

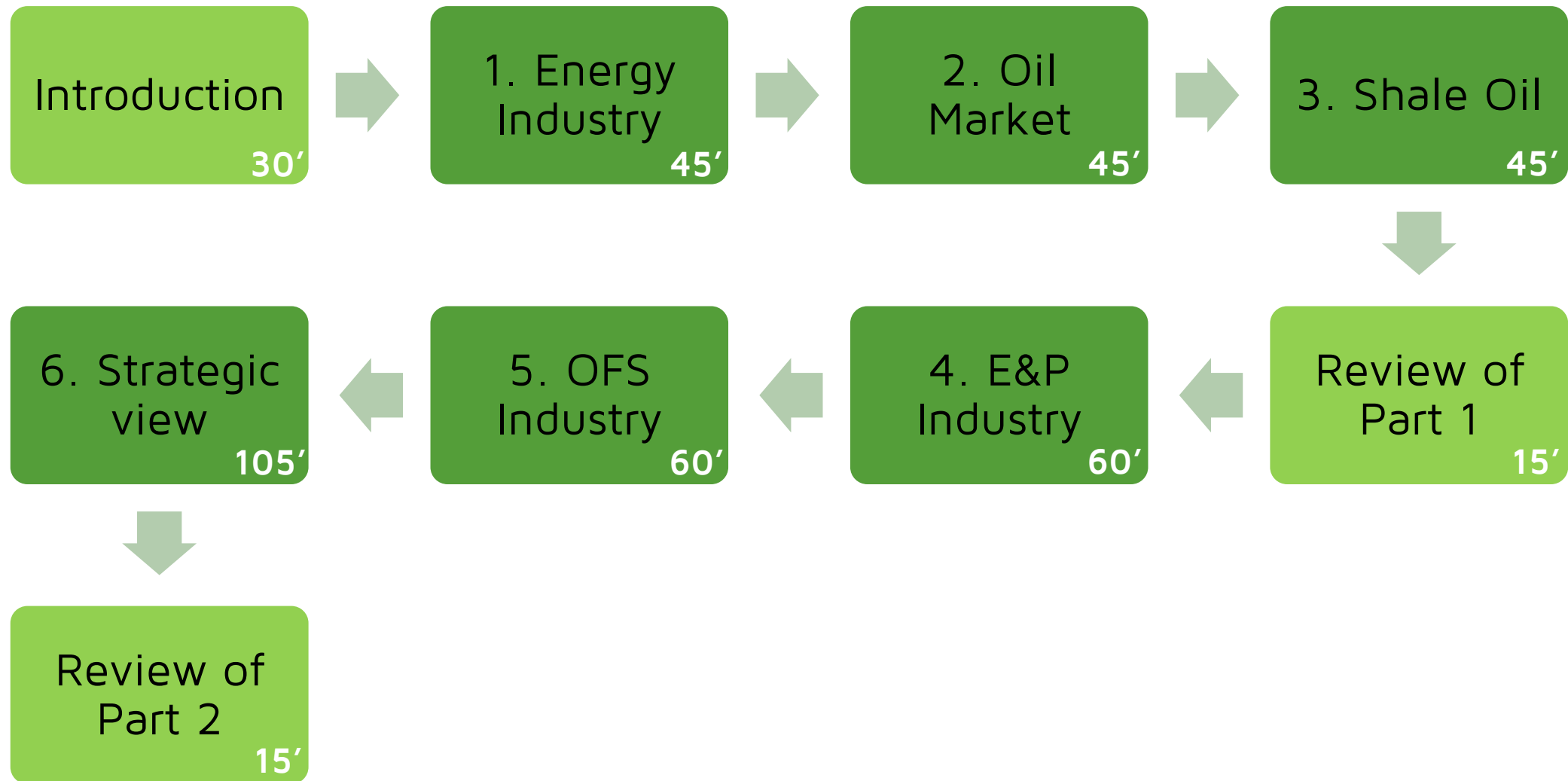
بسم ا... الرحمن الرحيم



In-depth Introduction to Upstream Oil Industry: Trends & Strategies

RIEMP DBA | Tehran, Iran | October 11th, 2018
Ramin Forouzandeh

Roadmap



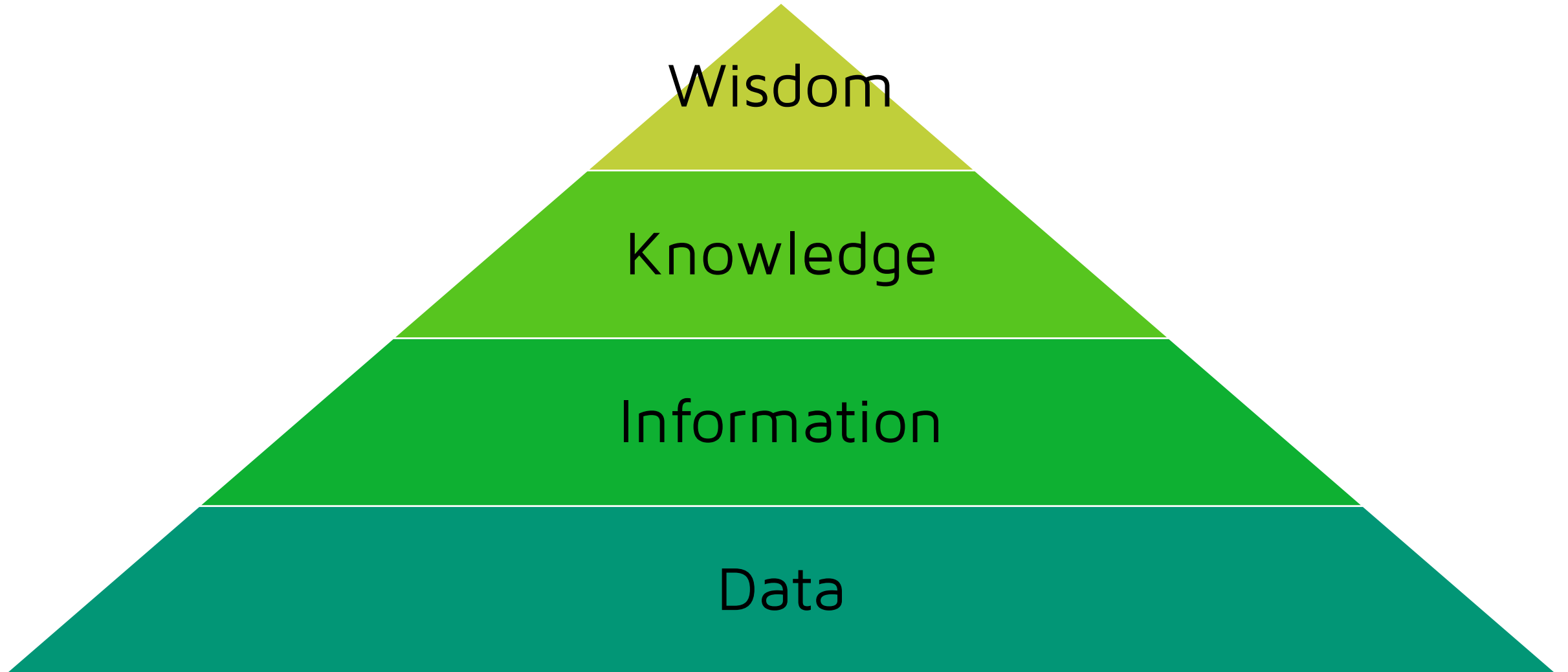
Goals

- Drawing an integrated systemic framework to analyze upstream oil industry
- Getting familiar with state-of-art analysis method for analysis
- Discussing major trends affecting energy & oil industry
- Deploying top information sources for upstream analysis

Questions

- Shale oil US produces
- World's biggest independent E&P player
- Big four accounting companies
- M&A meaning

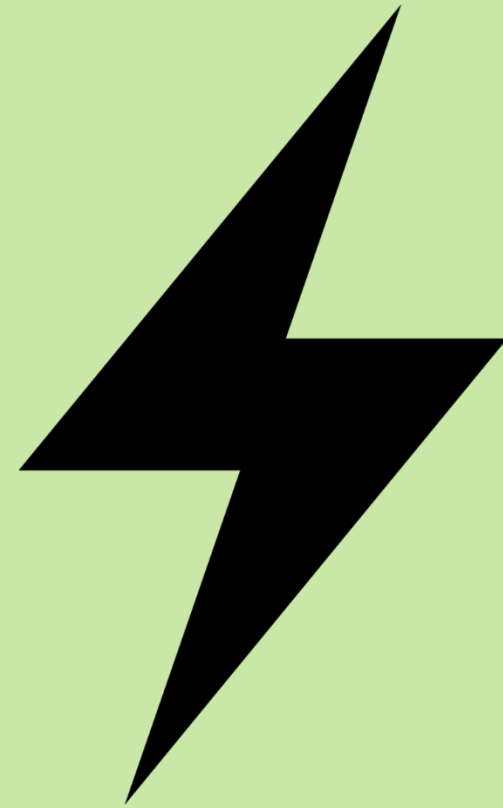
DIKW model



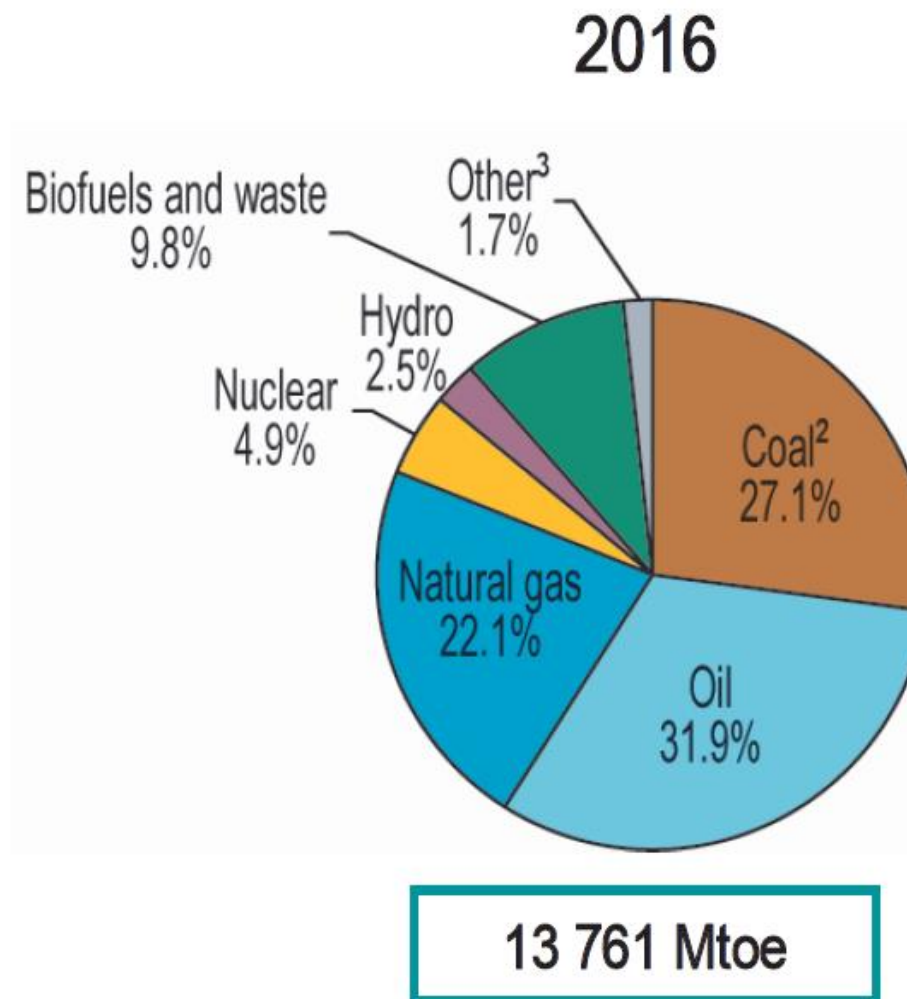
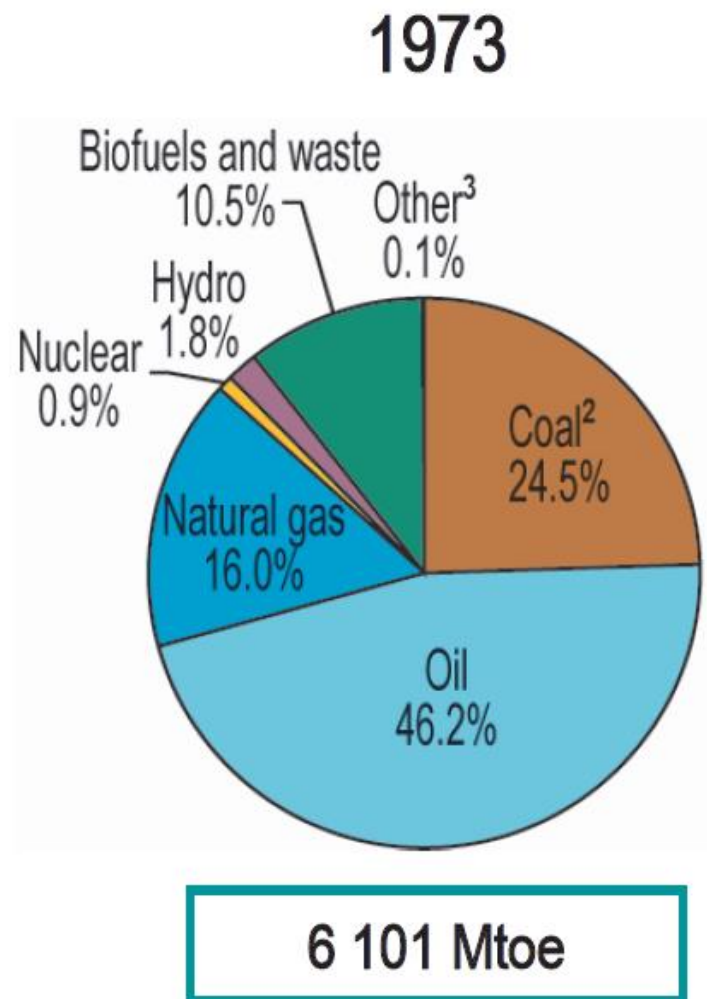
Sources

Institutions	Information Providers	Management Consultants	Accounting Service Providers
			
☐ IEA	☐ Platts	☐ McKinsey	☐ EY
☐ EIA	☐ Argus	☐ BCG	☐ Deloitte
☐ OPEC	☐ HIS	☐ Bain	☐ KPMG
☐ GECF	☐ FGE	☐ Accenture	☐ PWC
	☐ Wood Mackenzie		
	☐ Rystad Energy		

Energy

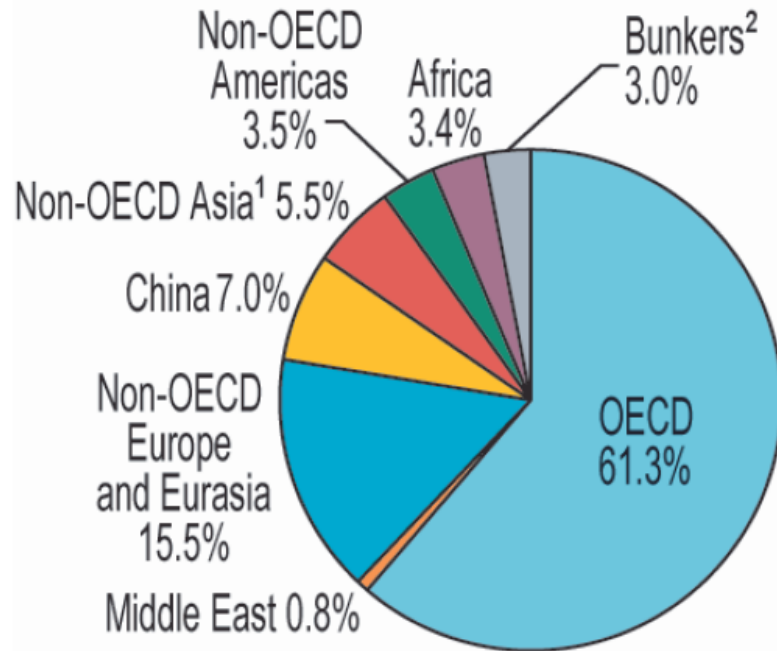


World TPES (by fuel)



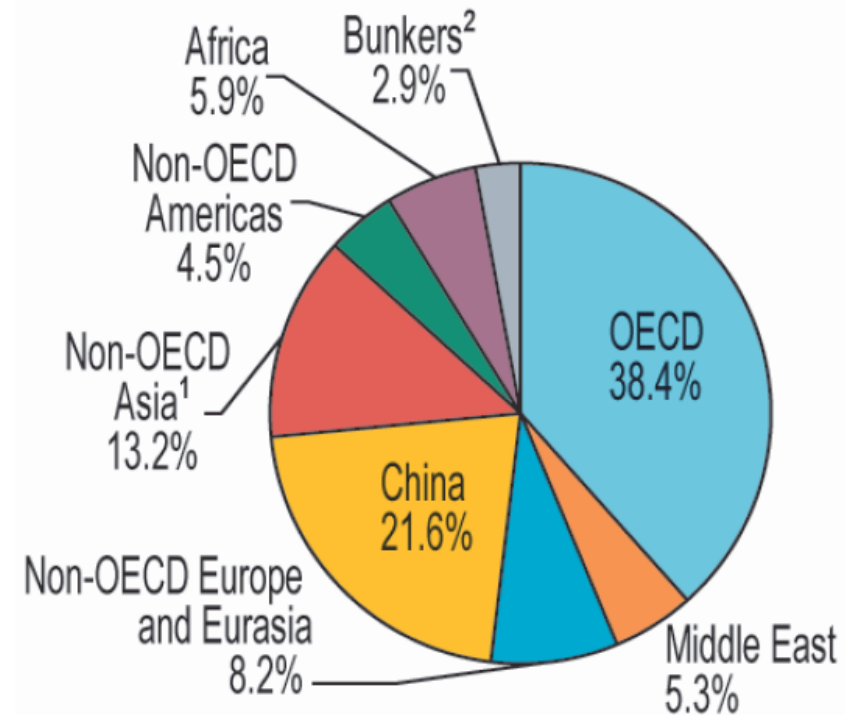
World TPES (by region)

1973



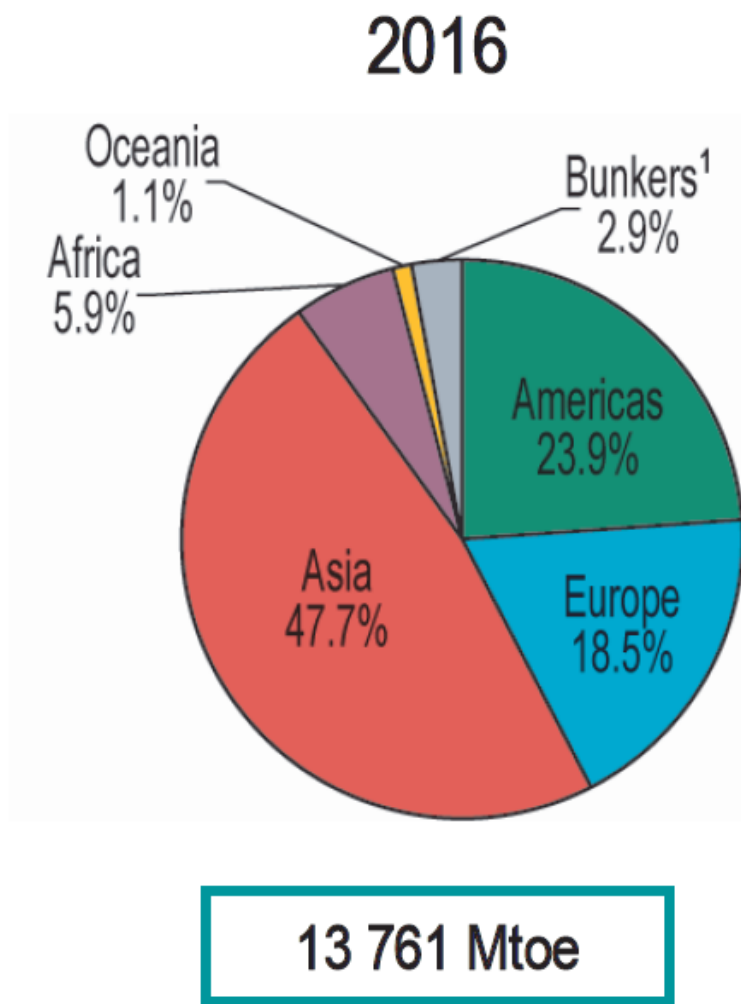
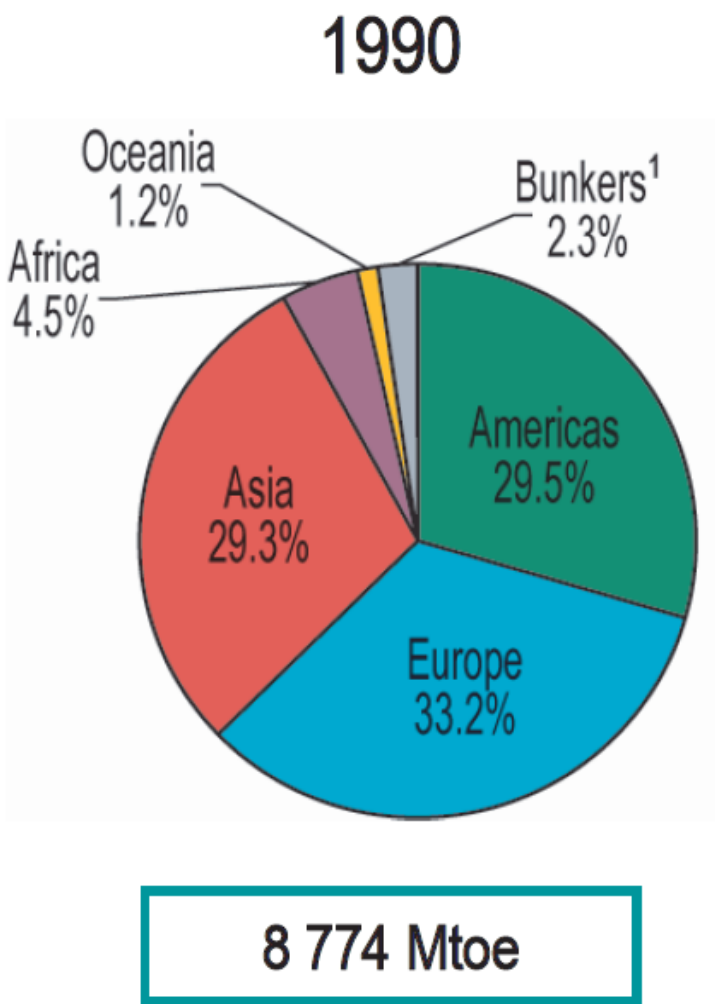
6 101 Mtoe

2016

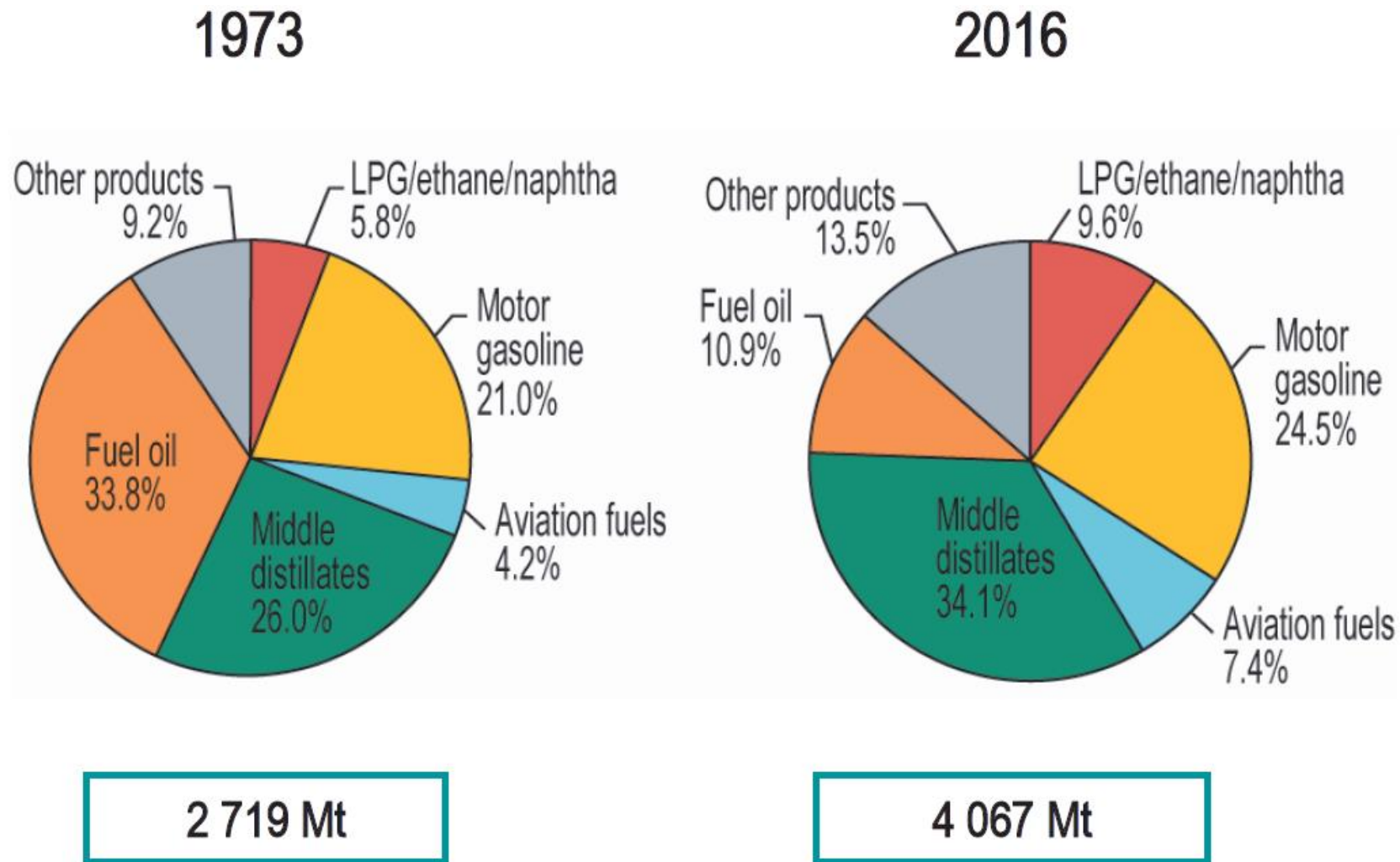


13 761 Mtoe

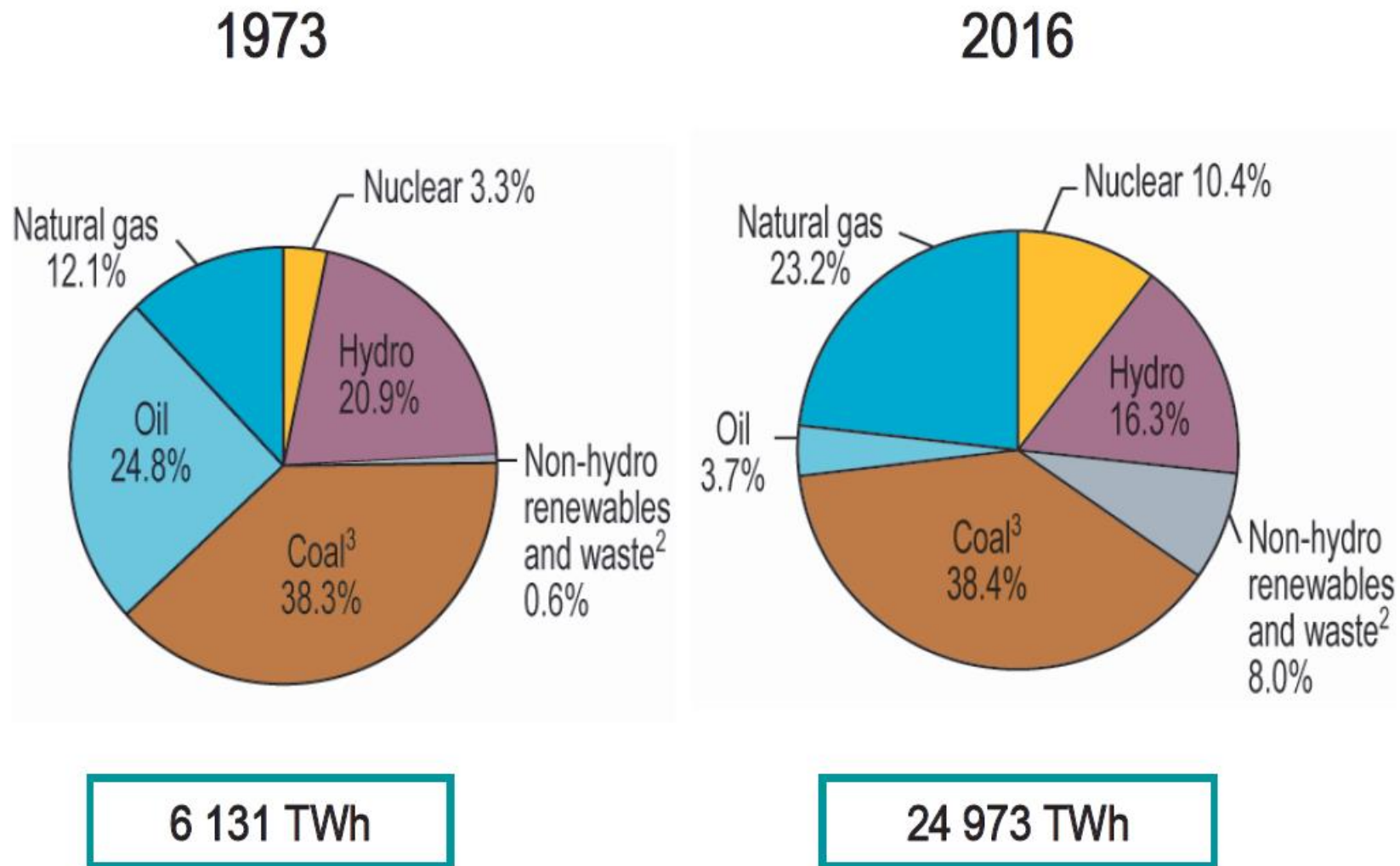
World TPES (by region)



World refinery output (by product)

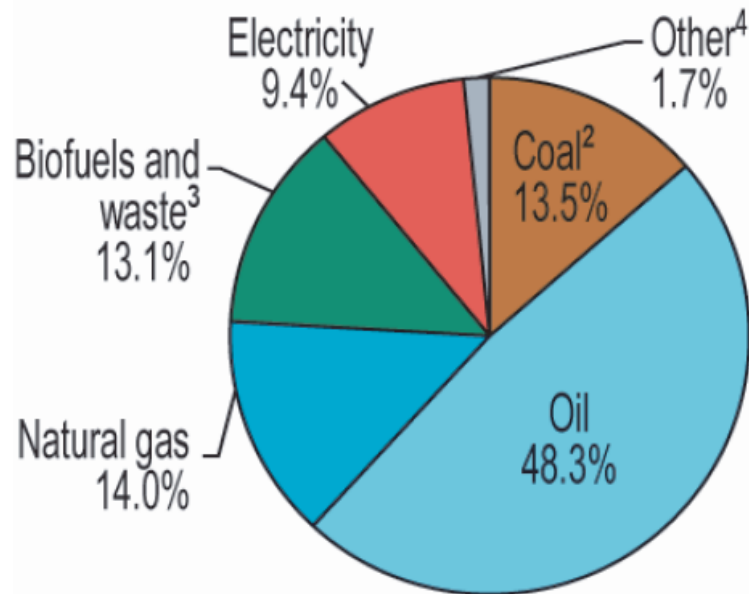


World electricity generation (by fuel)



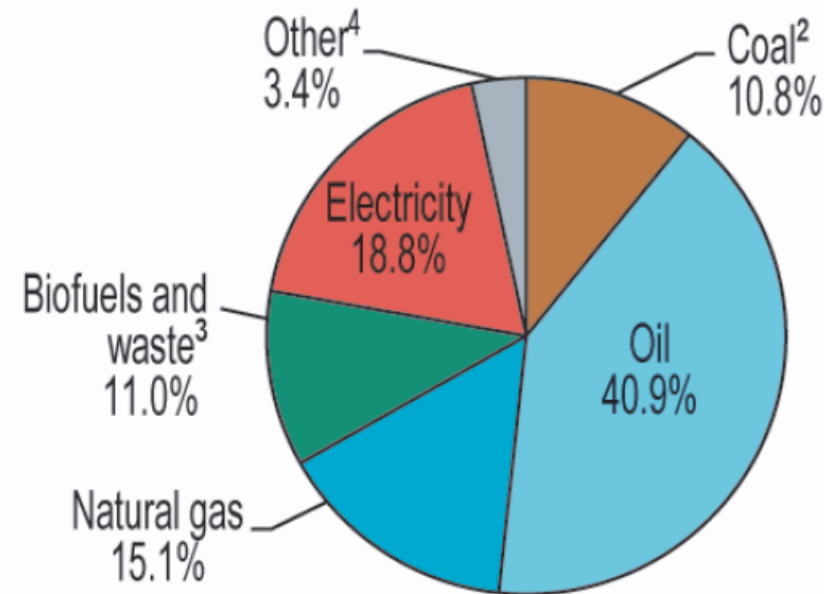
World TFC (by sector)

1973



4 661 Mtoe

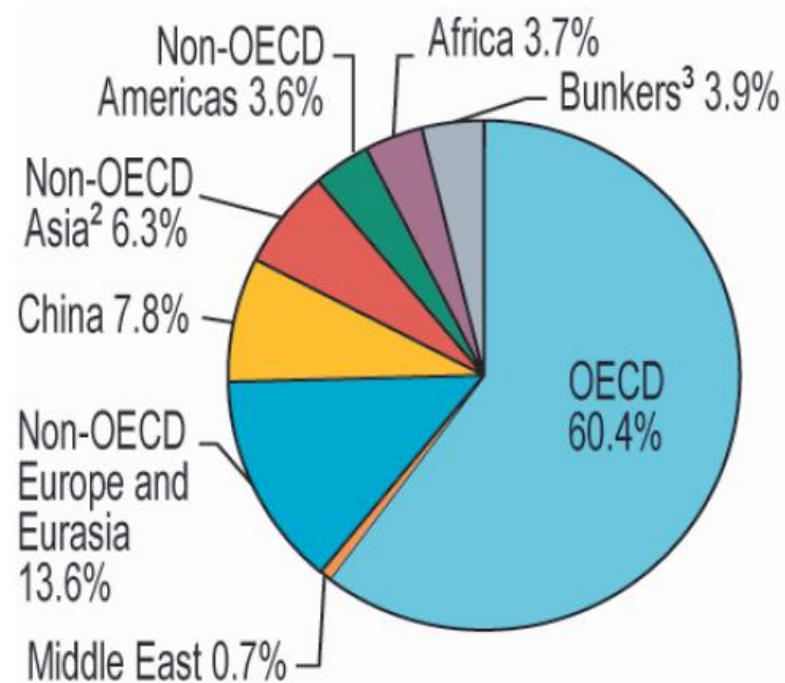
2016



9 555 Mtoe

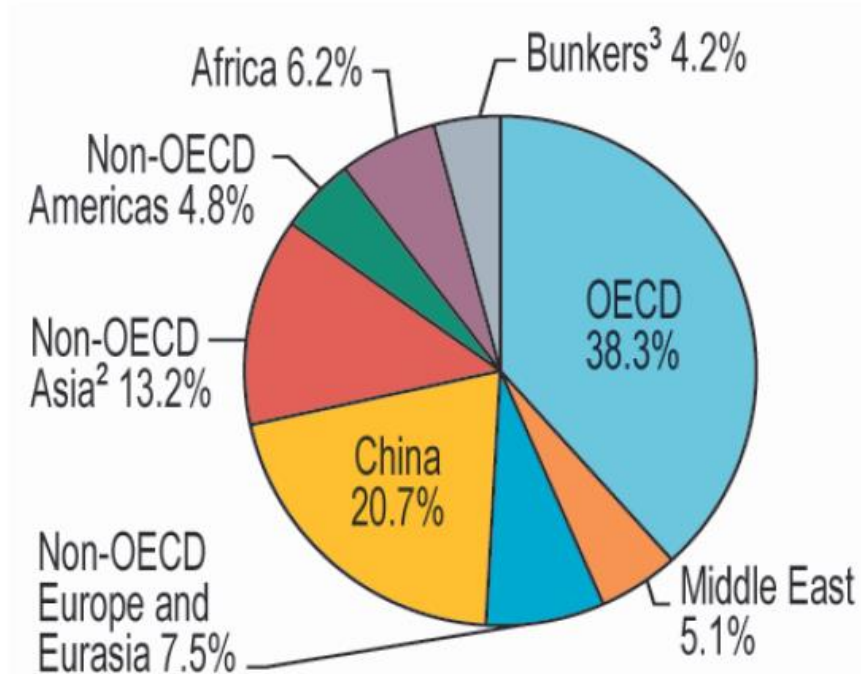
World TFC (by region)

