

Financial Review of the Global Oil and Natural Gas Industry: 2018



Markets and Financial Analysis Team

May 2019

Key findings for 2018

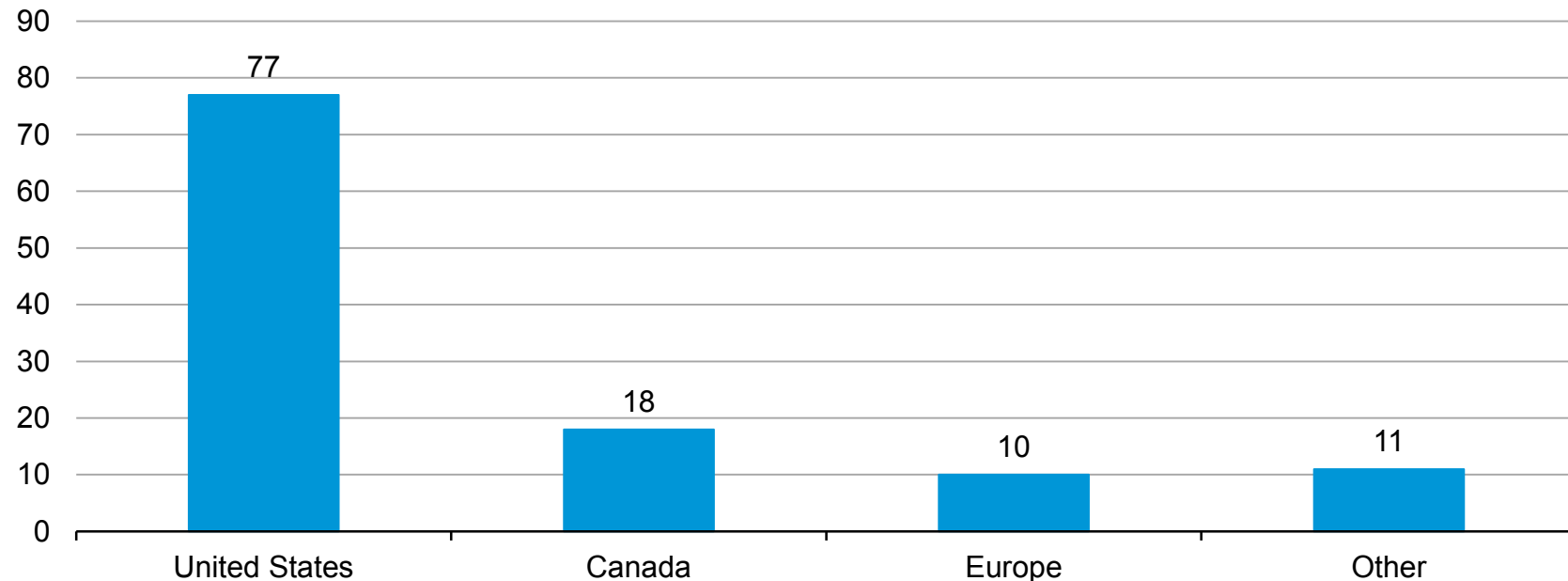
- Brent crude oil daily average prices were \$71.69 per barrel in 2018—35% higher than 2017 levels
- The 116 companies analyzed in this study increased their combined liquids and natural gas production 2% from 2017 to 2018
- Proved reserves additions in 2018 approached their highest levels in the 2009–18 period
- Finding plus lifting costs were essentially flat from 2017 to 2018
- The companies reduced debt in 2018 by more than \$60 billion, the most for any year in the 2009–18 period
- Refiners' earnings per barrel declined slightly from 2017 to 2018

Note: The 116 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, 2018

number of companies



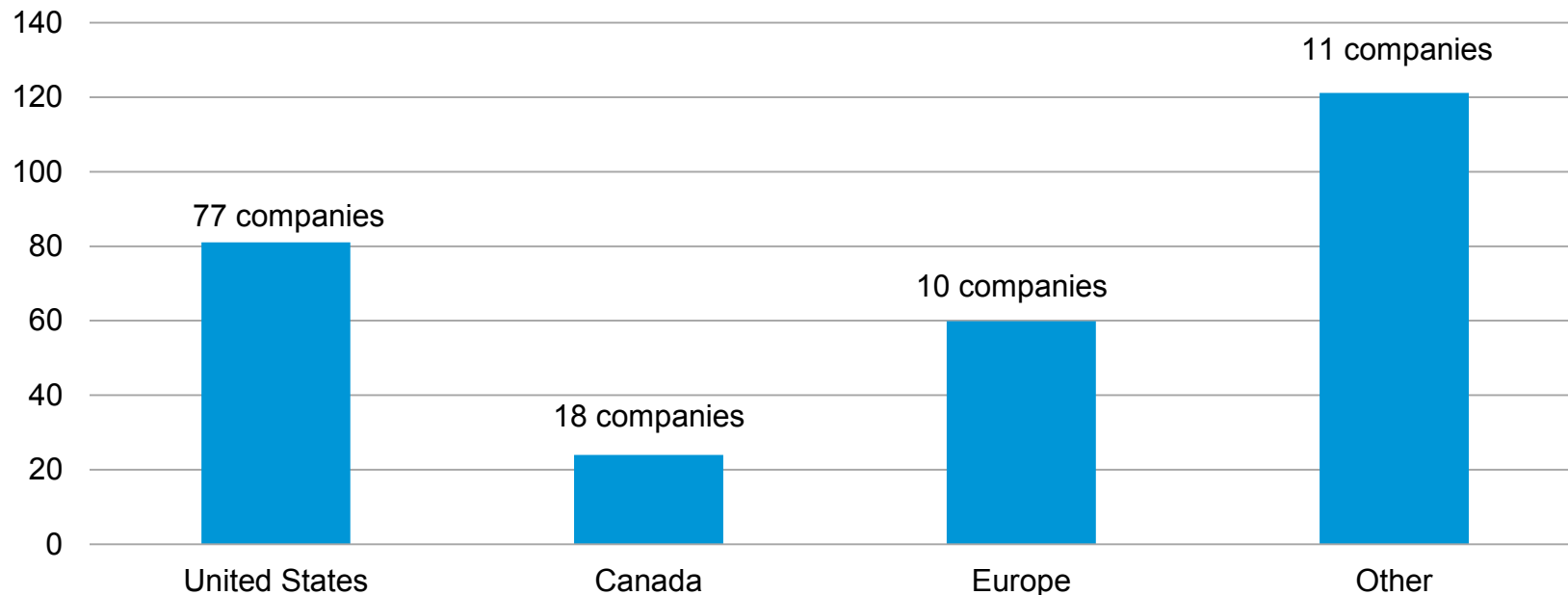
Source: U.S. Energy Information Administration, Evaluate Energy

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

Global oil and natural gas company proved reserves by region of headquarters, 2018

