions to optimize the value chain across the company's global business.

## **Americas Products**

The company supplies customers at approximately 9,000 Chevronand Texaco-branded retail outlets and 35 airports throughout North America and Latin America.

The Americas Products portfolio includes five wholly owned refineries in North America with a crude capacity of approximately 1 million barrels per day. 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 32 proprietary fuel terminals. During 2019, the business sold a daily average of approximately 1.5 million barrels of gasoline and other refined products.

At the El Segundo Refinery in California, Chevron continues to innovate to produce ever-cleaner fuels. This includes enhancements to key refinery units to enable the production of renewable fuels including diesel, jet, and gasoline from bio-feedstocks. These efforts result in higher renewable content in every gallon of fuel produced. Chevron is also participating in an aviation fuels working group with airlines to explore supply chain enhancements necessary to supply the San Francisco International Airport with biojet fuel. At select retail stations in California, Chevron has installed electric vehicle (EV) charging stations to better understand the needs of EV drivers and is also evaluating the installation of hydrogen filling stations.

In May 2019, the company completed the acquisition of a refinery located in Pasadena, Texas. The Pasadena Refinery has the capacity to process 110,000 barrels of crude per day. The new refinery provides integration with Chevron's Gulf Coast Pascagoula, Mississippi, refinery and Houston blending centers and enables processing of greater amounts of equity Permian light crude oil.



Photo: Chevron acquired the Pasadena Refinery in May 2019.

#### Improving refinery flexibility, reliability and yield

During 2019, the company continued work on projects to improve refinery flexibility and reliability. At the Richmond Refinery in California, the modernization project reached full operational capacity in January 2019. The modernization project replaced older equipment with innovative technologies to create a newer, safer and cleaner refinery. The project also enables the refinery to continue to competitively produce gasoline, diesel, jet fuel and lubricating base oils that meet California's strict environmental regulations.

At the Salt Lake City Refinery in Utah, construction continued on the alkylation retrofit project with more than 100 modules transported and installed. Chevron expects to be the first to install the new ISOALKY technology in the United States, with project start-up expected in first-half 2021.

The business also continued its strong growth trajectory in Latin American markets including Mexico, El Salvador and Colombia.

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# Chevron partnering to bring renewable natural gas to market

The company joined a partnership in June 2019 that includes California dairy farmers to produce renewable natural gas (RNG). Chevron is investing in the construction of digesters at dairy farms that will collect methane from manure. The captured methane will be treated and upgraded to commercial natural gas specifications and injected into the pipeline of a local utility. The RNG will be marketed as an alternative fuel for heavy-duty trucks, buses and farm equipment.

This investment is part of Chevron's actions to economically lower carbon intensity, increase the use of renewables in support of its business and invest in the future of energy. Chevron is considering additional opportunities in RNG, as well as other alternative fuels.

#### downstream

#### 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 2019, Chevron continued to grow in northwestern Mexico, securing additional terminal capacity and expanding to nearly 200 branded stations.



Photo: The number of retail stations in Mexico continued to grow in 2019.

In Colombia, Chevron purchased two fuel terminals, located in Yumbo and Buenaventura, with a combined capacity of 350,000 barrels, strengthening Chevron's infrastructure capability and supply position in the market.

Through a joint venture, Chevron extended its ExtraMile convenience store brand to 941 locations in the western United States. The execution of these opportunities, coupled with the company's growth strategy, is expected to maintain leading market positions for the Chevron and Texaco brands.

#### **International Products**

The business manages all of Chevron's downstream fuels businesses and joint venture refineries outside North America and Latin America, with petroleum products and aviation fuels marketed and sold under the Caltex brand. The company manufactures and supplies premium-quality Caltex-branded transportation fuels into Asia-Pacific and the Middle East. Connecting refineries, terminals and retail stations creates a tightly integrated crude-to-customer value chain and leverages Chevron's people, processes and operations to consistently deliver results.