1973



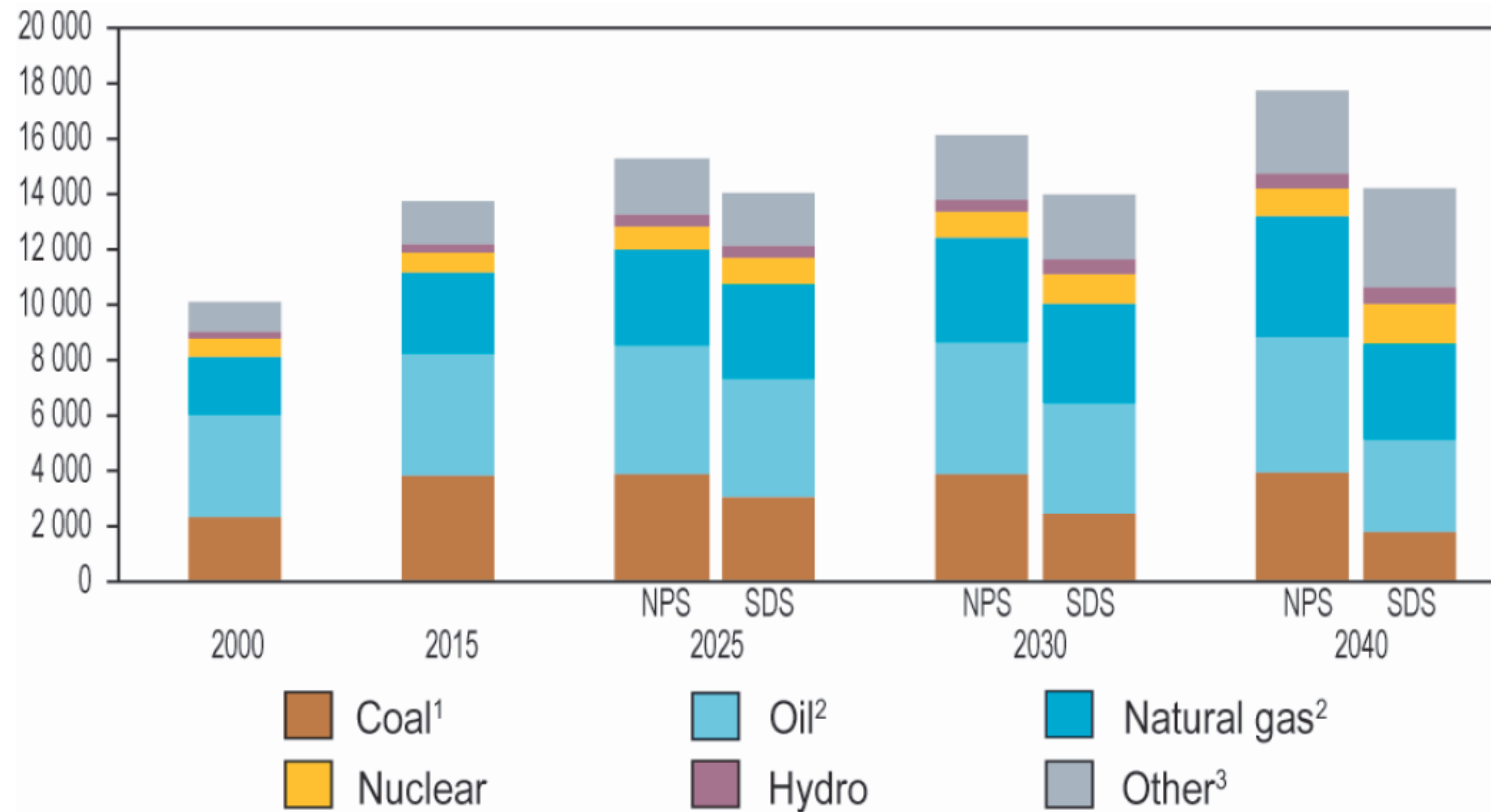
4 661 Mtoe

2016



9 555 Mtoe

World TPES forecast (by fuel)

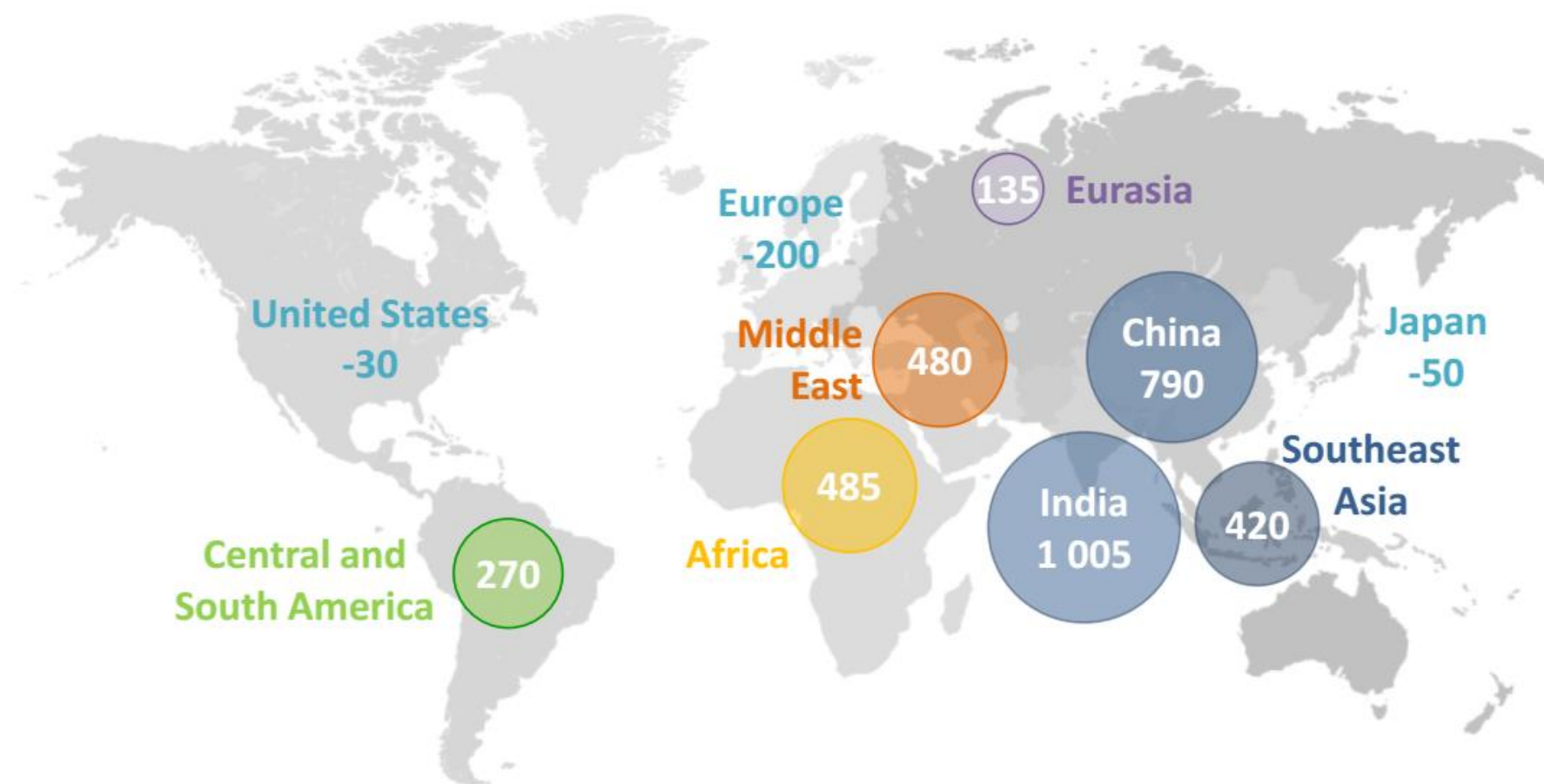


NPS: New Policies Scenario
Incorporates existing energy policies as well as an assessment of the results likely to stem from the implementation of announced policy intentions.

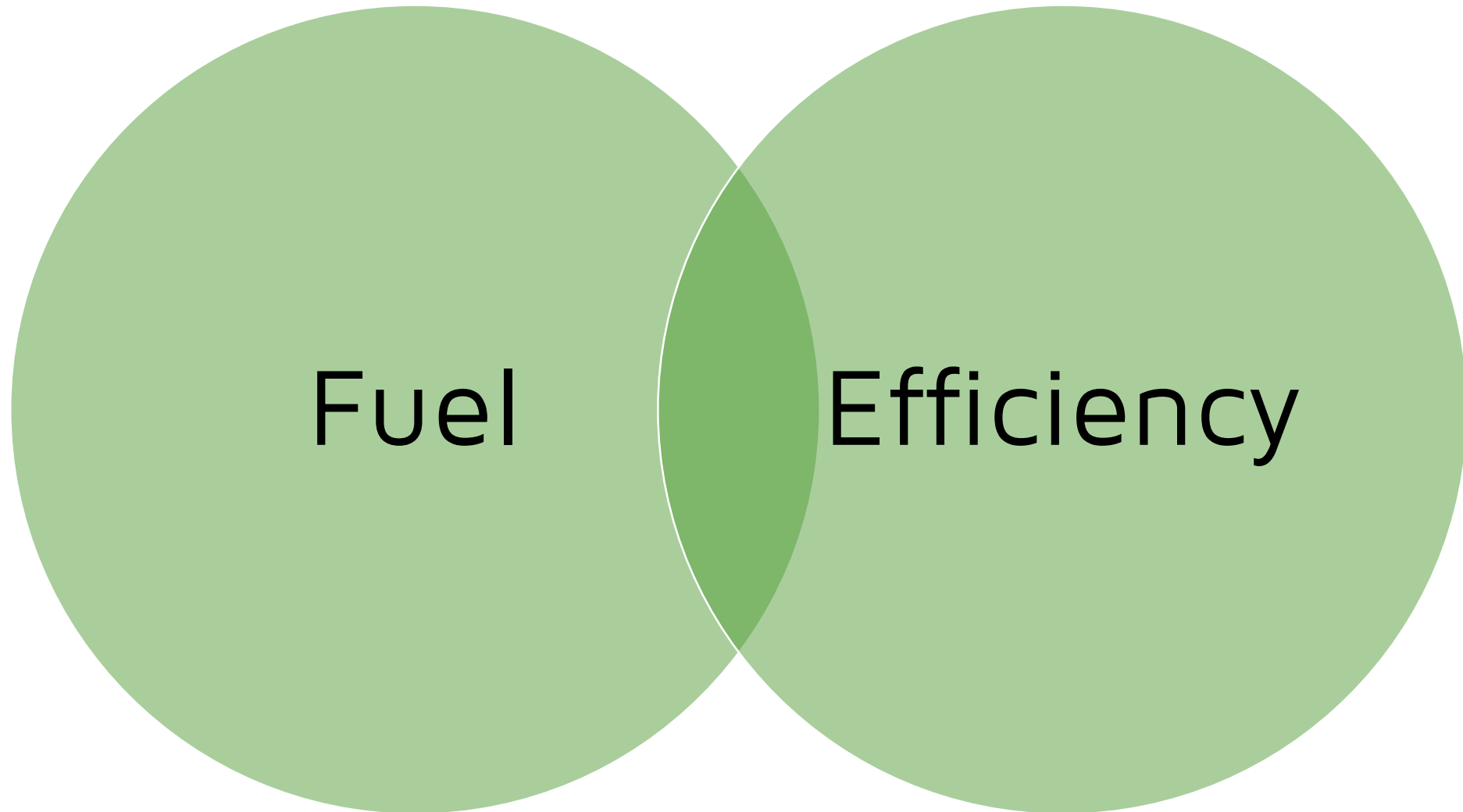
SDS: Sustainable Development Scenario⁴
Outlines an integrated approach to achieving internationally agreed objectives on climate change, air quality and universal access to modern energy.

Energy consumption by fuel

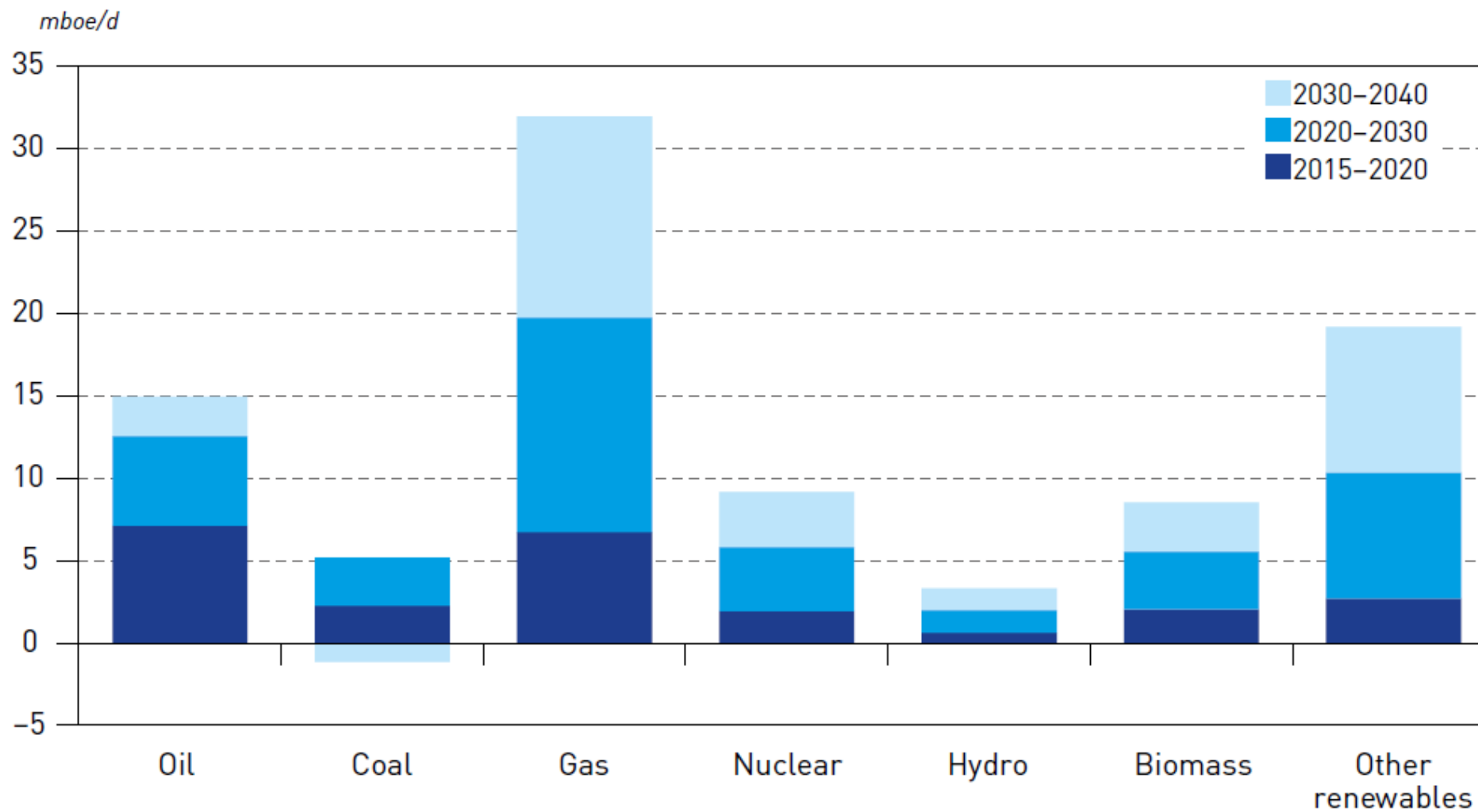
Change in energy demand, 2016-40 (Mtoe)



Two drivers



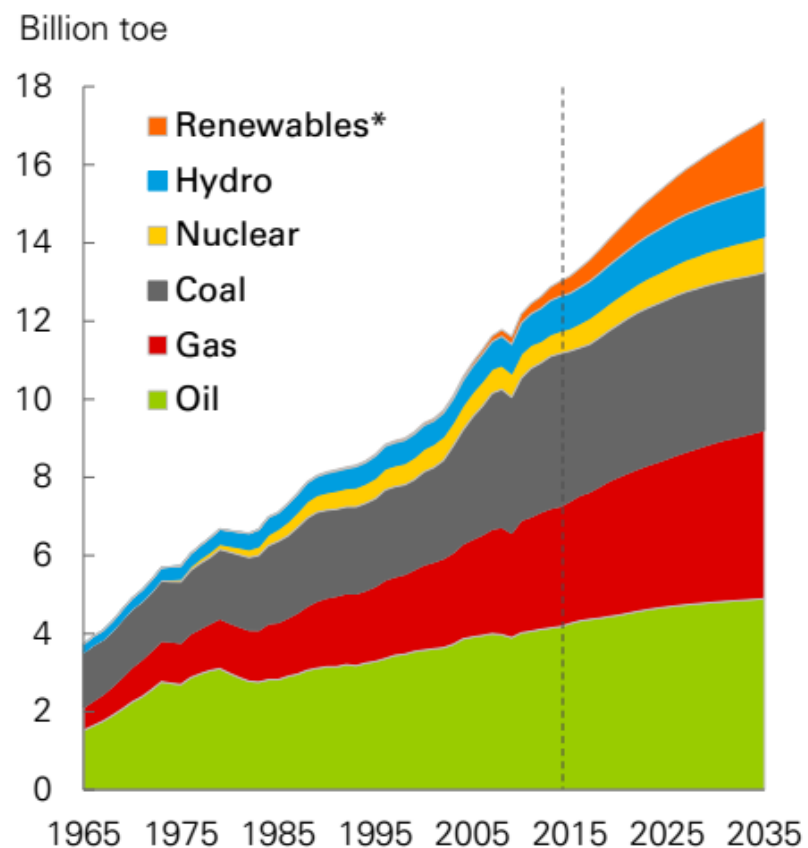
Growth in primary energy demand by fuel



Energy consumption by fuel

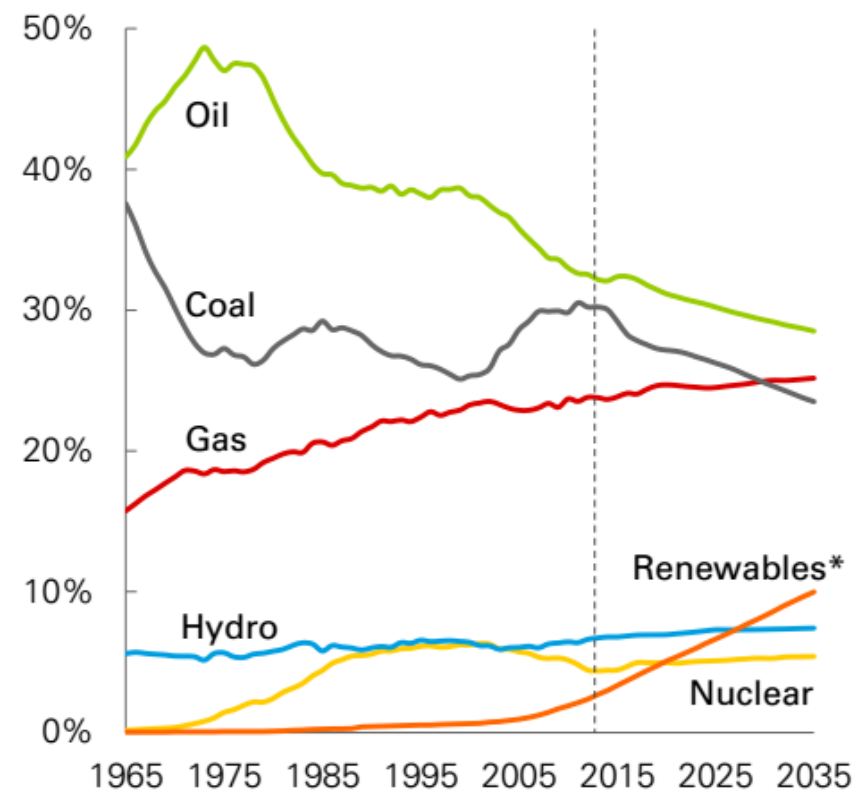


Primary energy consumption by fuel

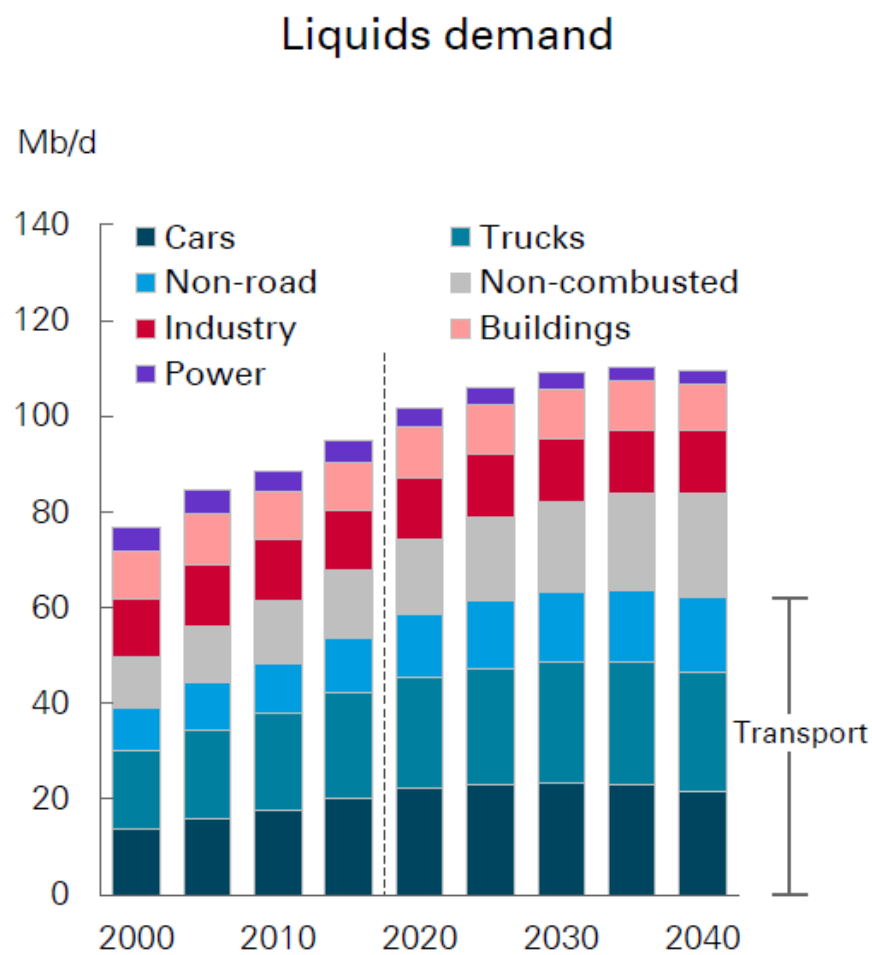


*Renewables includes wind, solar, geothermal, biomass, and biofuels

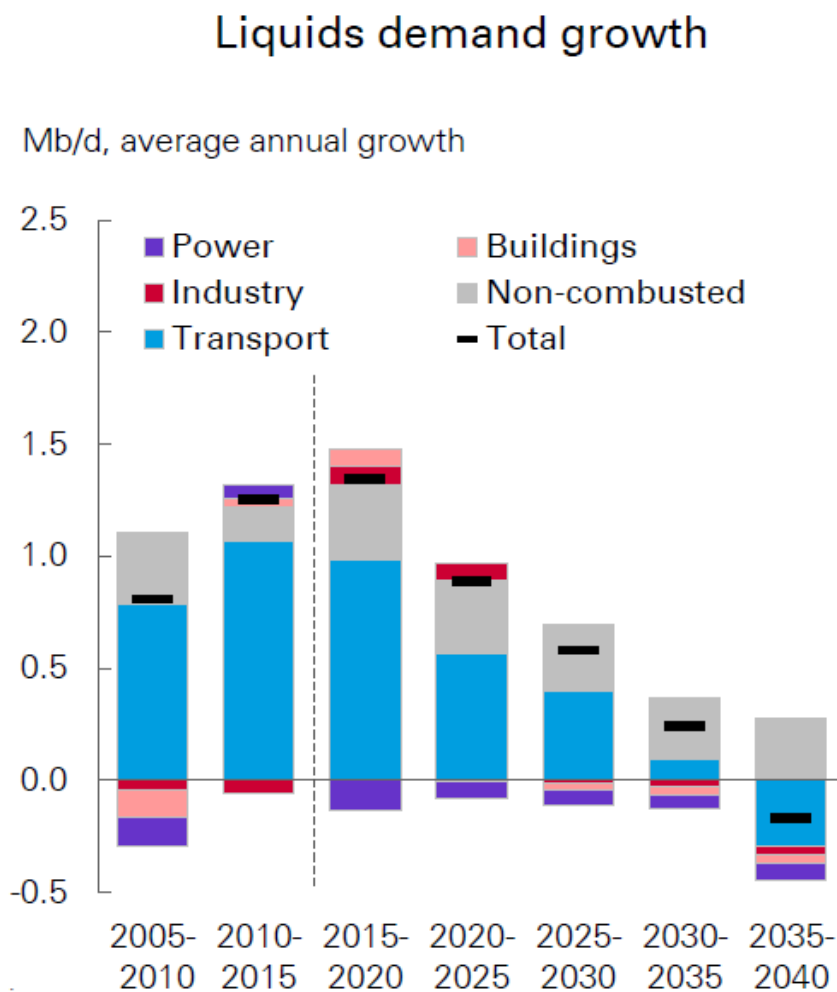
Shares of primary energy



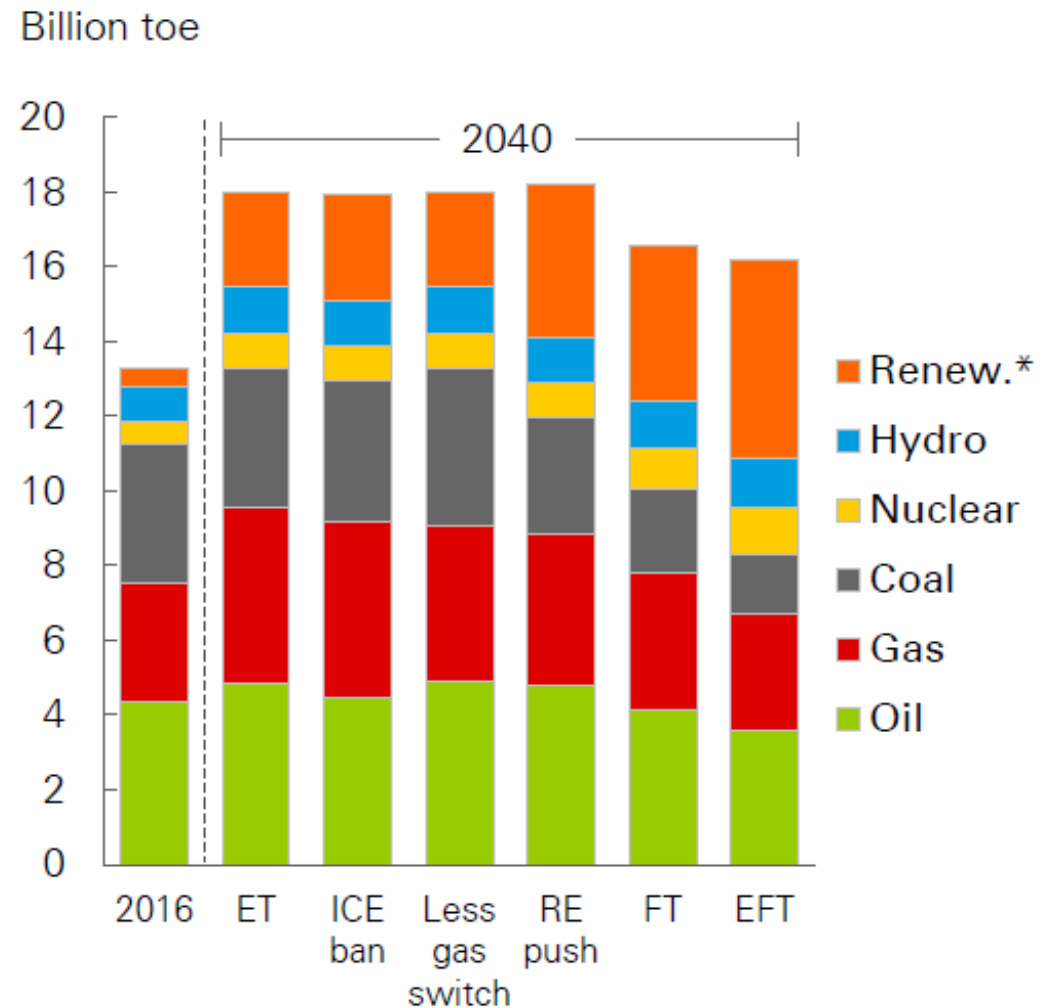
Liquids Demand



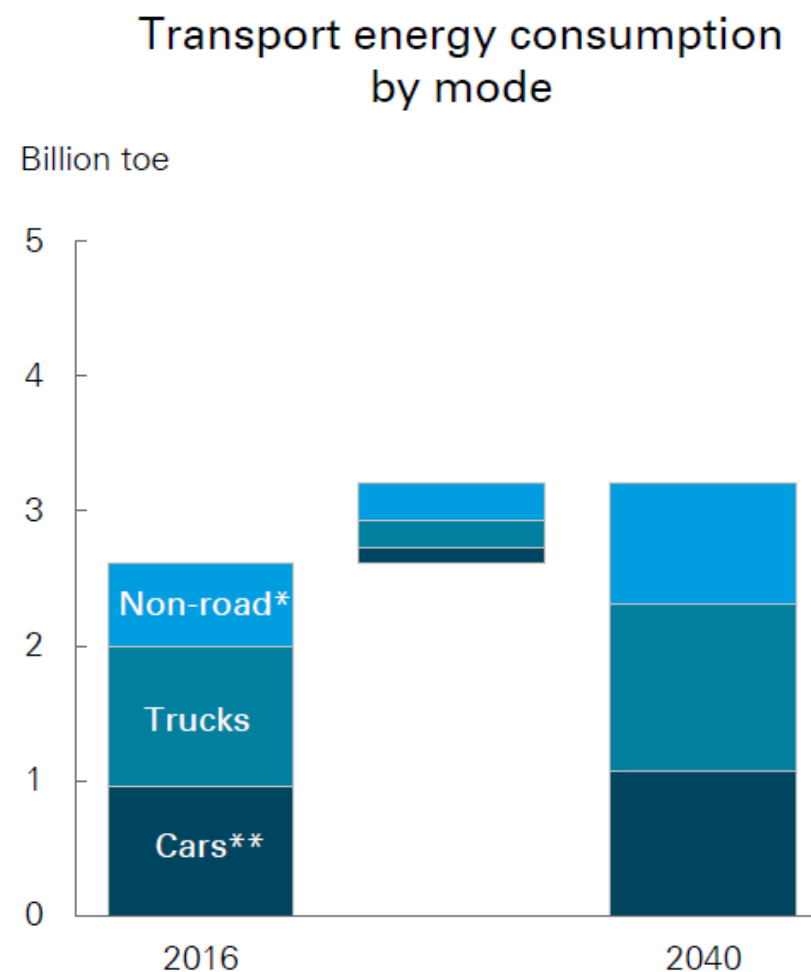
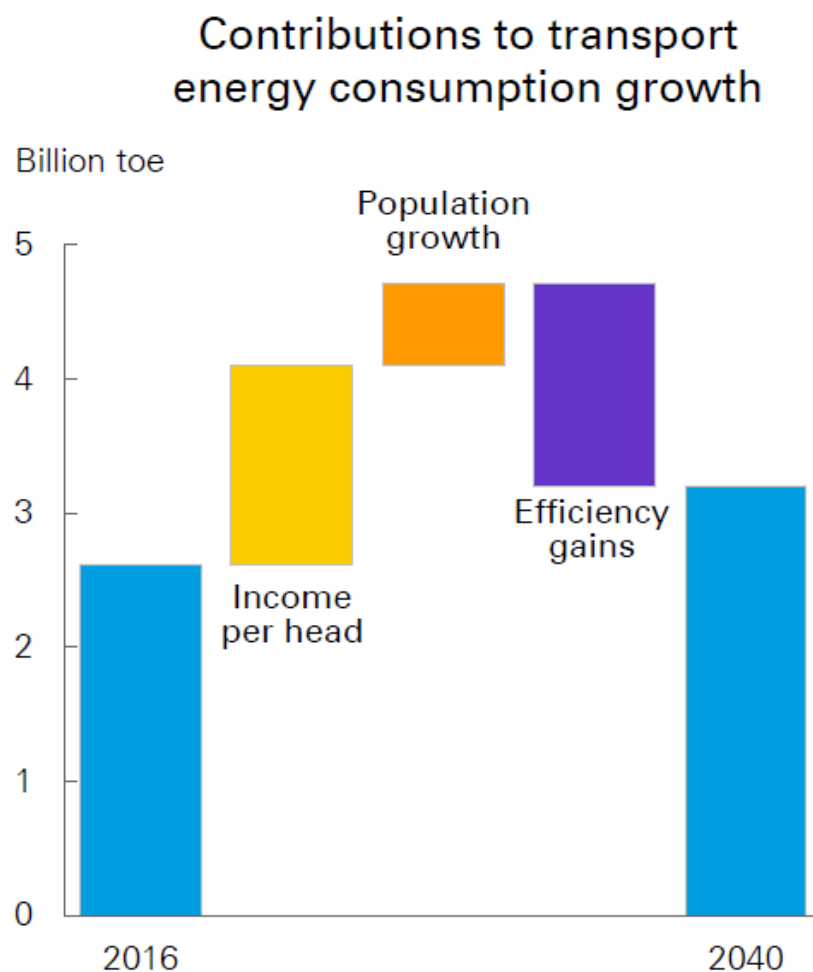
Cars include 2- and 3-wheelers. Trucks include most SUVs in North America.