proved reserves by region of headquarters

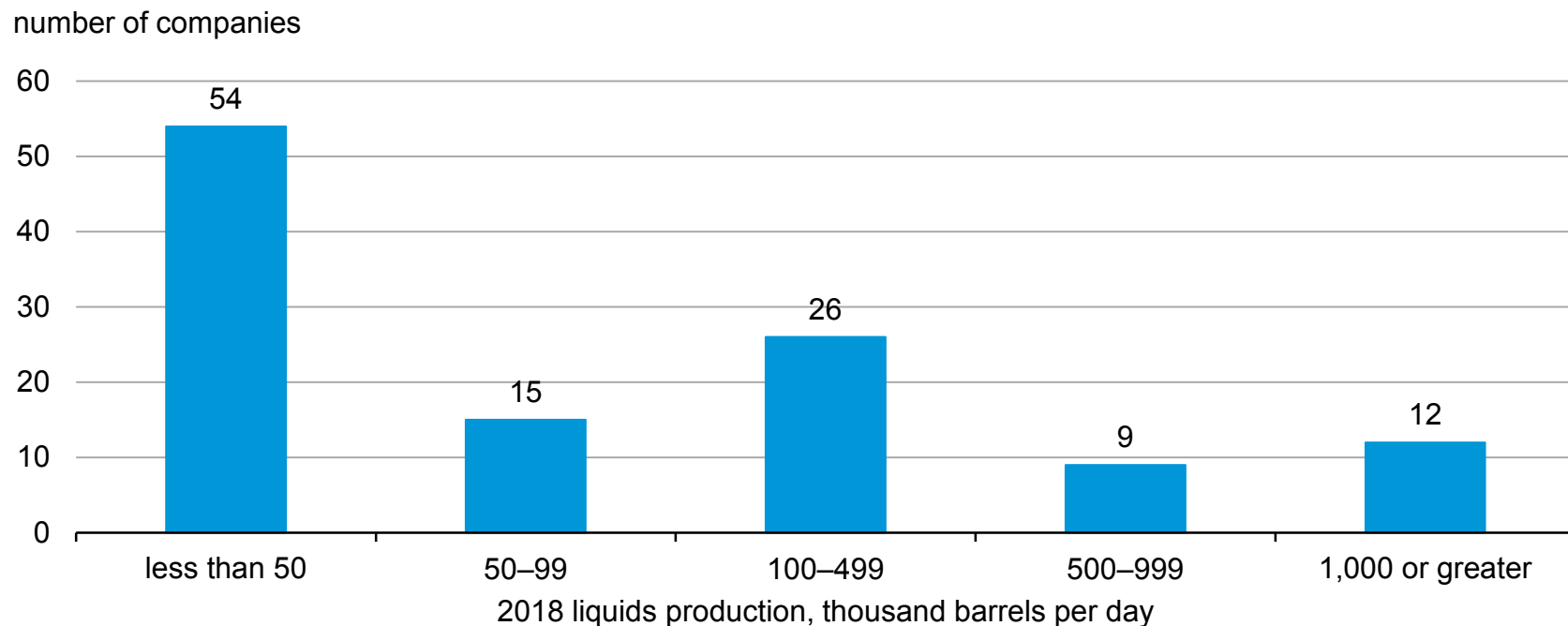
billion barrels of oil equivalent



Source: U.S. Energy Information Administration, Evaluate Energy

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

Distribution of companies by volume of petroleum liquids produced, 2018

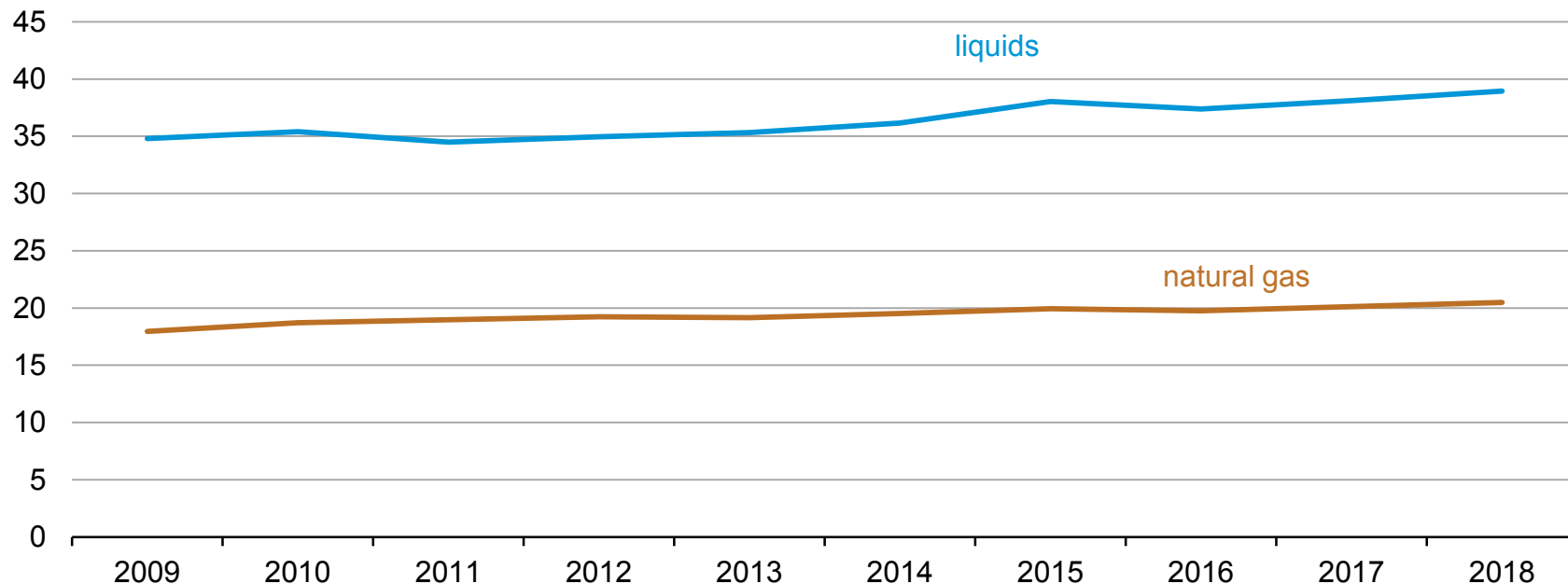


Source: U.S. Energy Information Administration, Evaluate Energy

Production from the oil and natural gas companies

oil and natural gas production

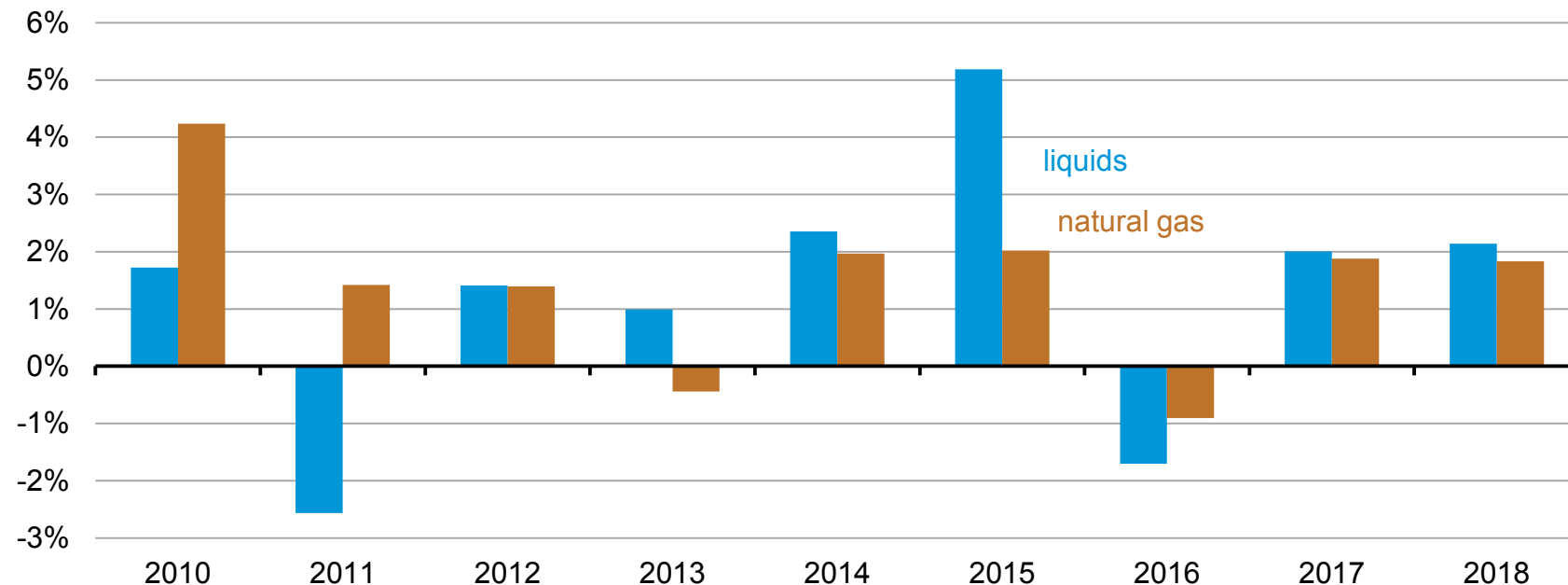
million barrels of oil equivalent per day



