

Financial Review of the Global Oil and Natural Gas Industry: 2019



Markets and Financial Analysis Team

May 2020

Key findings for 2019

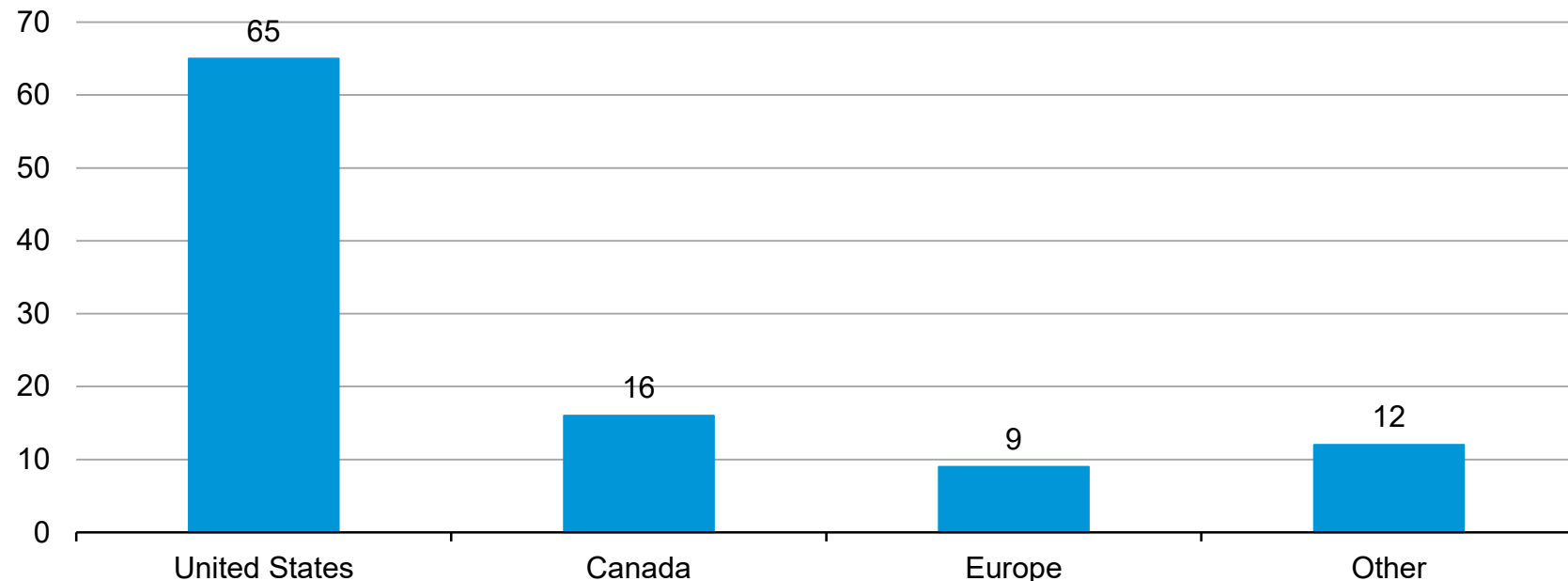
- Brent crude oil daily average prices were \$64.16 per barrel in 2019—11% lower than 2018 levels
- The 102 companies analyzed in this study increased their combined liquids and natural gas production 2% from 2018 to 2019
- Proved reserves additions in 2019 were about the same as the 2010–18 annual average
- Finding plus lifting costs increased 13% from 2018 to 2019
- Occidental Petroleum's acquisition of Anadarko Petroleum contributed to the largest reserve acquisition costs incurred for the group of companies since 2016
- Refiners' earnings per barrel declined slightly from 2018 to 2019

Note: The 102 companies analyzed in this study publish publicly available financial statements. A full list of the companies included and a glossary of terms begin on slide 25.

Upstream

Geographic distribution of global oil and natural gas company headquarters, 2019

number of companies

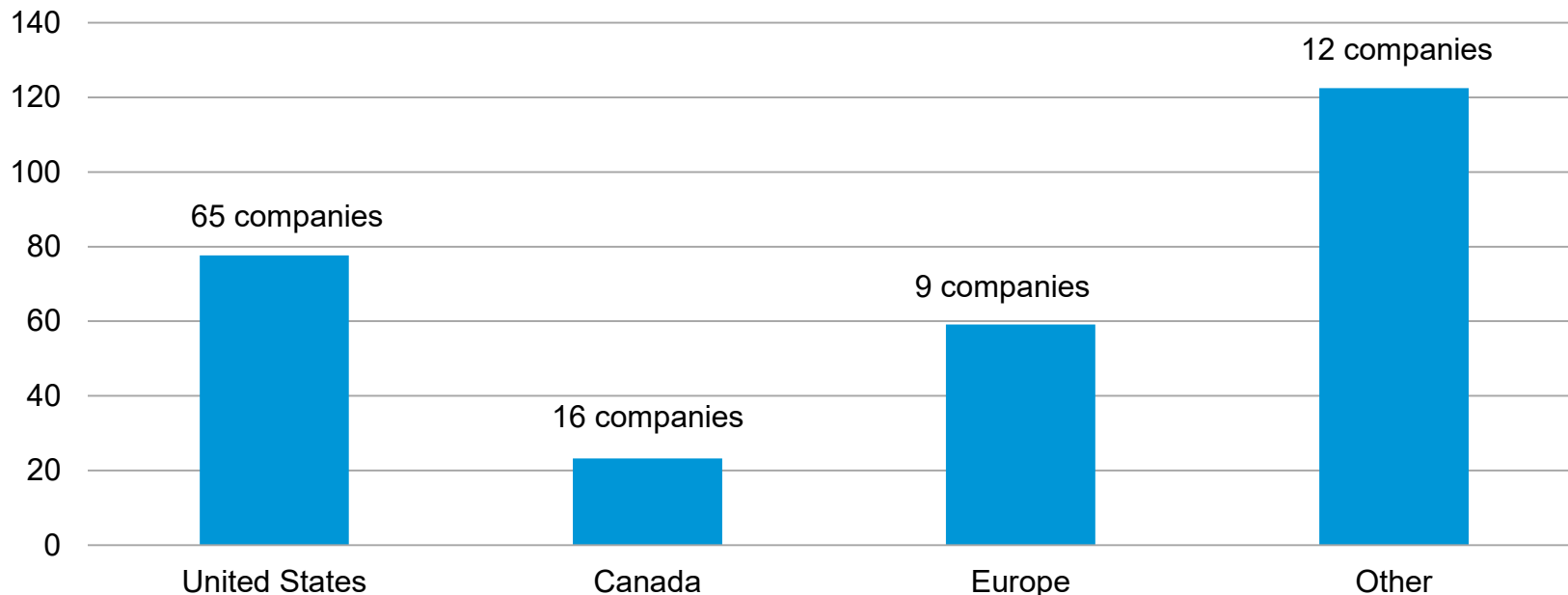


Source: U.S. Energy Information Administration, based on Evaluate Energy data of companies with publicly available financial statements

Note: *Other* includes Argentina, Brazil, Chile, China, Colombia, Mexico, Thailand, and Russia

Global oil and natural gas company proved reserves by region of headquarters, 2019

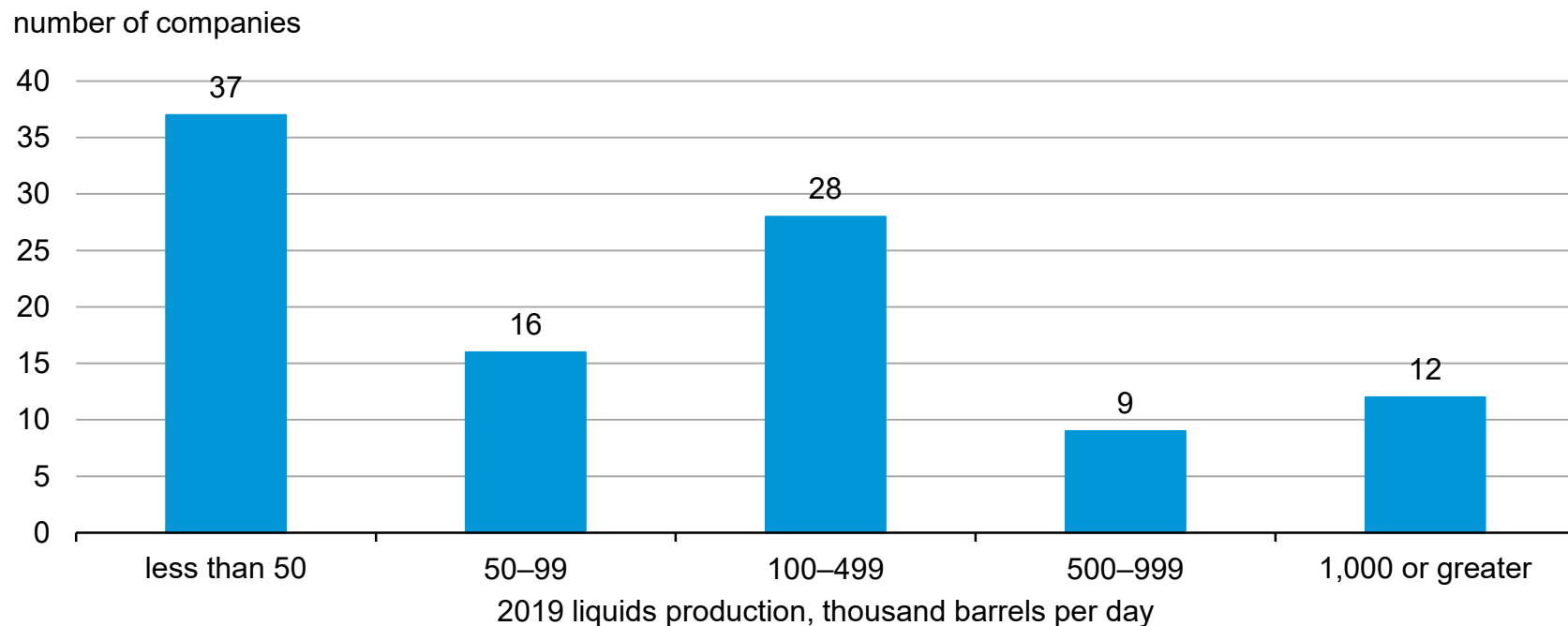
proved reserves by region of headquarters
billion barrels of oil equivalent