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

The company and its affiliates serve customers at approximately 4,000 Caltex-branded retail outlets in Asia-Pacific and at 32 airports in Asia-Pacific and the Middle East. The business sold a daily average of 1.2 million barrels of refined products in 2019.



Photo: There are approximately 4,000 Caltex-branded retail outlets in Asia-Pacific.

In December 2019, the company signed an agreement to acquire 360 retail assets and six terminals in Australia. This purchase is expected to close in second-half 2020. These assets align with Chevron's targeted growth strategy in Asia and are expected to provide fuel outlets for the company's joint venture refineries.

# deploying targeted cutting-edge technology investments at Chevron's Penjuru Terminal in Singapore

The company is investing in technology to transform the Penjuru Terminal in Singapore from a traditional fuel oil storage terminal to a smart terminal through digitalization, automation, data analytics and optimization. Applying digital technologies enables a highly integrated terminal where end-to-end processes are automated to cover product receipt, storage, and terminal and tank truck operations, resulting in increased efficiency and value optimization.



**Photo:** Chevron is investing in technology to transform the Penjuru Terminal in Singapore from a traditional fuel oil storage terminal to an automated, highly integrated terminal.



Photo: In February 2019, a final investment decision was reached for the construction of an olefins mixed-feed cracker and associated polyethylene unit at the GS Caltex Refinery in Yeosu, South Korea.

#### **Refineries strategically positioned**

The Asia-Pacific refining assets are well positioned to supply growing demand in this region. The 50 percent-owned, GS Caltex (GSC) operated refinery in Yeosu, South Korea is the fourth-largest refinery in the world with a total crude capacity of 800,000 barrels per day. In February 2019, a final investment decision was reached for the construction of an olefins mixed-feed cracker and associated polyethylene unit. First production is planned for 2021. In July 2019, GSC completed the installation of two treatment units designed to improve reliability and reduce operating costs.

Chevron has a 50 percent interest in Singapore Refining Company Limited (SRC), located on Jurong Island in Singapore. SRC has a total crude capacity of 290,000 barrels per day and manufactures a wide range of petroleum-based products for domestic and overseas export markets. Recent upgrades have enabled SRC to produce higher-quality gasoline that meets stricter emission standards while increasing energy efficiency, reducing emissions and lowering operating costs. Other targeted investments have enabled SRC to produce bunker fuels compliant with the International Maritime Organization's regulation change effective January 2020, with the first cargo being sold October 2019.

Through continued partnerships, in 2019 SRC secured a grant approval from the Singapore government for a project that qualified under the new Resource Efficiency Grant for Energy initiative. These and other planned projects are targeted to help reduce emissions and increase efficiency in its operations.

Chevron has a 60.6 percent interest in Star Petroleum Refining Company Limited (SPRC), located in Rayong province in Thailand. SPRC has a total crude capacity of 175,000 barrels per day and continues to supply high-quality petroleum products through the Caltex brand into regional markets such as Thailand and Cambodia. SPRC completed a full site turnaround and expansion project in December 2019.

#### Sustaining a focused marketing portfolio

The company continues to expand in selected growth markets, including Malaysia, the Philippines, Thailand and Cambodia.

Several initiatives were recently launched to better support emerging transportation fuel alternatives. This included installation of 40 EV rapid chargers and the opening of a Total Energy Service Station with gasoline, diesel, liquefied natural gas, electricity and hydrogen refilling capabilities through the GS Caltex joint venture in South Korea. In addition, Caltex Thailand is piloting EV charging at select stores in Bangkok.



Photo: Caltex is piloting a Smart Station with EV charging in Bangkok, Thailand.

#### downstream

# lubricants

Chevron is the only company with a wholly owned, fully integrated base oil, lubricants and additives business. The company 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. Chevron provides high-quality lubricants in the commercial, industrial, consumer and marine sectors. 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. These products are sold in 155 countries around the globe.