Source: U.S. Energy Information Administration, Evaluate Energy

Liquids and natural gas production increased from 2017 to 2018

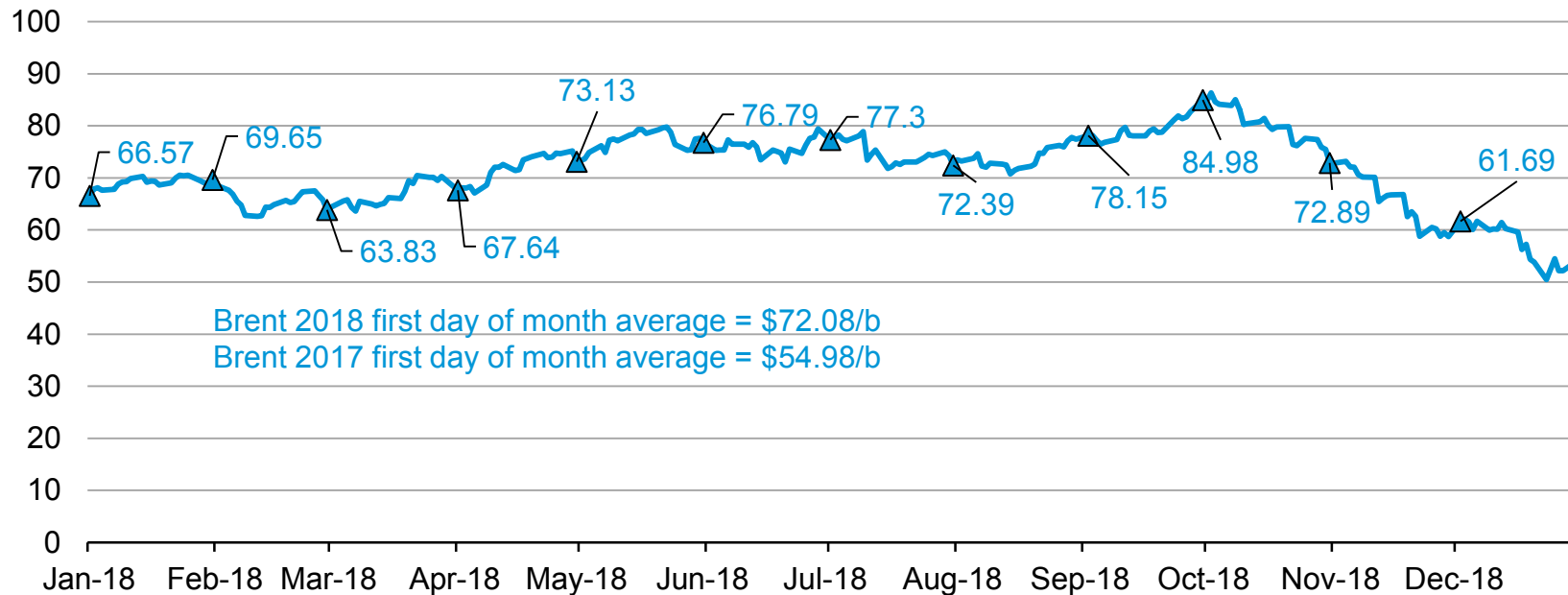
oil and natural gas production
year-over-year change



Source: U.S. Energy Information Administration, Evaluate Energy

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

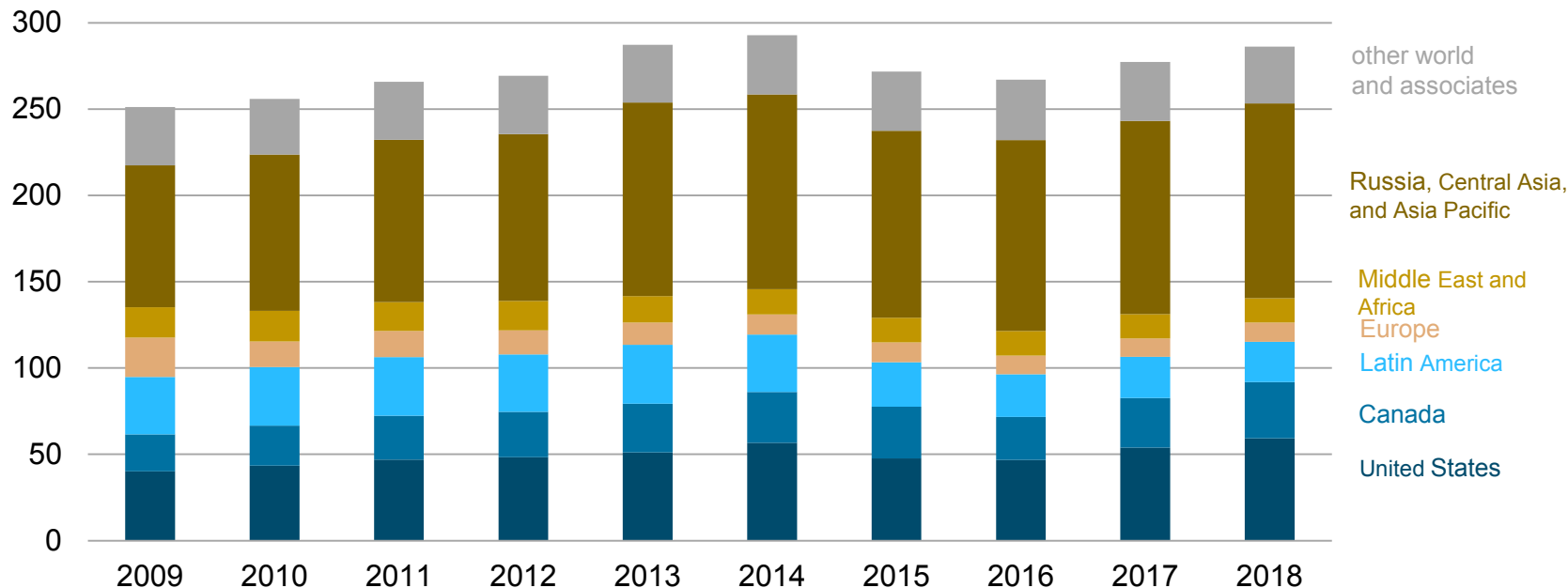


Source: U.S. Energy Information Administration, Evaluate Energy, Intercontinental Exchange, Bloomberg L.P.