Source: U.S. Energy Information Administration, based on Evaluate Energy data of companies with publicly available financial statements

Note: *Other* includes Argentina, Brazil, Chile, China, Colombia, Mexico, Thailand, and Russia

Distribution of companies by volume of petroleum liquids produced, 2019

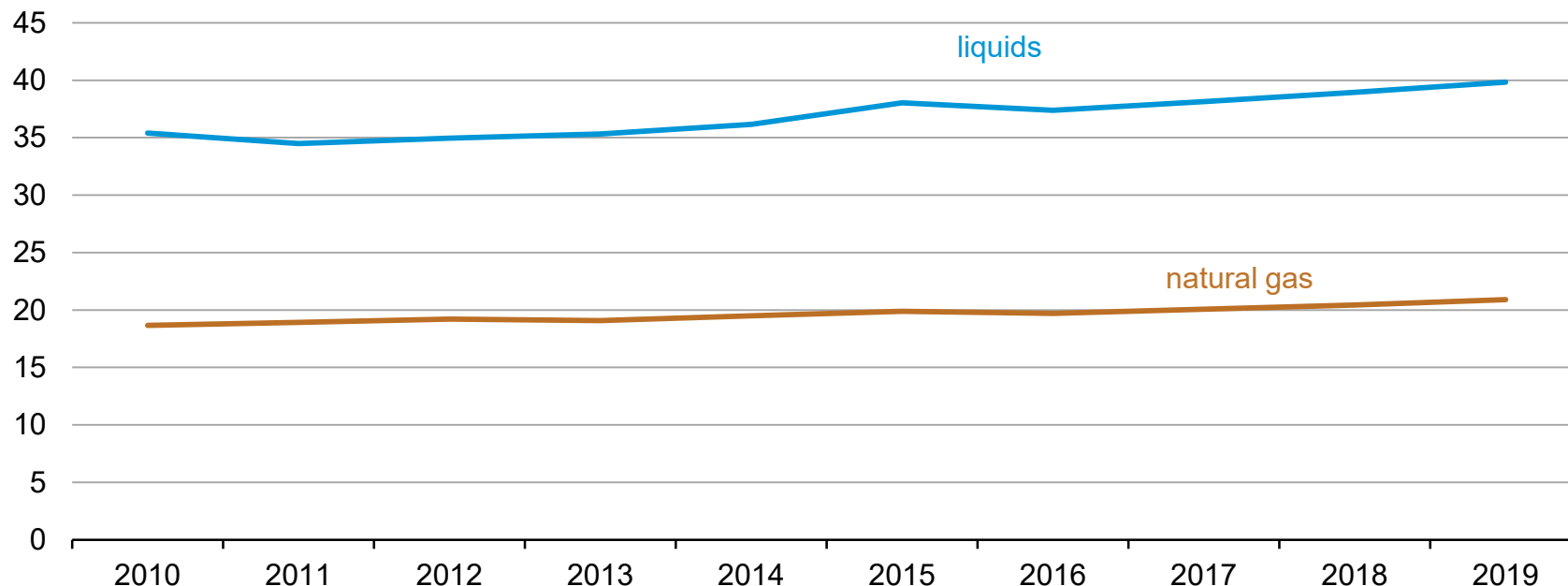


Source: U.S. Energy Information Administration, based on Evaluate Energy data of companies with publicly available financial statements

Production from the oil and natural gas companies

oil and natural gas production

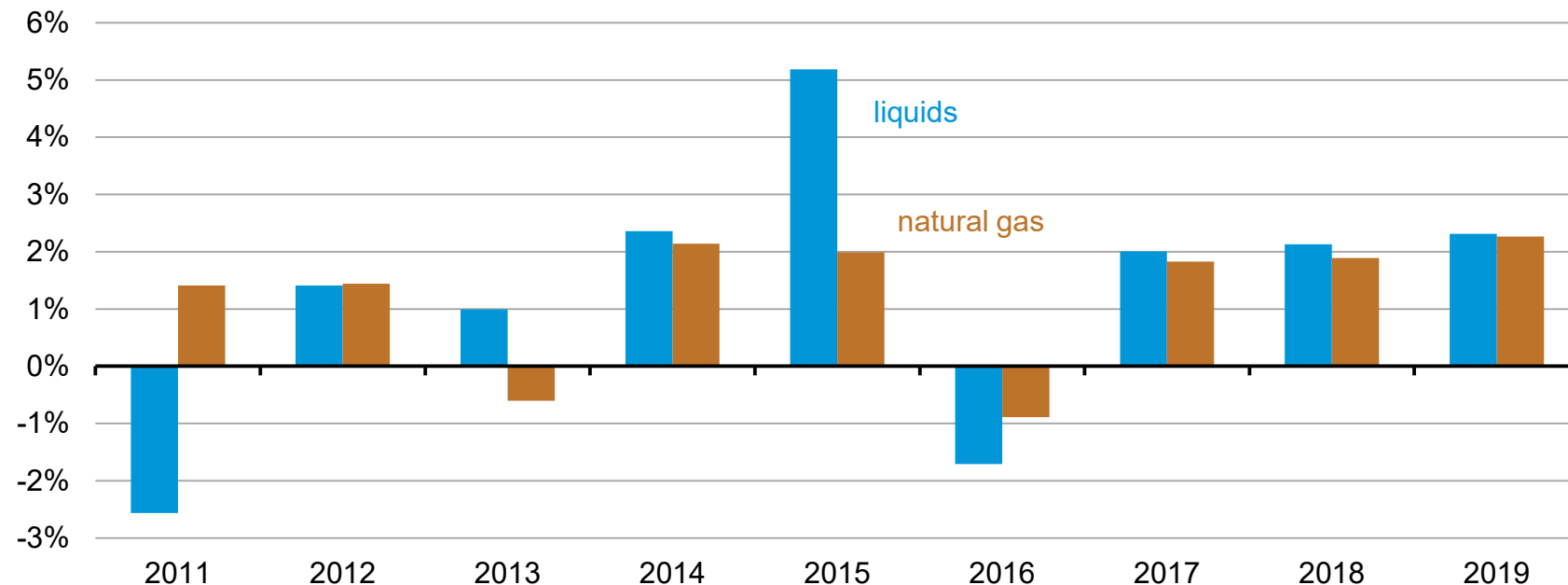
million barrels of oil equivalent per day



Source: U.S. Energy Information Administration, based on Evaluate Energy data of companies with publicly available financial statements