Chevron Lubricants has an integrated global supply chain with modern blending plants and base oil distribution hubs in all demand regions. The company's global base oil manufacturing network includes base oil facilities at refineries in Richmond, California; Pascagoula, Mississippi; and Yeosu, South Korea. In 2019, Chevron expanded the number of supply hubs to 16 and upgraded base oil manufacturing in its portfolio to increase value. The supply hubs provide efficient global logistics to customers and a range of base oil grades that meet customers' needs. The company's finished lubricants business has a global production network of 21 blending plants and joint ventures providing supply reliability in demand markets. In addition, Chevron's marine lubricants business supplies more than 500 ports across the globe.

Through innovation, Chevron is focused on improving its portfolio of products to better meet customer needs and operating responsibly to exceed customer performance expectations. The company has strategic partnerships with original equipment manufacturers and advanced research at technology centers in the United States and Belgium. This research includes the development of high-performing products meeting stringent environmental standards and engine oils that offer fuel economy retention benefits. In 2019, Chevron developed and commercialized Taro Ultra, a full range of International Maritime Organization 2020-compliant lubricants, to enable Chevron's customers to be compliant with changing standards. The company also expanded motorcycle oil availability in Latin America and Asia. Chevron developed and launched another industry-first in heavy-duty engine oils, Delo 600 ADF with OMNIMAX, that uses patented new ultra-low ash technology which significantly improves efficiency and fuel economy retention.

Chevron has invested in a California-based company that has developed innovative technology to produce high-performance base oils from renewable sources. The expansion of the Deer Park, Texas plant is expected to achieve mechanical completion in first-half 2020, with renewable base oils expected to come to market soon thereafter.

Chevron is also investing in digital solutions across the business to increase efficiency at the company's plants, ensure on-time delivery to customers, and improve the customer experience. One example of this work is the ongoing digitalization of the company's marketing and sales tools and processes.

The company's lubricants business is driving sustainability through analysis of plant efficiency and supply chain opportunities. Several products are now being packaged based on bag-in-the-box concept that uses a minimum 70 percent less plastic than the equivalent plastic bottles. Chevron's Ghent, Belgium, operations reduced transport emissions by over 1,100 metric tons of carbon dioxide per year, receiving an environmental charter certificate in 2019 for their efforts.

# optimizing complex facility turnarounds

### Bridging upstream and downstream to bring transformational digital solutions to Chevron's complex process facilities

Chevron is applying digital solutions and functional excellence to improve performance in Chevron's largest, most complex facilities. Fifty percent of Chevron's worldwide oil and gas production is concentrated in 15 upstream-and-downstreamrelated assets. These facilities share physical and operational characteristics that provide significant opportunities to optimize business value and safety management. Evaluating the endto-end workflow, Chevron's agile teams successfully deployed several digital solutions in 2019 to enable increased efficiency in the planning and execution of turnarounds, leading to significant cost savings.

- Scoping and Planning: A new digital engineering tool
  optimizes the scheduling of engineering resources for facility
  operations and reduces overall effort through the application
  of data analytics, transparent and holistic prioritization of
  actions, and execution workflow automation.
- Field Optimization: Mobile-enabled field workers allow for dynamic scheduling based on real-time conditions in the field. The ability to create, update and close work orders anywhere at any time facilitates more efficient field work and better decision making, ultimately reducing turnaround durations.

- Materials Management: A materials management dashboard improves visibility of material status, from requisitions to materials onsite, resulting in a reduction of turnaround materials cost and improved execution efficiency.
- Safety Optimization: The mobile quality management and schedule progress applications enhance visibility of work progress to stakeholders by providing real-time updates from the field. Both applications enable improved quality control and increased predictivity while maintaining the company's high level of safety.