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

Global proved reserves increased for the second consecutive year in 2018

proved reserves by region
billion barrels of oil equivalent

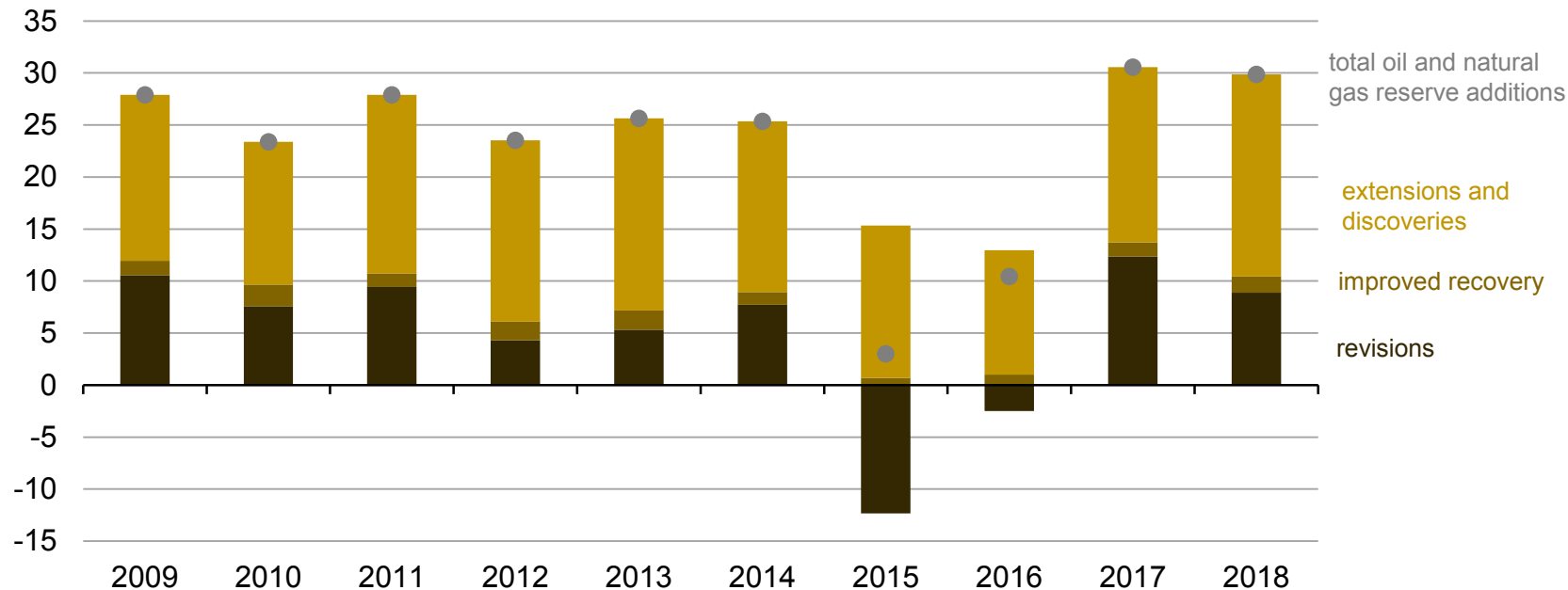


Source: U.S. Energy Information Administration, Evaluate Energy

Proved reserves additions for liquids and natural gas totaled 30 billion barrels of oil equivalent in 2018

proved reserve additions

billion barrels of oil equivalent

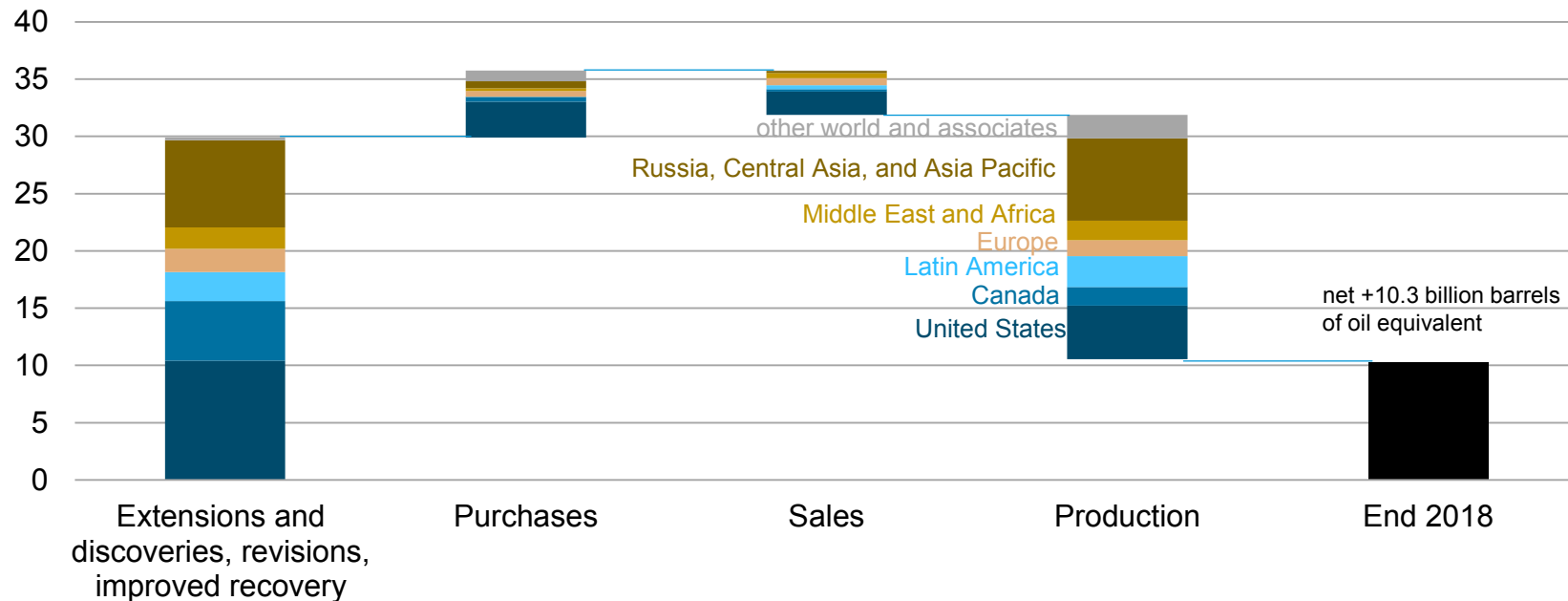


Source: U.S. Energy Information Administration, Evaluate Energy

After net purchases and production, the companies added 10.3 billion barrels of oil equivalent to proved reserves in 2018

change in proved reserves from 2017 to 2018

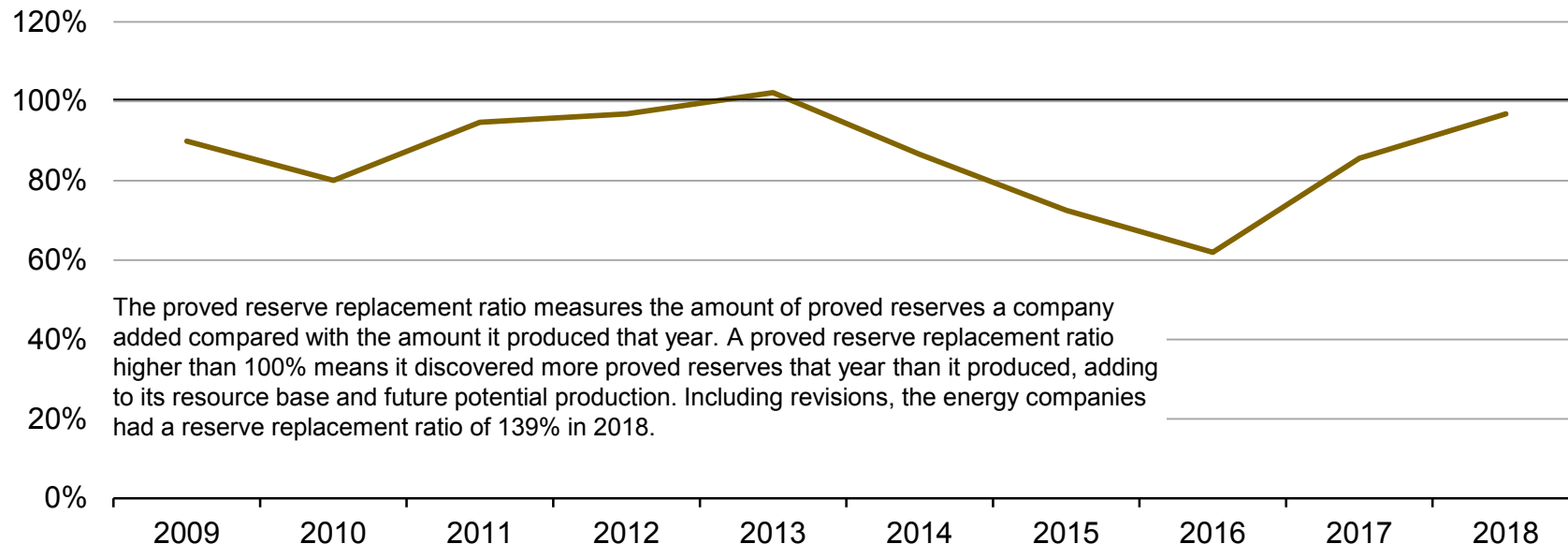
billion barrels of oil equivalent



Source: U.S. Energy Information Administration, Evaluate Energy

Excluding revisions, the companies replaced nearly every barrel of production through organic proved reserve additions