Liquids and natural gas production increased from 2018 to 2019

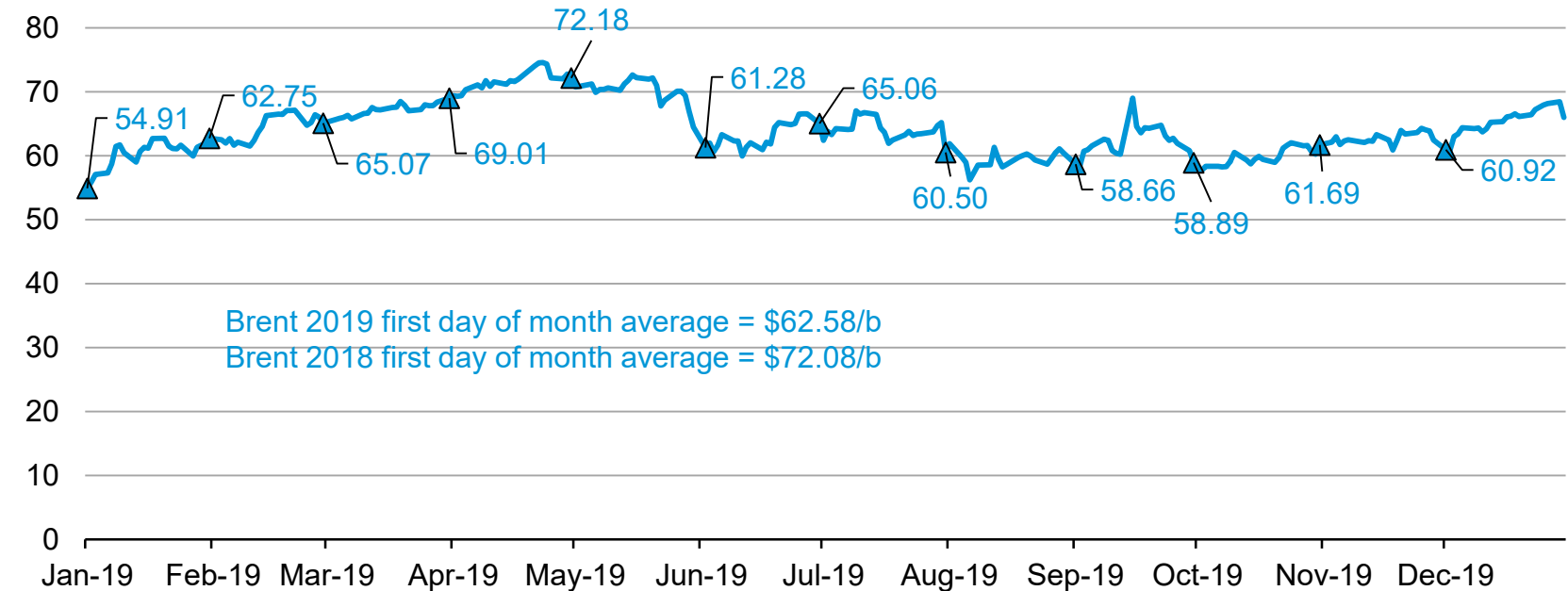
oil and natural gas production
year-over-year change



Source: U.S. Energy Information Administration, based on Evaluate Energy data of companies with publicly available financial statements

The SEC requires companies to value proved reserves based on an average of the prices on the first day of each month

Brent crude oil front-month futures price
dollars per barrel

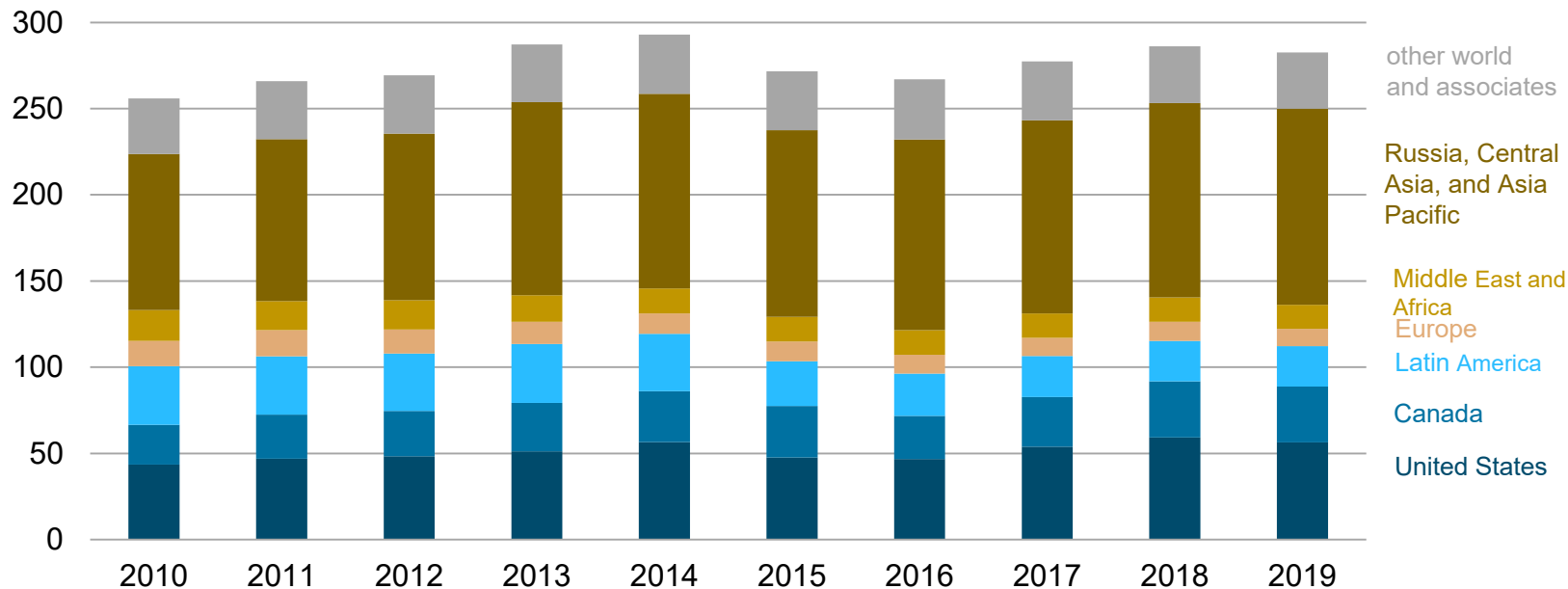


Source: U.S. Energy Information Administration, Intercontinental Exchange, Bloomberg L.P.

Note: SEC = U.S. Securities and Exchange Commission; b = barrel

Global proved reserves totaled 282 billion barrels of oil equivalent at the end of 2019

proved reserves by region
billion barrels of oil equivalent



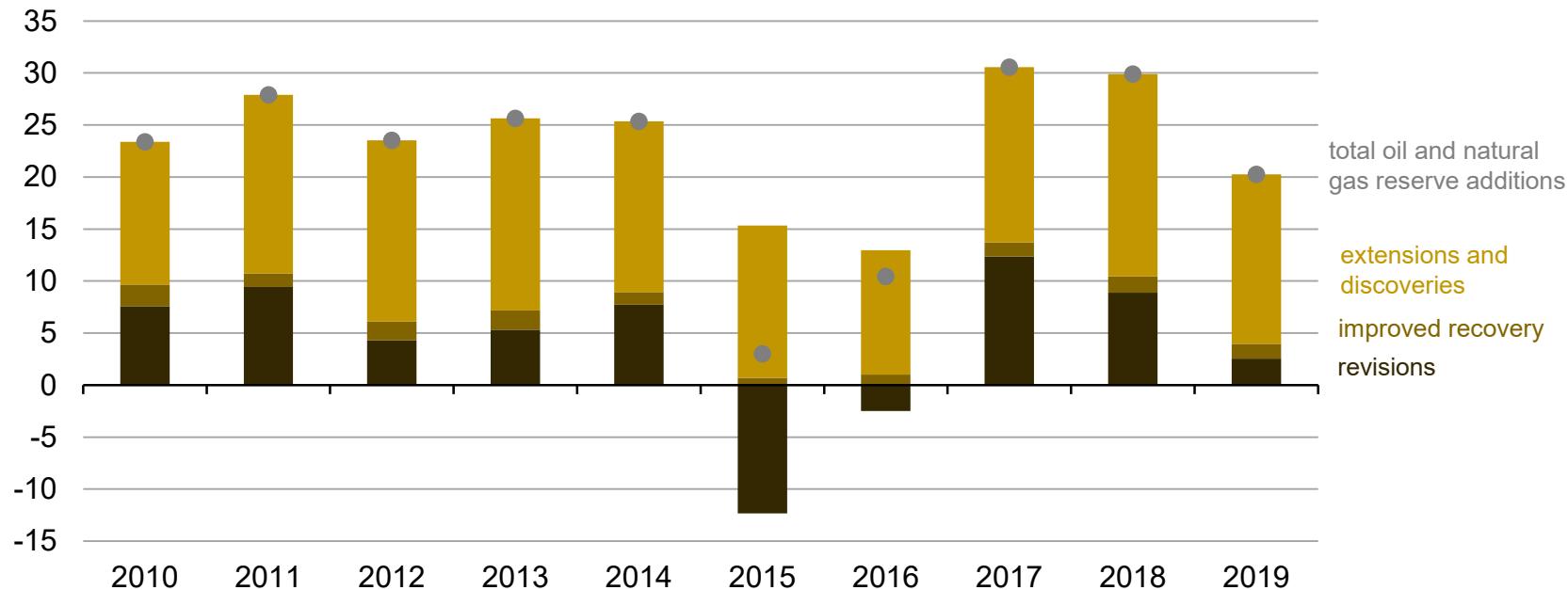
Source: U.S. Energy Information Administration, based on Evaluate Energy data of companies with publicly available financial statements

Note: Mergers and acquisitions between companies may affect net reserve changes for the year and comparisons between years