Energy consumption by fuel



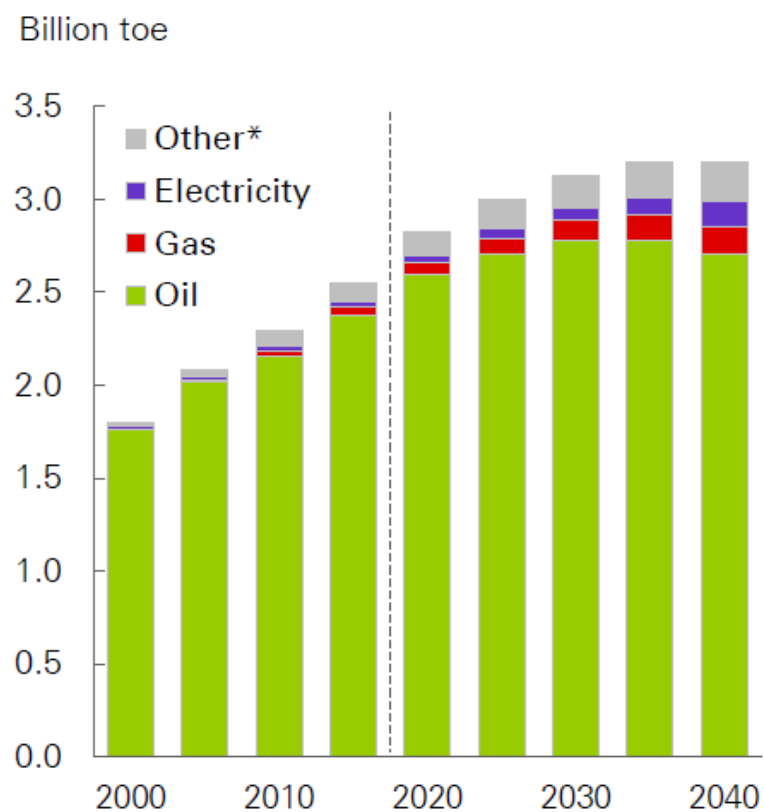
Transport Energy Consumption



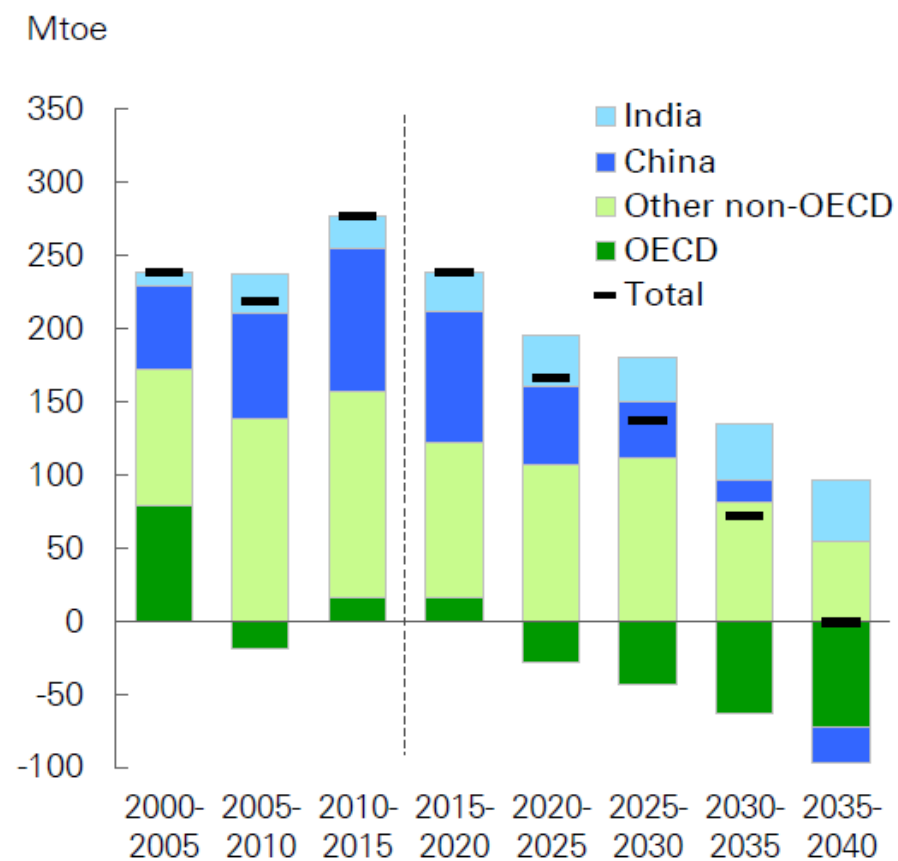
Transport Energy Consumption



Transport energy consumption
by fuel type



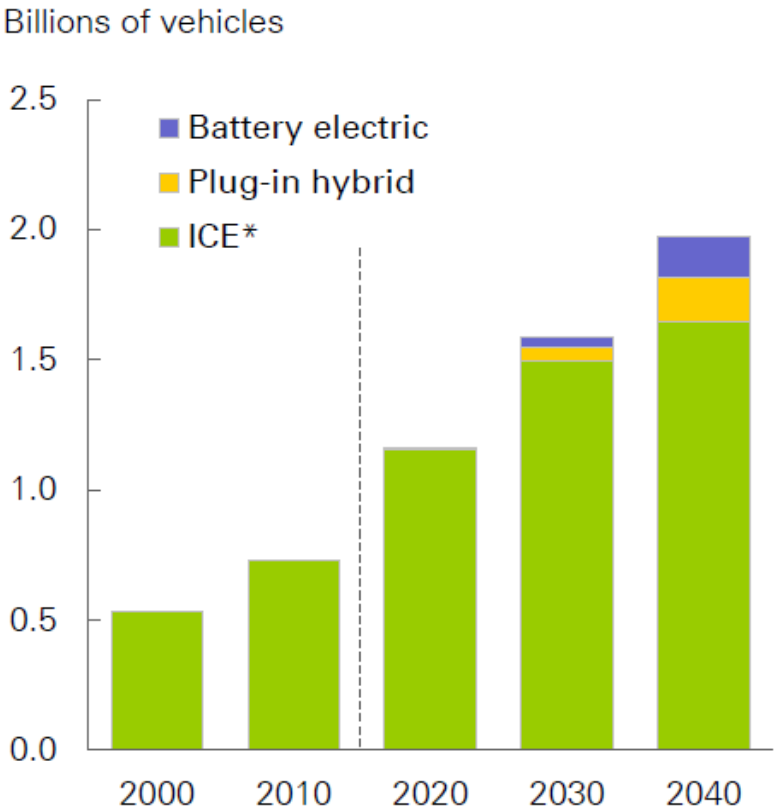
Transport energy consumption
growth by region



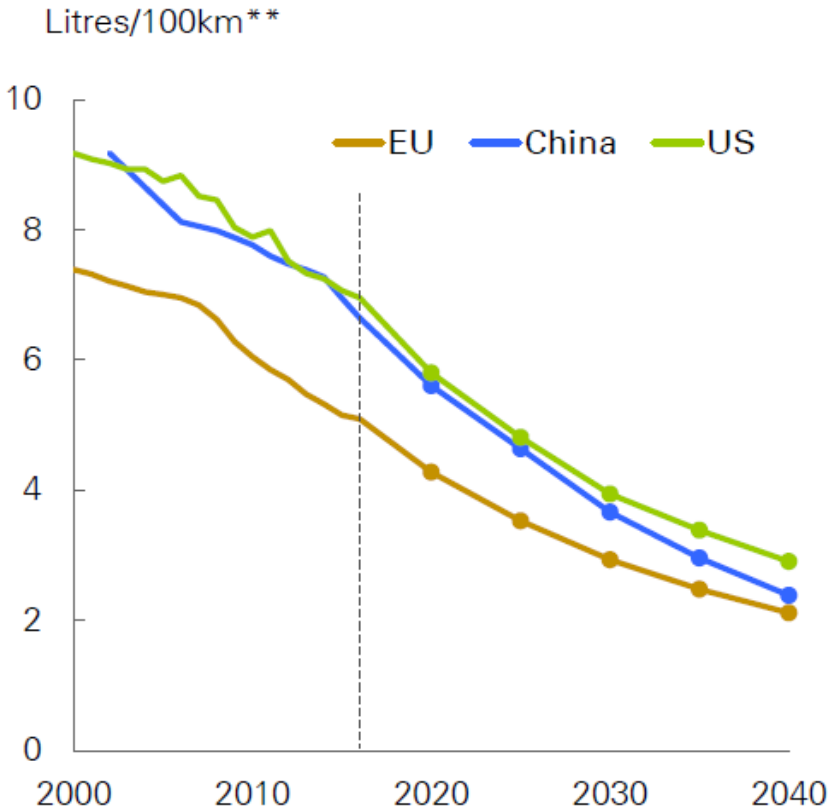
Car type & efficiency



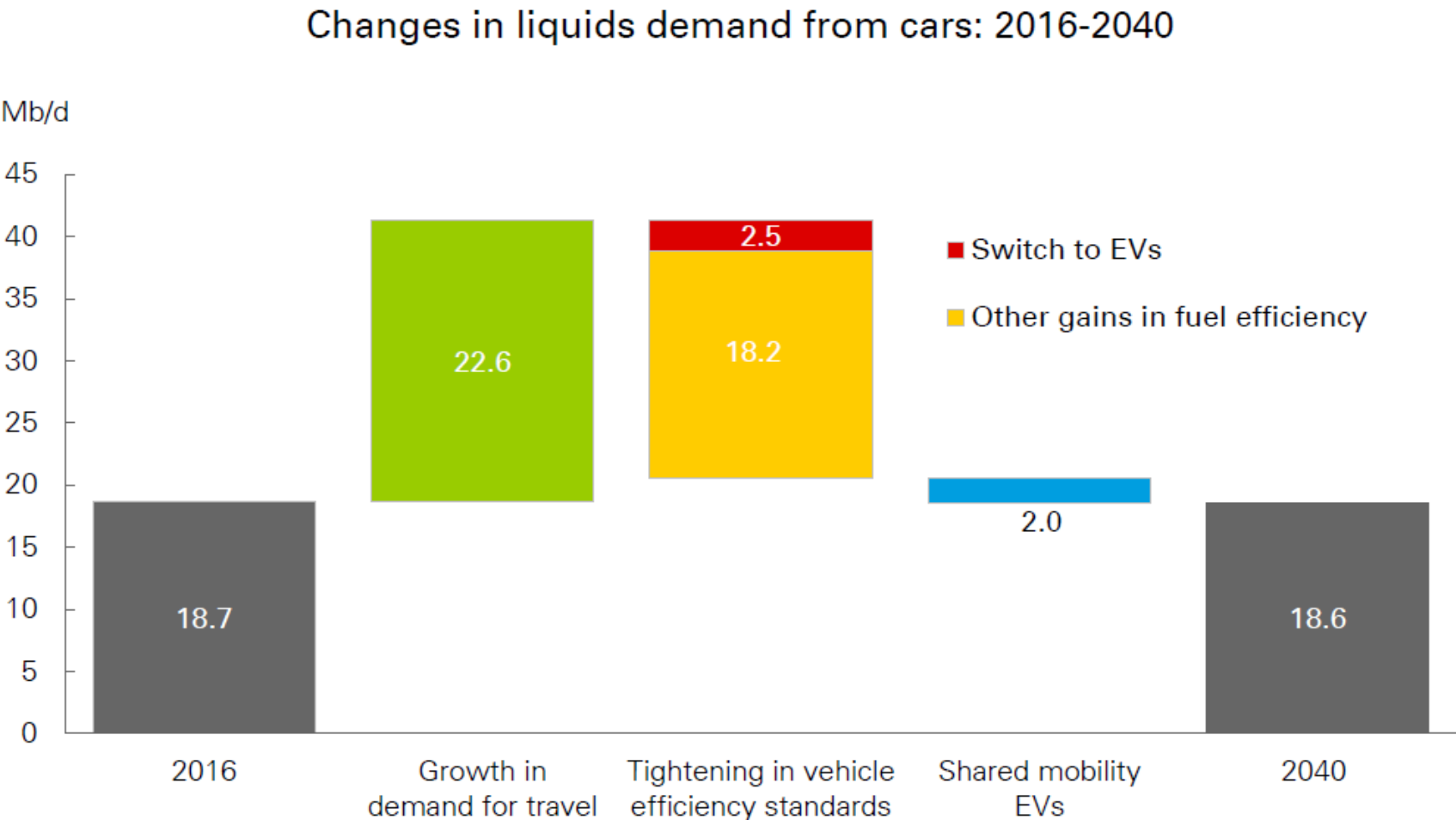
Passenger car parc by type



Fuel economy of new cars



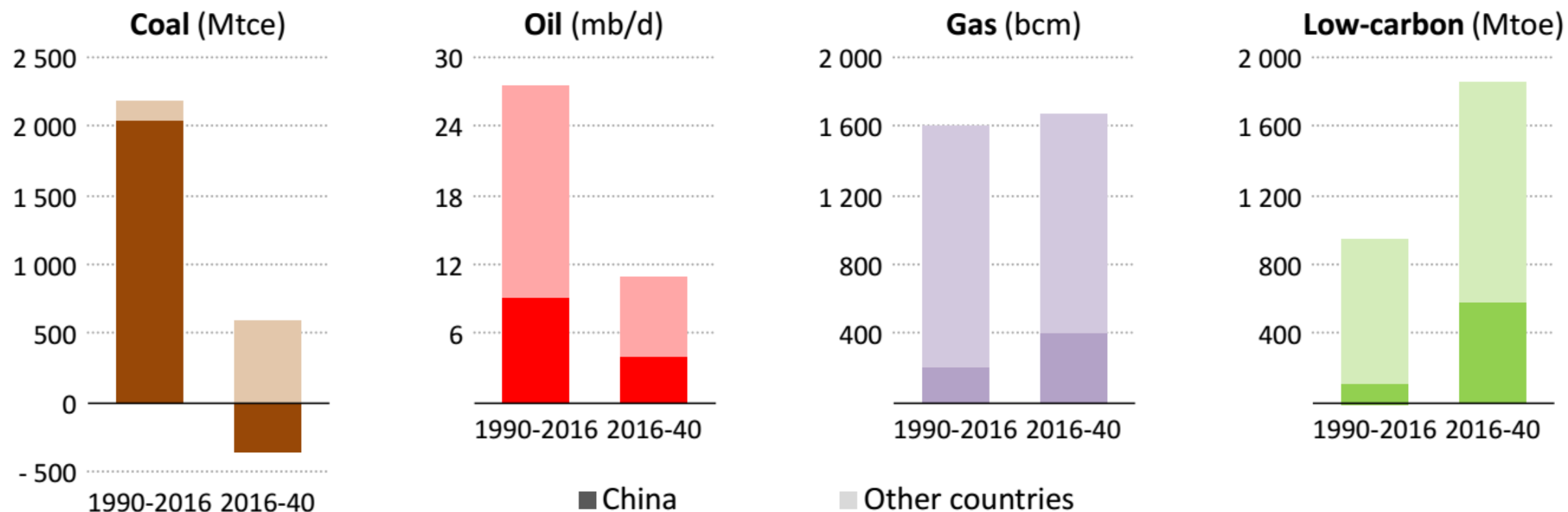
Liquids Demand from Cars



Energy consumption



Change in world energy demand by fuel



Energy consumption by fuel



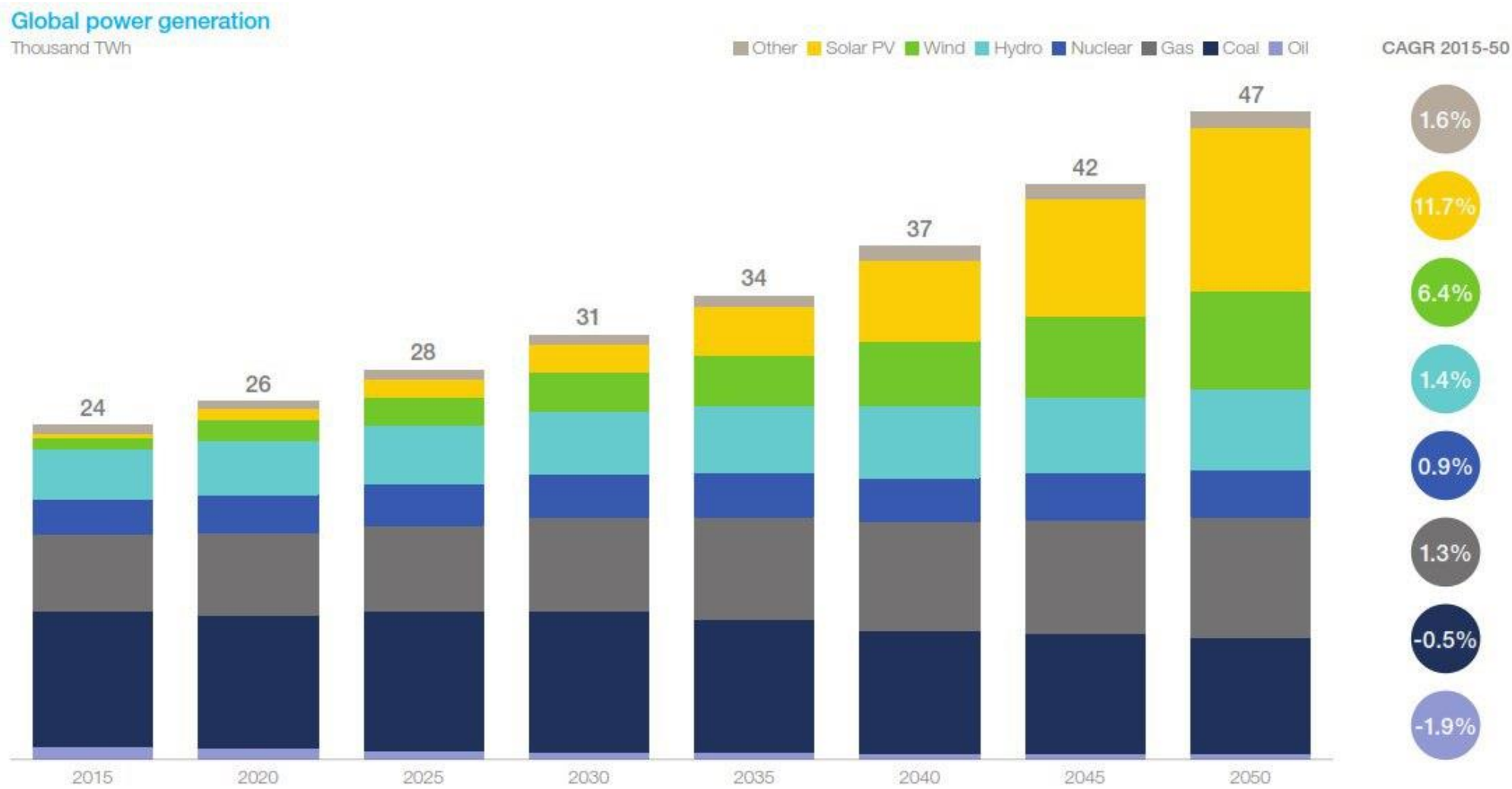
	Levels <i>mboe/d</i>				Growth <i>% p.a.</i>	Fuel shares <i>%</i>			
	2015	2020	2030	2040	2015–2040	2015	2020	2030	2040
Oil	86.3	93.4	98.9	101.3	0.6	31.5	31.4	29.5	27.8
Coal	76.9	79.2	82.1	81.0	0.2	28.1	26.7	24.5	22.2
Gas	59.4	66.1	79.1	91.3	1.7	21.7	22.3	23.6	25.0
Nuclear	13.5	15.4	19.3	22.6	2.1	4.9	5.2	5.8	6.2
Hydro	6.7	7.4	8.7	10.0	1.6	2.5	2.5	2.6	2.7
Biomass	26.9	29.0	32.5	35.5	1.1	9.8	9.8	9.7	9.7
Other renewables	3.9	6.6	14.3	23.1	7.4	1.4	2.2	4.3	6.3
Total	273.7	297.1	334.9	364.7	1.2	100	100	100	100

Energy Demand



Sources: McKinsey Energy Insights' Global Energy Perspective, December 2017; IEA Energy Balances (Historical); Smil, V. (Historical)

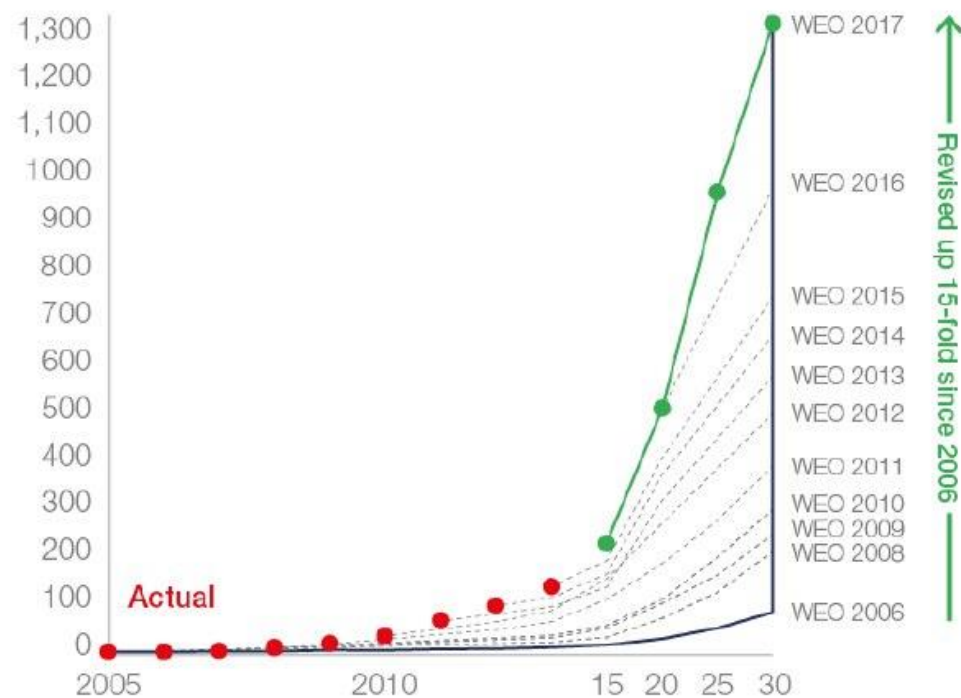
Power Generation



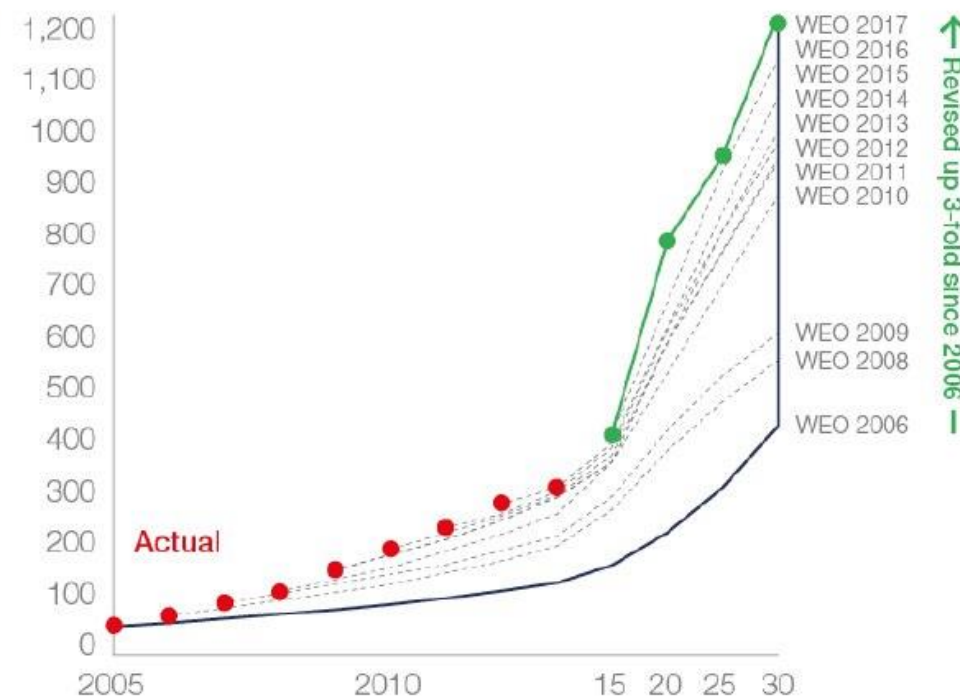
Renewables Growth

McKinsey & Company

Solar: global forecast of cumulative installed capacity
GW

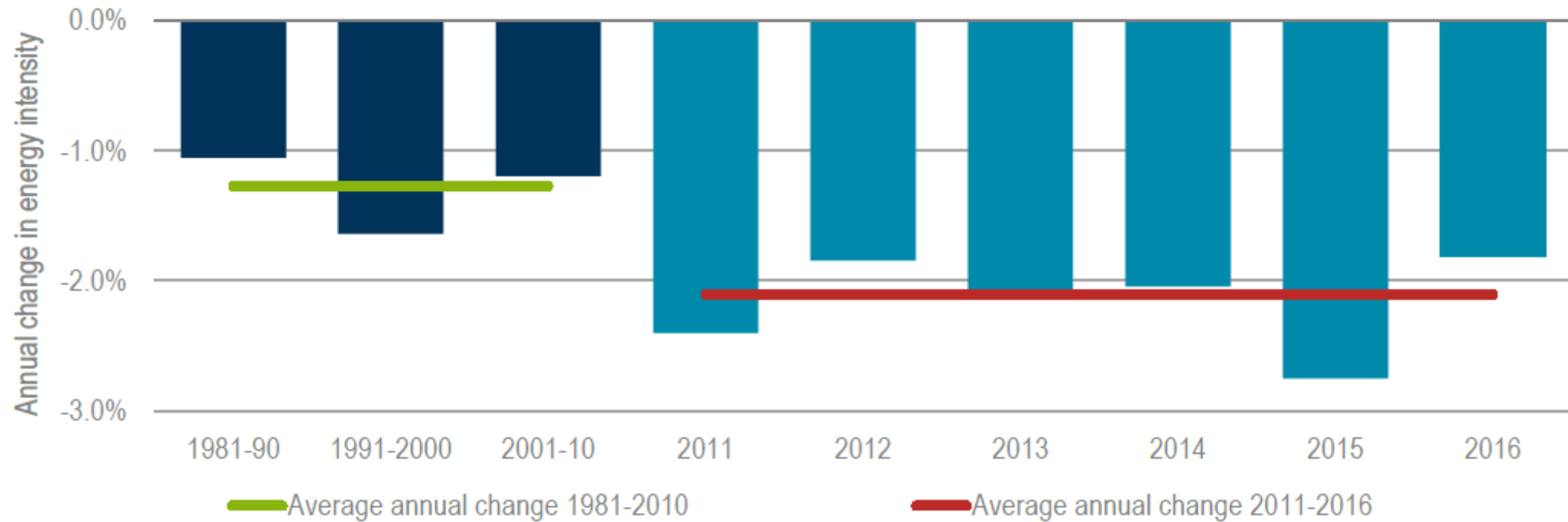


Wind: global forecast of cumulative installed capacity
GW

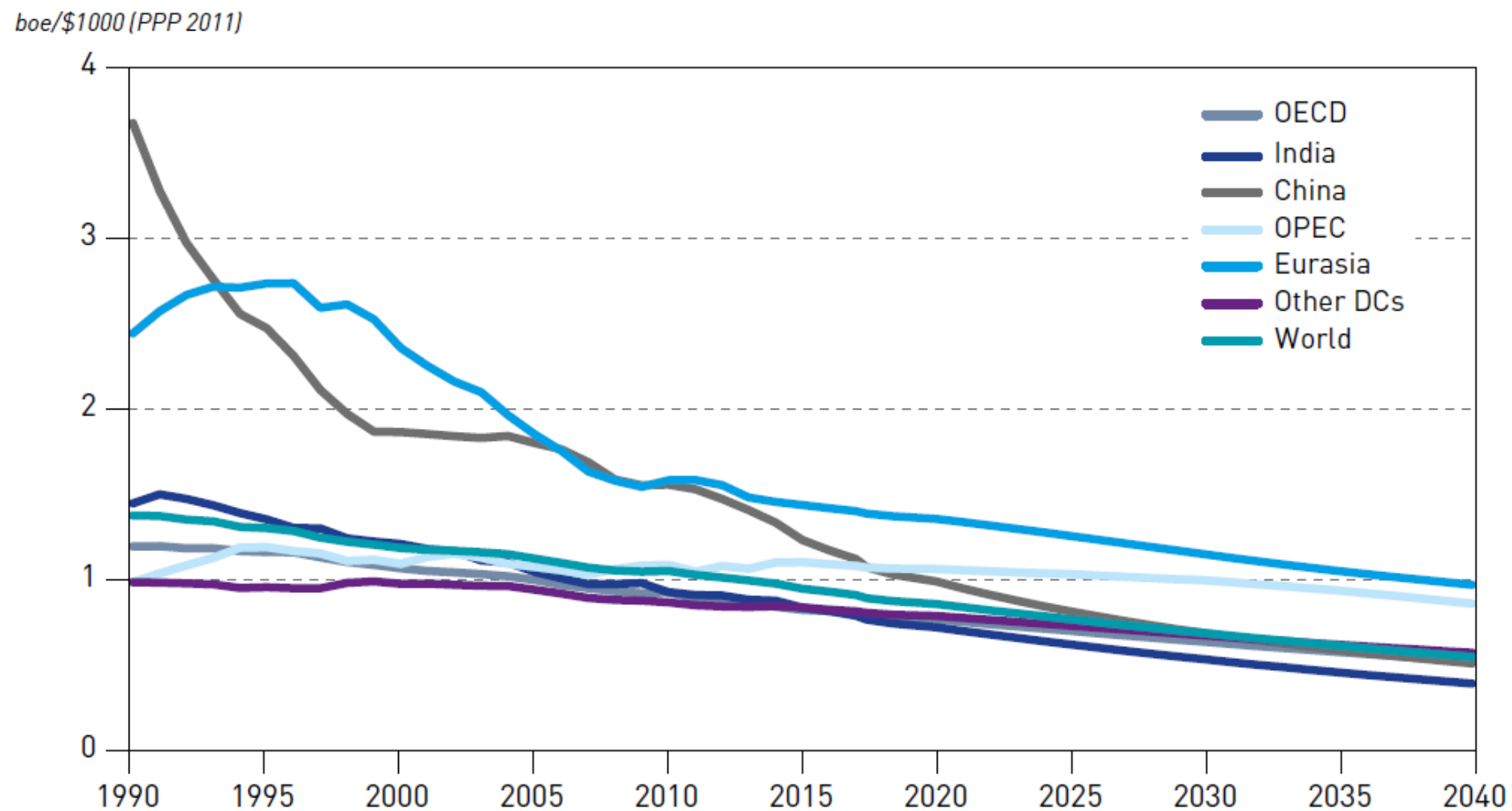


Source: IEA World Energy Outlook – New Policy Scenario

Change in global energy intensity



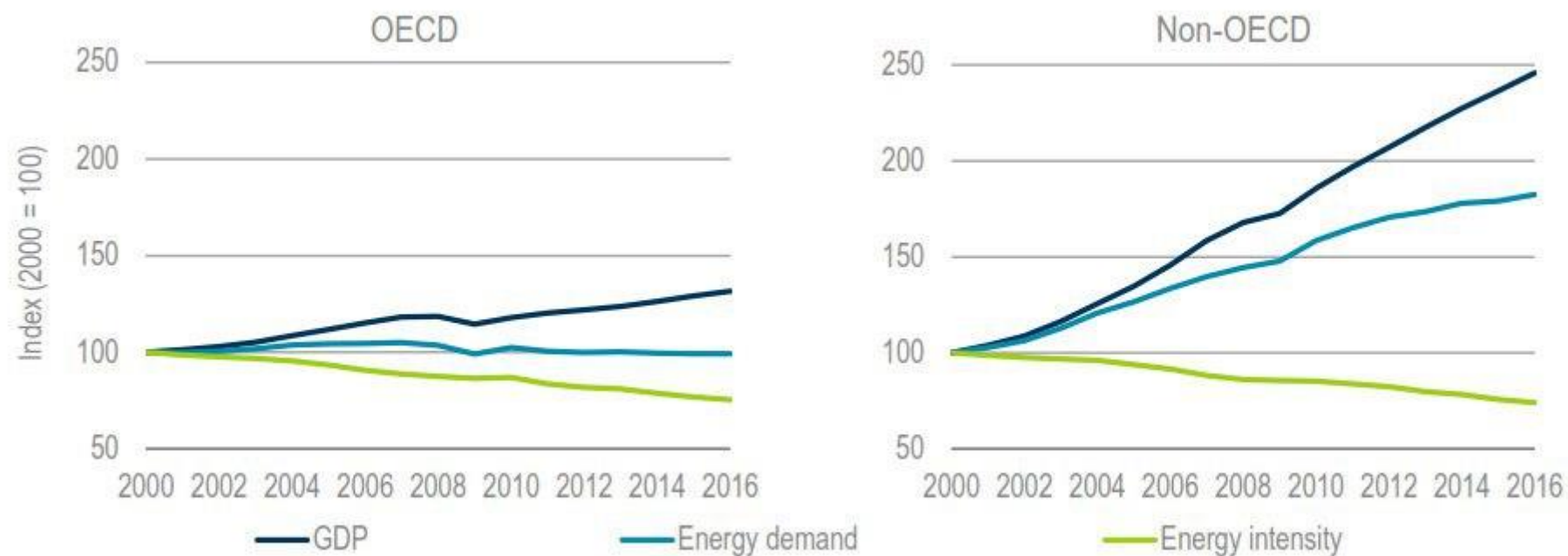
Energy intensity



OECD Energy Demand



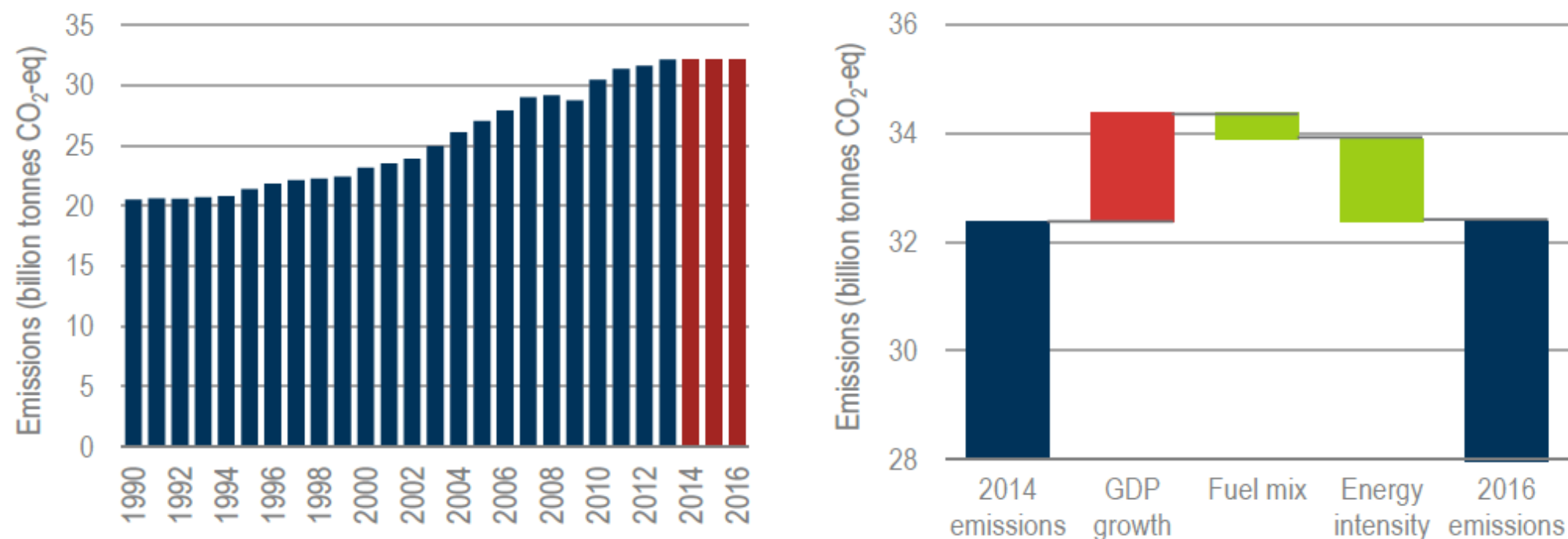
Figure 1.3 Primary energy demand, GDP and energy intensity by region



Sources: Adapted from IEA (2016a) *World Energy Outlook 2016*; and IEA (2017a), *World Energy Statistics and Balances 2017* (database), www.iea.org/statistics.