proved reserve replacement ratio



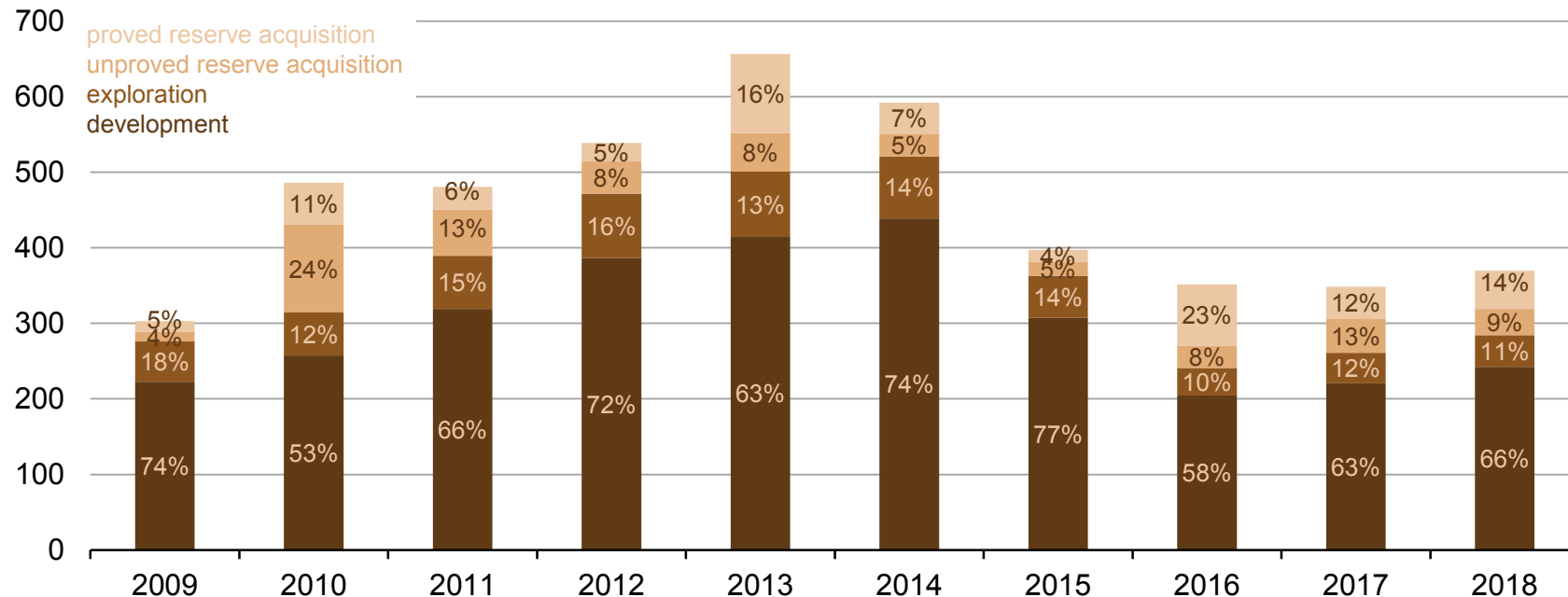
The proved reserve replacement ratio measures the amount of proved reserves a company added compared with the amount it produced that year. A proved reserve replacement ratio higher than 100% means it discovered more proved reserves that year than it produced, adding to its resource base and future potential production. Including revisions, the energy companies had a reserve replacement ratio of 139% in 2018.

Source: U.S. Energy Information Administration, Evaluate Energy

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 2018, the first increase since 2013

upstream costs incurred
billion dollars



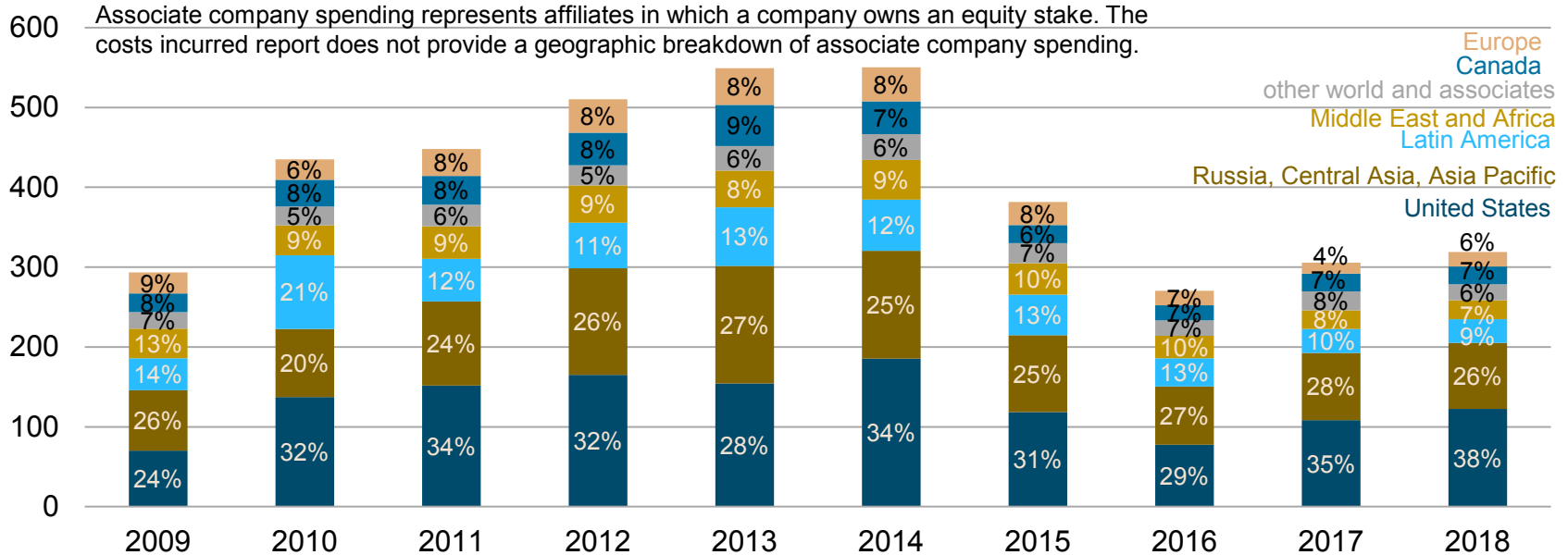
Source: U.S. Energy Information Administration, Evaluate Energy

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 2017 to 2018 was in the United States