Proved reserves additions for liquids and natural gas totaled 20 billion barrels of oil equivalent in 2019

proved reserve additions

billion barrels of oil equivalent

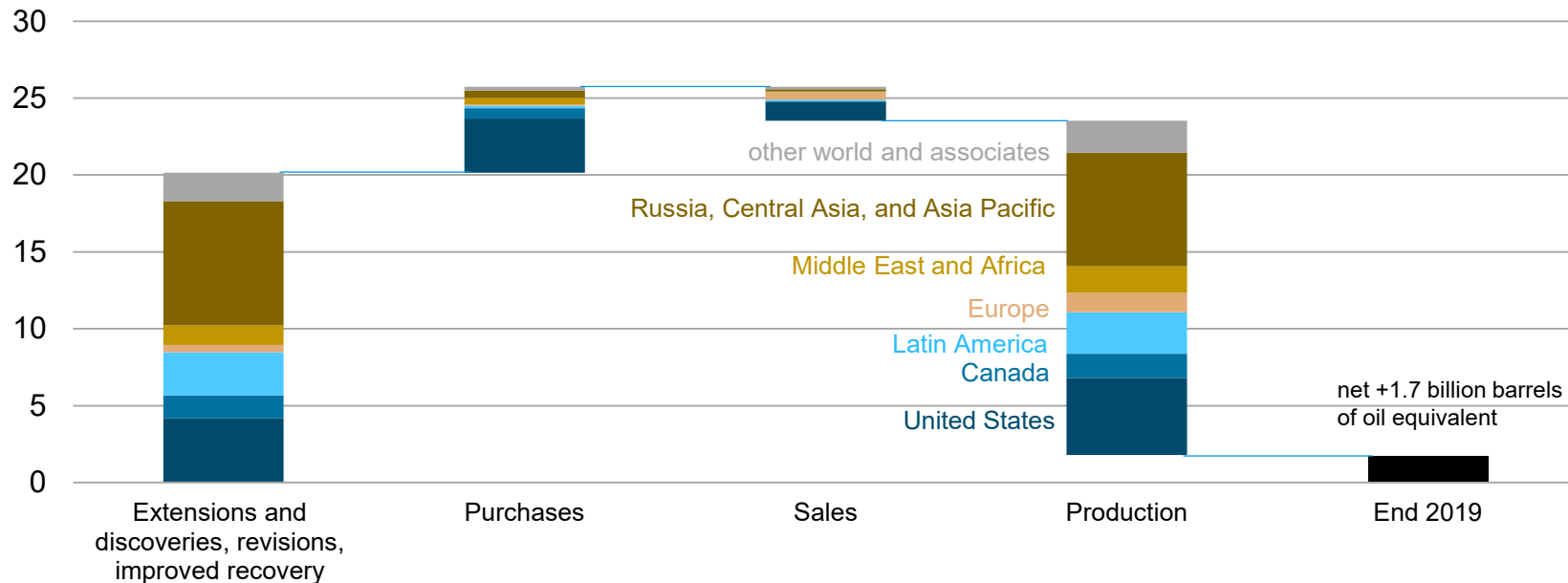


Source: U.S. Energy Information Administration, based on Evaluate Energy data of companies with publicly available financial statements

After net purchases and production, the companies added 1.7 billion barrels of oil equivalent to proved reserves in 2019

change in proved reserves from 2018 to 2019

billion barrels of oil equivalent

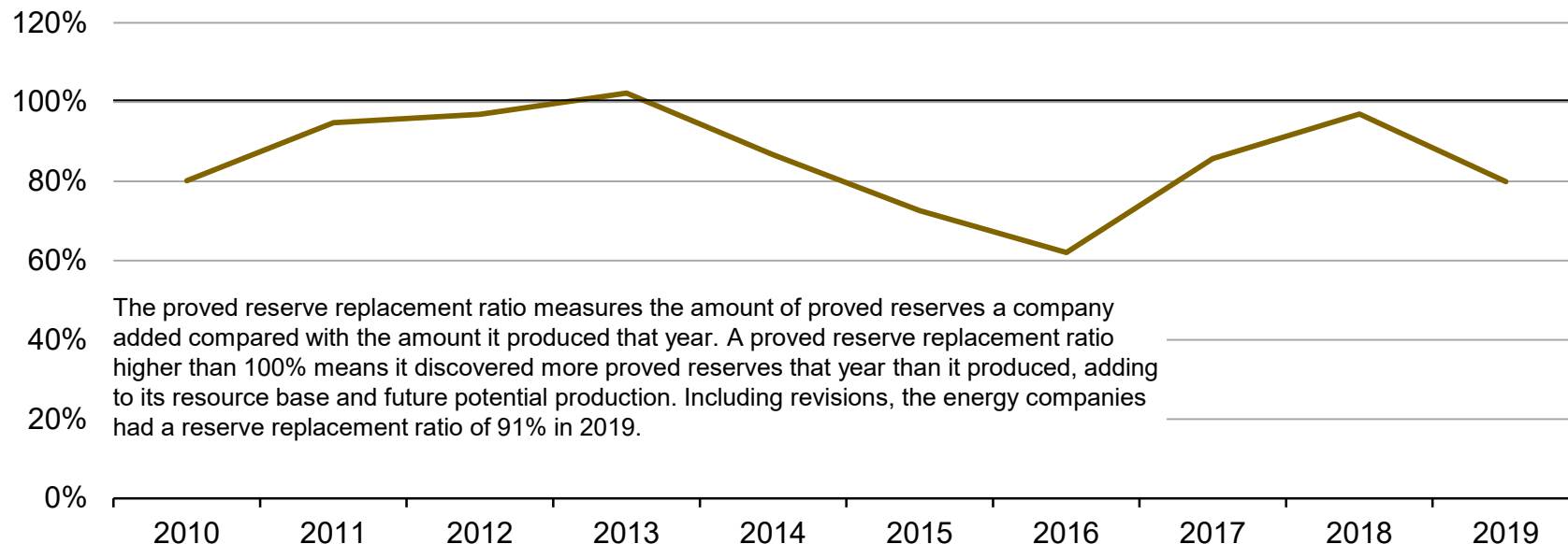


Source: U.S. Energy Information Administration, based on Evaluate Energy data of companies with publicly available financial statements

Note: Mergers and acquisitions between companies may affect net reserve changes for the year and comparisons between years

Excluding revisions, the companies replaced 80% of their production through organic proved reserve additions

proved reserve replacement ratio



The proved reserve replacement ratio measures the amount of proved reserves a company added compared with the amount it produced that year. A proved reserve replacement ratio higher than 100% means it discovered more proved reserves that year than it produced, adding to its resource base and future potential production. Including revisions, the energy companies had a reserve replacement ratio of 91% in 2019.

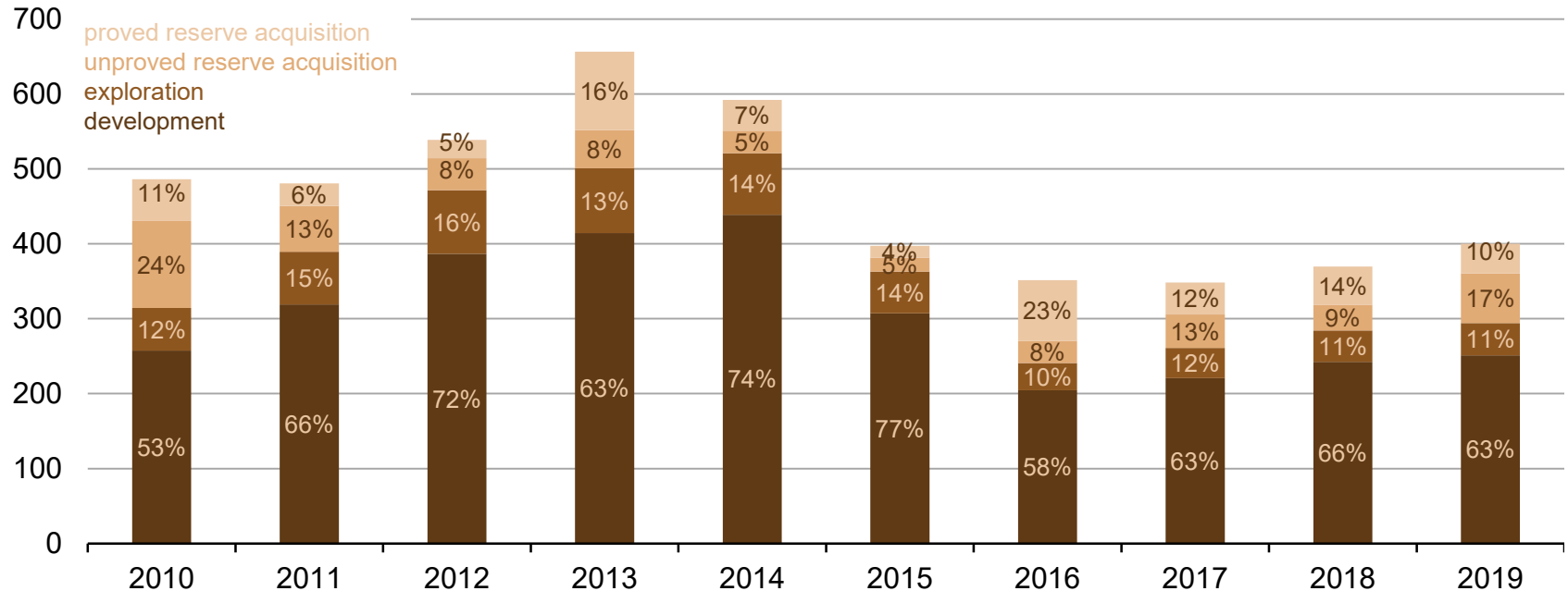
Source: U.S. Energy Information Administration, based on Evaluate Energy data of companies with publicly available financial statements

Note: Excludes proved reserve revisions. Organic proved reserves additions include those added through extensions and discoveries and improved recovery.