**Photo:** Wheatstone benefits from Chevron's efforts to bring transformational digital solutions to complex facilities.

# Chevron is using robotics to increase safety and reliability while reducing costs

In 2019, Chevron continued deployment of robotic systems to perform safer inspections at lower cost. Through the use of crawling, climbing, snaking and flying robots with advanced equipment, the company is eliminating confined-space entry, avoiding work at heights, enhancing emergency response capabilities and transforming its operations. These deployments follow successful pilots of unmanned aerial systems and snakearm robots used to inspect offshore facilities in 2018.

- In the Salt Lake City Refinery, the company performed robotic inspections of in-service tanks to successfully collect asset integrity data without having to shut down its facilities, reducing both inspection costs and lost profit opportunities.
- In the El Segundo Refinery, the company deployed flying and crawling robots to gather high-quality data from multiple vessels during a turnaround, avoiding exposure to the risks of confined space entry and enabling faster completion of inspection and maintenance activities.

- In the lubricants facility in Ghent, Belgium, the company piloted a ground operator robot in an emergency response simulation to remotely climb stairs, inspect a steam leak and operate valves, making the area safe for personnel.
- In the Permian Basin, the company deployed robotic systems to support inspection and examination activities at two of its gas plants.



**Photo:** Chevron performed robotic inspections of in-service tanks at the Salt Lake City Refinery in Utah to collect asset integrity data without having to shut down the facility.

# 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 increasing demands of engine and equipment performance, as well as more stringent regulatory requirements. At year-end 2019, Oronite was manufacturing, blending or conducting research and development at 10 locations around the world.

Oronite technology advancements focus on the changing needs of its customers across multiple product lines. In an ever-changing market, the company continues to develop new products that help improve performance and meet regulatory requirements.

With these technology advancements, the company is delivering value in areas such as improving fuel economy and increasing engine protection in new passenger cars, including hybrids, as well as lowering marine fuel sulfur levels. Research into new opportunities, such as optimizing the performance of lubricant and battery cooling needs in full electric vehicles, also continues.

Oronite fuel additives help 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.

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.

#### 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.

Construction progressed during 2019 on a lubricant additive blending and shipping plant in Ningbo, China. Operations are anticipated to begin in 2021.



Photo: The Ningbo, China, blending and shipping plant is expected to be operational in 2021.

#### 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, Chevron Phillips Chemical Company (CPChem) and GS Caltex (GSC).

## **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 2019, 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.



Photo: As of year-end 2019, CPChem owned or had joint-venture interests in 28 manufacturing facilities and two research and development centers around the world.

#### Leveraging advantaged feedstock position

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.

In June 2019, CPChem announced an agreement to jointly develop a petrochemical complex in Qatar. CPChem holds a 30 percent interest in this complex. The Ras Laffan facility is expected to have an ethane cracker with a capacity of 1.9 million metric tons and two high-density polyethylene derivative units with a combined capacity of 1.6 million metric tons. Engineering and design work for this project commenced in October 2019.

In July 2019, CPChem announced an agreement to jointly develop the U.S. Gulf Coast II Petrochemical Project (USGC II). The USGC II project, in which CPChem holds a 51 percent interest, is expected to include a 2.0 million-metric-ton capacity ethylene cracker and two 1.0 million-metric-ton capacity high-density polyethylene units built in a location with direct access to the Permian Basin. Engineering and design work for this project is underway.

## **GS** Caltex

Chevron also maintains an important role in the petrochemicals business through the operations of GSC, a 50 percent-owned affiliate located in Yeosu, South Korea. GSC 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 base chemicals are used to produce a wide range of products, including adhesives, plastics and textile fibers. GSC also produces polypropylene, which is used to make automotive and home appliance parts, food packaging, laboratory equipment and textiles. GSC reached a final investment decision in February 2019 to build an olefins mixed-feed 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.