exploration and development costs incurred

billion dollars



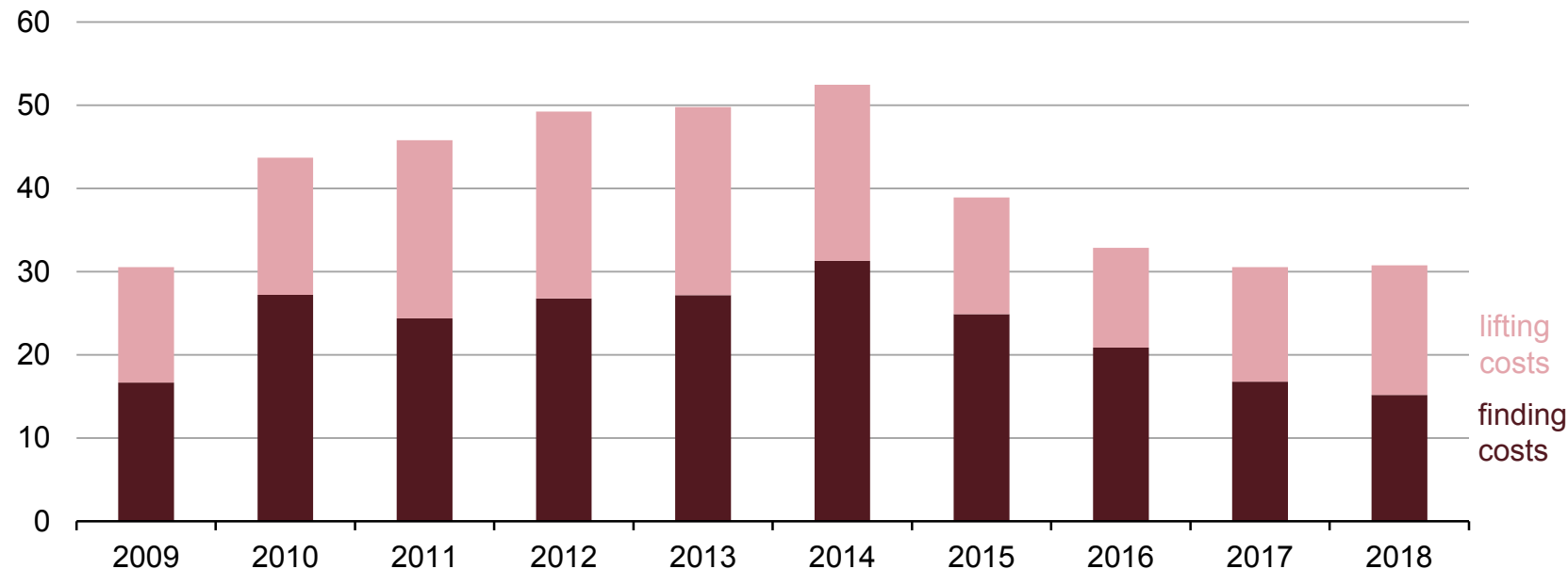
Source: U.S. Energy Information Administration, Evaluate Energy

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 were essentially flat from 2017 to 2018

dollars per barrel of oil equivalent



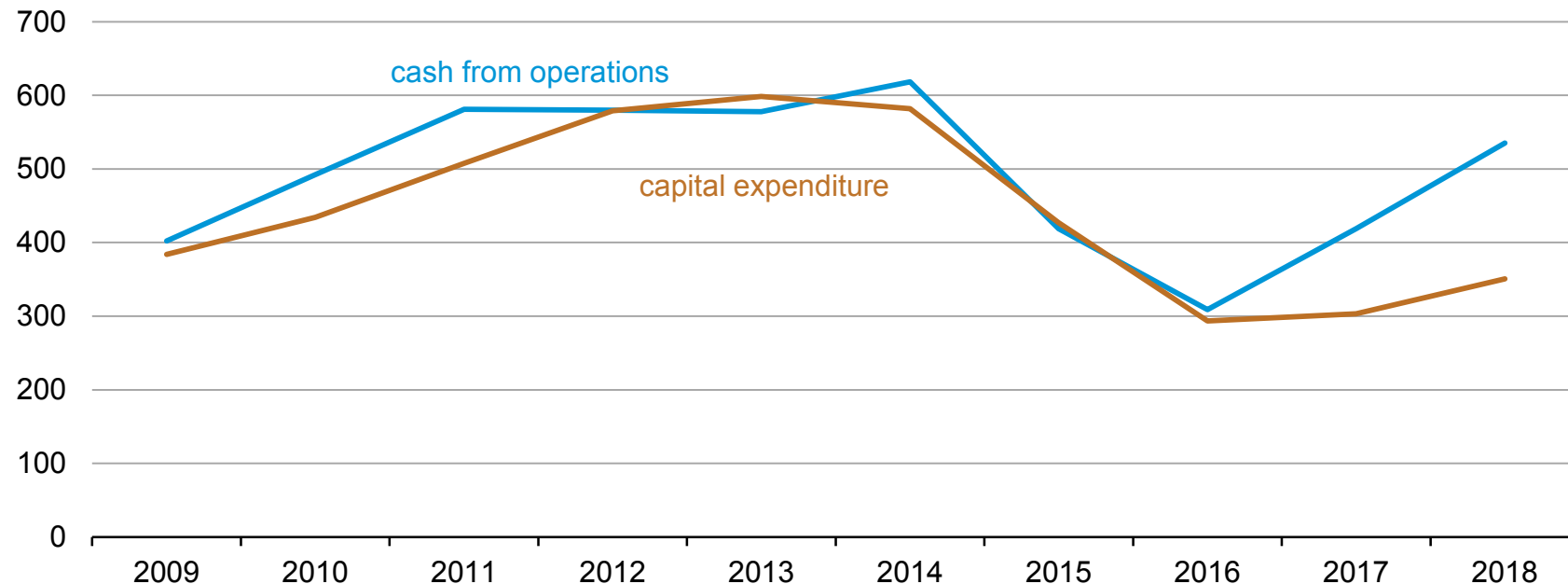
Source: U.S. Energy Information Administration, Evaluate Energy

Note: Excludes proved reserve revisions

Capital expenditure and cash from operations increased \$47 billion and \$116 billion, respectively, from 2017 to 2018

cash flow items

billion dollars

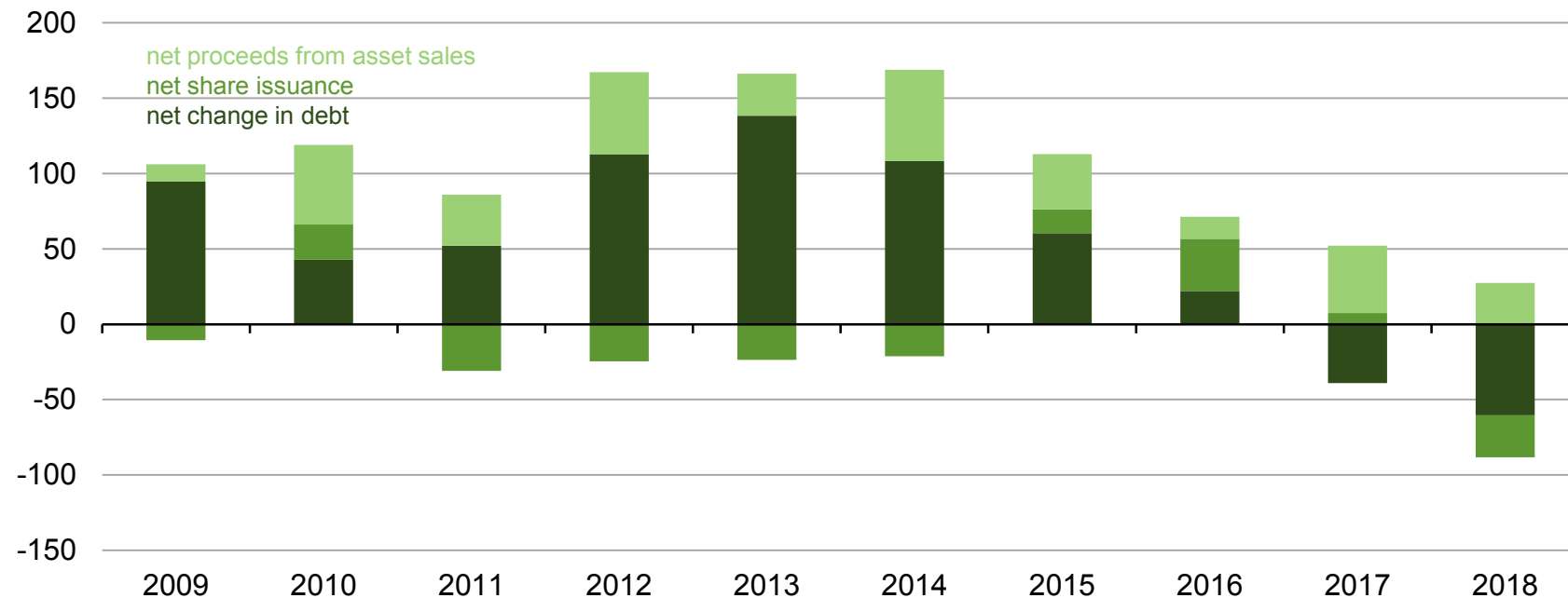


Source: U.S. Energy Information Administration, Evaluate Energy

The companies reduced debt by more than \$60 billion in 2018, the most in the 2009–18 period