Total upstream costs incurred increased in 2019, largely driven by Occidental Petroleum's acquisition of Anadarko Petroleum in 2019

upstream costs incurred

billion dollars



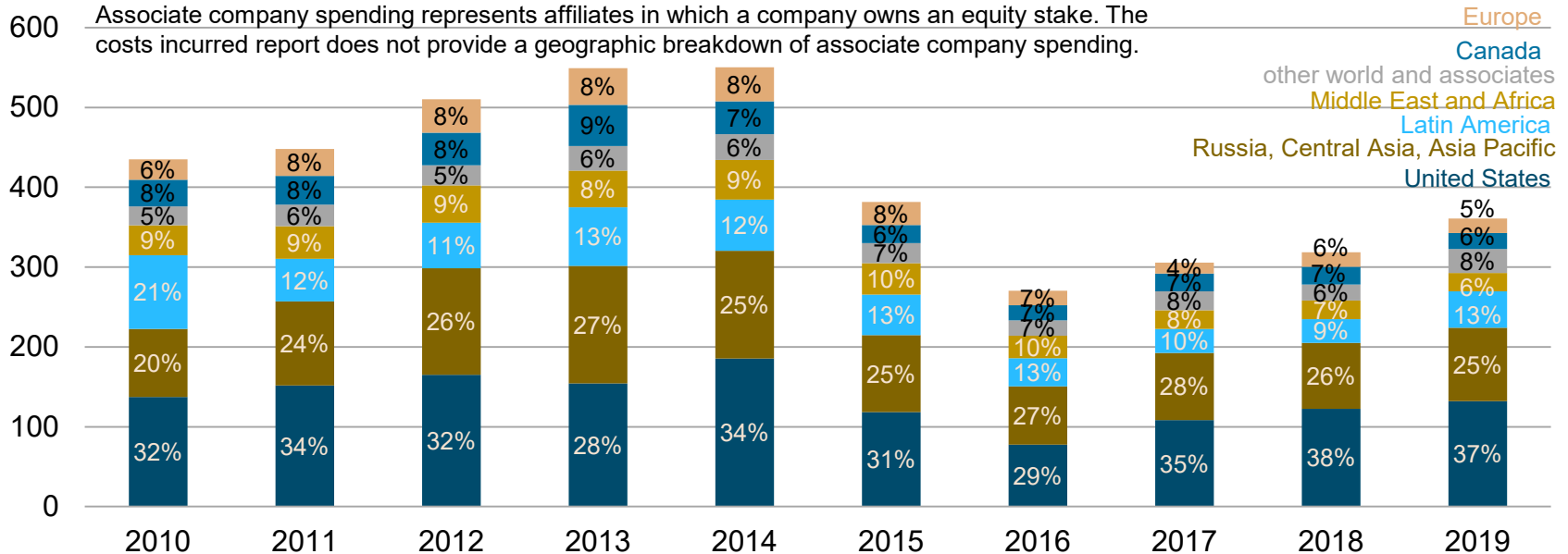
Source: U.S. Energy Information Administration, based on Evaluate Energy data of companies with publicly available financial statements

Note: Percentages are shares of total upstream costs. Percentages may not sum to 100% because of rounding

Most of the increase in exploration and development spending from 2018 to 2019 was in Latin America

exploration and development costs incurred

billion dollars



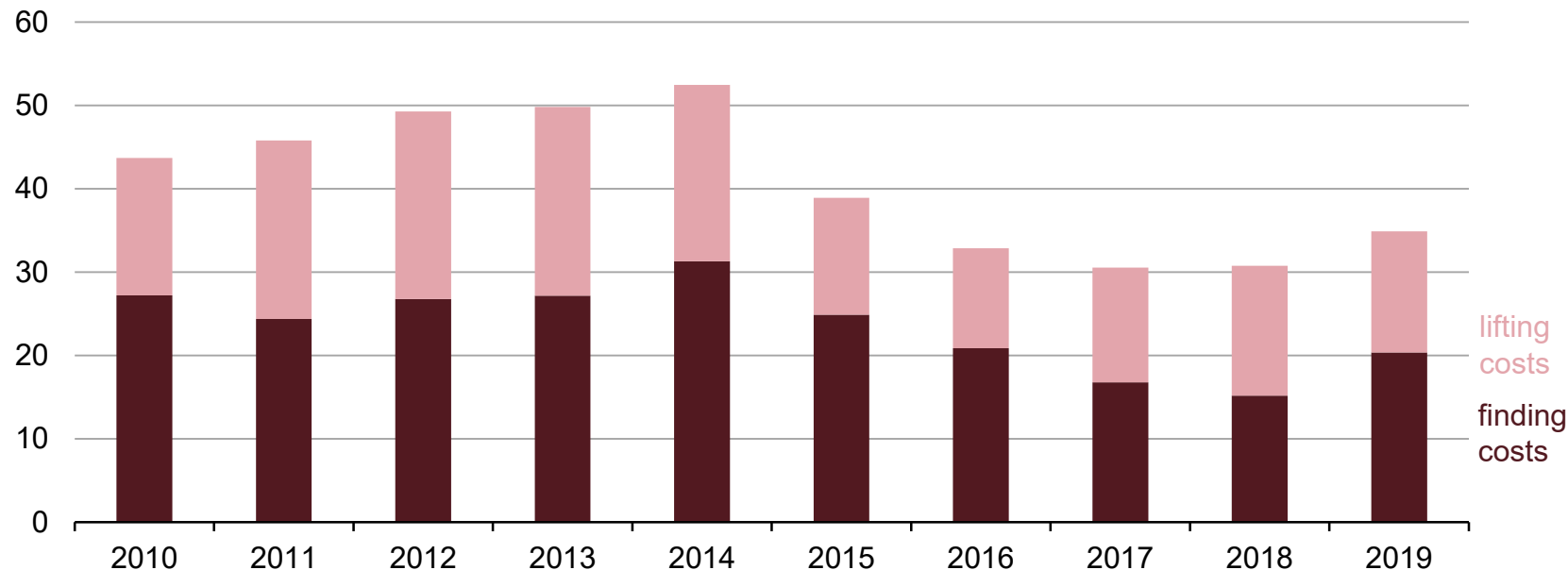
Source: U.S. Energy Information Administration, based on Evaluate Energy data of companies with publicly available financial statements

Note: Percentages are shares of global exploration and development costs incurred. Percentages may not sum to 100% because of rounding.

Includes costs incurred from unproved reserves acquisition

Finding plus lifting costs increased 13% from 2018 to 2019

dollars per barrel of oil equivalent



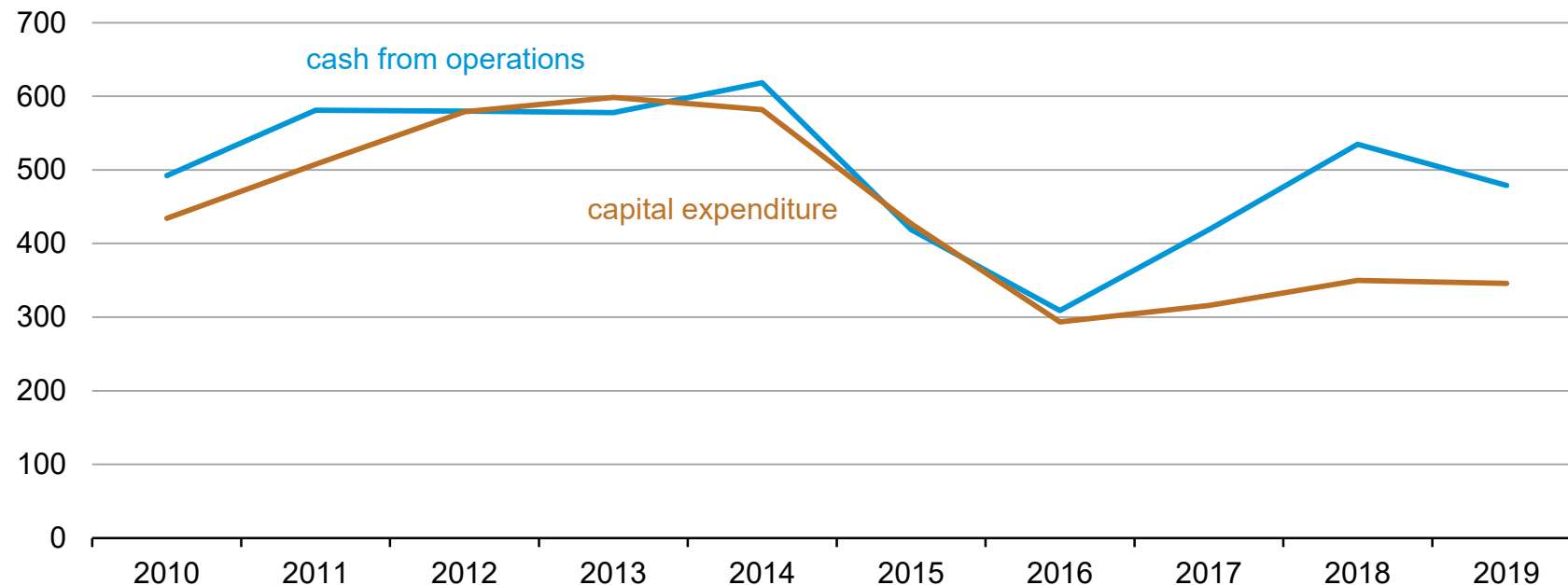
Source: U.S. Energy Information Administration, based on Evaluate Energy data of companies with publicly available financial statements