Global energy-related GHGs

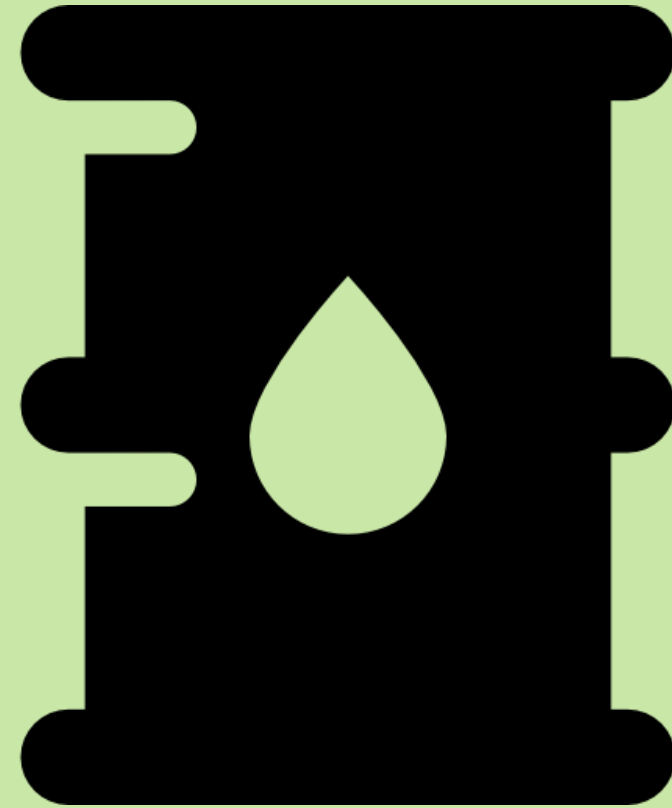
Figure 1.6 Global energy-related GHGs since 1990 (left) and an analysis of the factors that influence GHGs, 2014-16 (right)



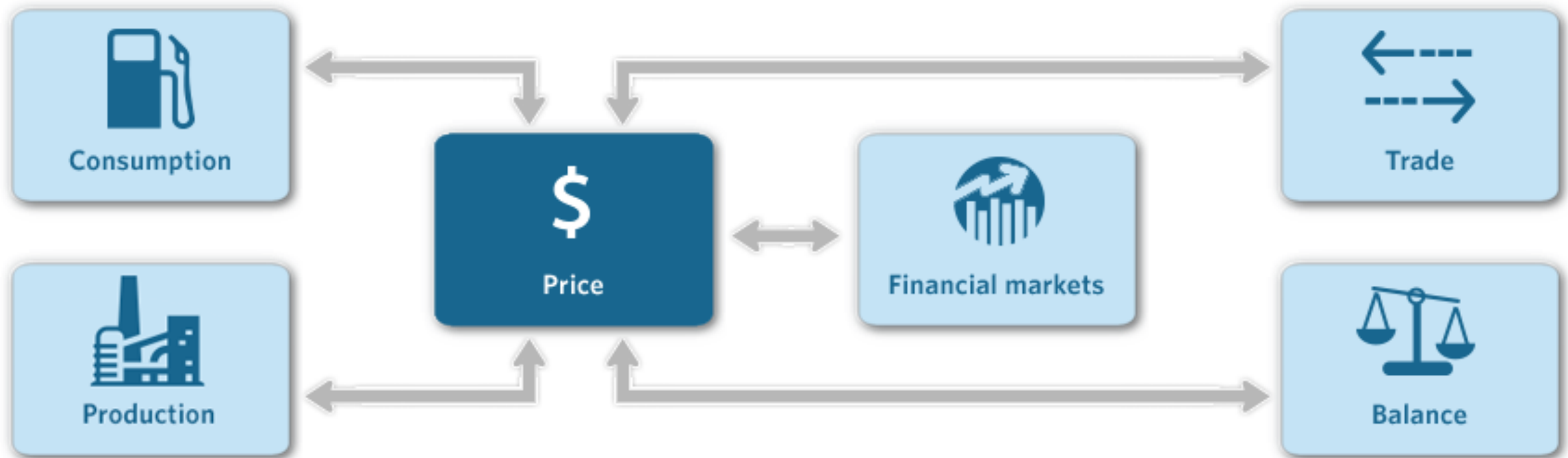
Note: Energy intensity is calculated as TPES per thousand USD of GDP in 2016 prices and PPP.

Sources: Adapted from IEA (2017a), *World Energy Statistics and Balances 2017* (database), www.iea.org/statistics; IEA (2017b), *CO₂ Emissions from Fuel Combustion* (database), www.iea.org/statistics.

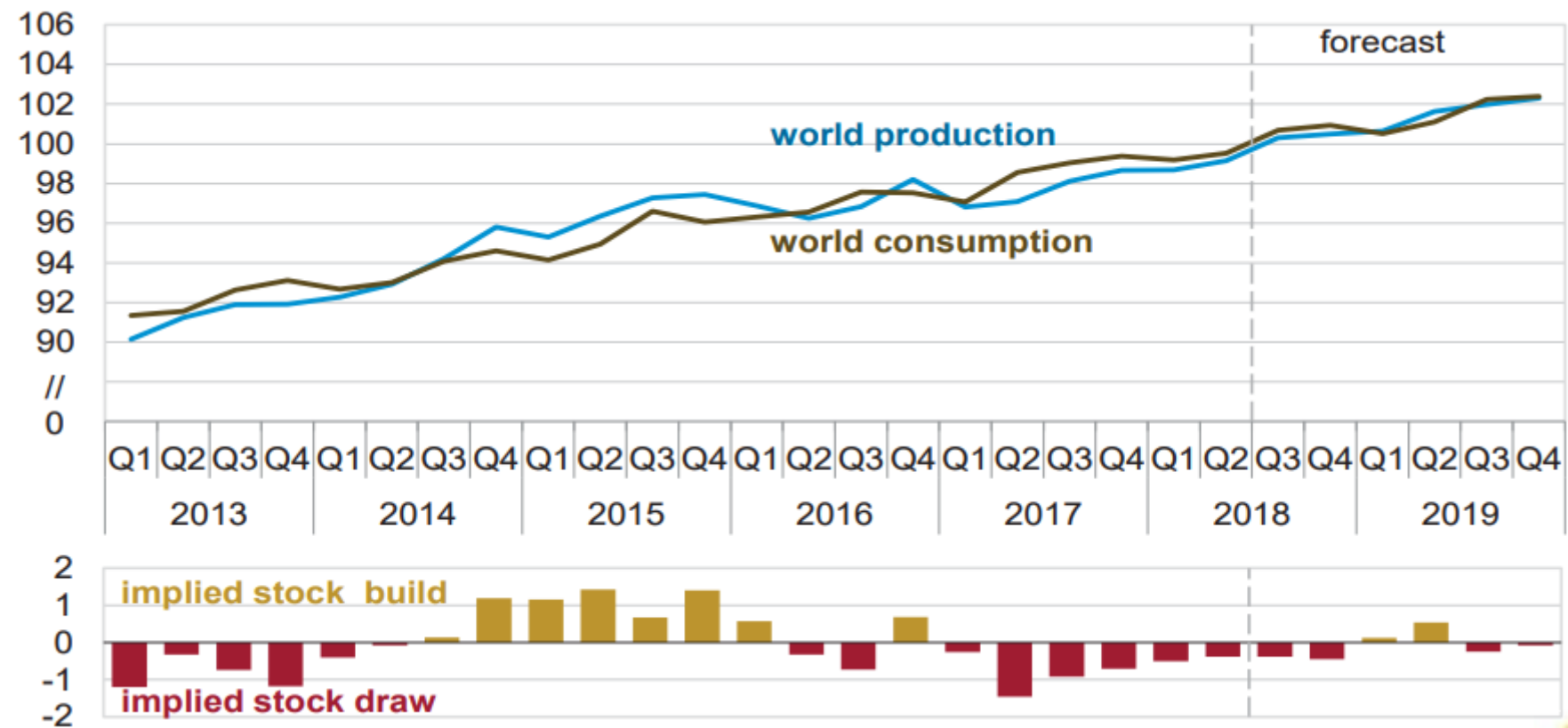
Oil Market



Oil Market



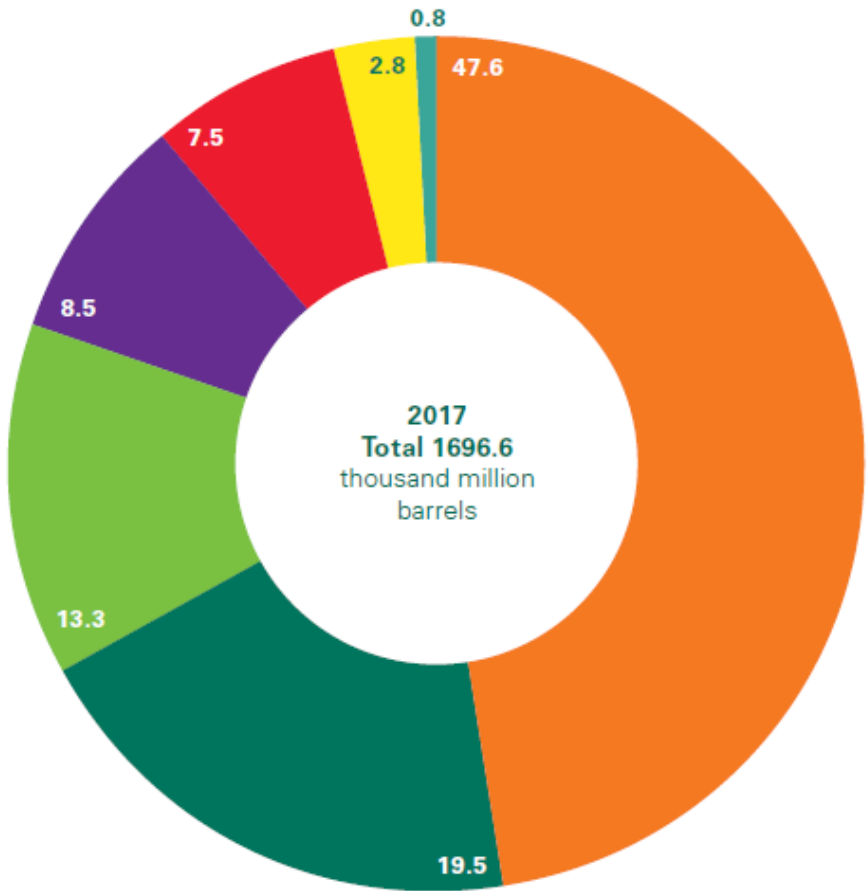
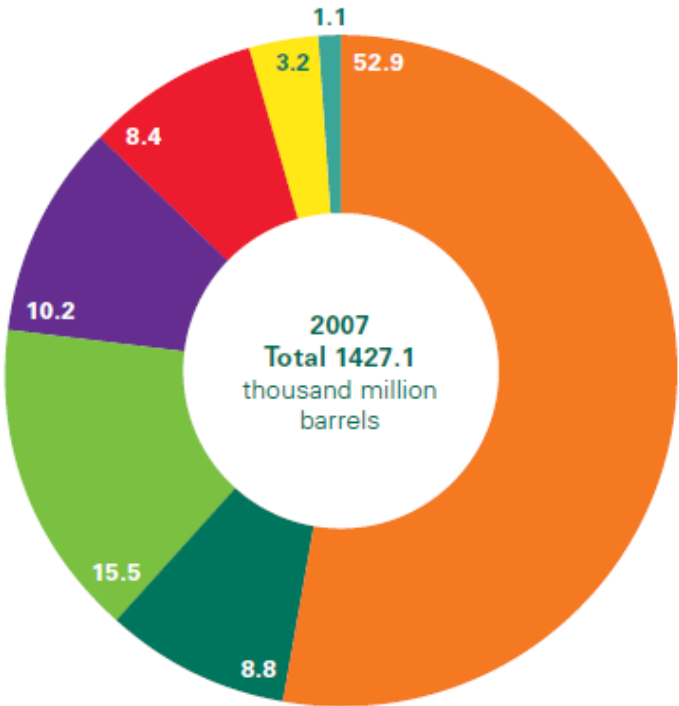
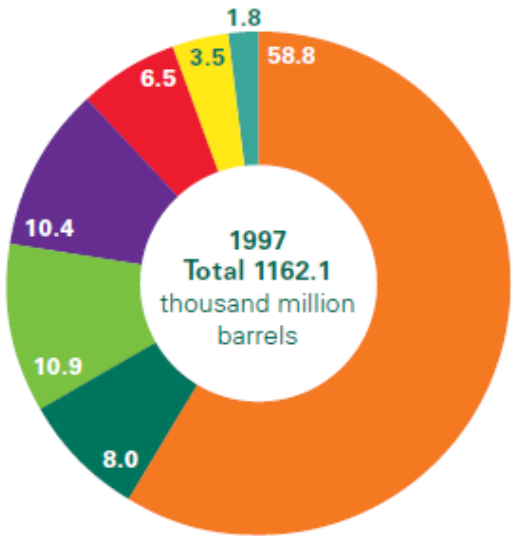
World liquid fuels balance



Distribution of proved reserves



- Middle East
- S. & Cent. America
- North America
- CIS
- Africa
- Asia Pacific
- Europe

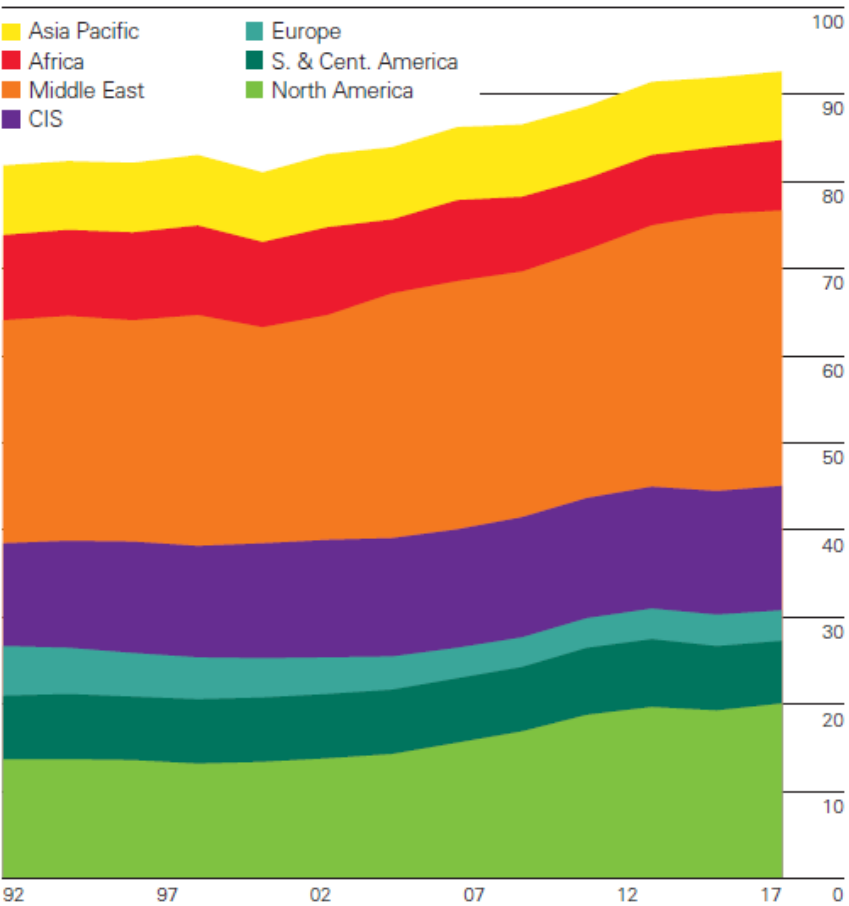


Oil production and consumption



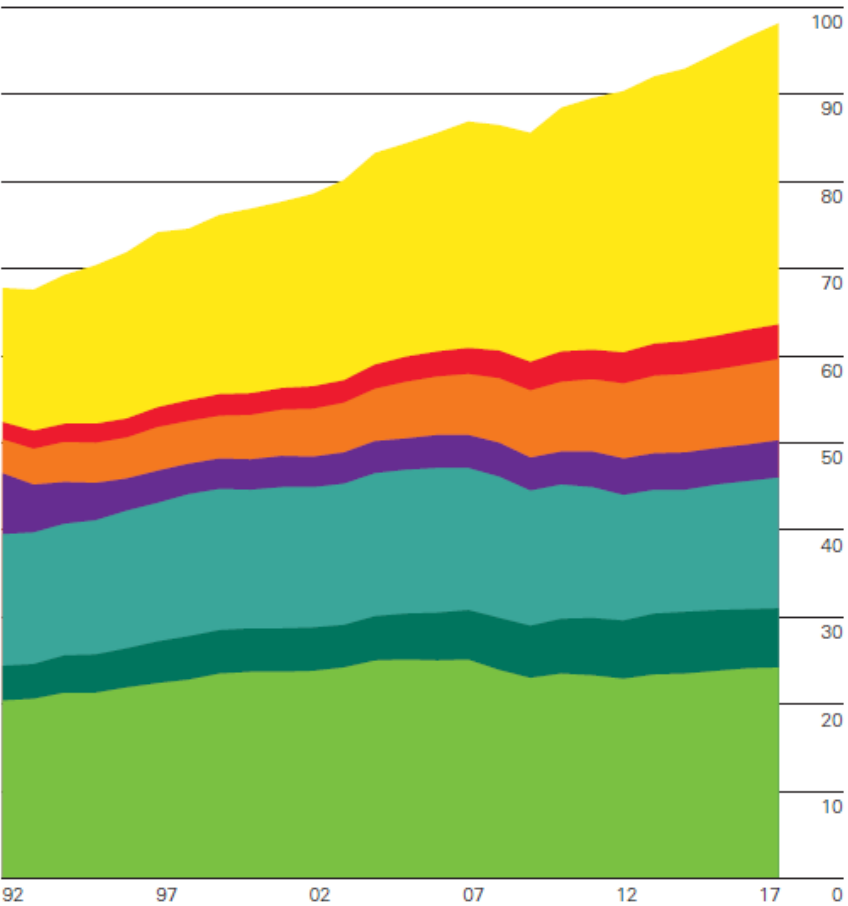
Oil: Production by region

Million barrels daily



Oil: Consumption by region

Million barrels daily



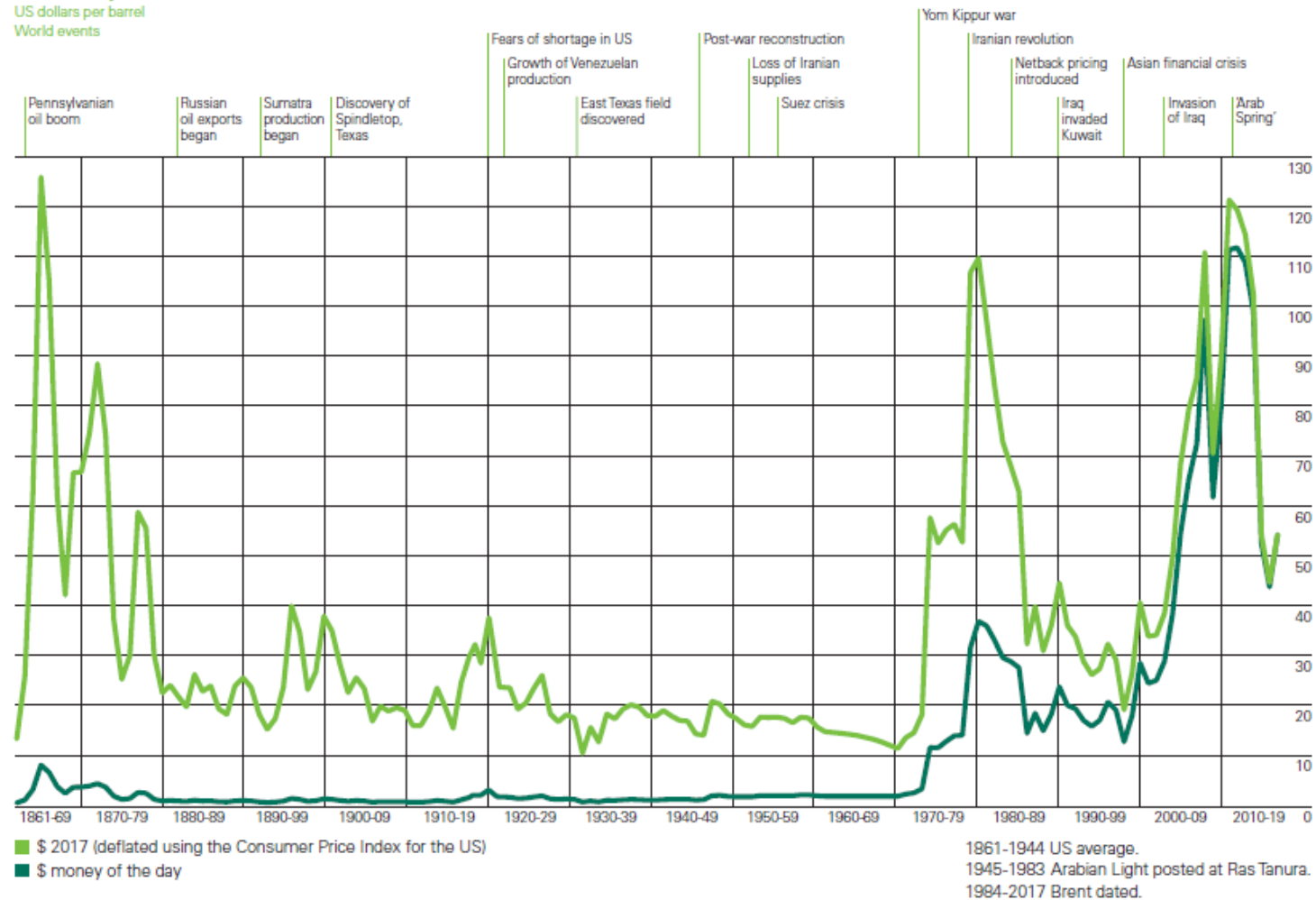
Crude oil prices



Crude oil prices 1861-2017

US dollars per barrel

World events



Top producers & consumers



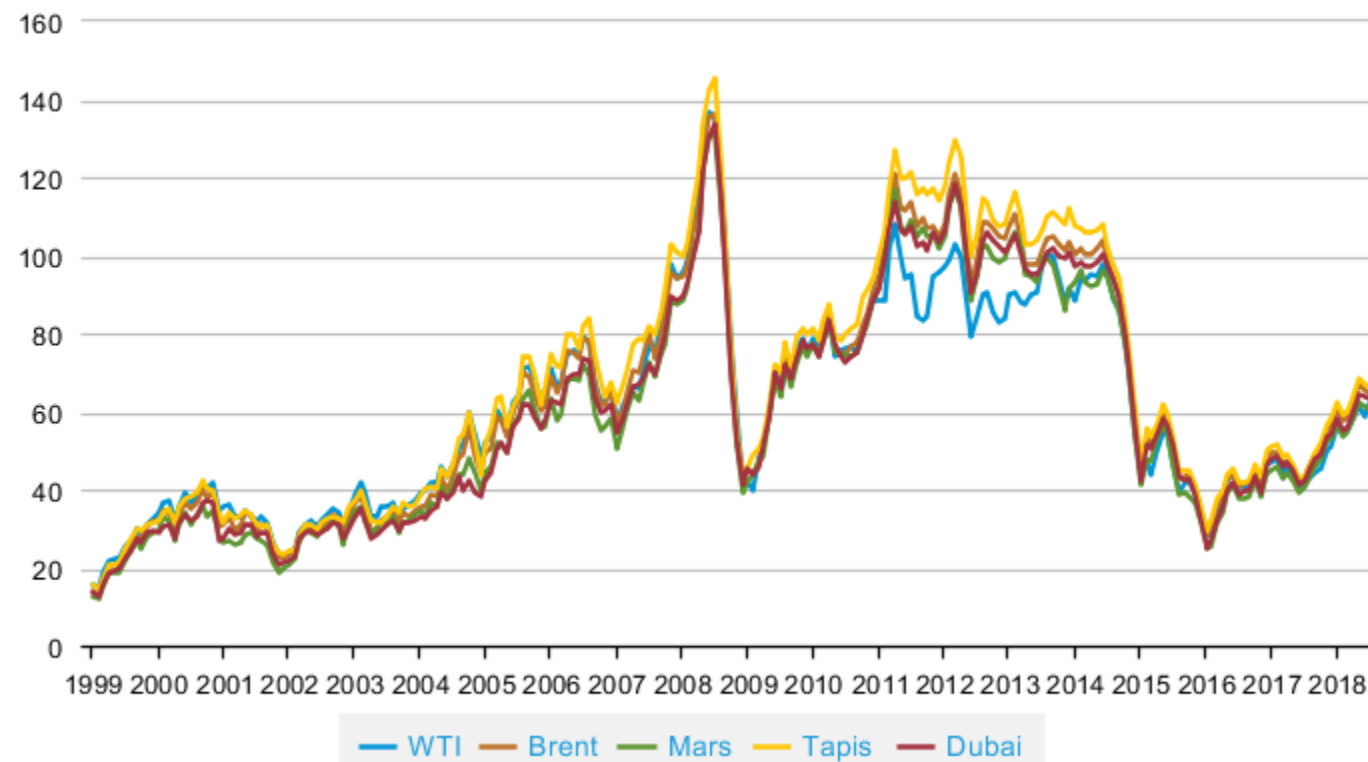
Producer	MBPD	Share
United States	14.46	15%
Saudi Arabia	12.08	13%
Russia	11.18	12%
Canada	4.87	5%
Iran	4.67	5%
Iraq	4.48	5%
China	4.45	5%
UAE	3.71	4%
Brazil	3.29	3%
Kuwait	2.93	3%
Total top 10	66.12	69%

Consumer	MBPD	Share
United States	19.53	20%
China	12.02	13%
India	4.14	4%
Japan	4.12	4%
Russia	3.55	4%
Saudi Arabia	3.24	3%
Brazil	2.99	3%
South Korea	2.41	3%
Canada	2.41	3%
Germany	2.37	2%
Total top 10	56.78	60%

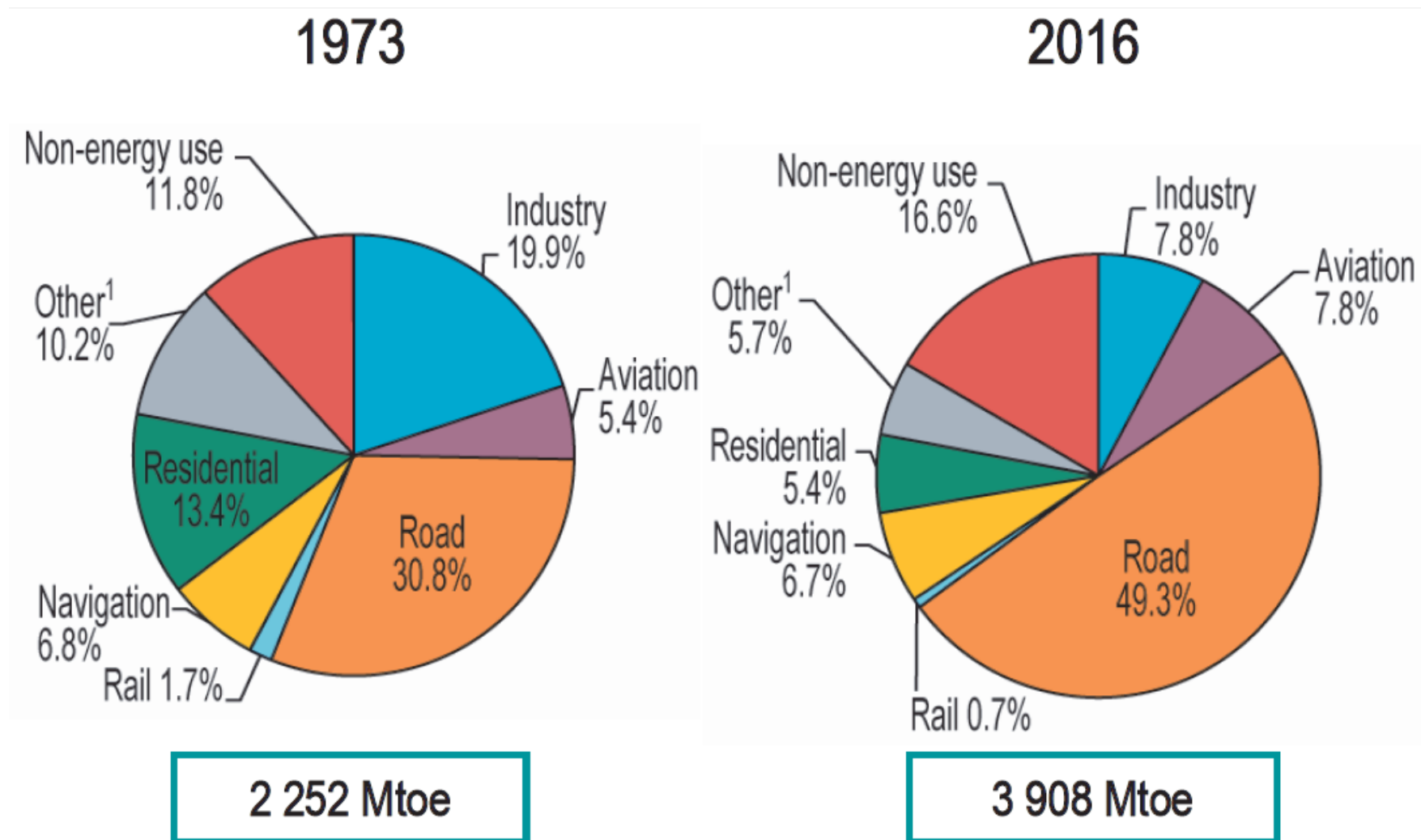
World crude oil prices

World crude oil prices

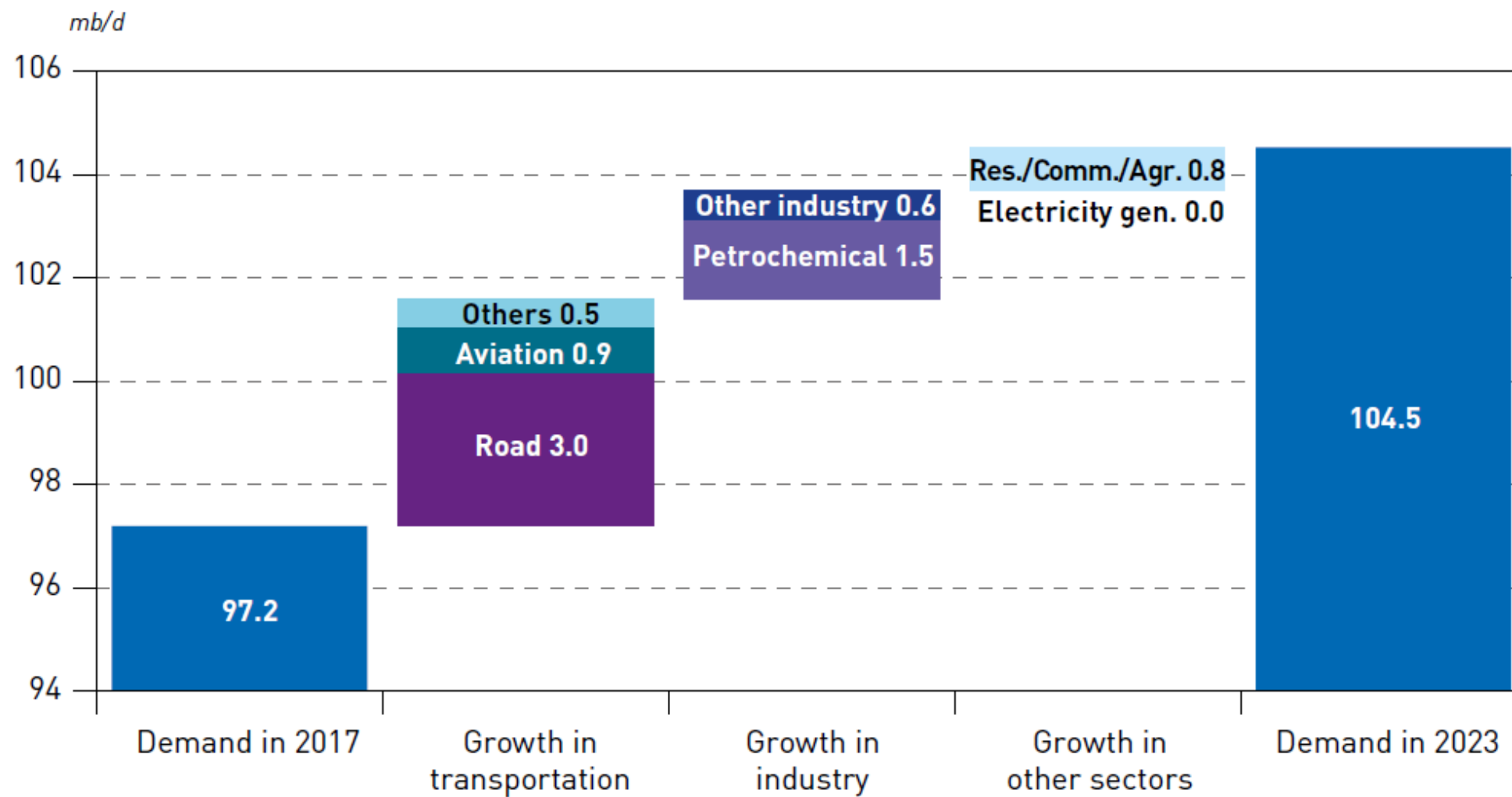
\$/b (real 2010 dollars, monthly average)



Shares of world oil consumption



Growth in oil demand

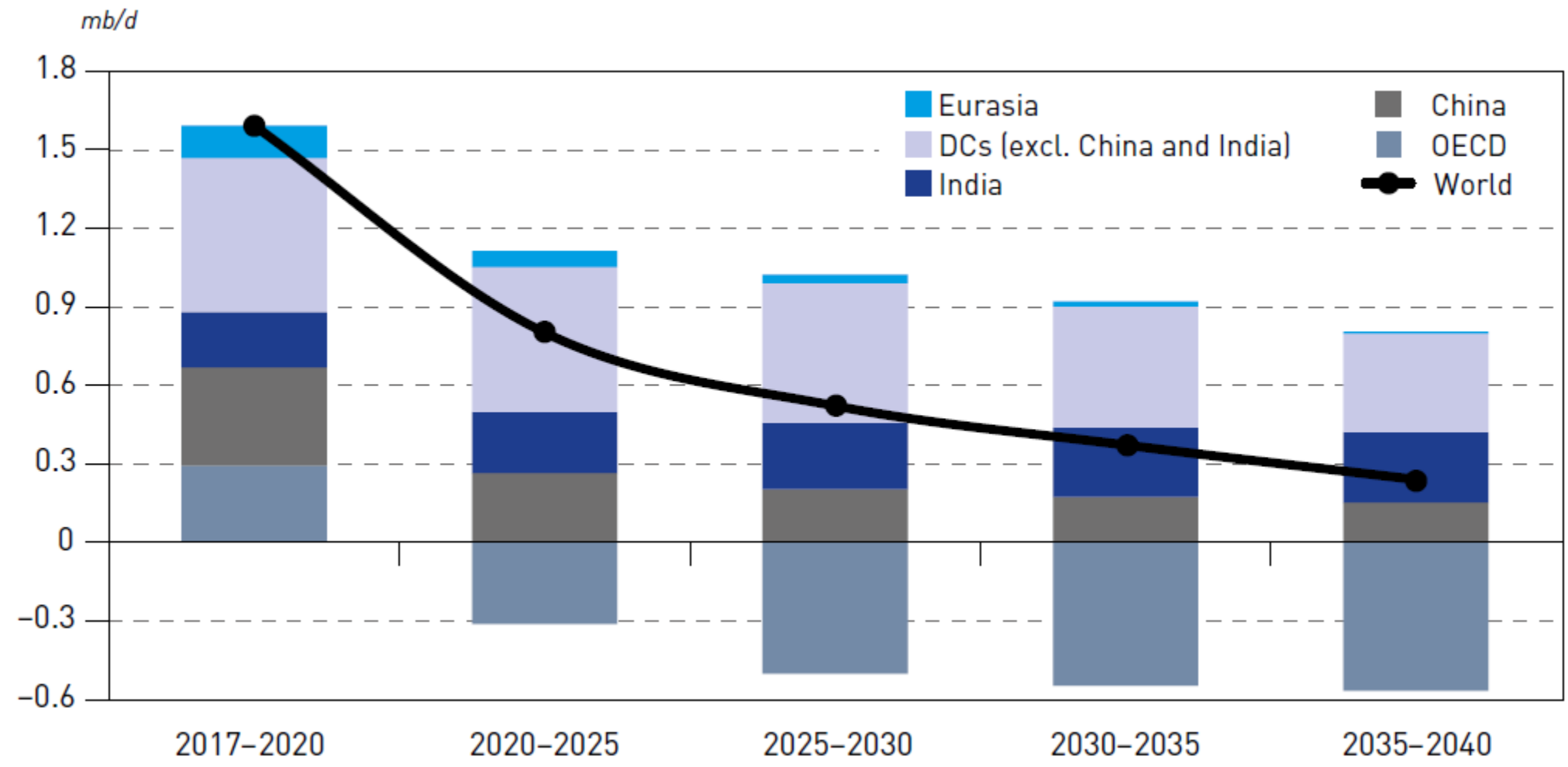


Oil demand



	2017	2020	2025	2030	2035	2040	Growth 2017–2040
Road	43.6	45.3	47.2	47.7	47.8	47.8	4.1
Aviation	6.3	6.7	7.5	7.9	8.6	9.0	2.7
Rail & dom. waterways	1.8	1.9	2.0	2.1	2.1	2.1	0.3
Marine bunkers	4.0	4.2	4.6	4.8	4.9	5.1	1.1
Transportation	55.8	58.2	61.3	62.5	63.4	64.0	8.2
Petrochemicals	13.0	13.9	14.8	15.9	16.8	17.5	4.5
Other industry	12.7	13.3	13.3	13.6	13.8	14.0	1.2
Industry	25.7	27.2	28.1	29.4	30.5	31.5	5.7
Resid./Comm./Agr.	10.6	11.1	11.6	12.0	12.2	12.3	1.7
Electricity generation	5.1	5.4	5.0	4.7	4.3	4.0	-1.1
Other uses	15.6	16.5	16.6	16.7	16.5	16.2	0.6
World	97.2	101.9	106.0	108.6	110.5	111.7	14.5