cash flow items

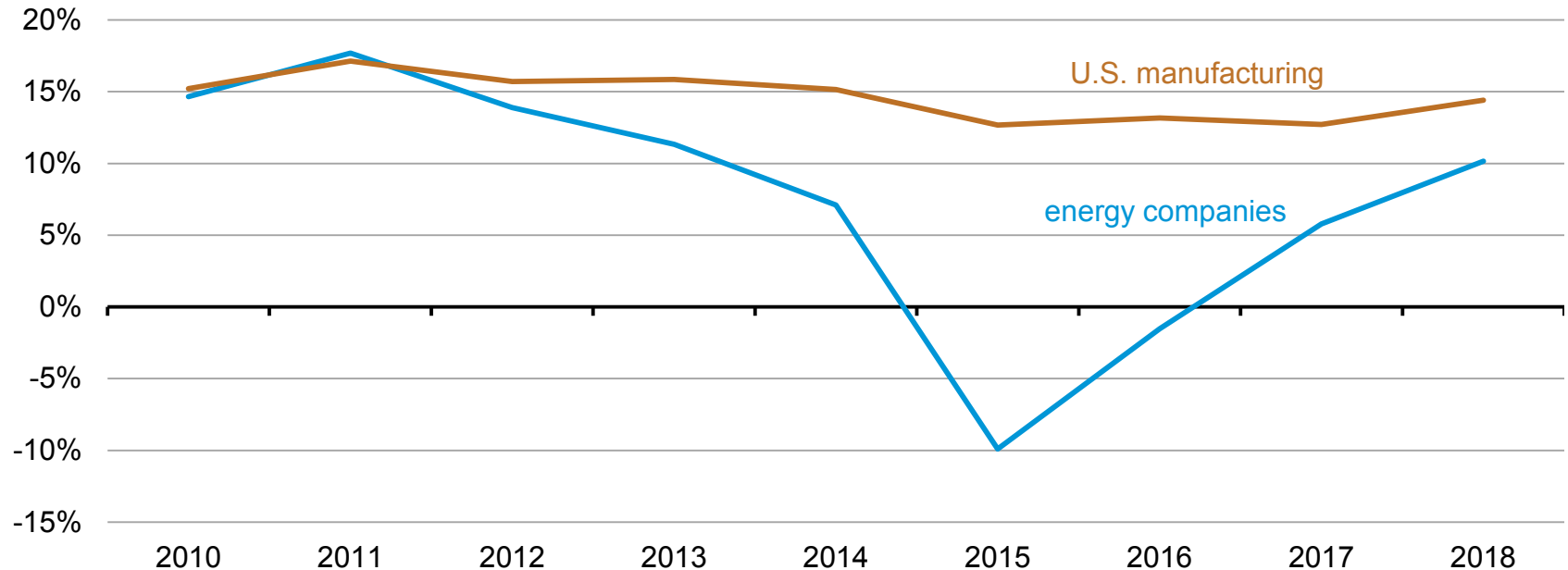
billion dollars



Source: U.S. Energy Information Administration, Evaluate Energy

The return on equity for energy companies increased to 10% and to 14% for U.S. manufacturing companies

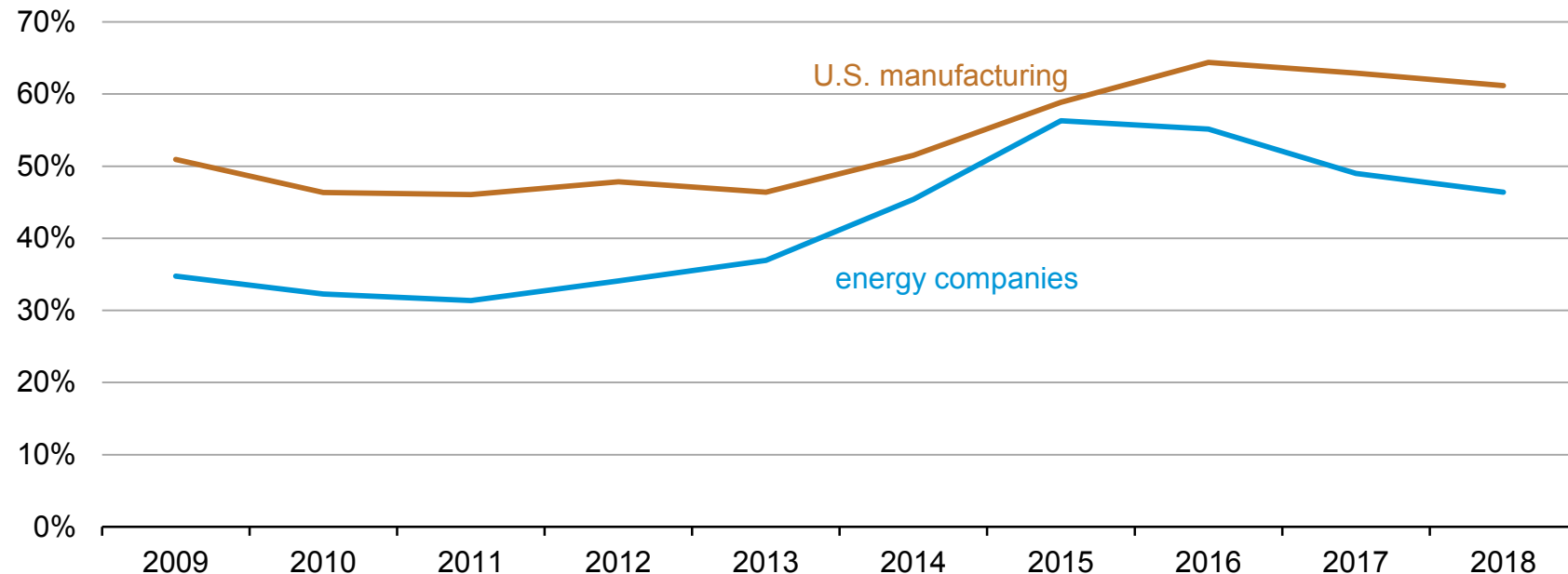
return on equity



Source: U.S. Energy Information Administration, Evaluate Energy, U.S. Census Bureau

The long-term debt-to-equity ratio fell to 46% for the energy companies and to 61% for U.S. manufacturing companies