Note: Excludes proved reserve revisions

Capital expenditure and cash from operations decreased \$4 billion and \$56 billion, respectively, from 2018 to 2019

cash flow items

billion dollars

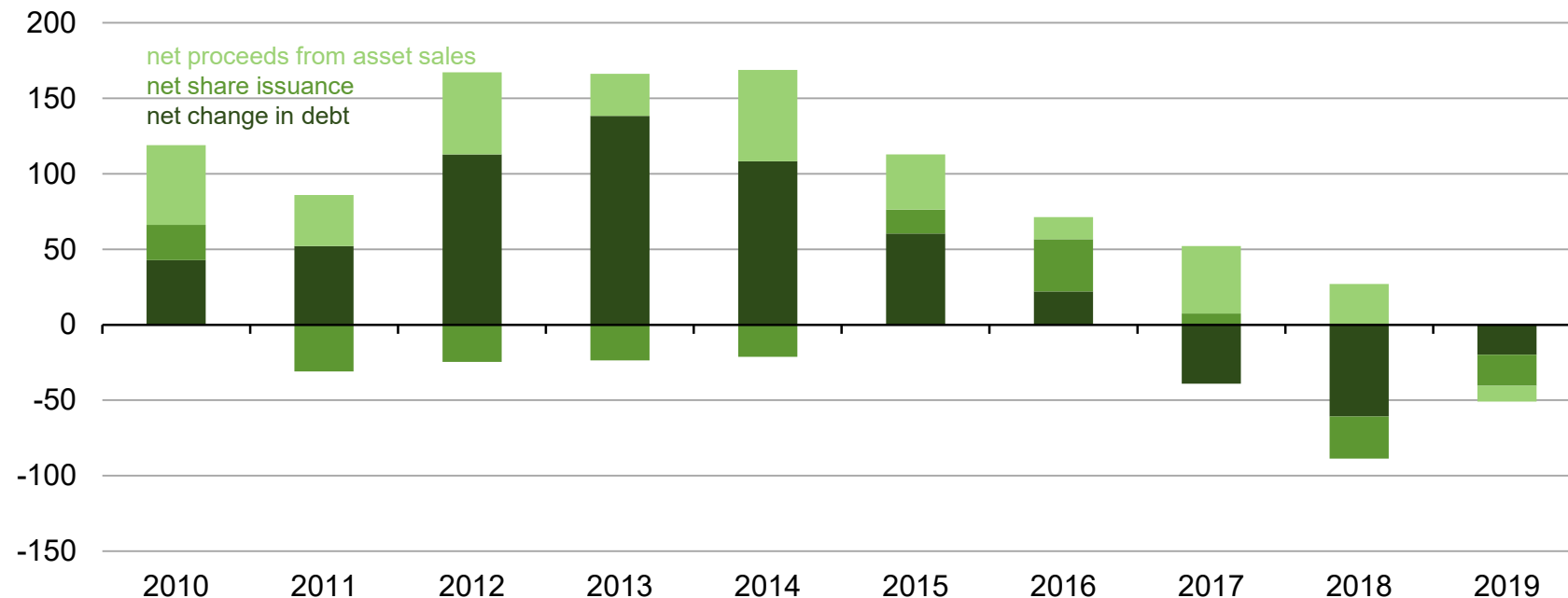


Source: U.S. Energy Information Administration, based on Evaluate Energy data of companies with publicly available financial statements

Other uses of cash in 2019 included debt reduction, share repurchases, and property acquisition

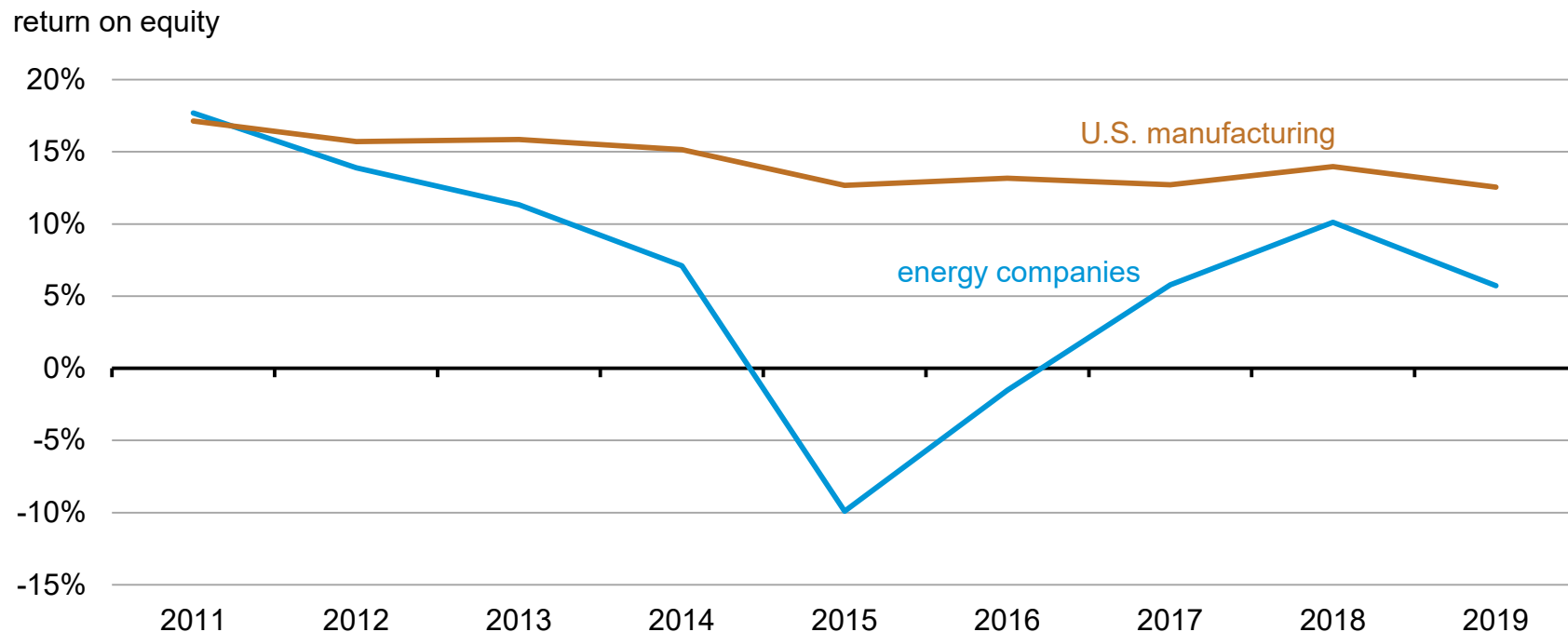
cash flow items

billion dollars



Source: U.S. Energy Information Administration, based on Evaluate Energy data of companies with publicly available financial statements

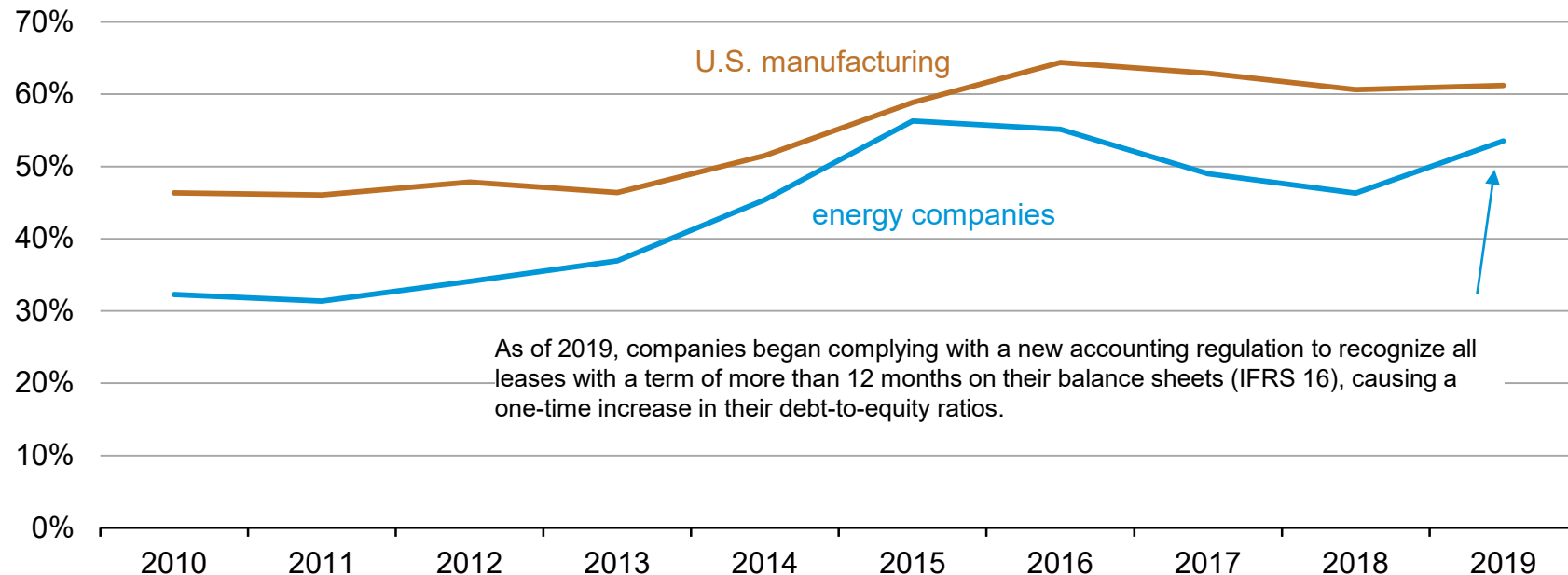
The return on equity for energy companies and U.S. manufacturing decreased to 6% and 13%, respectively, in 2019