Oil demand



Supply

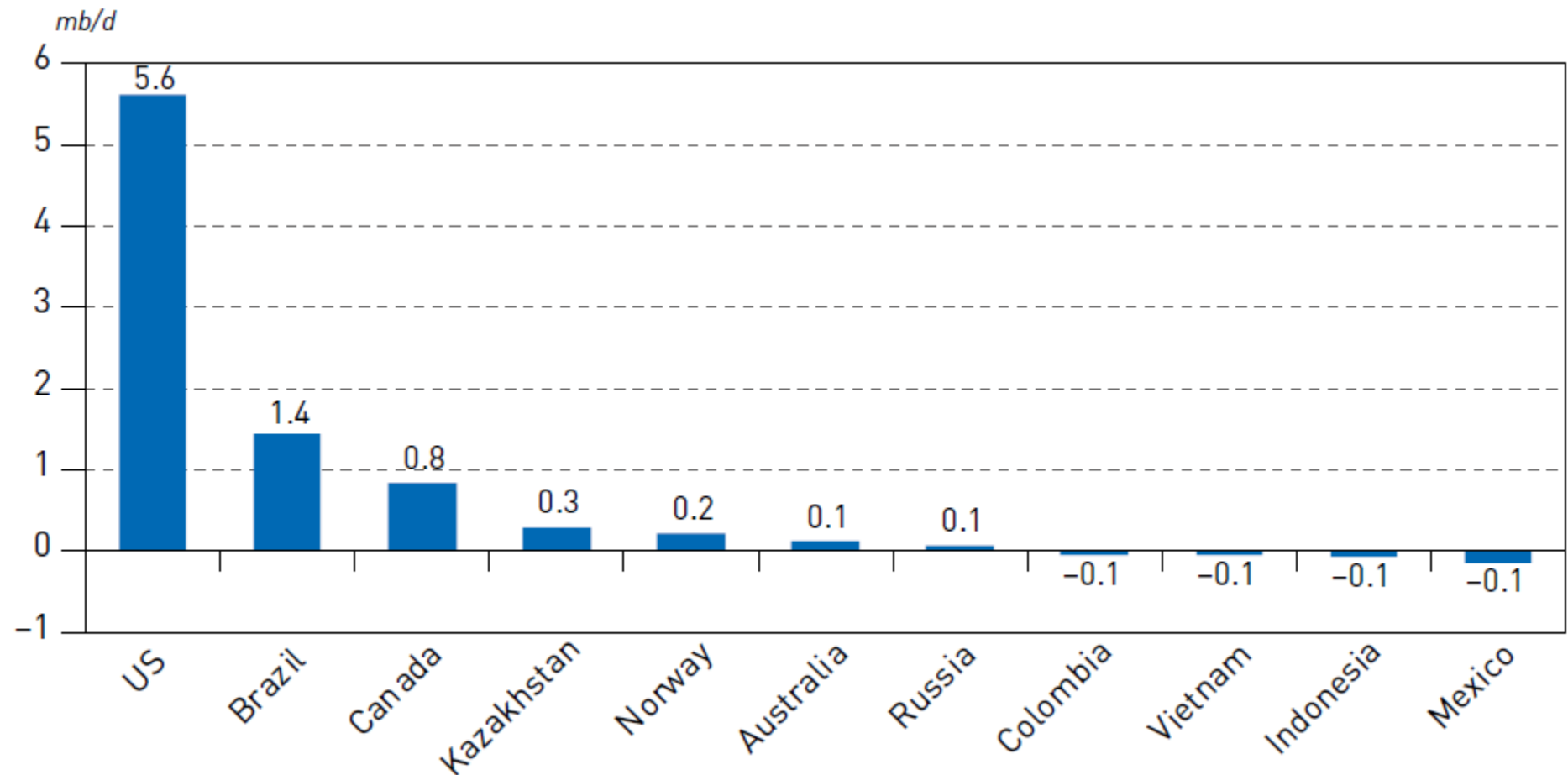


Long-term liquids supply outlook in the Reference Case

mb/d

	2016	2017	2020	2025	2030	2035	2040	Change 2020–2040
US & Canada	18.1	18.9	21.4	23.8	23.9	23.2	22.1	0.7
<i>of which: tight crude</i>	4.5	5.1	5.7	8.7	8.8	8.3	7.3	1.6
Mexico & Chile	2.5	2.3	2.1	1.9	1.8	1.7	1.7	–0.4
OECD Europe	3.8	3.8	3.8	3.7	3.5	3.3	2.9	–0.9
OECD Asia Oceania	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.1
OECD	24.8	25.5	27.7	30.0	29.7	28.7	27.2	–0.5
Latin America	5.1	5.2	5.6	6.3	6.4	6.5	6.5	0.9
Middle East & Africa	3.1	3.1	3.3	3.3	3.2	3.0	2.8	–0.5
Asia	3.7	3.6	3.5	3.5	3.4	3.1	2.9	–0.7
China	4.1	4.0	3.7	3.6	3.5	3.3	3.2	–0.5
DCs, excl. OPEC	16.0	16.0	16.1	16.7	16.4	15.9	15.3	–0.8
Russia	11.1	11.0	11.4	11.2	11.1	11.1	11.1	–0.3
Other Eurasia	2.9	3.0	3.1	3.2	3.5	3.7	3.8	0.7
Eurasia	14.0	14.1	14.5	14.4	14.6	14.8	14.9	0.4
Processing gains	2.2	2.2	2.3	2.4	2.6	2.8	3.0	0.7
Non-OPEC	57.0	57.7	60.7	63.6	63.5	62.3	60.4	–0.3
Crude	42.0	42.2	43.6	45.2	44.3	42.4	39.9	–3.8
NGLs	7.7	7.9	8.7	9.2	9.1	8.7	8.2	–0.5
<i>of which: unconv. NGLs</i>	2.2	2.2	2.5	3.2	3.3	3.1	2.9	0.4
Other liquids incl. biofuels	5.1	5.4	6.0	6.7	7.5	8.4	9.2	3.3
Total OPEC supply	38.8	38.7	40.4	41.0	44.1	47.6	50.9	10.5
OPEC NGLs	5.9	6.0	6.4	7.0	7.7	8.3	8.9	2.5
OPEC Other liquids*	0.2	0.3	0.3	0.5	0.5	0.5	0.6	0.2
OPEC crude	32.7	32.4	33.7	33.5	35.9	38.8	41.4	7.7
Stock change**	0.5	–0.3	0.4	0.2	0.2	0.2	0.2	
World supply	95.8	96.5	101.1	104.5	107.6	109.9	111.3	10.2

Non-OPEC supply growth 2017-2023



World oil demand



	<u>2018</u>	<u>1Q19</u>	<u>2Q19</u>	<u>3Q19</u>	<u>4Q19</u>	<u>2019</u>	<u>Change 2019/18</u> <u>Growth</u>	<u>%</u>
Americas	25.31	25.41	25.57	25.59	25.69	25.57	0.26	1.01
<i>of which US</i>	20.54	20.77	20.78	20.72	20.81	20.77	0.23	1.13
Europe	14.37	14.01	14.27	14.85	14.53	14.42	0.05	0.32
Asia Pacific	8.07	8.53	7.61	7.75	8.30	8.05	-0.03	-0.34
Total OECD	47.76	47.95	47.45	48.19	48.53	48.03	0.27	0.57
Other Asia	13.70	13.93	14.23	13.81	14.35	14.08	0.39	2.81
<i>of which India</i>	4.75	5.04	4.95	4.60	5.23	4.95	0.21	4.36
Latin America	6.55	6.45	6.61	6.96	6.61	6.66	0.11	1.63
Middle East	8.18	8.26	8.05	8.69	8.01	8.25	0.07	0.90
Africa	4.33	4.46	4.43	4.37	4.48	4.44	0.11	2.45
Total DCs	32.76	33.10	33.32	33.84	33.47	33.43	0.67	2.05
FSU	4.82	4.75	4.59	4.98	5.31	4.91	0.09	1.87
Other Europe	0.74	0.75	0.71	0.75	0.84	0.76	0.02	2.69
China	12.74	12.62	13.20	13.07	13.48	13.09	0.36	2.79
Total "Other regions"	18.30	18.12	18.49	18.79	19.64	18.77	0.47	2.54
Total world	98.82	99.17	99.27	100.82	101.63	100.23	1.41	1.43
Previous estimate	98.83	99.11	99.29	100.90	101.72	100.26	1.43	1.45
Revision	-0.01	0.06	-0.03	-0.08	-0.09	-0.03	-0.02	-0.02

Non-OPEC supply

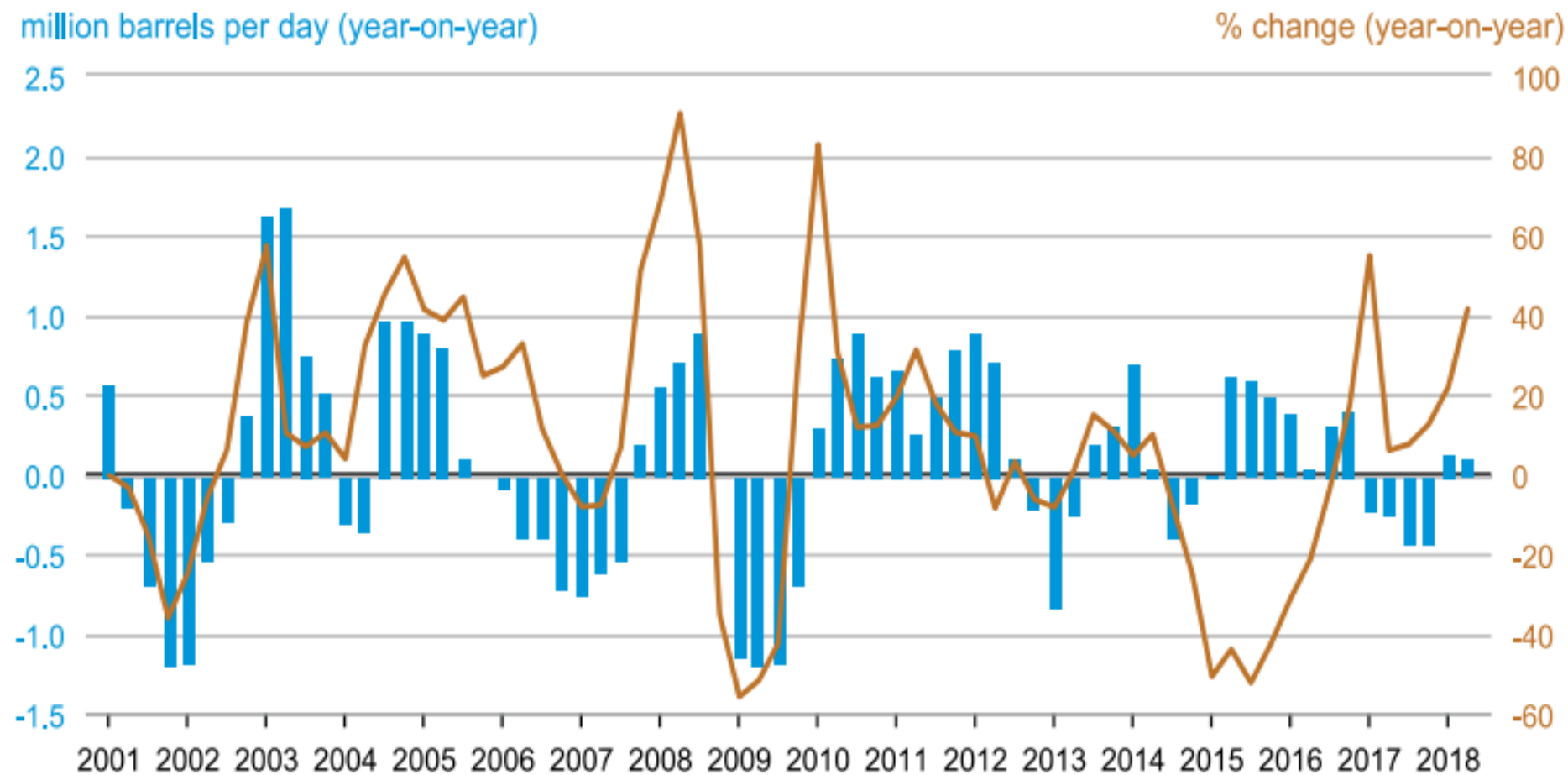


Region	<u>2018</u>	<u>Change 2018/17</u>	<u>2019</u>	<u>Change 2019/18</u>
OECD Americas	23.39	1.89	24.91	1.53
OECD Europe	3.86	0.03	3.86	0.00
OECD Asia Pacific	0.40	0.01	0.45	0.05
Total OECD	27.64	1.93	29.22	1.58
Other Asia	3.53	-0.06	3.53	0.00
Latin America	5.19	0.05	5.55	0.36
Middle East	1.23	-0.01	1.24	0.01
Africa	1.53	0.02	1.62	0.09
Total DCs	11.47	0.01	11.94	0.47
FSU	14.10	0.05	14.13	0.04
Other Europe	0.12	-0.01	0.12	0.00
China	3.98	0.00	4.02	0.05
Non-OPEC production	57.31	1.98	59.43	2.12
Processing gains	2.25	0.04	2.28	0.03
Non-OPEC supply	59.56	2.02	61.71	2.15

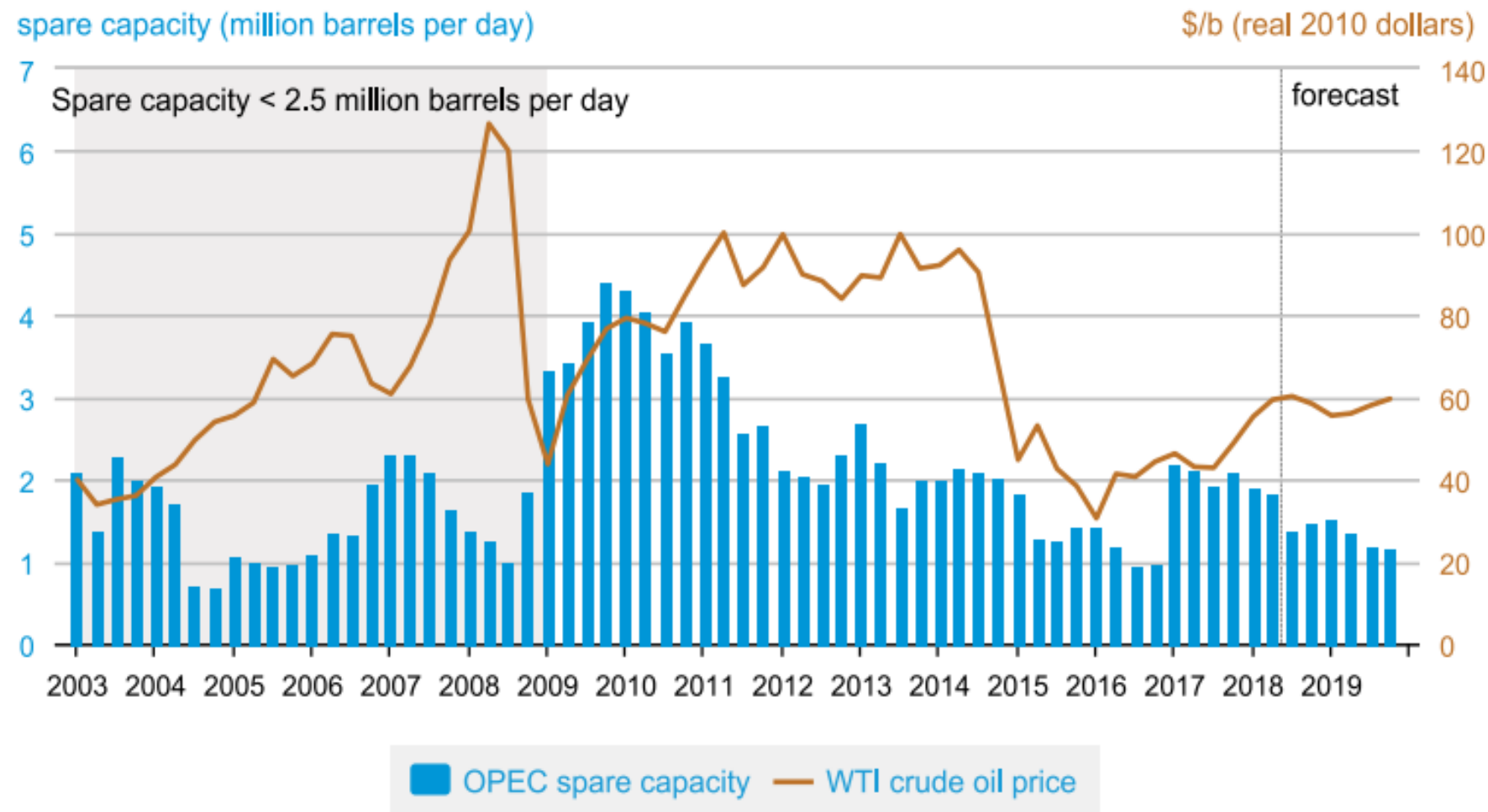
Note: * 2018 and 2019 = Forecast.

Source: OPEC Secretariat.

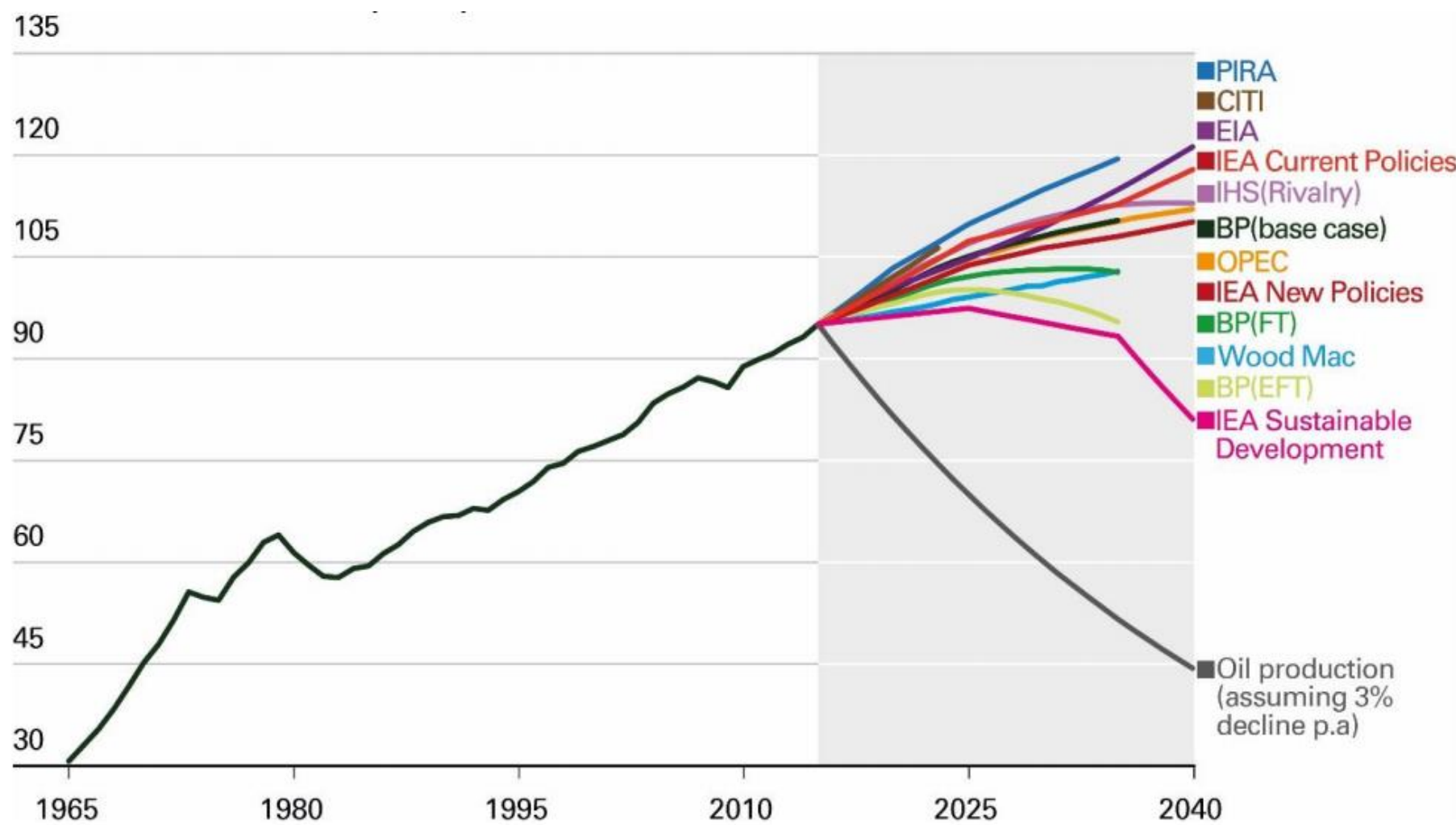
Saudi Arabia production



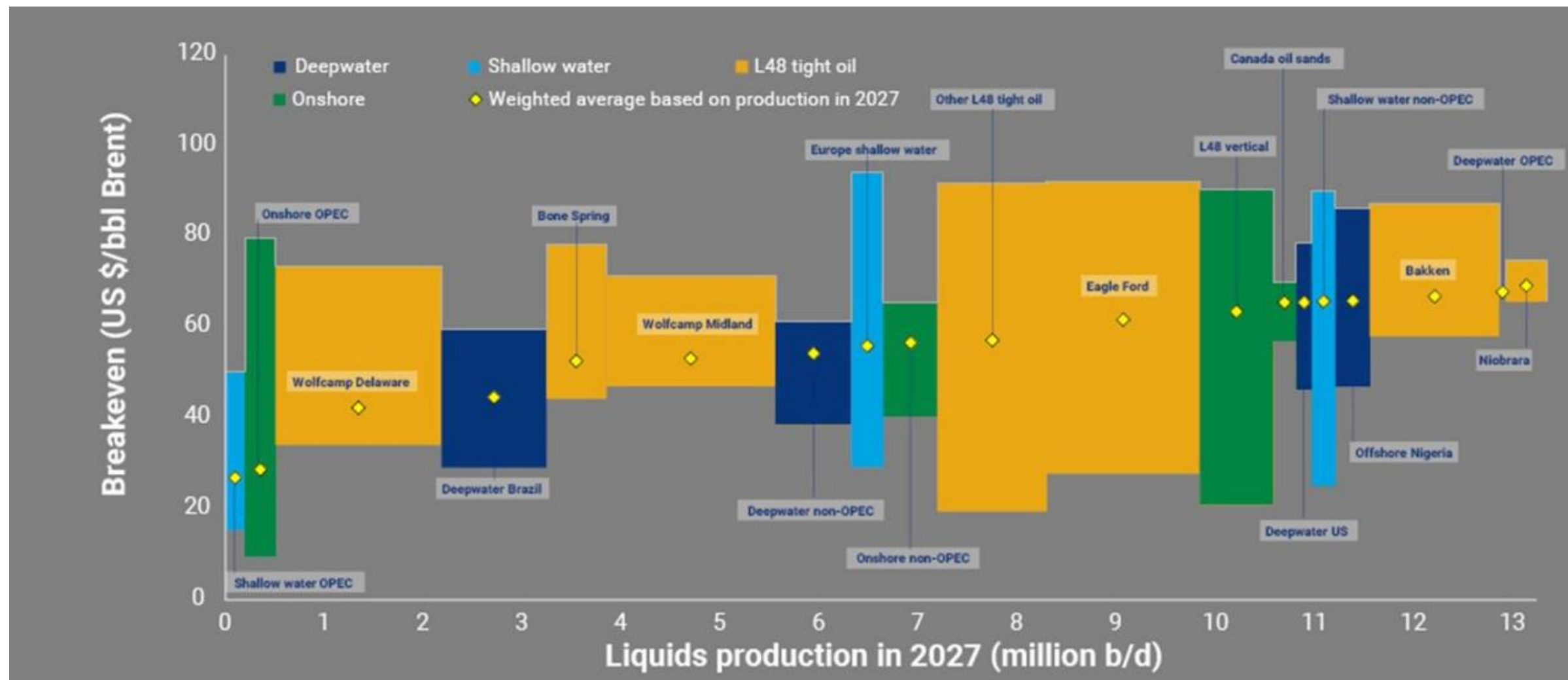
OPEC spare capacity



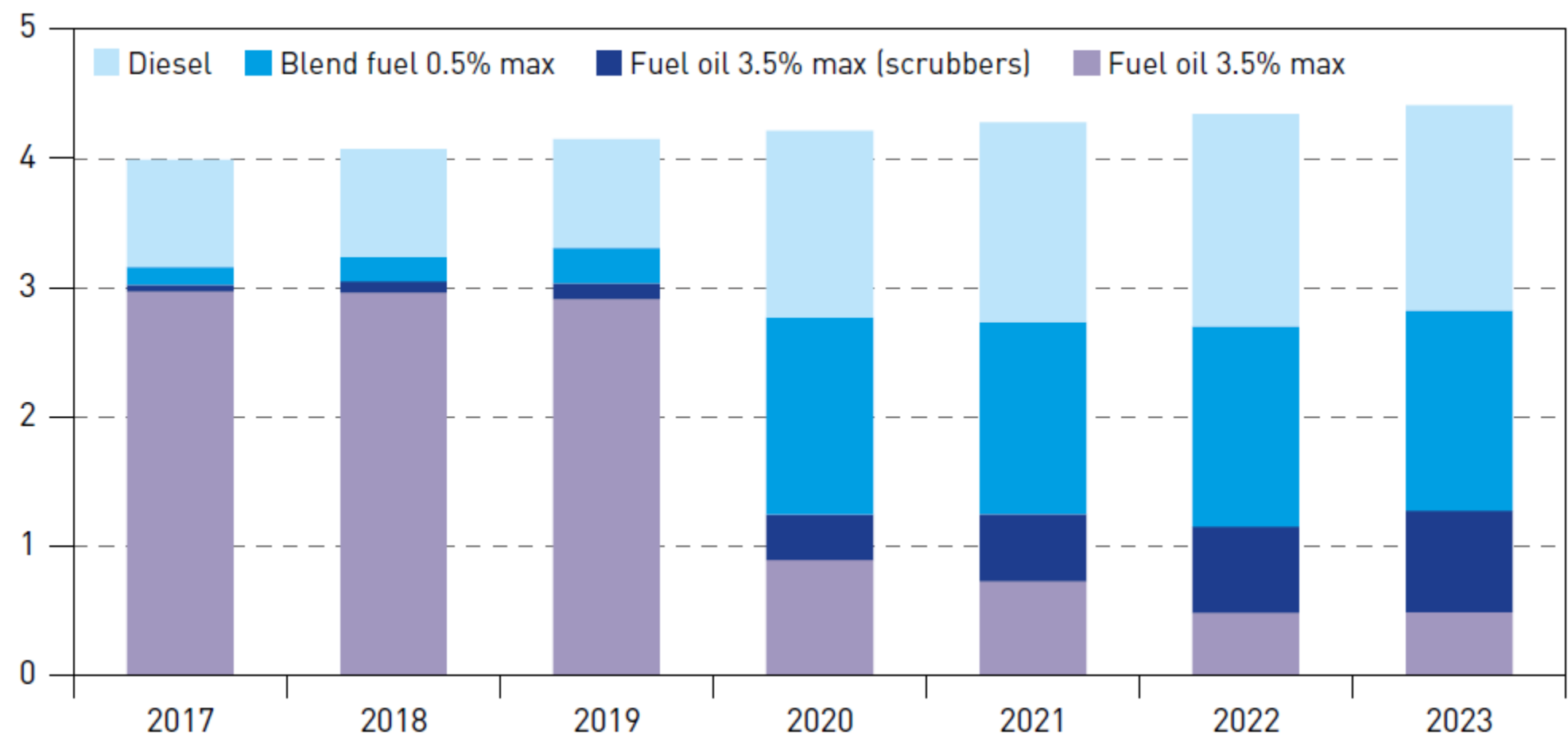
Demand peak debate



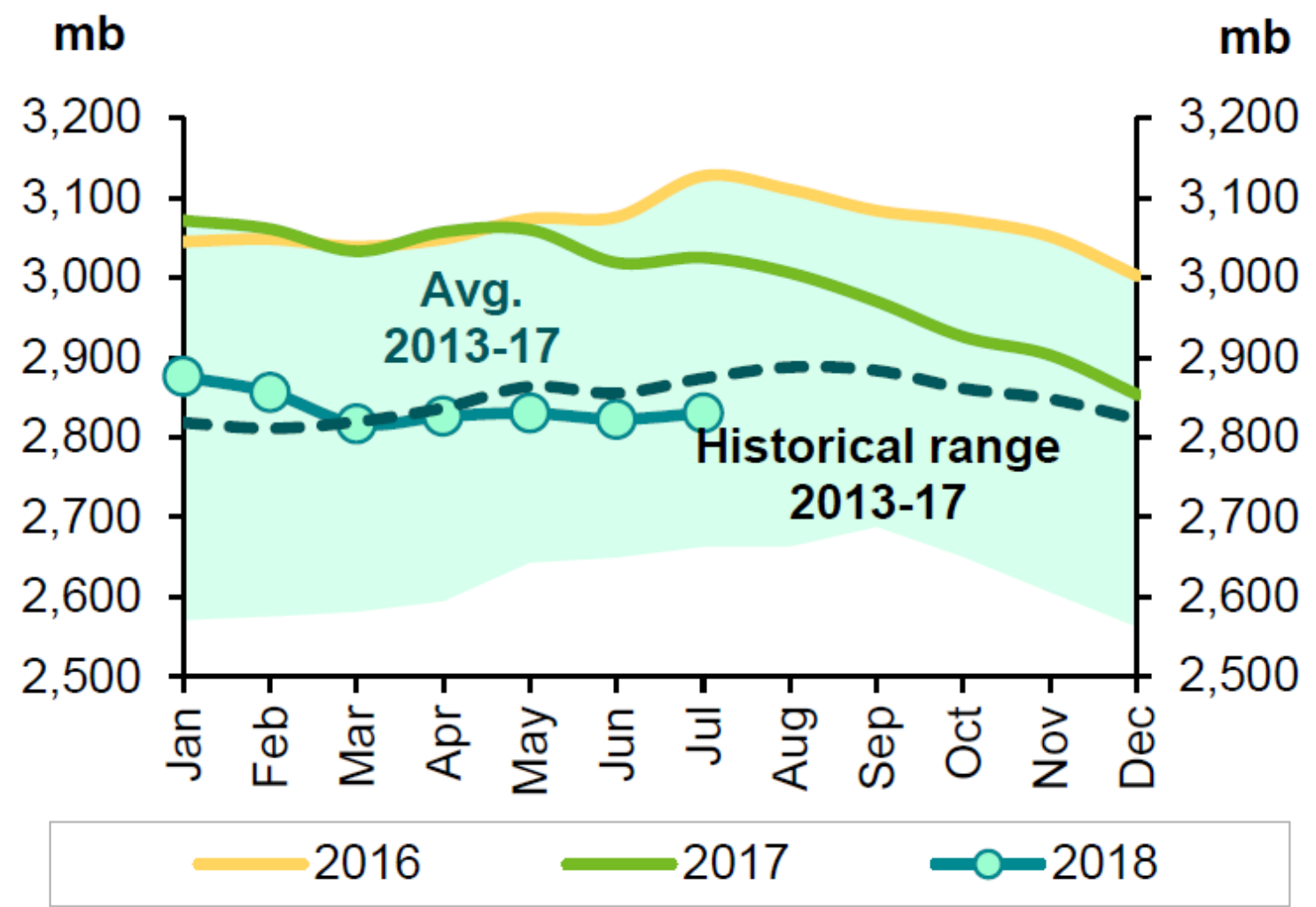
Cost curve



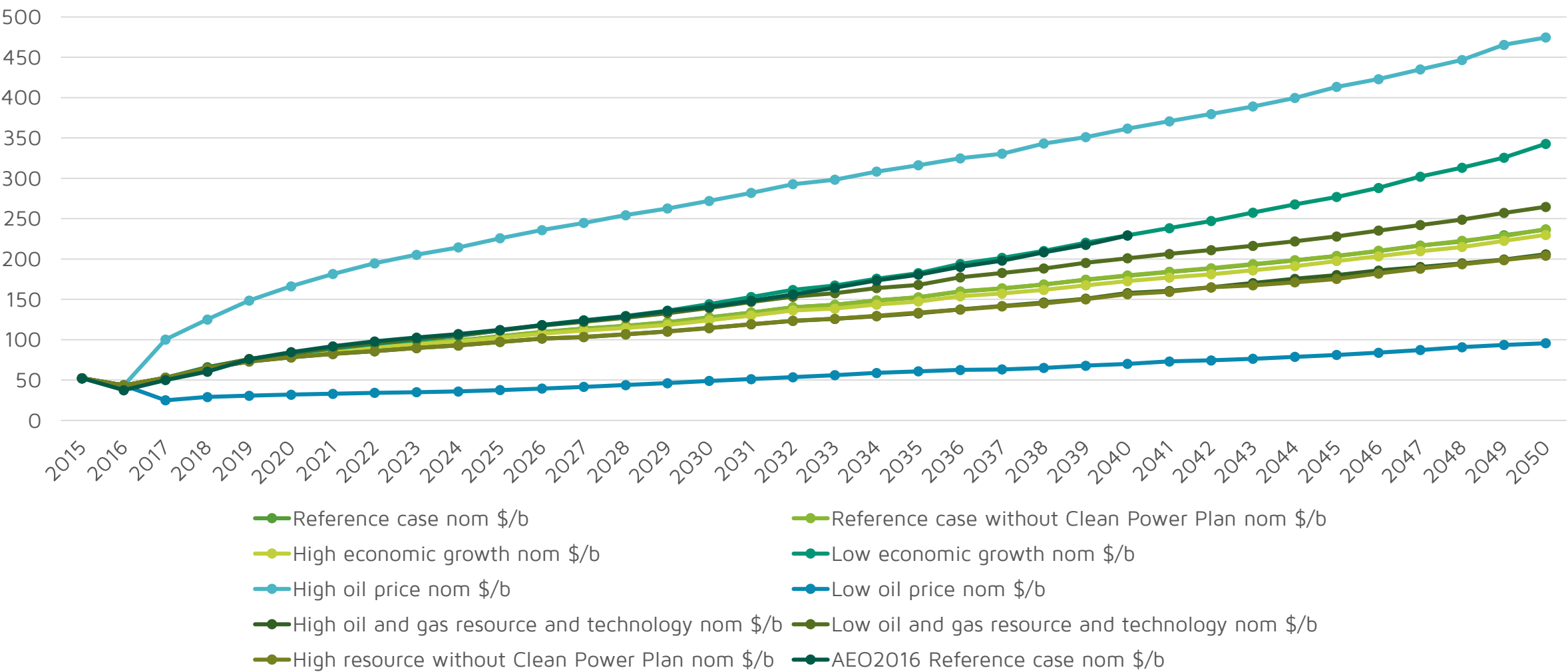
Bunker fuel demand



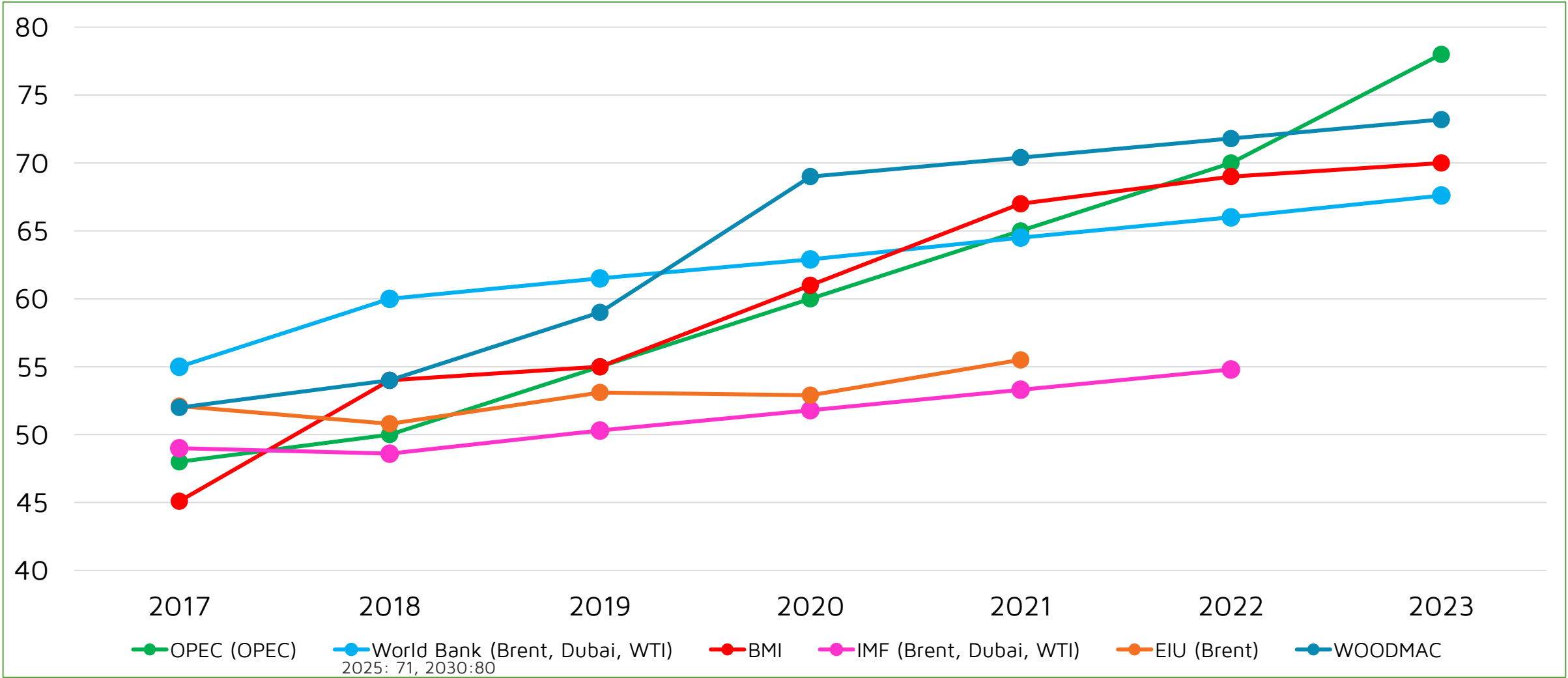
OECD commercial stocks



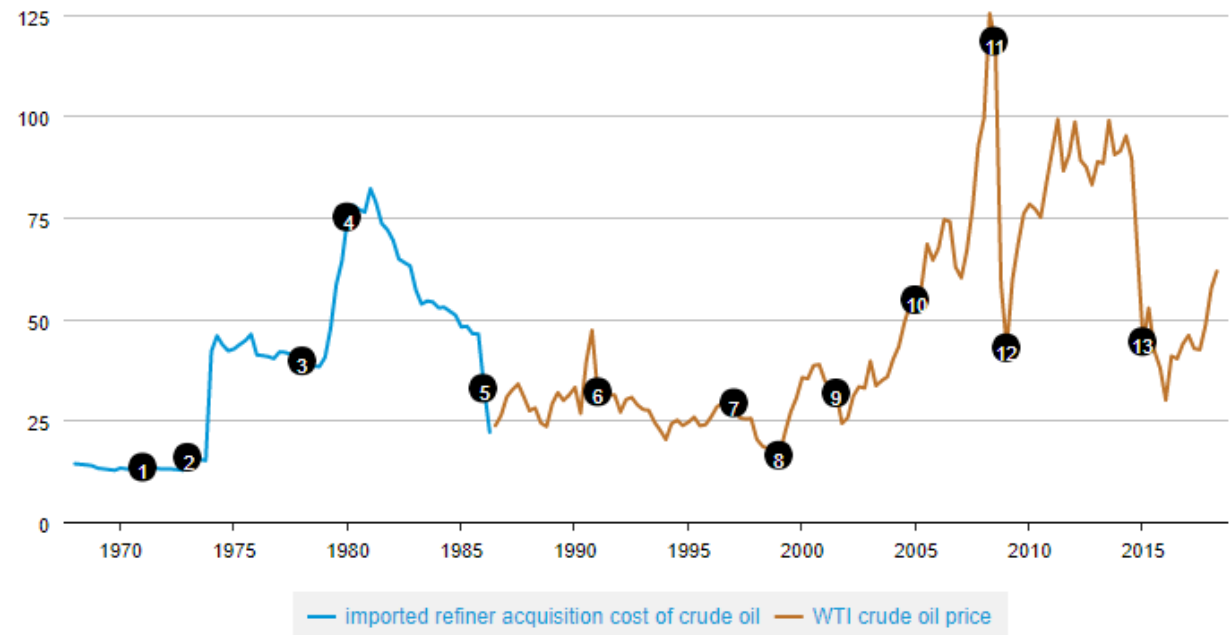
Long-term oil price



Medium-term forecast (2017)