# process safety helps deliver value through safe and reliable performance

- Sustaining a high level of process safety protects Chevron's workforce, the community and the environment.
- Process safety is measured by a reduced number of incidents such as loss-of-containment and unplanned downtime. The company shares best practices across all regions to prevent similar events and shares safety practices with industry peers to reduce risk across the industry.
- Chevron adopts best practices from others and collaborates on the development of industry standards and practices.



Photo: Process safety helps deliver value through safe and reliable performance.

# 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 1.5 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 25 through 27 in the upstream section for information on the West African Gas Pipeline and the Caspian Pipeline Consortium.

## Shipping

Chevron's shipping organization provides safe, reliable and costcompetitive marine transportation, manages risk and provides operational, technical and commercial support to the enterprise. The company operates a fleet of conventional crude tankers, product carriers and LNG carriers. These vessels transport crude oil, LNG, feedstock and refined products in support of global upstream and downstream businesses. During 2019, the company completed the replacement of seven of its nine Very Large Crude Carriers (VLCCs). These new VLCCs benefit from the latest technological advances, which allow up to 20 percent increased fuel efficiency and improved environmental performance.



Photo: The El Segundo Voyager is one of Chevron's new Very Large Crude Carriers.

#### downstream operating data

#### **Refinery capacity** at December 31







International\*

United States

\* Includes equity share in affiliates.

#### **Refinery crude oil inputs**

Thousands of barrels per day



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

### Refinery capacities and crude oil inputs

Refinery capacities and crude oil i	nputs				Year ended D	ecember 3
	Refinery capacity				Refinery cru	de oil input
Thousands of barrels per day	At December 31, 2019	2019	2018	2017	2016	2015
United States – Consolidated						
El Segundo, California	276	241	273	251	267	258
Kapolei, Hawaii¹	-	-	-	-	37	47
Pasadena, Texas <sup>2</sup>	106	58	-	-	-	-
Pascagoula, Mississippi	350	358	332	349	355	322
Richmond, California	257	236	249	248	188	245
Salt Lake City, Utah	55	54	51	53	53	52
Total United States – Consolidated	1,044	947	905	901	900	924
International – Consolidated						
Canada – Burnaby, British Columbia³	-	-	-	40	51	46
South Africa – Cape Town <sup>4</sup>	-	-	49	68	78	69
Thailand – Map Ta Phut	166	134	160	152	162	164
Total International – Consolidated	166	134	209	260	291	279
International – Equity Shares in Affiliate	25					
Australia – Brisbane (50%)⁵	-	-	-	-	-	12
New Zealand – Whangarei (11.4%) <sup>6</sup>	-	-	-	-	-	5
Pakistan – Karachi (<1%)	-	-	-	3	3	3
Singapore – Pulau Merlimau (50%)	138	113	116	127	121	118
South Korea – Yeosu (50%)	400	370	378	370	373	361
Total International – Equity Share in Affili	ates 538	483	494	500	497	499
Total International	704	617	703	760	788	778
Total Worldwide	1,748	1,564	1,608	1,661	1,688	1,702

<sup>1</sup> Chevron sold its interest in this refinery in November 2016.
 <sup>2</sup> Chevron acquired its interest in this refinery in May 2019.

<sup>3</sup> Chevron sold its interest in this refinery in September 2017.

<sup>4</sup> Chevron sold its interest in this refinery in September 2017.
 <sup>5</sup> Chevron sold its interest in Caltex Australia Limited in April 2015.

<sup>6</sup> Chevron sold its interest in this refinery in June 2015.