Source: U.S. Energy Information Administration, based on Evaluate Energy data of companies with publicly available financial statements and U.S. Census Bureau

The long-term debt-to-equity ratio increased to 54% for the energy companies and to 61% for U.S. manufacturing companies

long-term debt-to-equity ratio



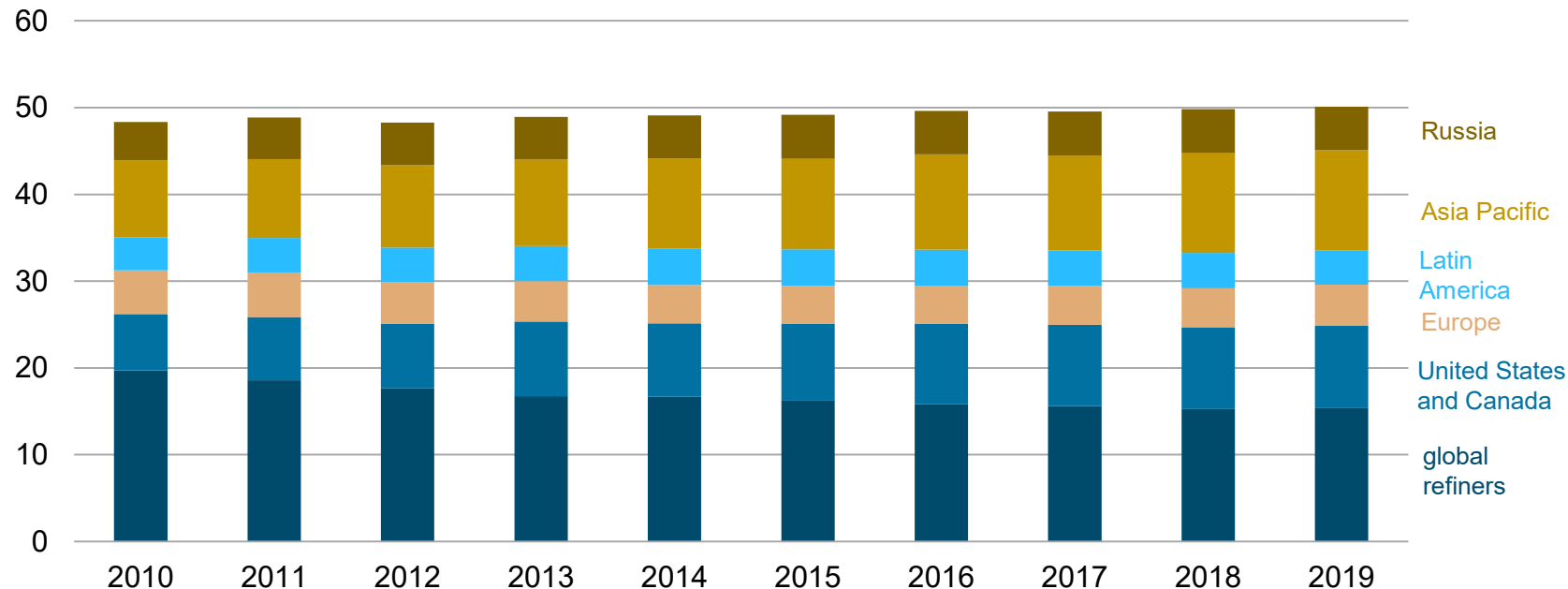
Source: U.S. Energy Information Administration, based on Evaluate Energy data of companies with publicly available financial statements and U.S. Census Bureau

Downstream

Global refining distillation capacity increased slightly from 2018 to 2019

distillation capacity

million barrels per day

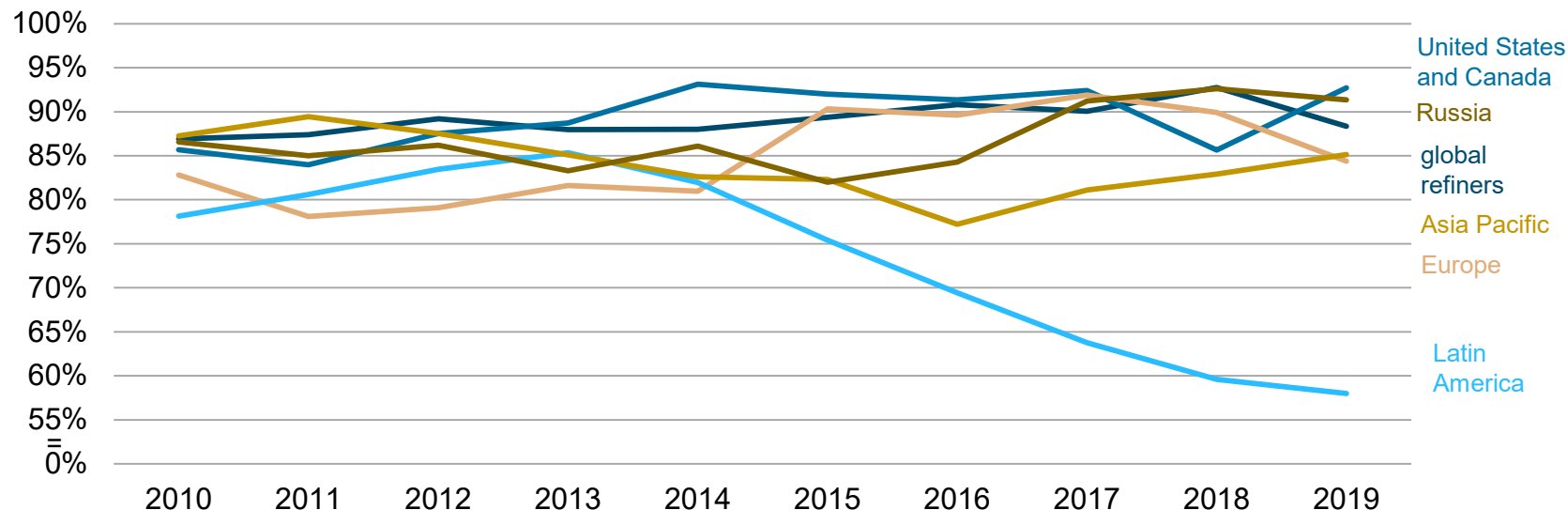


Source: U.S. Energy Information Administration, based on Evaluate Energy data of companies with publicly available financial statements

Note: A global refiner is a company with refining assets in different regions

Capacity utilization for all companies was 86% in 2019, but refinery problems in Mexico contributed to low Latin American utilization