Crude oil prices and major events



Source: U.S. Energy Information Administration, Thomson Reuters

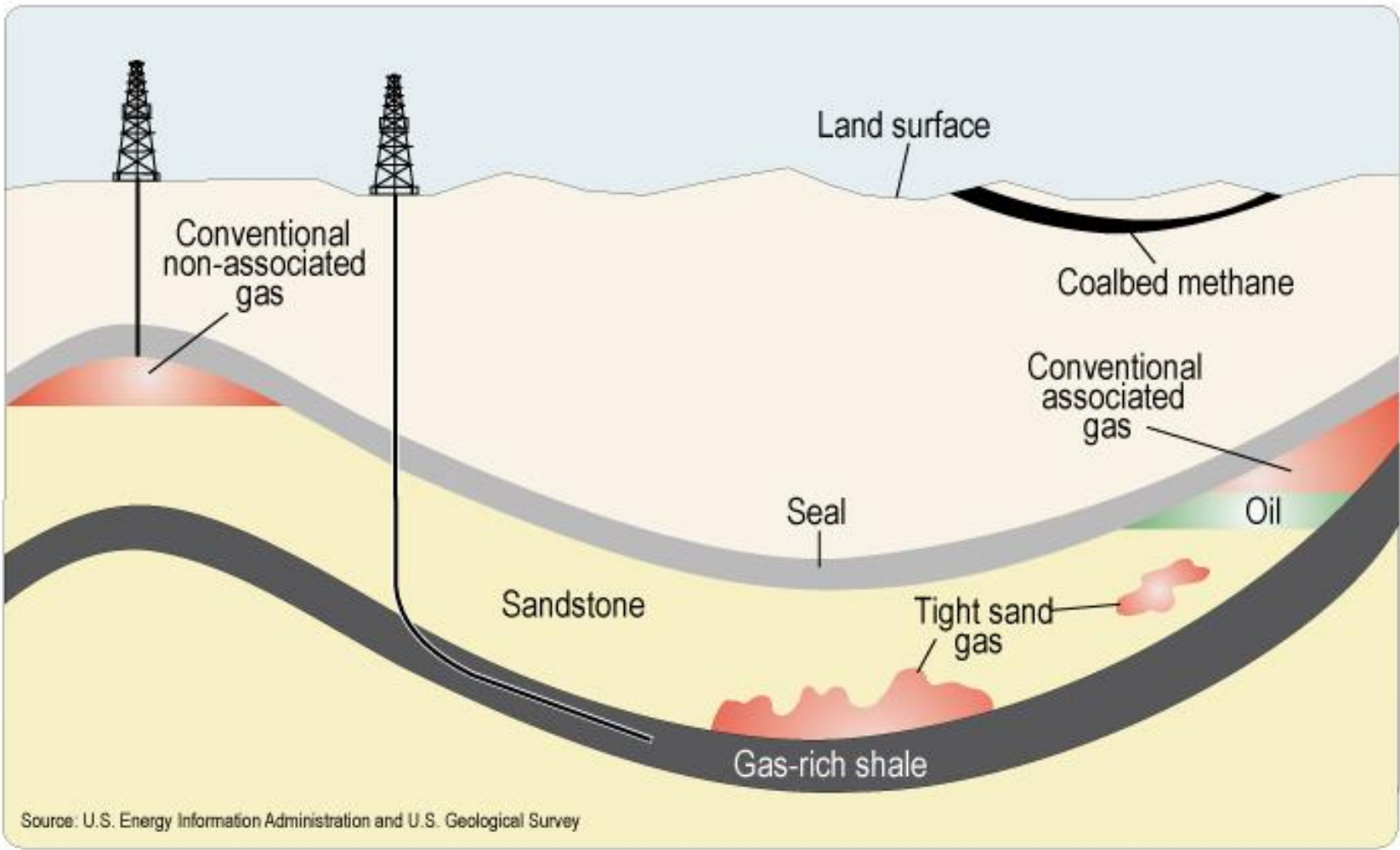
Updated: Quarterly | Last Updated: 06/30/2018

- 1: US spare capacity exhausted
- 2: Arab Oil Embargo
- 3: Iranian Revolution
- 4: Iran-Iraq War
- 5: Saudis abandon swing producer role
- 6: Iraq invades Kuwait
- 7: Asian financial crisis
- 8: OPEC cuts production targets 1.7 mmbpd
- 9: 9-11 attacks
- 10: Low spare capacity
- 11: Global financial collapse
- 12: OPEC cuts production targets 4.2 mmbpd
- 13: OPEC production quota unchanged

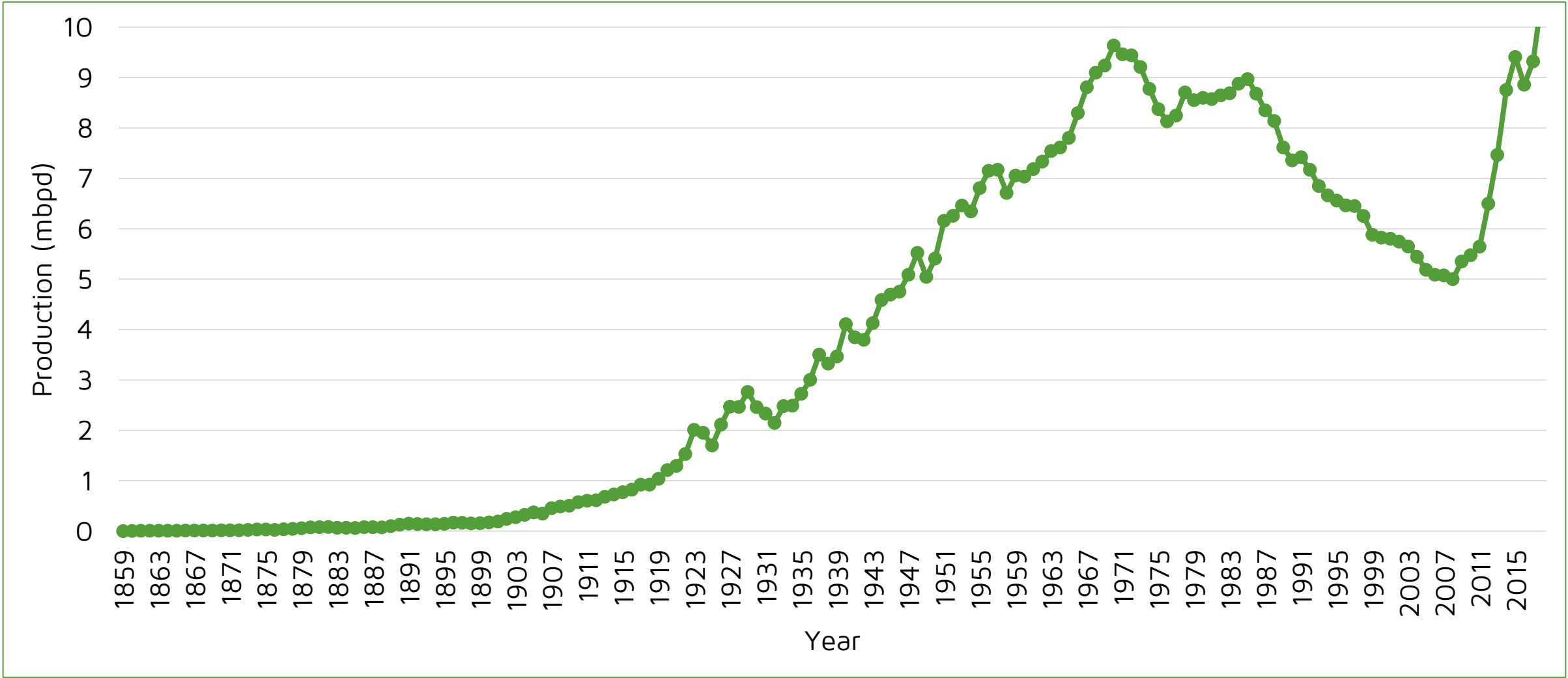
Shale Oil



Overview



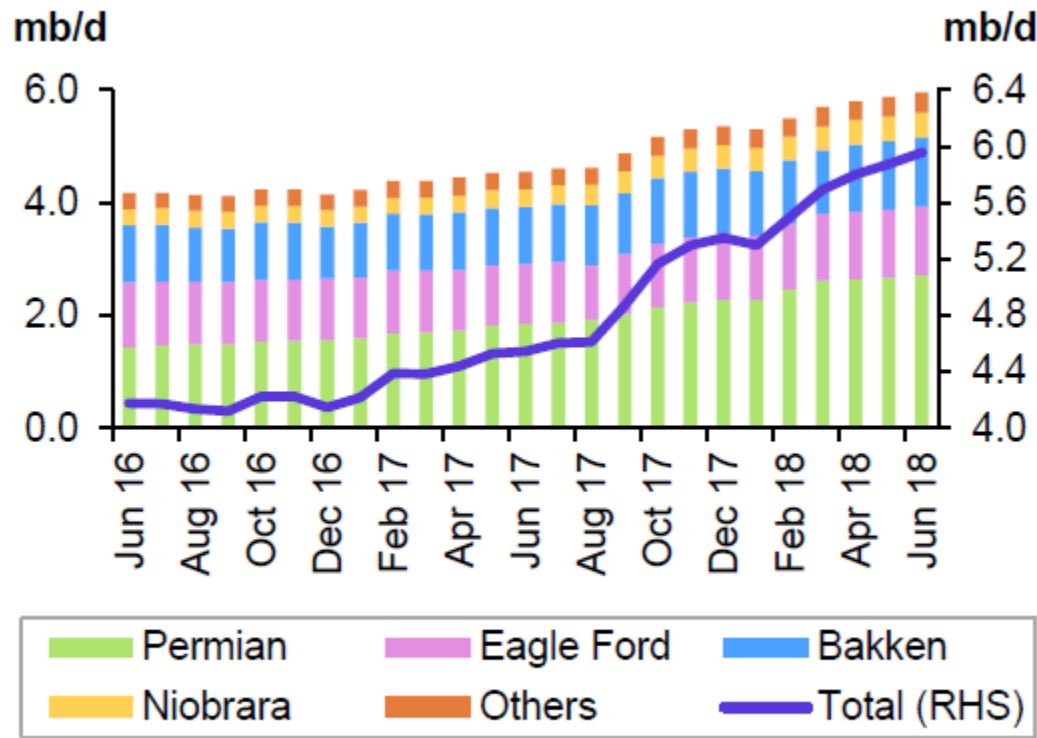
US Oil Production



US oil production

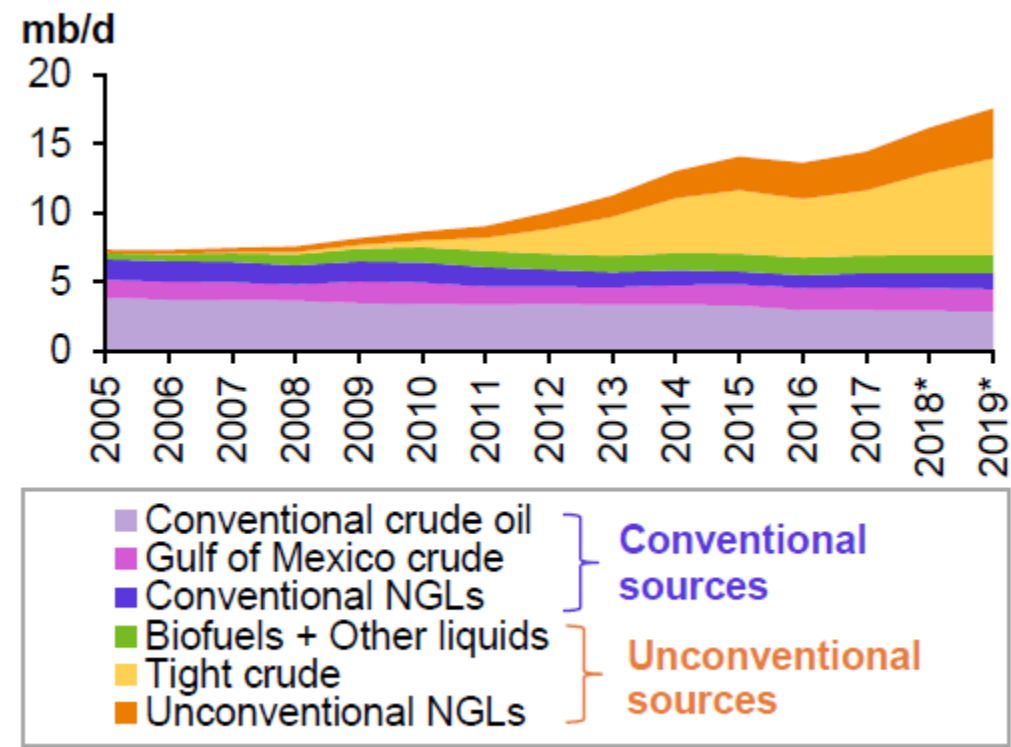


Graph 5 - 11: US tight crude breakdown



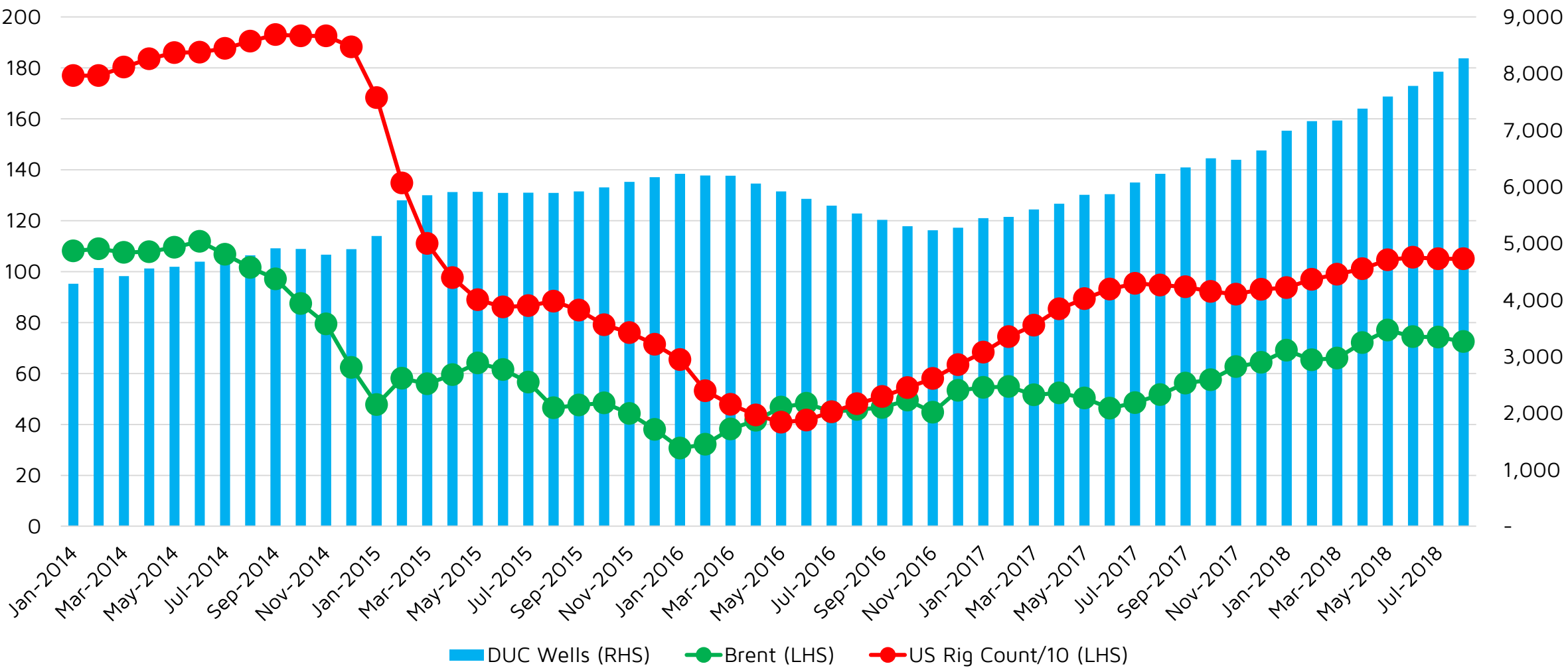
Sources: EIA and OPEC Secretariat.

Graph 5 - 12: US liquids production breakdown

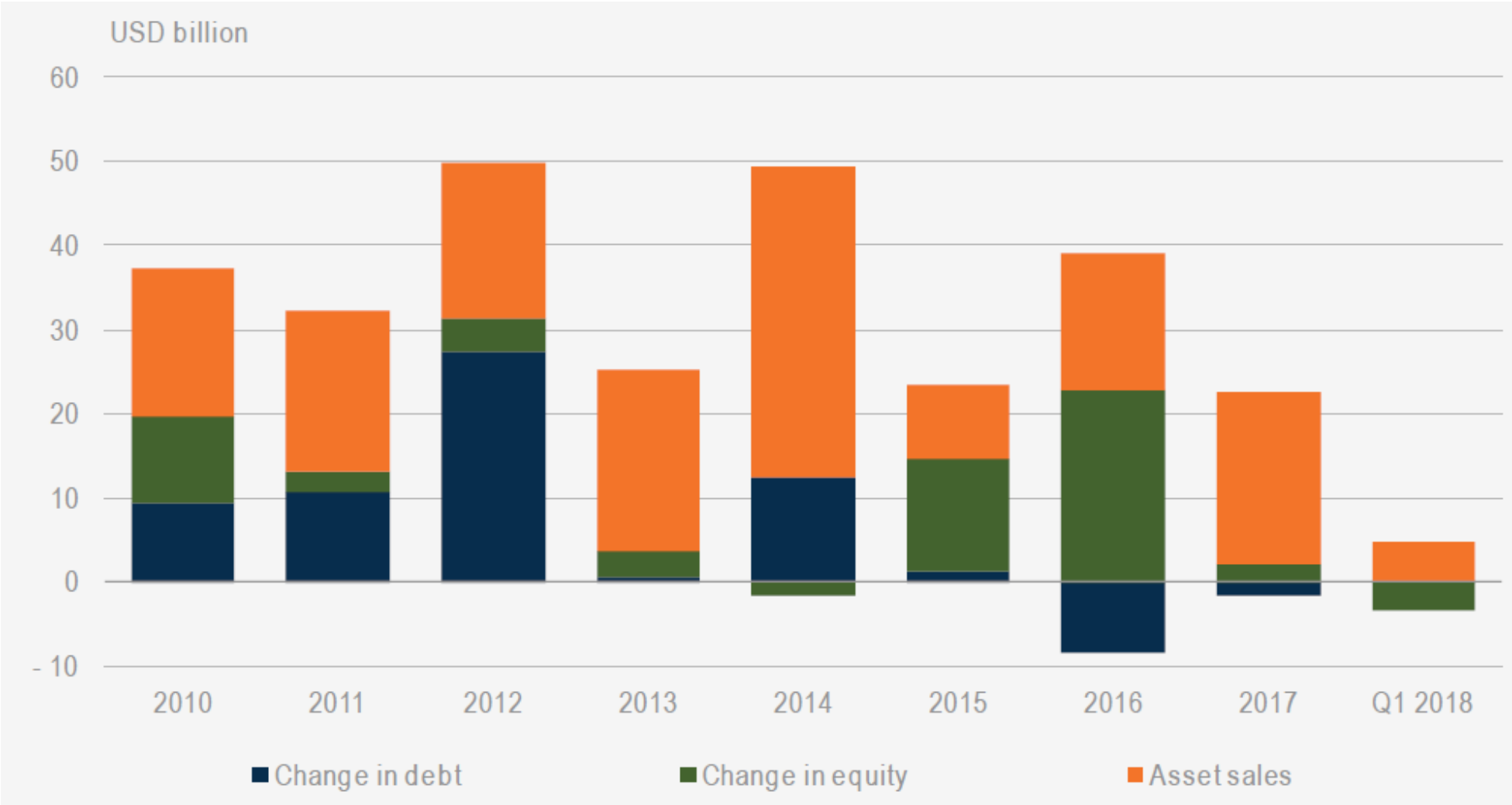


Note: * 2018 and 2019 = Forecast.
Sources: EIA, Rystad Energy and OPEC Secretariat.