Refinery capacities at year-end 2019		Chevron s	hare of capacitie	es <sup>1</sup>	
Thousands of barrels per day	Atmospheric distillation <sup>2</sup>	Catalytic cracking <sup>3</sup>	Hydro- cracking <sup>4</sup>	Residuum conversion <sup>5</sup>	Lubricants
United States – Consolidated					
El Segundo, California	276	66	48	70	-
Pasadena, Texas	106	52	-	-	-
Pascagoula, Mississippi	350	79	107	94	20
Richmond, California	257	72	132	-	20
Salt Lake City, Utah	55	14	-	9	-
Total United States – Consolidated	1,044	283	287	173	40
International – Consolidated					
Thailand – Map Ta Phut	166	38	-	-	-
Total International – Consolidated	166	38	-	-	-
International – Equity Shares in Affiliates <sup>7</sup>					
Singapore – Pulau Merlimau (50%)	138	22	16	16	-
South Korea – Yeosu (50%)	400	77	77	-	12
Total International – Equity Share in Affiliates	538	99	93	16	12
Total International	704	137	93	16	12
Total Worldwide	1,748	420	380	189	52

<sup>1</sup> Capacities represent typical calendar-day processing rates for feedstocks to process units, determined over extended periods of time. Actual rates may vary depending on feedstock qualities, maintenance schedules and external factors.

<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 Petroleum gases, gasoline, naphtha, kerosene, gas oil and residum. <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.

<sup>5</sup> 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.

<sup>6</sup> Lubricants capacity is based on dewaxed base oil production.

<sup>7</sup> Excludes the Pakistan refinery affiliate.

### downstream operating data

#### **Refinery crude distillation utilization**

(Includes equity share in affiliates)				Year ende	d December 31
Percentage of average capacity	2019	2018	2017	2016	2015
United States	90.8	97.1	98.1	93.4	96.1
Asia-Pacific	87.6	94.2	92.1	93.4	86.2
Africa-Pakistan	-	45.6	62.1	71.3	63.4
Other	-	-	72.5	91.9	83.7
Worldwide	89.5	92.5	92.7	92.0	89.8

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

Sources of crude oil input for worldwide refineries <sup>*</sup>				Year ended D	December 31
Percentage of total input	2019	2018	2017	2016	2015
Middle East	31.6	35.8	32.8	32.4	33.1
South America	18.5	20.4	23.5	24.9	23.3
United States	31.0	24.2	23.0	17.8	20.1
Mexico	8.2	9.1	6.8	4.8	4.7
Africa	1.6	3.6	3.5	3.4	3.4
Asia-Pacific	3.9	4.0	4.3	8.1	7.4
Other	5.2	2.9	6.1	8.6	8.0
Total	100.0	100.0	100.0	100.0	100.0

\*Consolidated companies only.

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

Sources of crude oil input for U.S. refineries				Year ende	d December 31
Percentage of total input	2019	2018	2017	2016	2015
Middle East	26.4	29.3	27.1	27.1	27.1
South America	21.1	25.1	30.3	32.9	30.3
United States – excluding Alaska North Slope	30.3	22.1	22.1	20.0	20.6
United States – Alaska North Slope	5.1	7.6	7.4	3.6	5.5
Mexico	9.4	11.2	8.8	6.3	6.1
Africa	1.8	1.7	0.9	0.7	0.8
Asia-Pacific	-	-	-	4.3	4.7
Other	5.9	3.0	3.4	5.1	4.9
Total	100.0	100.0	100.0	100.0	100.0

Refinery production of refined products <sup>*</sup>				Year ended [	Year ended December 31		
Thousands of barrels per day	2019	2018	2017	2016	2015		
United States							
Gasoline	448	442	444	450	439		
Diesel/Gas oil	187	178	183	188	205		
Jet fuel	230	229	210	197	197		
Fuel oil	38	42	31	34	38		
Other	121	133	128	120	127		
Total United States	1,024	1,024	996	989	1,006		
International							
Gasoline	35	60	88	102	94		
Diesel/Gas oil	53	83	96	110	105		
Jet fuel	12	20	26	28	27		
Fuel oil	13	24	28	31	26		
Other	22	27	30	32	38		
Total International	135	214	268	303	290		
Worldwide							
Gasoline	483	502	532	552	533		
Diesel/Gas oil	240	261	279	298	310		
Jet fuel	242	249	236	225	224		
Fuel oil	51	66	59	65	64		
Other	143	160	158	152	165		
Total Worldwide	1,159	1,238	1,264	1,292	1,296		

\* Excludes refined product of equity affiliates not included in table totaling 596, 604, 604, 602 and 585 for 2019, 2018, 2017, 2016 and 2015, respectively.