long-term debt-to-equity ratio



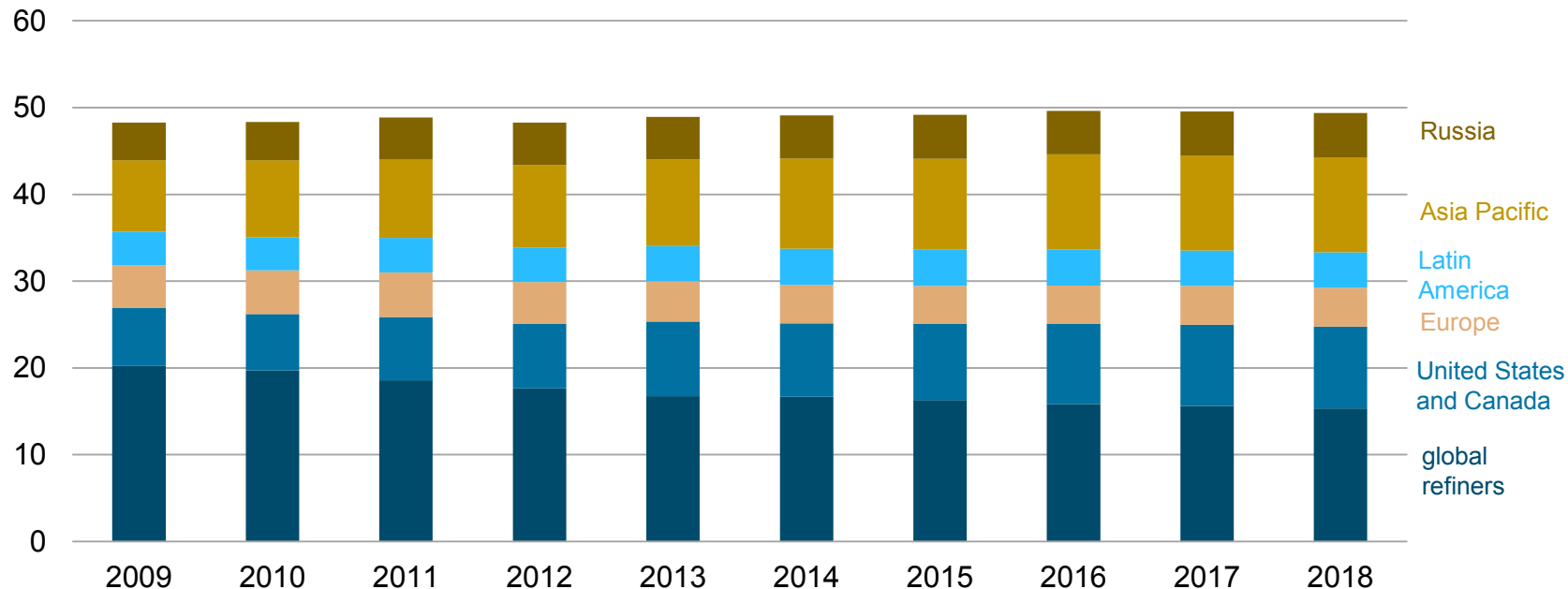
Source: U.S. Energy Information Administration, Evaluate Energy, U.S. Census Bureau

Downstream

Global refining distillation capacity declined slightly in 2018

distillation capacity

million barrels per day

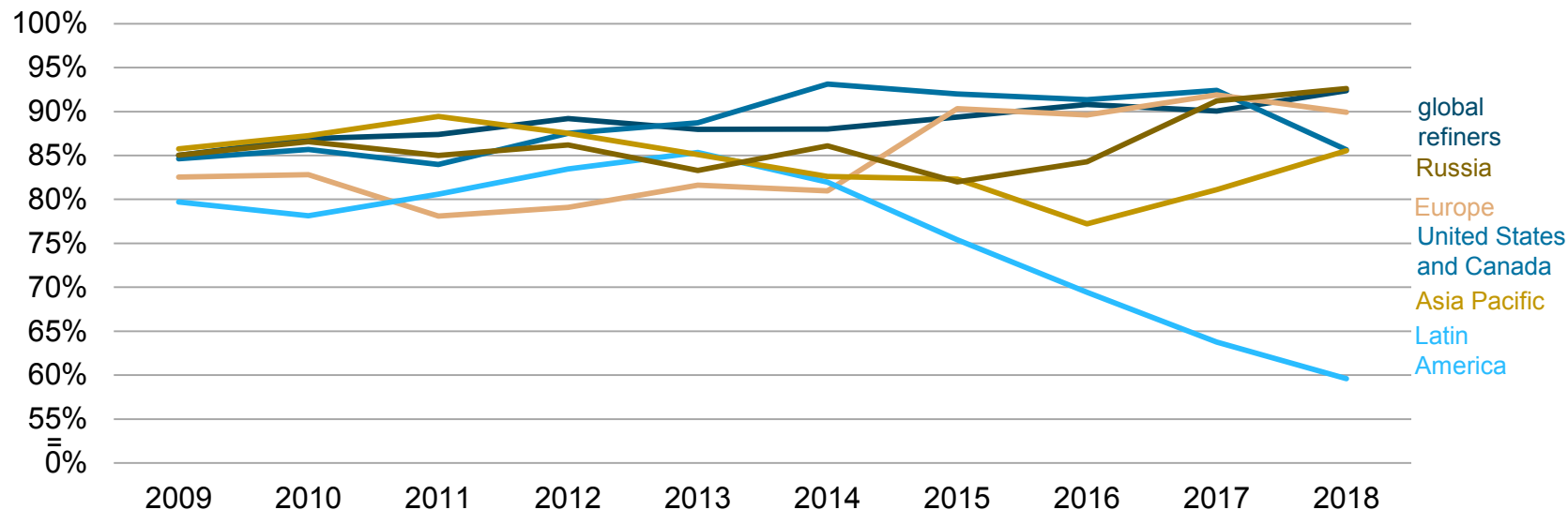


Source: U.S. Energy Information Administration, Evaluate Energy

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

Global capacity utilization was 87% in 2018, but refinery problems in Mexico contributed to a 10-year low in Latin American utilization

capacity utilization

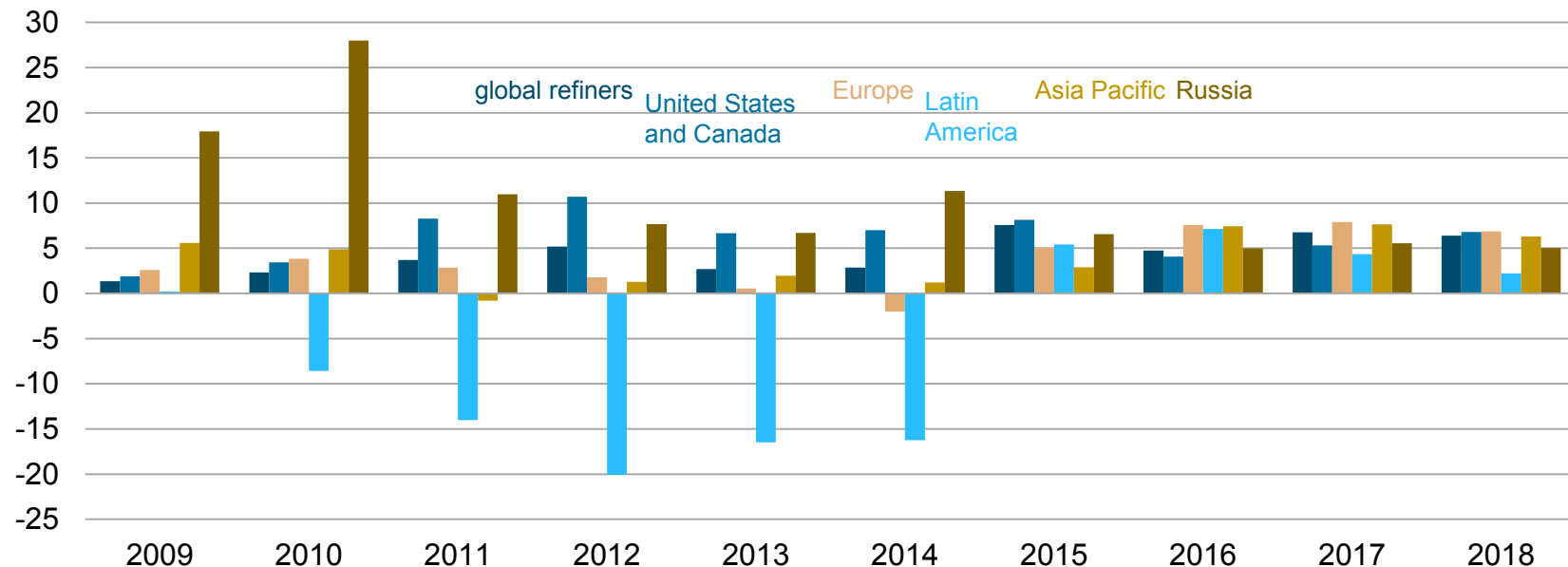


Source: U.S. Energy Information Administration, Evaluate Energy

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 2017 to 2018

earnings per barrel processed
dollars per barrel



Source: U.S. Energy Information Administration, Evaluate Energy

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

Appendix: List of companies in the upstream analysis

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

Source: U.S. Energy Information Administration, Evaluate Energy

Note: Some companies merged, split, or delisted before 2018. A total of 116 companies existed in 2018.

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, Evaluate Energy

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

Background

- The upstream analysis focuses on the financial and operating trends of 116 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 2009 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