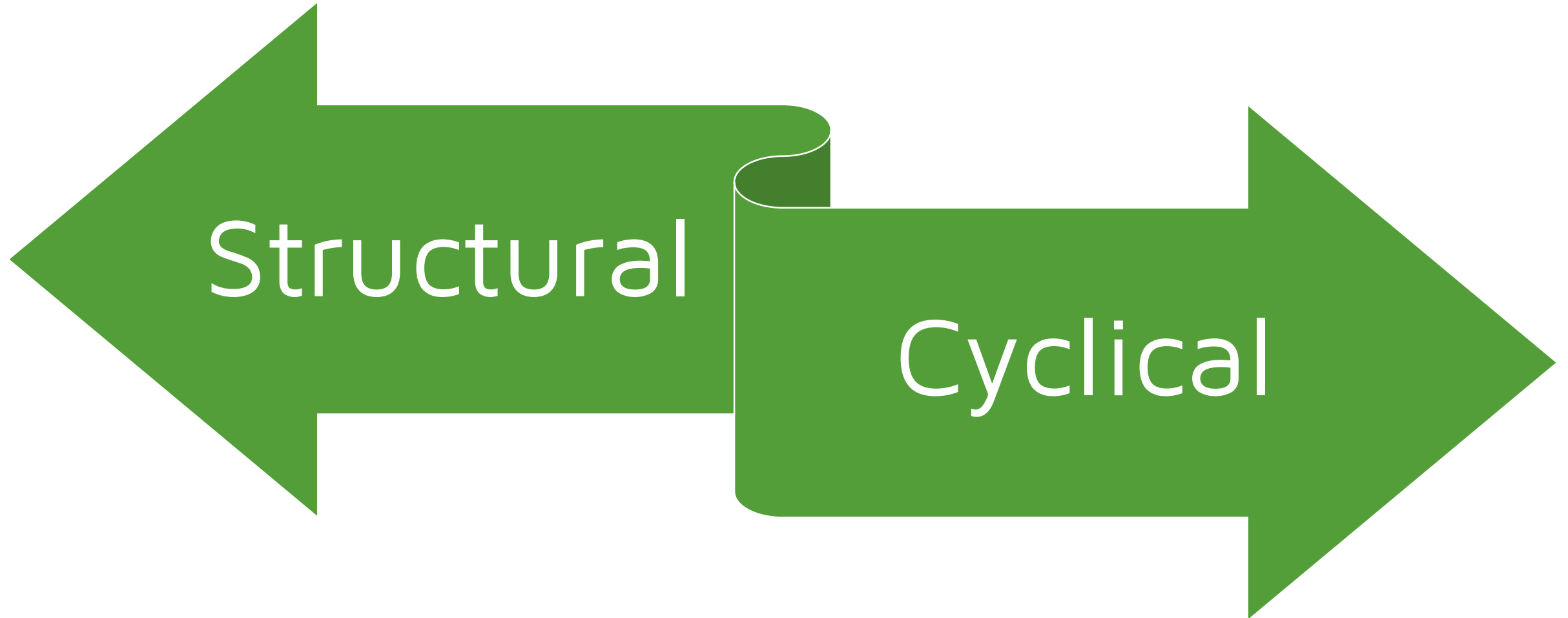
DUC wells



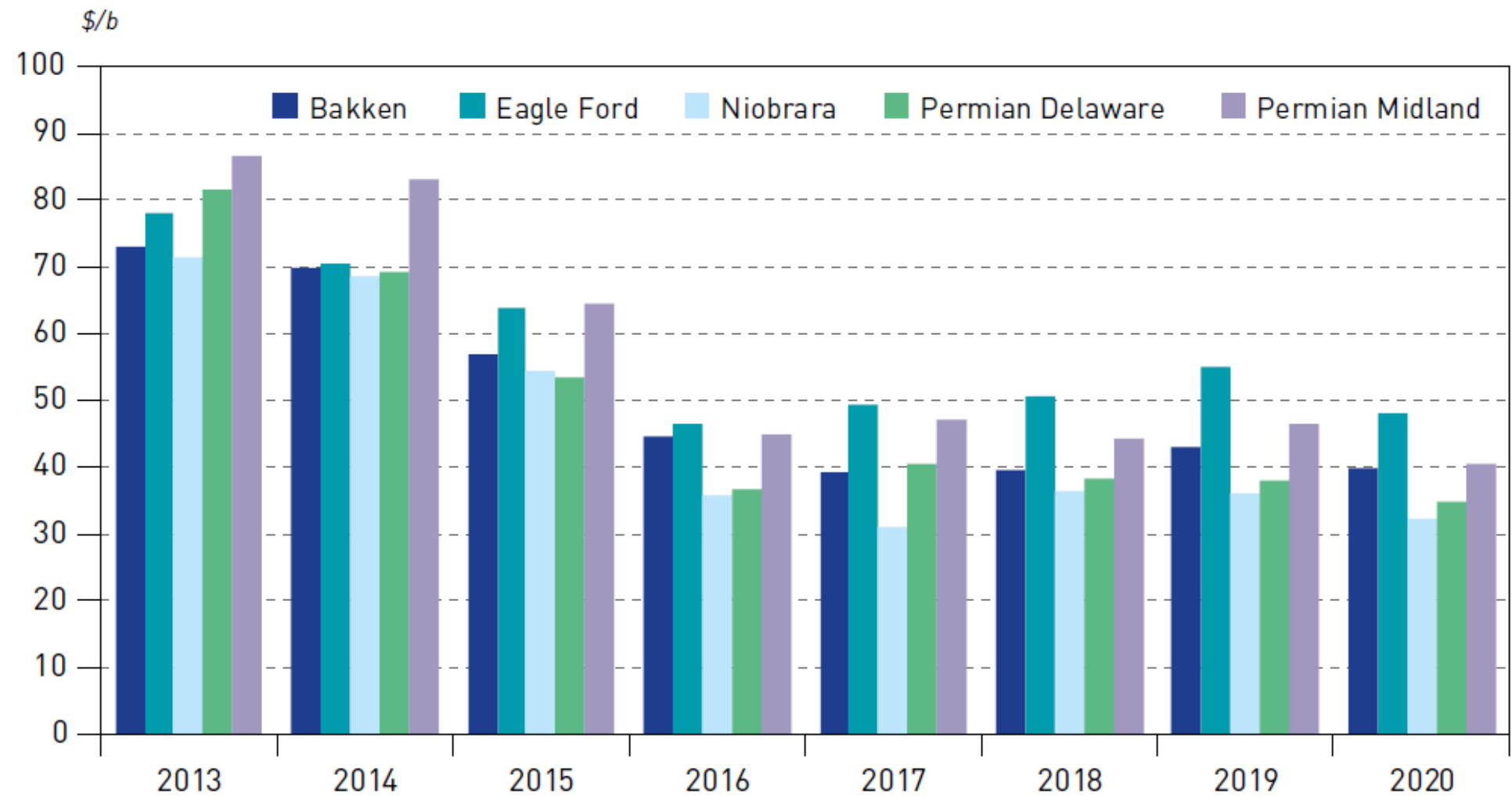
US shale finance



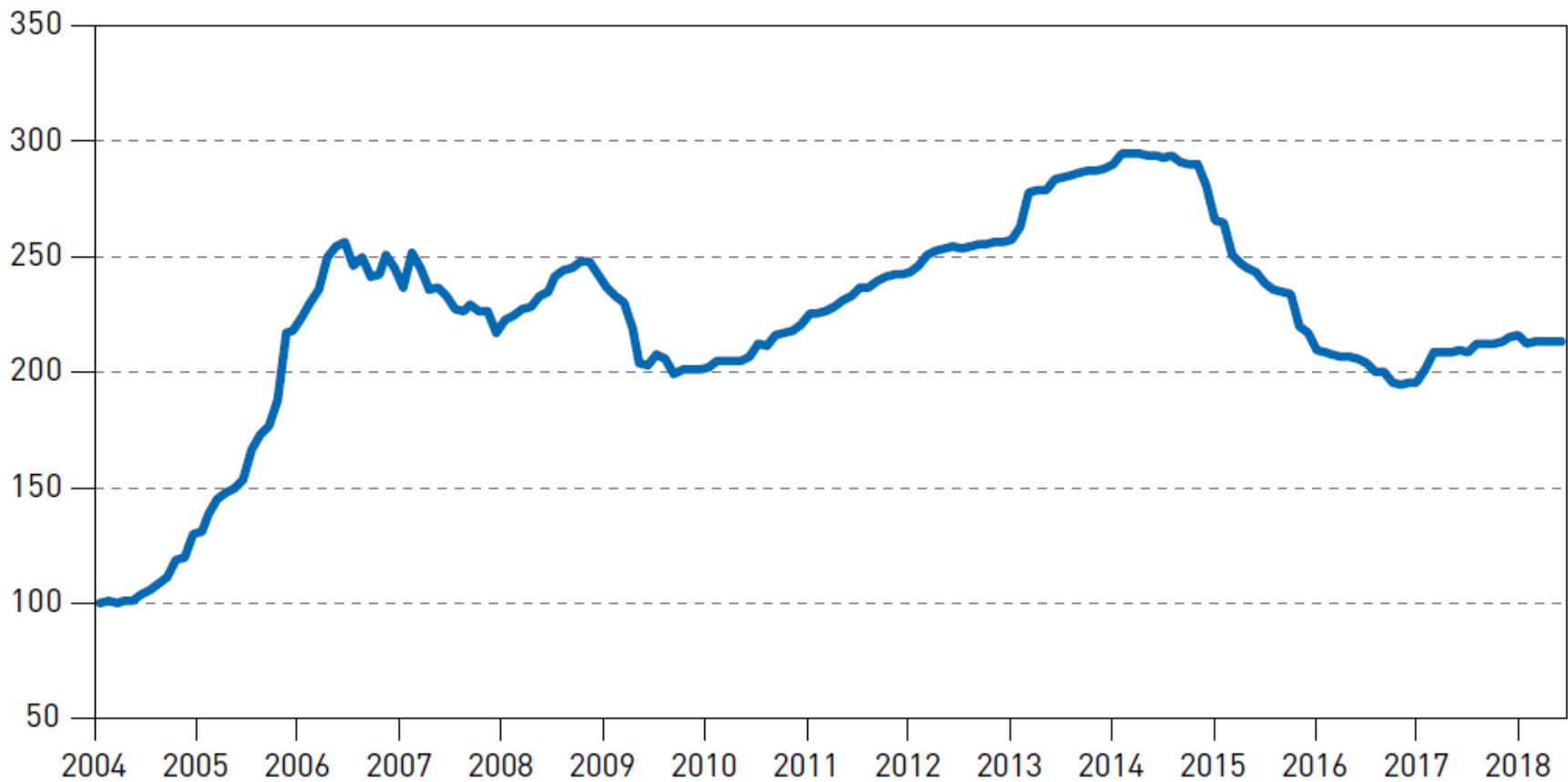
Breakeven reduction



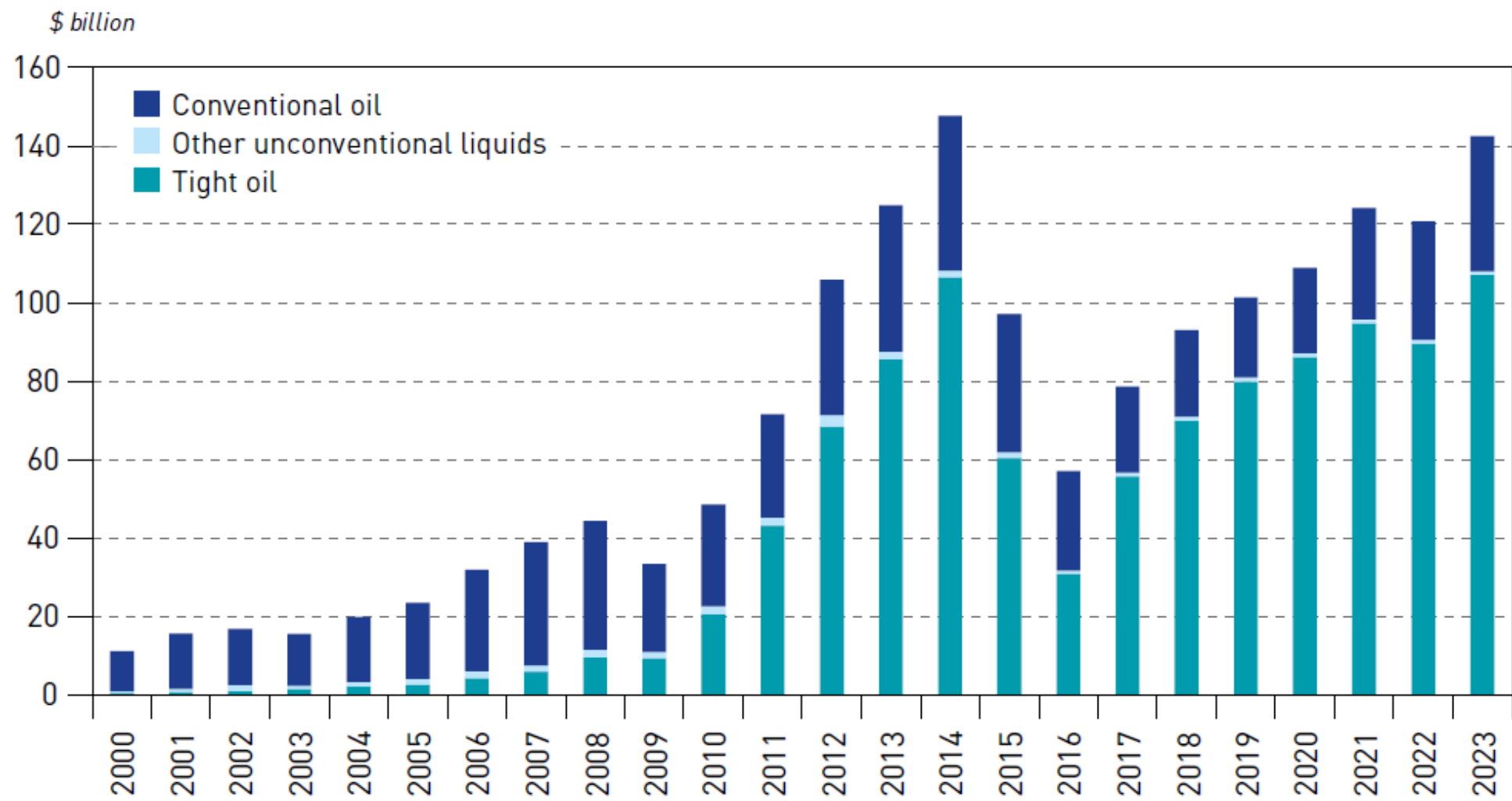
US shale oil breakeven point



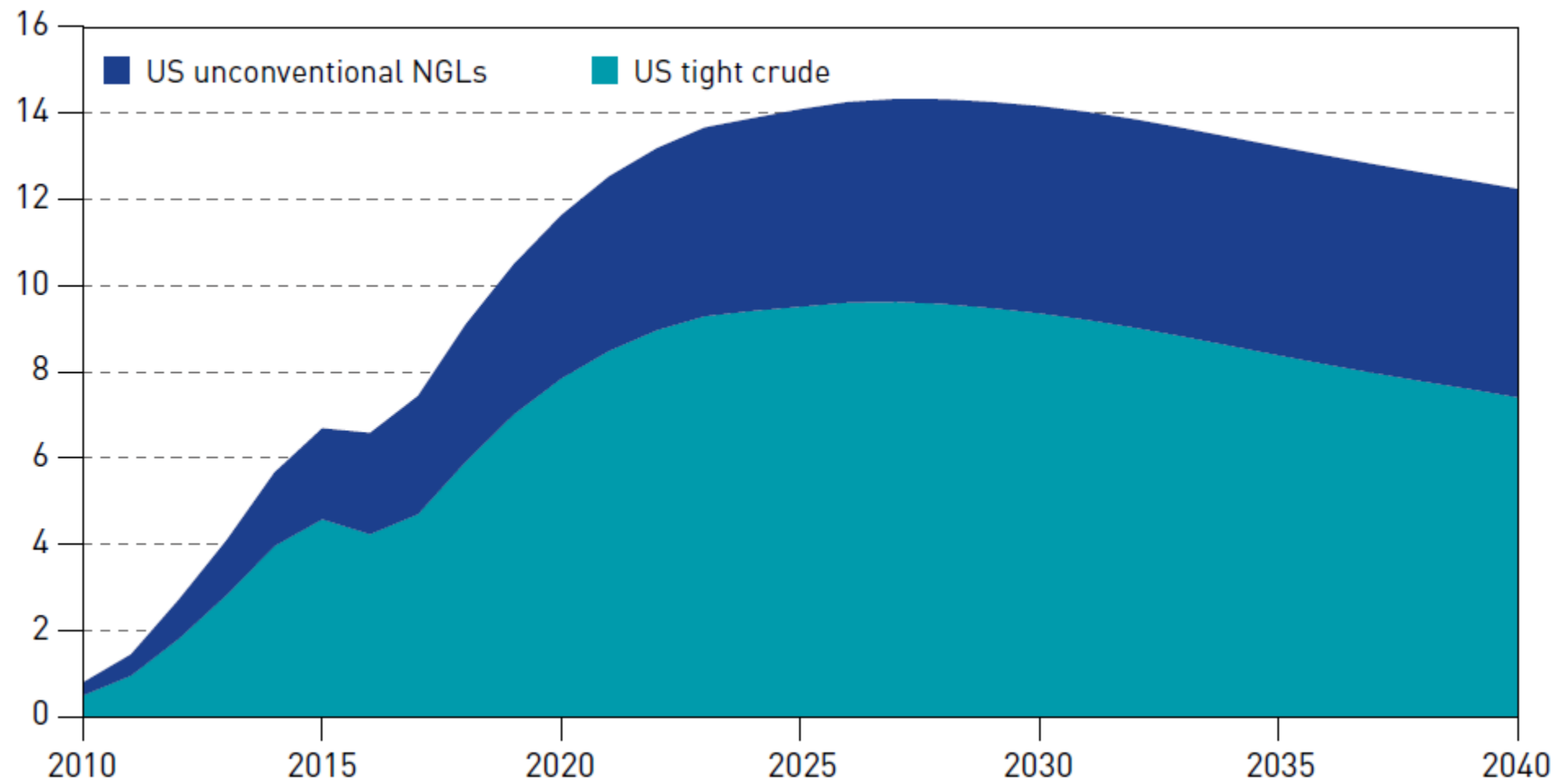
Drilling cost index



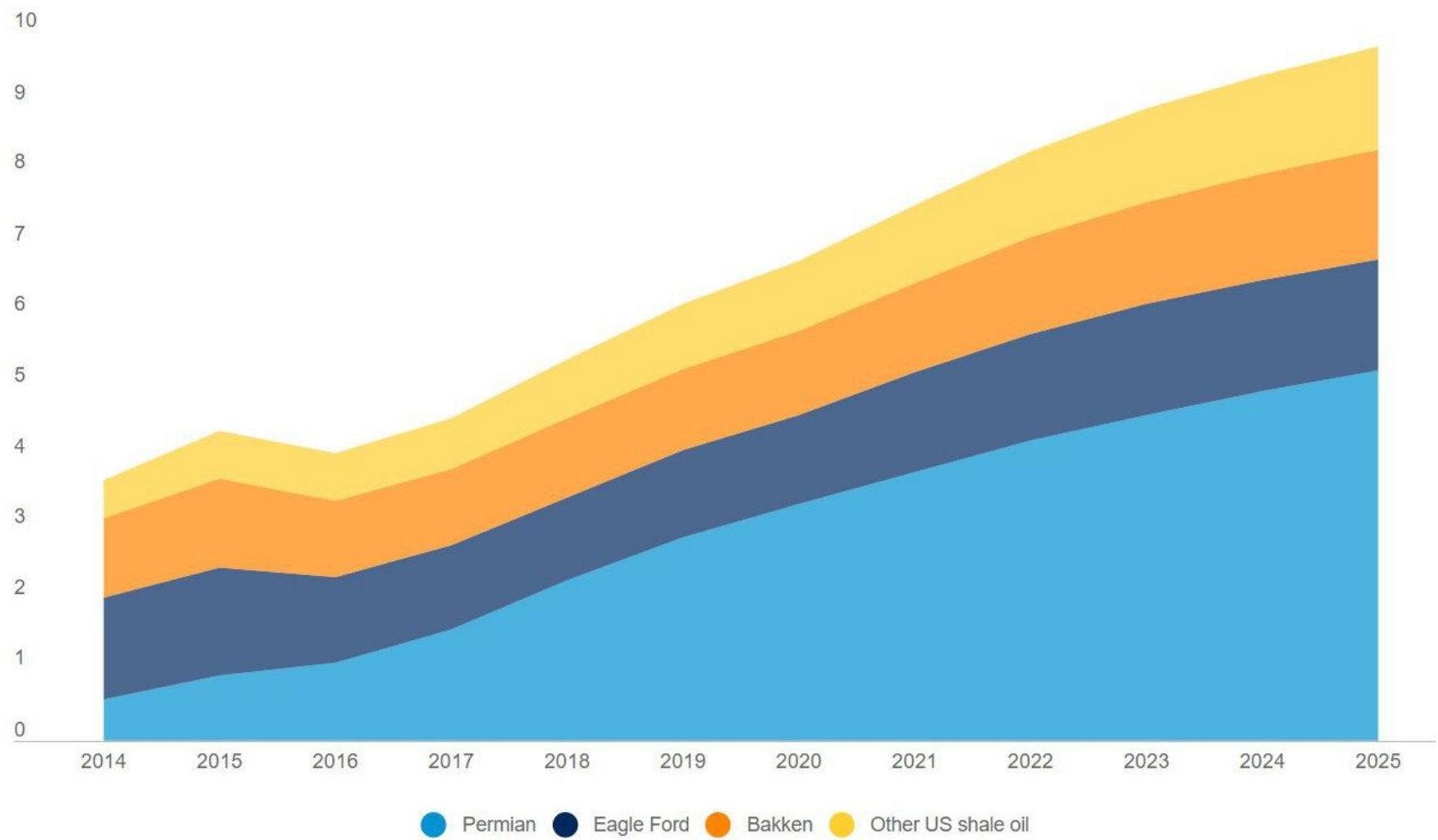
US upstream investment



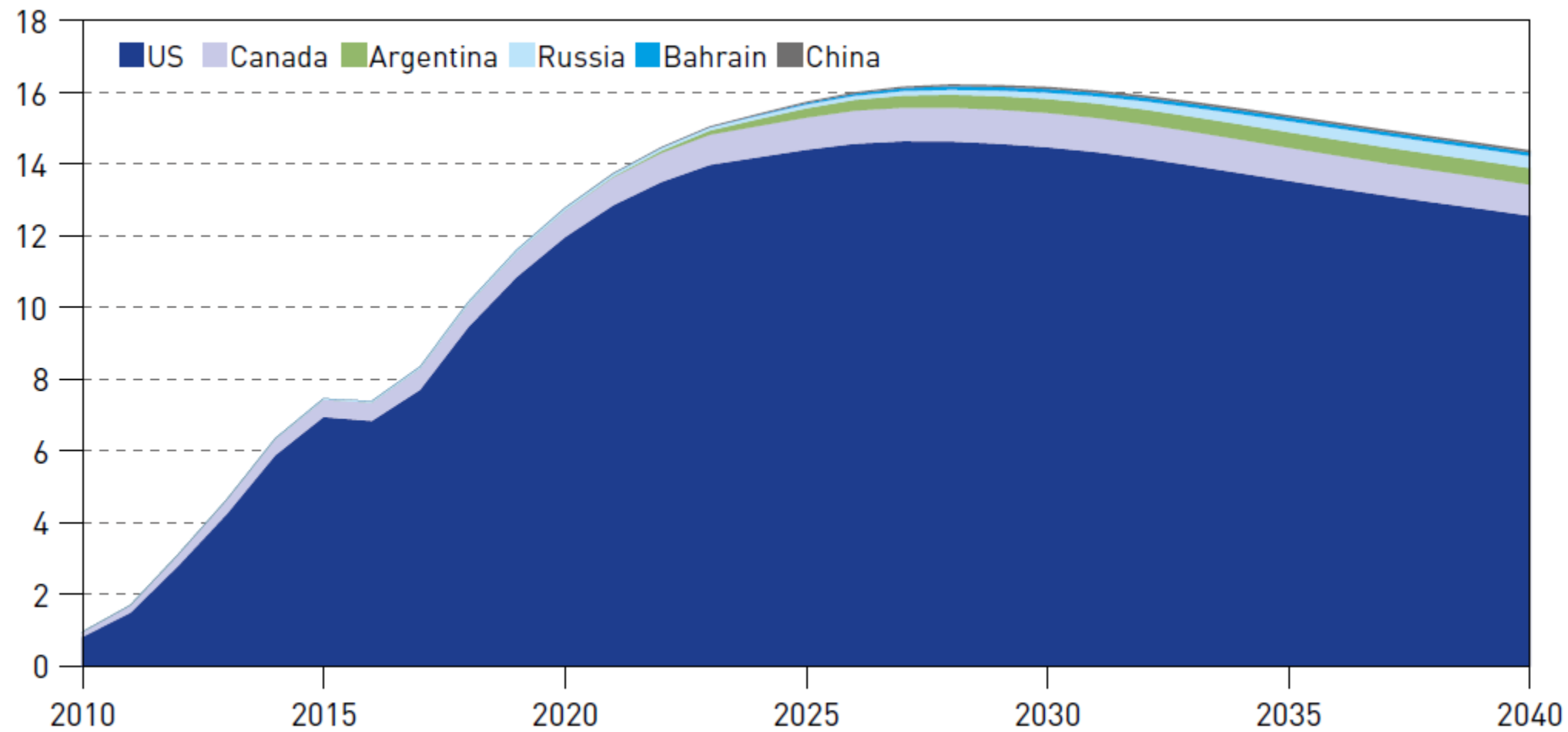
US unconventional



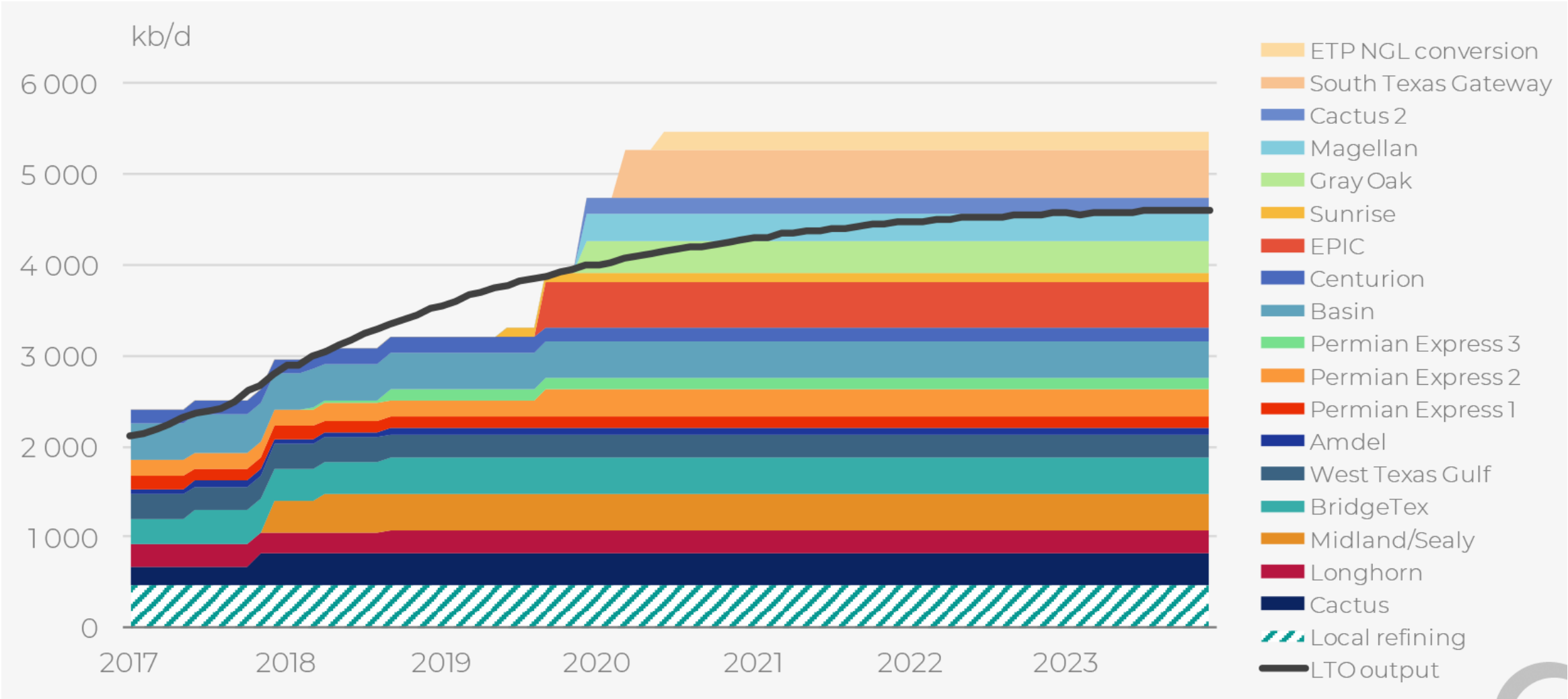
US shale oil



Global tight oil supply



Permian/ Eagle Ford pipeline capacity



E&P



Definitions

Independent

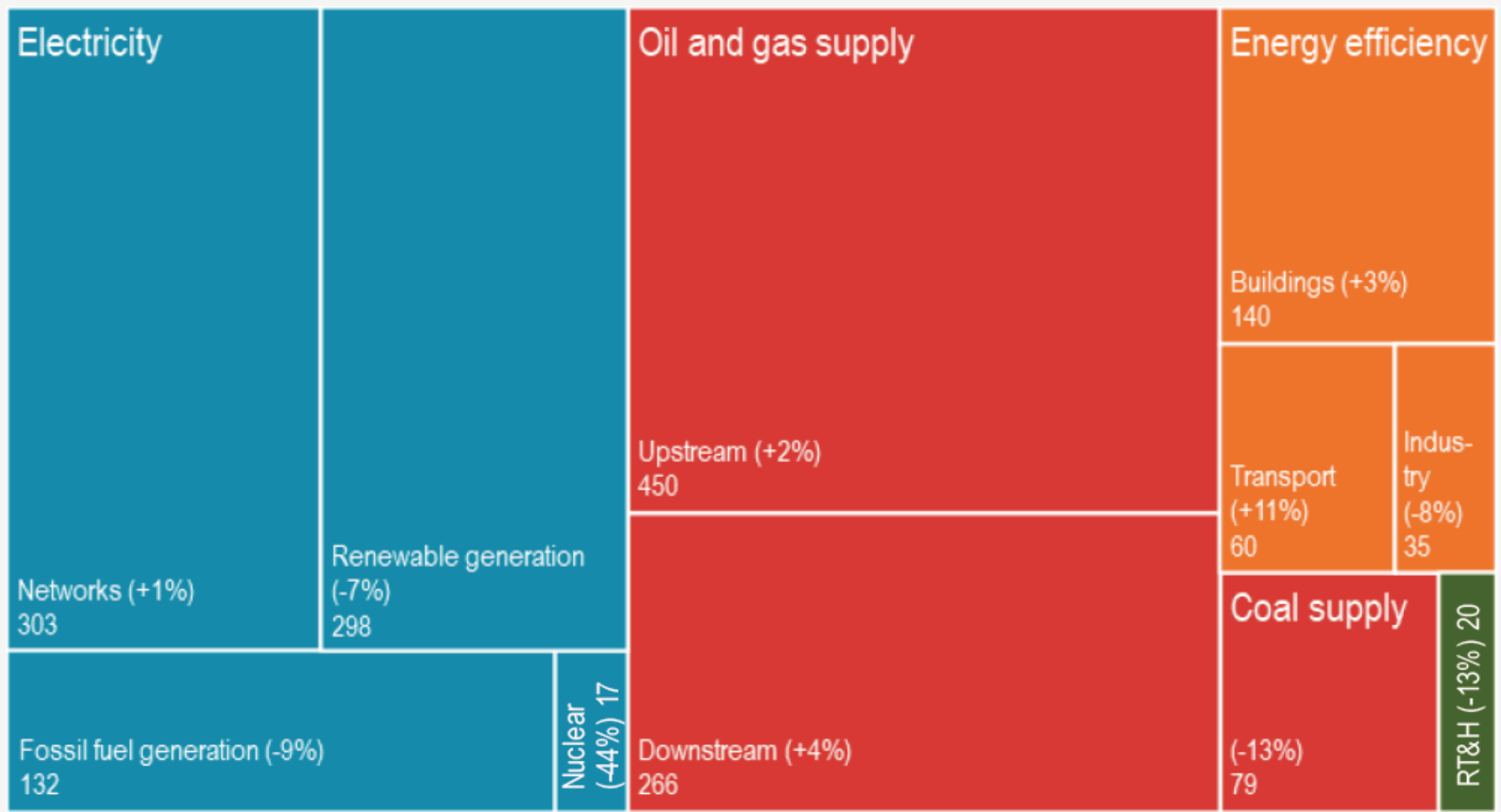
Integrated

Major

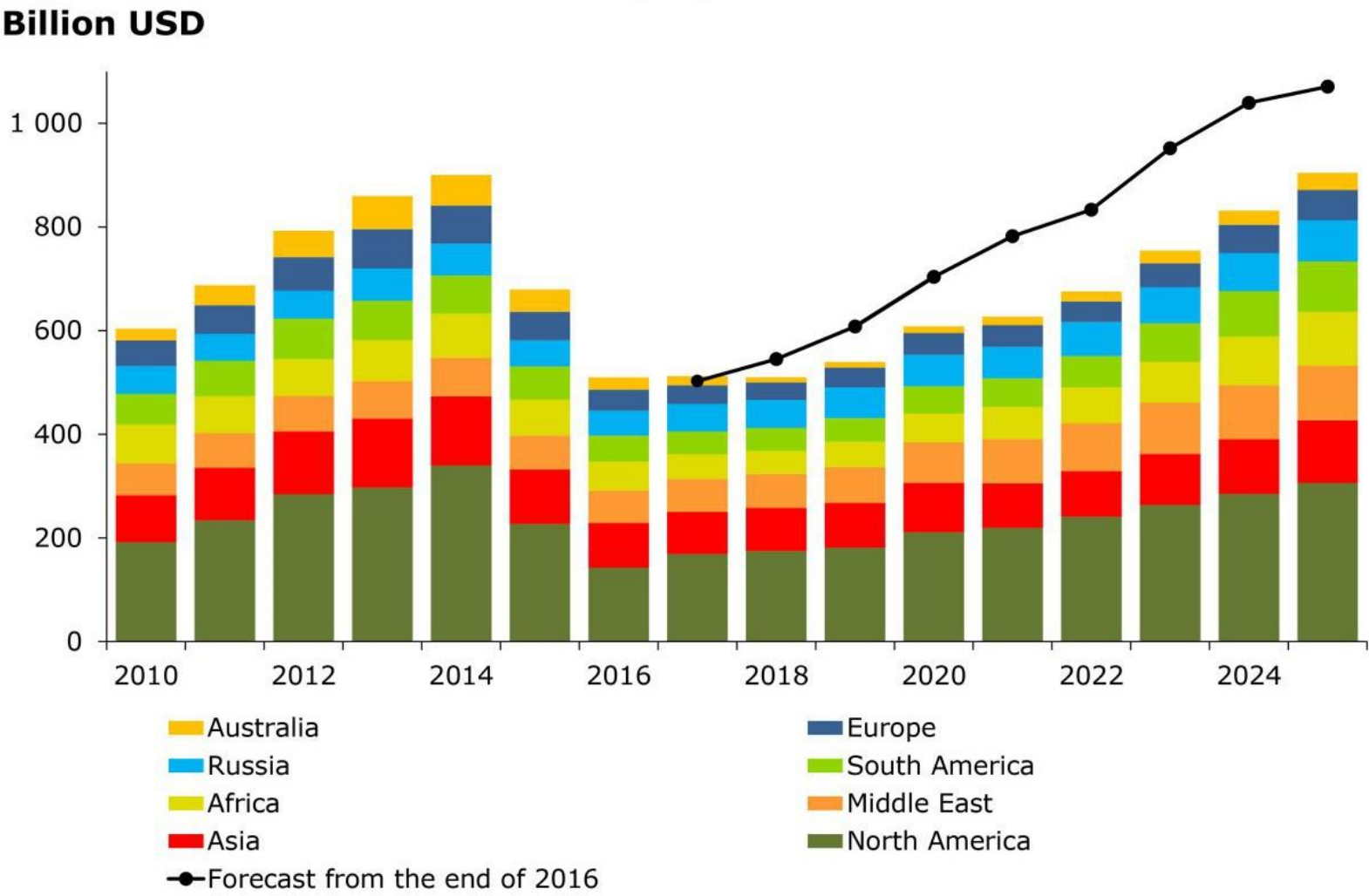
IOC

NOC

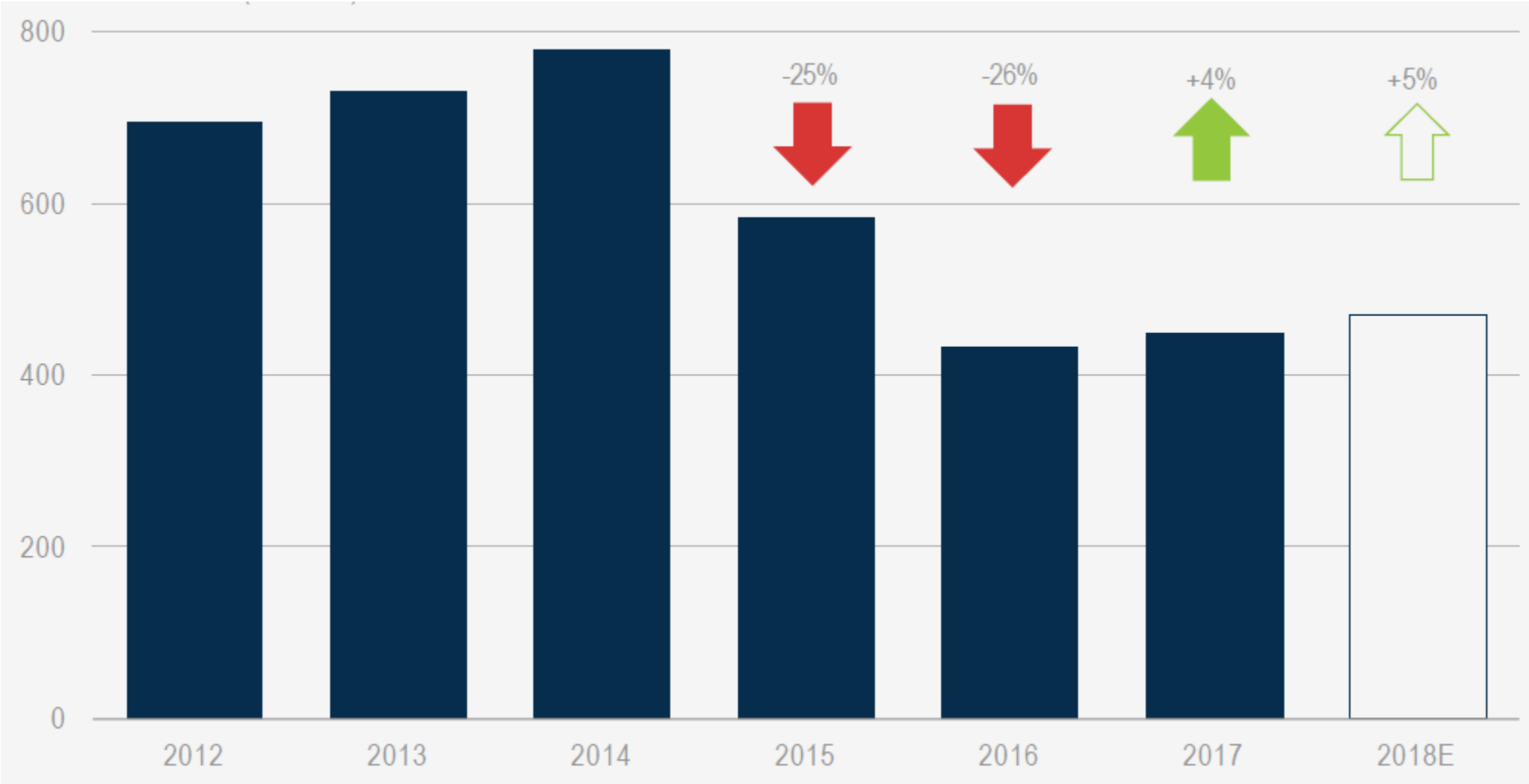
Global energy investment



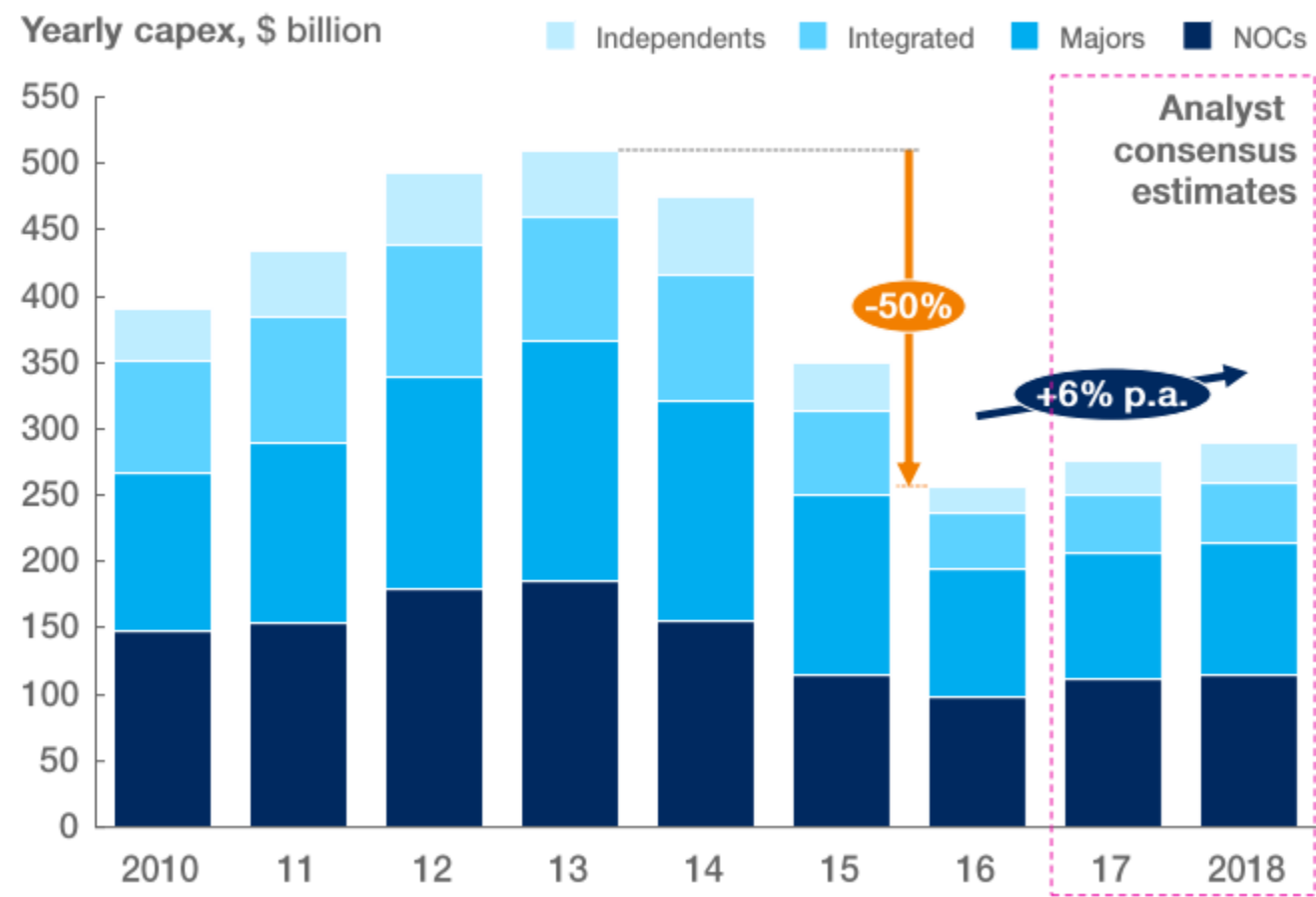
World upstream spending (B\$)