#### Worldwide refinery crude distillation utilization\*

Percent of average capacity



\*Includes equity share in affiliates.

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

Percentage of total input



Other United States Asia-Pacific South America Africa Middle East Mexico

\* Consolidated companies only.

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

Percentage of total input



Other United States Asia-Pacific South America Africa Middle East

\* Consolidated companies only.

Mexico

#### downstream operating data

#### **U.S. refined product sales** Thousands of barrels per day



Fuel oil

Jet fuel

Diesel/Gas oil

Gasoline

#### International refined product sales\*

Thousands of barrels per day



Fuel oil

Jet fuel

Diesel/Gas oil

Gasoline

\* Includes equity share in affiliates.

#### **Marketing retail outlets**

Number of outlets

20,000 15,000 13,051





Company

Retailer

Refined product sales				Year ended D	ecember 31
Thousands of barrels per day	2019	2018	2017	2016	2015
United States					
Gasoline	667	627	625	631	621
Diesel/Gas oil	191	188	179	182	215
Jet fuel	256	255	242	242	232
Residual fuel oil	42	48	48	59	59
Other Petroleum Products <sup>1</sup>	94	100	103	99	101
Total United States	1,250	1,218	1,197	1,213	1,228
International <sup>2</sup>					
Gasoline	289	336	365	382	389
Diesel/Gas oil	427	446	490	468	478
Jet fuel	238	276	274	261	271
Residual fuel oil	167	177	162	144	159
Other Petroleum Products <sup>1</sup>	206	202	202	207	210
Total International	1,327	1,437	1,493	1,462	1,507
Worldwide <sup>2</sup>					
Gasoline	956	963	990	1,013	1,010
Diesel/Gas oil	618	634	669	650	693
Jet fuel	494	531	516	503	503
Residual fuel oil	209	225	210	203	218
Other Petroleum Products <sup>1</sup>	300	302	305	306	311
Total Worldwide	2,577	2,655	2,690	2,675	2,735
<sup>1</sup> Other primarily includes naphtha, lubricants, asphalt and coke. <sup>2</sup> Includes share of equity affiliates' sales:	379	373	366	377	420

#### Natural gas liquid sales

(Includes equity share in affiliates)				Year ended	December 31
Thousands of barrels per day	2019	2018	2017	2016	2015
United States	101	74	109	115	127
International	72	62	64	61	65
Total	173	136	173	176	192

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

Marketing retail	outlets <sup>1, 2</sup>								At D	ecember 31		
	201	<b>2019</b> 2018		<b>2019</b> 2018		8	201	.7	203	16	201	5
	Company	Other	Company	Other	Company	Other	Company	Other	Company	Other		
United States	310	7,582	313	7,534	321	7,422	325	7,489	366	7,493		
Canada	-	-	-	-	-	-	137	43	138	41		
Latin America	21	1,193	24	1,065	29	857	38	773	48	716		
Asia-Pacific	126	1,418	125	1,385	133	1,400	146	1,430	174	1,529		
Africa-Pakistan	-	-	-	-	183	651	187	642	191	633		
Total	457	10,193	462	9,984	666	10,330	833	10,377	917	10,412		

<sup>1</sup> Excludes outlets of equity affiliates totaling 2,401, 2,456, 2,508, 2,599 and 2,651 for 2019, 2018, 2017, 2016 and 2015, respectively.
<sup>2</sup> 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.