capacity utilization



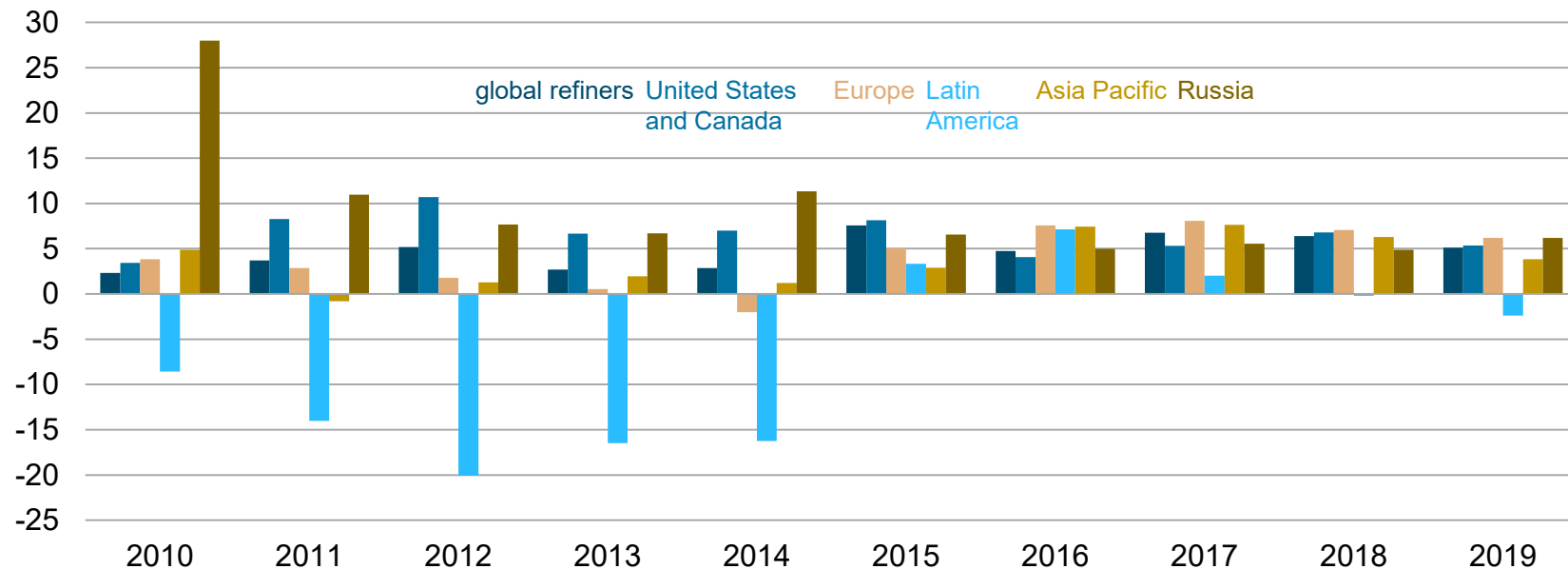
Source: U.S. Energy Information Administration, based on Evaluate Energy data of companies with publicly available financial statements

Note: A global refiner is a company with refining assets in different regions. Because of acquisition accounting between the merger of Marathon Petroleum and Andeavor in 2018, the reported annual refinery runs number is lower than the sum of each company's quarterly refinery runs.

This accounting method artificially decreased capacity utilization in the United States and Canada for 2018

Earnings per barrel processed declined for most refiners from 2018 to 2019

earnings per barrel processed
dollars per barrel



Source: U.S. Energy Information Administration, based on Evaluate Energy data of companies with publicly available financial statements

Note: A global refiner is a company with refining assets in different regions

Appendix: List of companies in the upstream analysis

Abraxas Petroleum Corporation	Cenovus Energy Inc.	Equinor ASA	Linn Energy	Pemex	Sinopec
Aker BP ASA	Centennial Resource Development, Inc.	Erin Energy Corporation	Lonestar Resources US, Inc.	Pengrowth Energy Corporation	SM Energy Company
Amplify Energy Corp.	Chesapeake Energy Corp.	Extraction Oil & Gas, Inc.	Lukoil (IFRS)	Penn Virginia Corporation	Sonde Resources Corp.
Anadarko Petroleum Corp.	Chevron Corporation	ExxonMobil	Magnolia Oil & Gas Corporation	Petrobras (IFRS US\$ Current)	SRC Energy Inc
Antero Resources Corporation	Cimarex Energy Co.	FieldPoint Petroleum Corporation	Marathon Oil Corp.	PetroChina	Stone Energy Corporation
Apache Corporation	Clayton Williams Energy, Inc.	Forest Oil Corporation	Mariner Energy	Petrominerales Ltd.	Suncor Energy Inc.
Apco Oil and Gas International Inc	CNOOC Ltd	Frontera Energy Corporation	Matador Resources Company	PetroQuest Energy, Inc	Talos Energy Inc.
Approach Resources Inc	Concho Resources Inc	Galp Energia	Maverick Natural Resources, LLC	Pioneer Natural Resources Company	TNK-BP International Ltd
Athlon Energy Inc.	ConocoPhillips	Gastar Exploration Inc.	Mid-Con Energy Partners, LP	PTT	Total
ATP Oil & Gas Corp.	Contango Oil and Gas Company	Gazprom Neft	Montage Resources Corporation	QEP Resources Inc	TransAtlantic Petroleum Ltd.
Bankers Petroleum Ltd	Continental Resources, Inc.	GeoPark Limited	Murphy Oil Corporation	Range Resources Corporation	TransGlobe Energy Corporation
Battalion Oil Corporation	Crescent Point Energy Corp	Gran Tierra Energy Inc.	Newfield Exploration Company	Repsol	T-Rex Oil, Inc.
Baytex Energy Corp.	Denbury Resources Inc.	Grizzly Energy LLC	Nexen Inc.	Ring Energy Inc	Triangle Petroleum Corporation
Berry Petroleum Corporation	Devon Energy Corporation	Harvest Natural Resources Inc.	Noble Energy	Roan Resources Inc.	Unit Corp
BG Group	Diamondback Energy Inc.	Hess Corporation	Northern Oil & Gas, Inc	Rosehill Resources Inc.	Vaalco Energy Inc
Black Stone Minerals LP	Earthstone Energy Inc.	HighPoint Resources Corporation	Oasis Petroleum Inc.	Rosetta Resources Inc.	W & T Offshore
Blue Ridge Mountain Resources, Inc.	Ecopetrol	Houston American Energy Corp	Occidental Petroleum Corporation	Rosneft	Whitecap Resources Inc.
Bonanza Creek Energy Inc	Endeavour International Corp	Husky Energy Inc.	OMV Group	Royal Dutch Shell	Whiting Petroleum Corporation
BP Plc.	Energen Corp	International Petroleum Corporation	Ovintiv Inc.	Royale Energy Inc.	WPX Energy, Inc.
Brazos Valley Longhorn, L.L.C.	Energy XXI Gulf Coast, Inc.	Jagged Peak Energy Inc.	Panhandle Oil & Gas Inc.	RSP Permian Inc	YPF Sociedad Anonima
California Resources Corporation	Enerplus Corporation	Kodiak Oil & Gas Corp.	Paramount Resources Ltd.	Sabine Oil & Gas Corporation	Yuma Energy, Inc.
Callon Petroleum	ENI	Kosmos Energy Ltd	Parex Resources Inc.	Sanchez Energy Corp	Yuma Energy, Inc. (Pre Davis)
Camber Energy, Inc.	EOG Resources	Laredo Petroleum Inc.	Parsley Energy Inc.	SandRidge Energy, Inc.	
Canadian Natural Resources Limited	EP Energy Corporation	Legacy Reserves Inc.	PDC Energy, Inc.	Seven Generations Energy Ltd.	
Carrizo Oil & Gas, Inc	EPL Oil & Gas Inc	Lilis Energy Inc.	PEDEVCO Corp.	Sherritt International Corp	

Source: U.S. Energy Information Administration, based on Evaluate Energy data of companies with publicly available financial statements

Note: Some companies merged, split, or delisted before 2019. A total of 102 companies existed in 2019.

Appendix: List of companies in the downstream analysis

Alon USA Energy	Gazprom Neft	Neste Corporation	Royal Dutch Shell
Andeavor	Grupa Lotos	OMV	Sinopec
Blue Dolphin Energy Co	HollyFrontier Corporation	Par Pacific Holdings, Inc.	Suncor Energy Inc.
BP Plc.	Husky Energy Inc.	PBF Energy Inc	TNK-BP International Ltd
Chevron Corporation	Imperial Oil Limited	Pemex	Total
ConocoPhillips	INA Group	Petrobras (IFRS US\$ Current)	TUPRAS
CVR Energy, Inc.	Indian Oil Corporation Limited	PetroChina	Valero Energy Corporation
Delek US Holdings	Lukoil (IFRS)	Phillips 66	Western Refining Inc.
ENI	Marathon Oil Corp.	PKN Orlen	
ExxonMobil	Marathon Petroleum Corporation	Repsol	
Galp Energia	MOL	Rosneft	

Source: U.S. Energy Information Administration, based on Evaluate Energy data of companies with publicly available financial statements

Note: Some companies merged, split, or delisted before 2019. A total of 35 companies existed in 2018.

Background

- The upstream analysis focuses on the financial and operating trends of 102 global oil and natural gas companies (called *the companies* or *the energy companies*), and the downstream analysis focuses on 35 companies
- The data come from the public financial statements each company publishes, which a data service (Evaluate Energy) aggregates for ease of data analysis
- For consistency, an energy company's assets that were acquired by another company in the group in 2010 or later were kept in the data for the previous years
- Several charts show comparisons between energy companies and the U.S. manufacturing industry. The data were collected from the U.S. Census Bureau's *Quarterly Financial Report*

Brief description of terms

- *Cash from operations* is a measure of income from the company's regular business activities
- *Capital expenditure* represents cash used to purchase property, plant, and equipment
- *Financing activities* measure inflows and outflows in debt or equity markets, including dividends, share issuance or repurchases, and debt issuance or repayments
- *Return on equity* is a measure of the profit a company earns on money that shareholders have invested
- *Market capitalization* is the total value of a company's outstanding, publicly traded shares

Brief description of terms

- *Net income* represents profits after taxes and depreciation
- *Asset impairments* occur when a company lowers the estimated value of a property to reflect current market value, which may result from the loss of production potential or a decline in oil prices
- *Upstream activities* refers to crude oil exploration, production, and other operations that occur before refining
- *Downstream activities* refers to refinery operations, product sales, and marketing at the wholesale and retail levels