#### CPChem plant capacities and products at year-end 2019<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)	-	-	2,560	1,060	980	465	-	
Borger, Texas	-	-	-	-	-	-	-	
Conroe, Texas	-	-	-	-	-	-	-	
Sweeny/Old Ocean, Texas	-	-	1,995	-	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	5,410	1,060	3,405	1,210	-	
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	
Total United States	725	480	5,410	1,060	3,405	1,210	475	
International – Wholly Owned								
Belgium, Beringen	-	-	-	-	-	-	-	
Belgium, Tessenderlo	-	-	-	-	-	-	-	
Total International – Wholly Owned	-	-	-	-	-	-	-	
International – Affiliates								
Colombia, Cartagena (50%)	-	-	-	-	-	_	-	
Qatar, Mesaieed (49%)	-	-	255	200	395	_	-	_
Qatar, Ras Laffan (26%)	-	-	340		-	-	-	-
Saudi Arabia, Al Jubail (50%)	425	180	105	-	-	75	375	
Saudi Arabia, Al Jubail (35%)	-		425	35	385	155	-	V
Singapore (50%)	-	-	-	-	200		-	_
Total International – Affiliates	425	180	1,125	235	980	230	375	
Total International	425	180	1,125	235	980	230	375	
Total Worldwide	1,150	660	6,535	1,295	4,385	1,440	850	V

Includes CPChem's share of equity affiliates.
 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.
 Other includes polyalphaolefins, polypropylene, polystyrene, performance pipe and specialty chemicals.

#### Olefin, polyolefin, specialty, aromatic and styrenic sales

(Represents equity share in CPChem and GS Caltex)		Year ended December 31				
Thousands of metric tons per year	2019	2018	2017	2016	2015	
Olefin and polyolefin sales	4,261	4,502	3,915	3,972	4,145	
Specialty, aromatic and styrenic sales	3,571	3,886	2,399	3,442	3,392	

# glossary of energy and financial terms

## energy terms

Acreage Land leased for oil and 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 when produced are in liquid state at 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 agreed-upon 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 PSC terms.

**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, 2019.

**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 guantities 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 finance lease liabilities, 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 cash 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 ratio** Total debt less the sum of cash and cash equivalents, time deposits, and marketable securities, as a percentage of total debt less the sum of cash and cash equivalents, time deposits, and marketable securities plus Chevron Corporation's stockholders' equity.

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

**Return on stockholders' equity (ROSE)** This is 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** This is 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 2019 Annual Report to stockholders and its Annual Report on Form 10-K for the fiscal year ended December 31, 2019, 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 contacting:

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

The 2019 Corporate Sustainability Report is scheduled to be available in May 2020 on the company's website, www.chevron.com/ sustainability, 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 nonequity 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

Caltex, Chevron, the Chevron Hallmark, Clarity, Delo, Havoline, Isodewaxing, Meropa, Oronite, Rando, Taro, Techron, Texaco and Ursa are registered trademarks and The Human Energy Company is a trademark of Chevron Intellectual Property LLC.

All other trademarks are the property of their respective owners.

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

This 2019 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," "seeks," "schedules," "estimates," "positions," "pursues," "may," "could," "should," "will," "buildgets," "outlook," "trends," "guidance," "focus," 'on schedule," "on track," "is slated," "goals," "objectives," "strategies," "opportunities," 'poised" 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 forward-looking statements, which speak only as of the date of this report. Unless legally required, Chevron undertakes no obligation to update publicly any forward-looking 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 projected 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 efficiencies associated with enterprise transformation initiatives; 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, terrorist acts, and public health crises, such as pandemic and epidemics; crude oil production quotas or other actions that might be imposed by the Organization of Petroleum Exporting Countries and other producing 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 pending or future litigation; the company's future acquisitions or dispositions 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 2019 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 governmental law or regulation.

This publication was issued in March 2020 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 2019 Annual Report* to stockholders and should be read in conjunction with it. The financial information contained in this *2019 Supplement to the Annual Report* is expressly qualified by reference to the *2019 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.





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