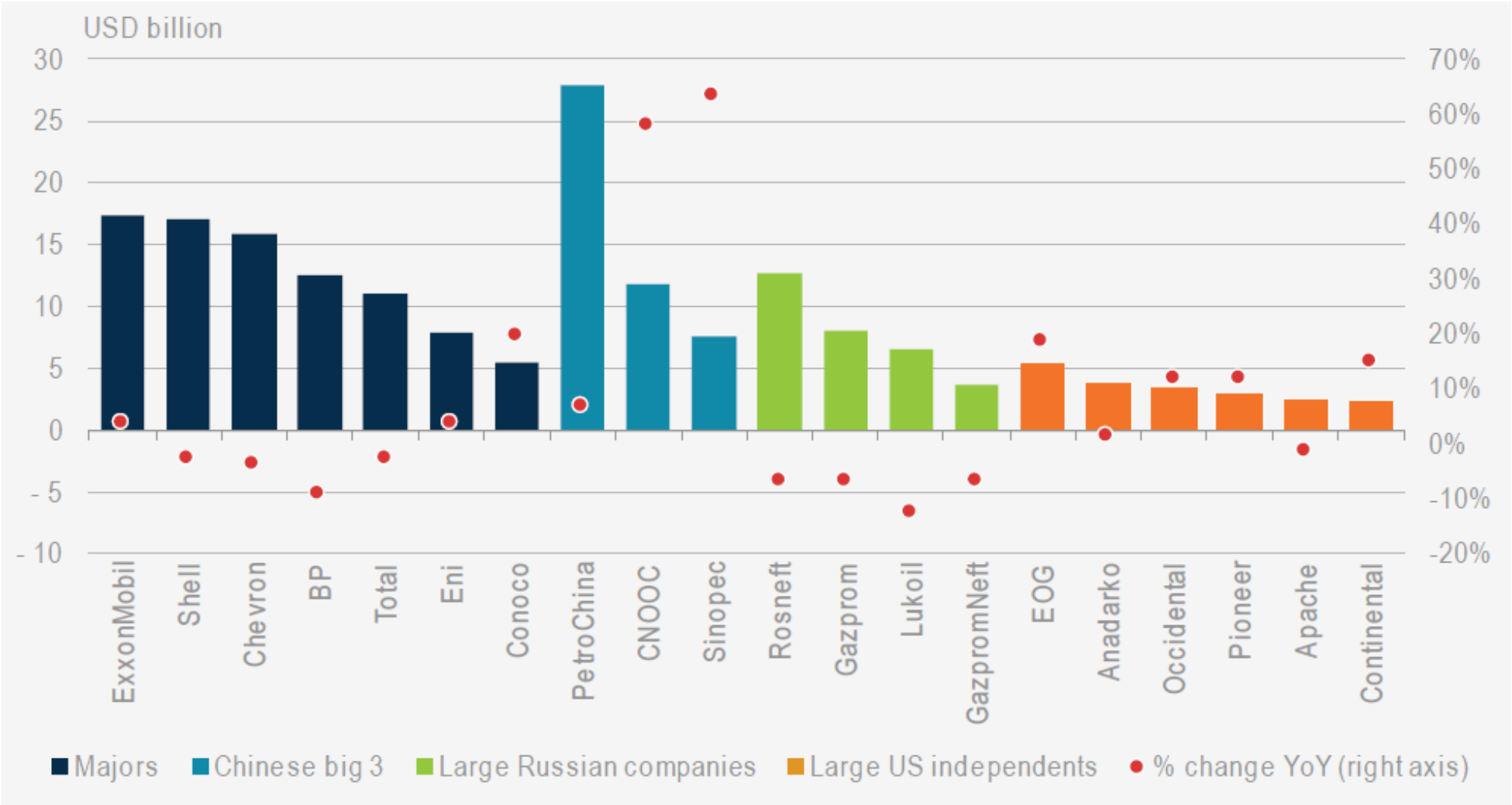
Upstream oil & gas investment



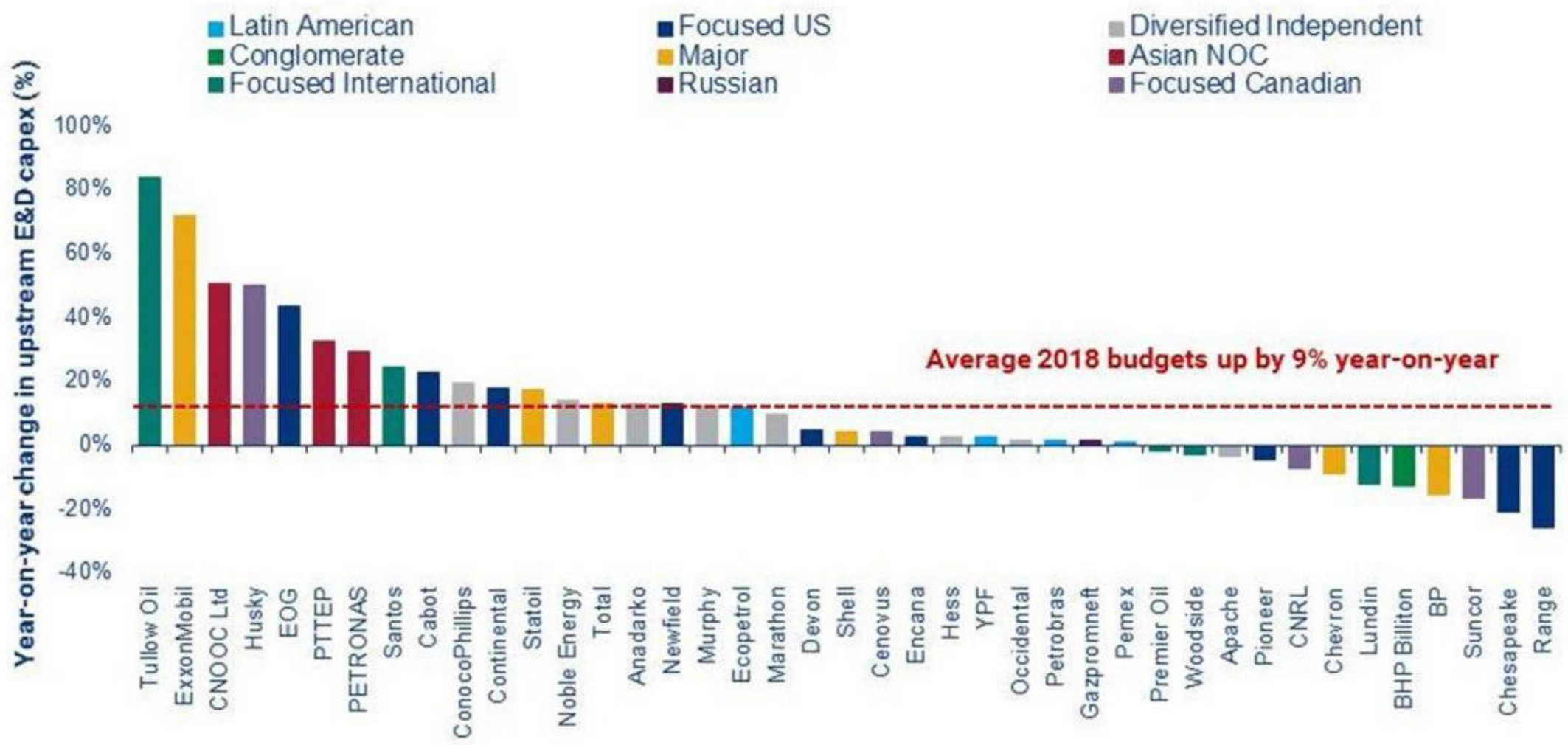
World Exploration & development capex



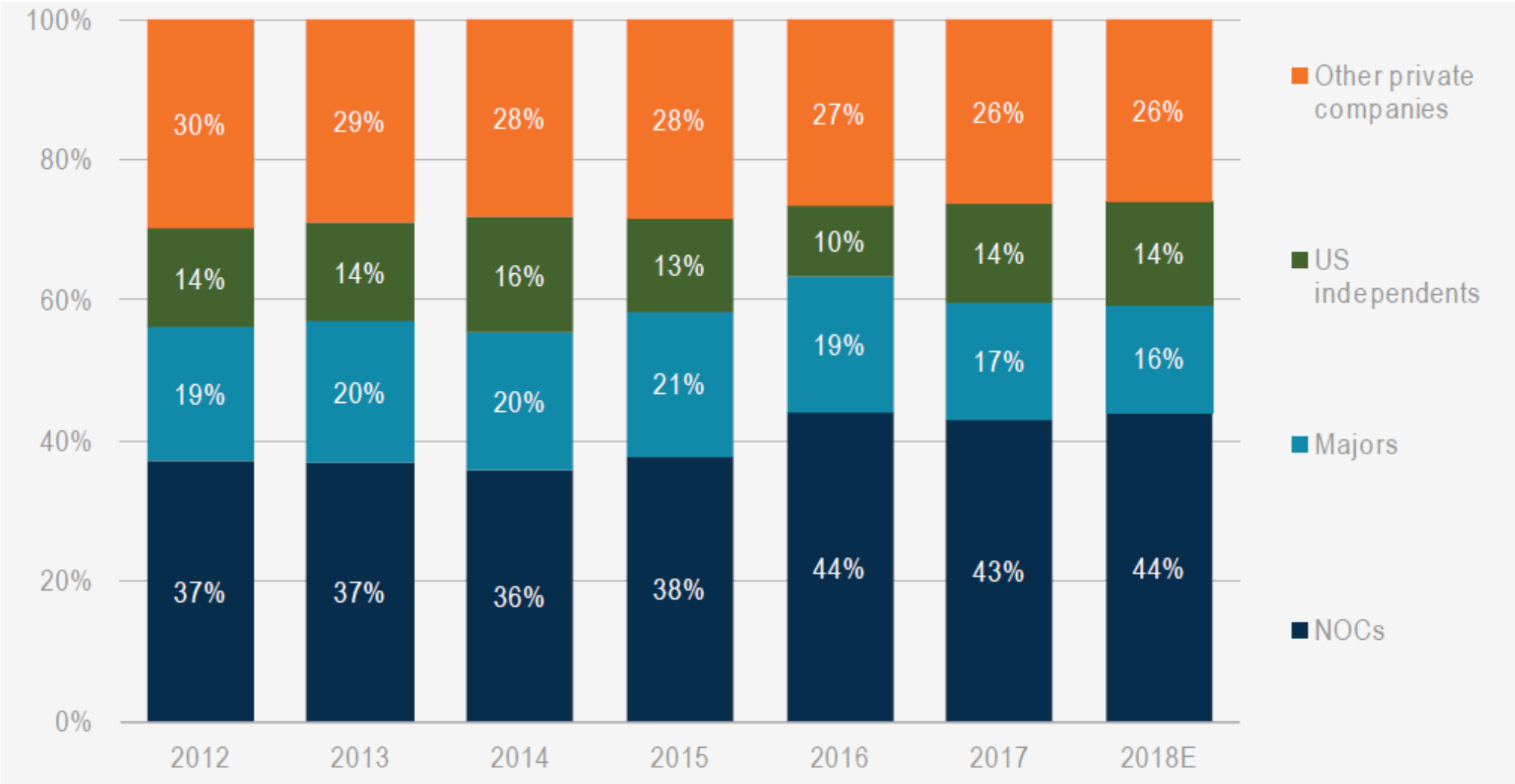
Announced investment in 2018 & change from 2017



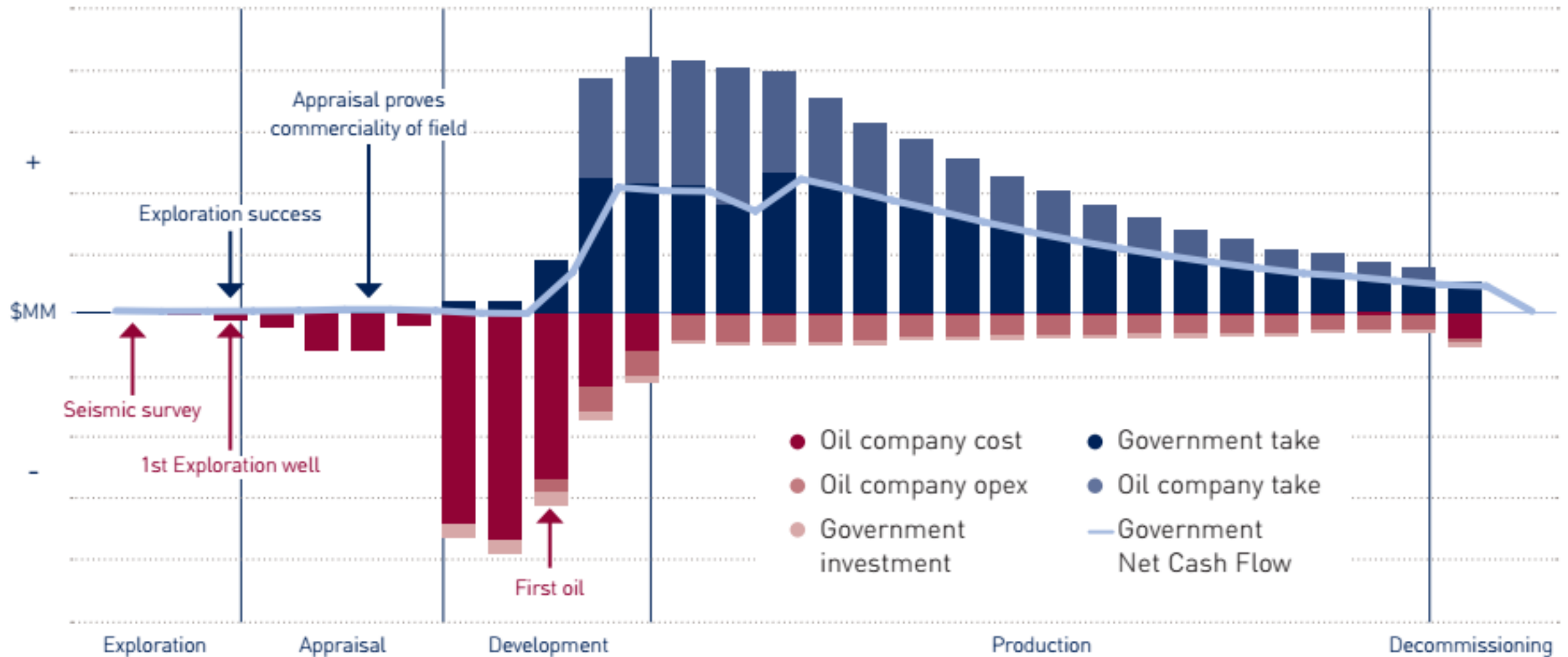
Upstream investment change



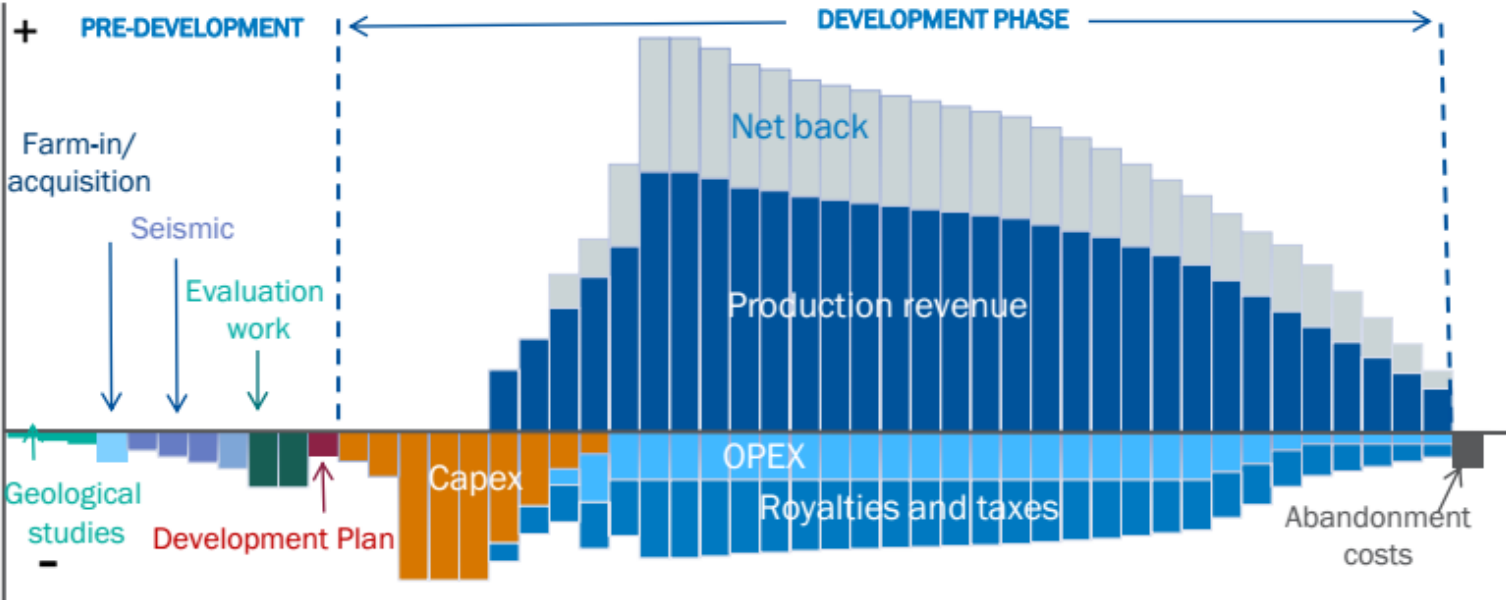
Investment by Company



An anatomy of a typical upstream project



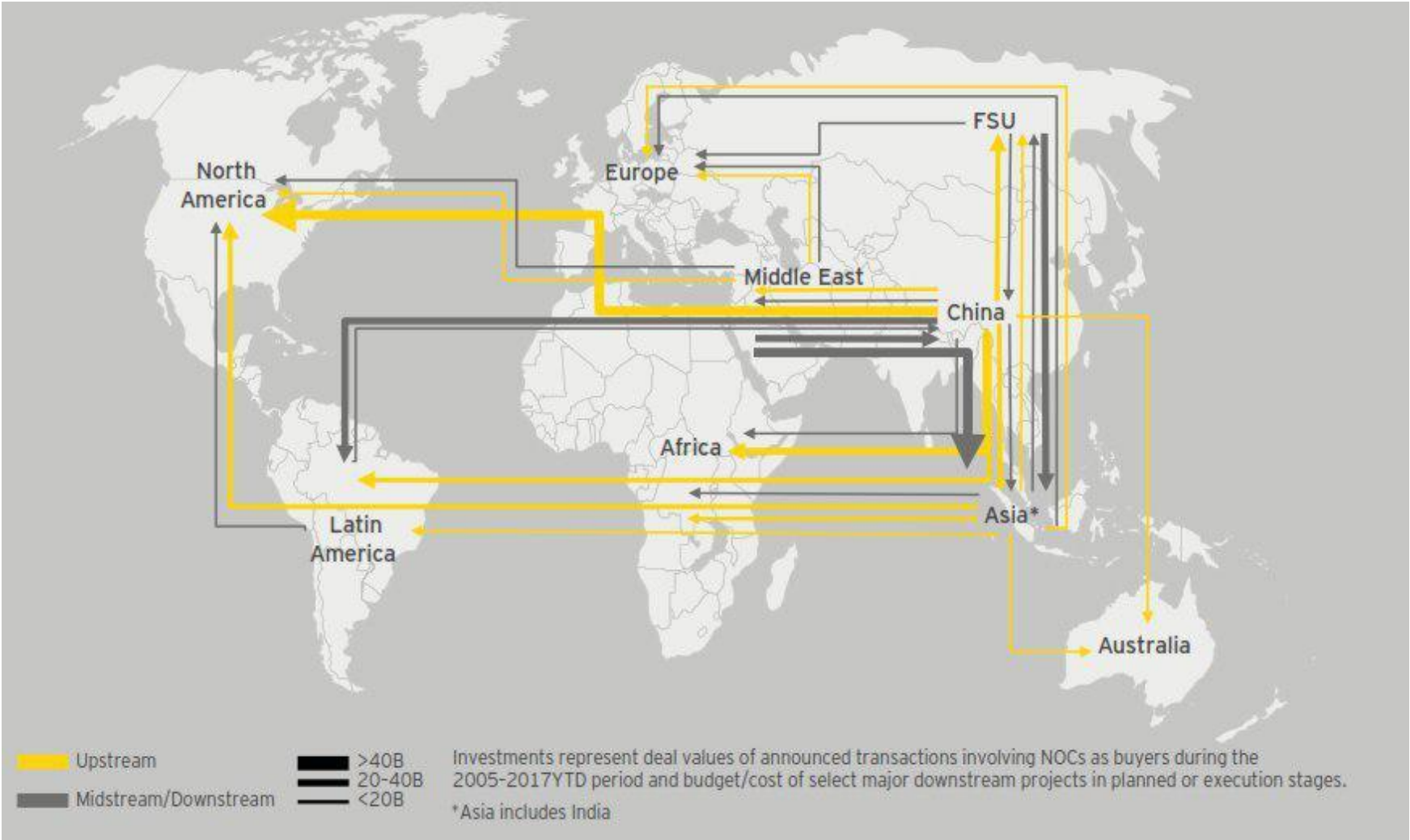
An anatomy of a typical upstream project



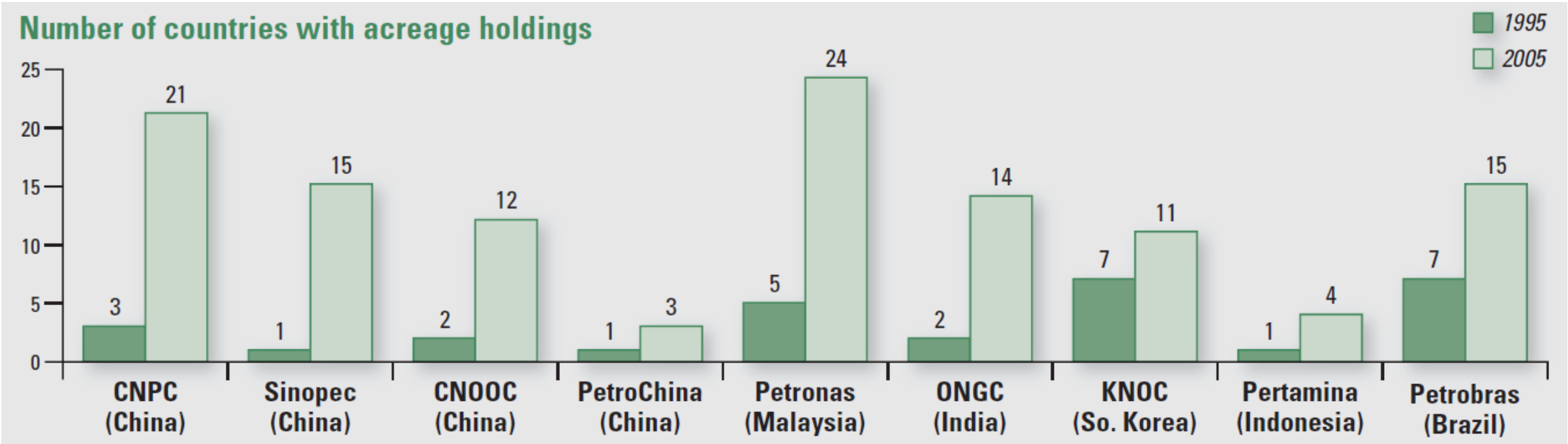
Financing methods

DEVELOPMENT STAGE	Exploration	Appraisal/ Development	Junior/mid-tier producer	Major producer
CREDIT QUALITY	Unrated	Unrated	Unrated/ High yield	Investment-grade
RISK	Highest risk	High risk	High/medium risk	Lower risk
RETURN	Hard to quantify	Hard to quantify with certainty	High yield	Investment-grade corporate yield
Sponsor loan/equity				
Public equity				
Farm-ins				
Standby equity				
Strategic equity				
Convertible bonds				
Private placement				
Royalties				
Production payment loans				
Development finance				
Project finance				
Equipment finance				
Pre-export finance				
Fixed income				
Reserve-based loans				
Commercial, fixed term loans				

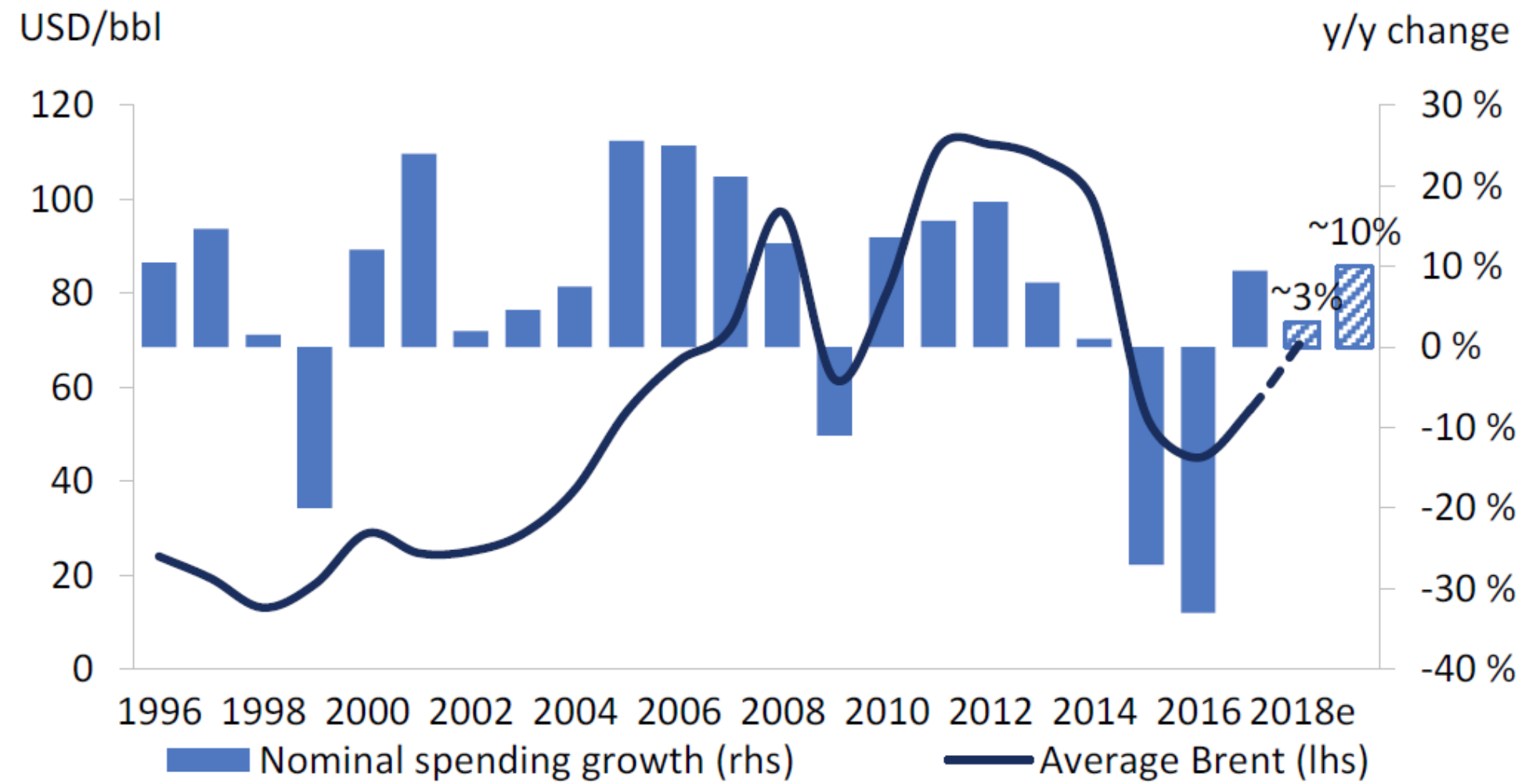
International NOCs



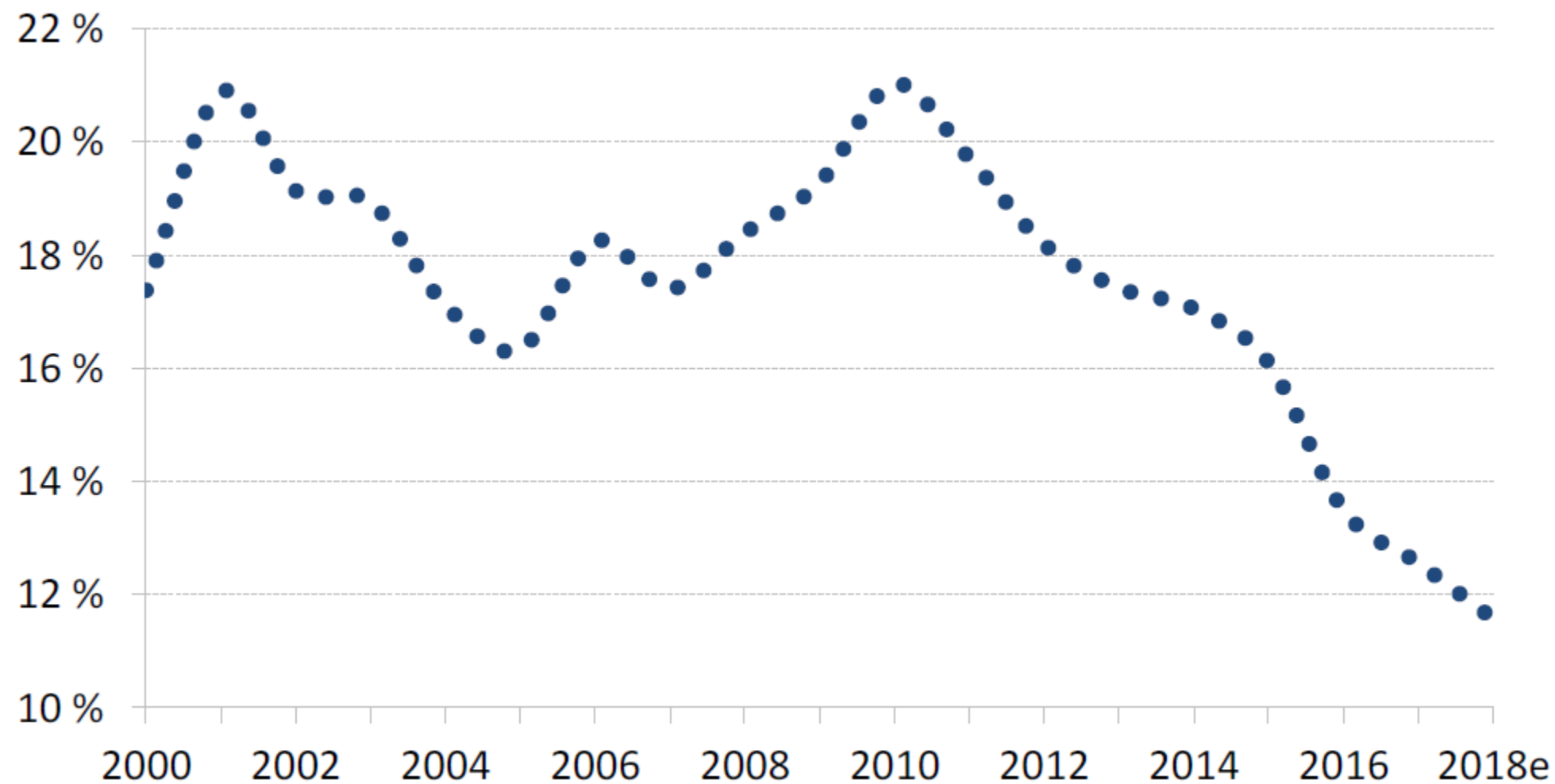
NOCs

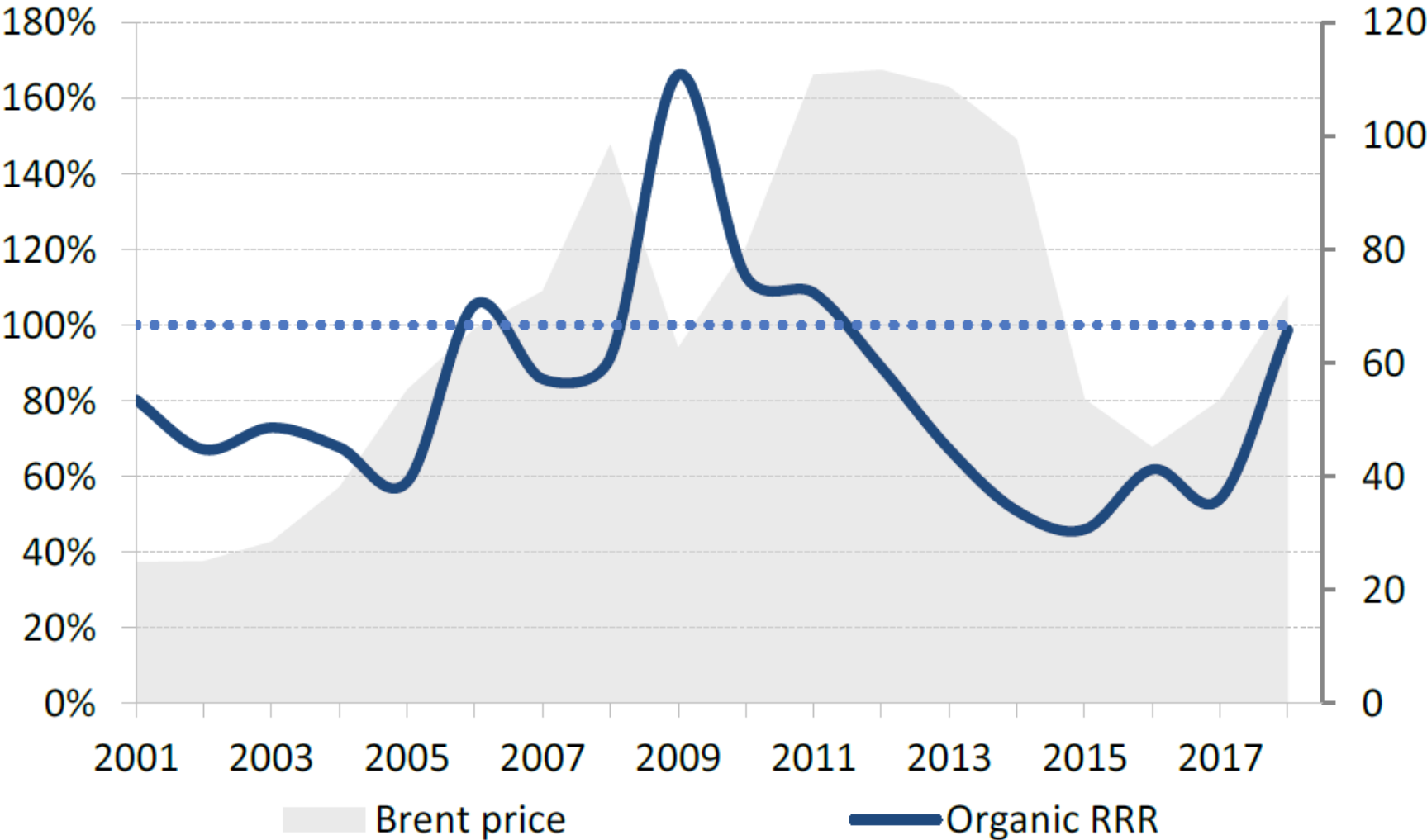


Change in E&P spending

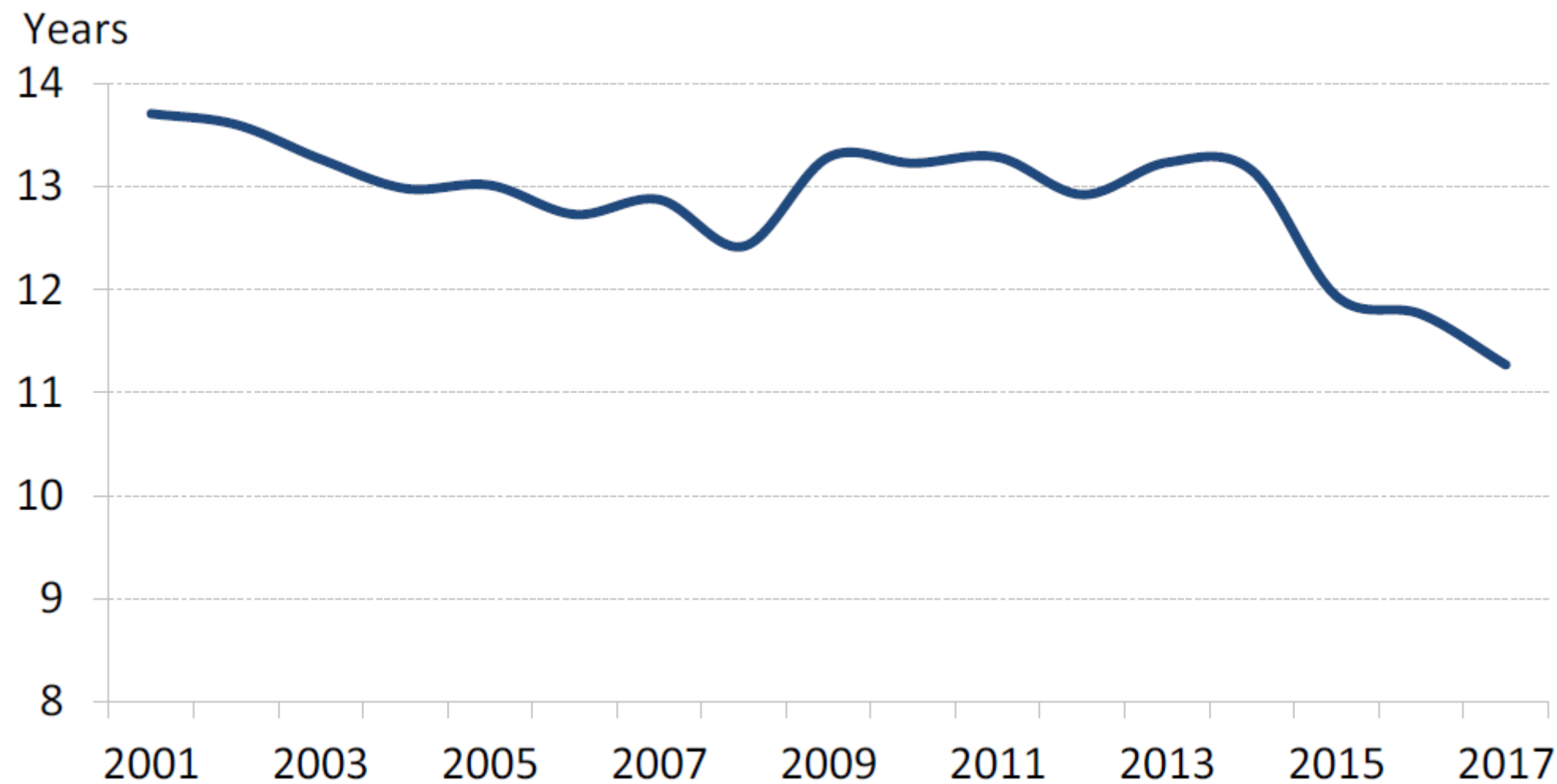


Exploration spending in % of total spending

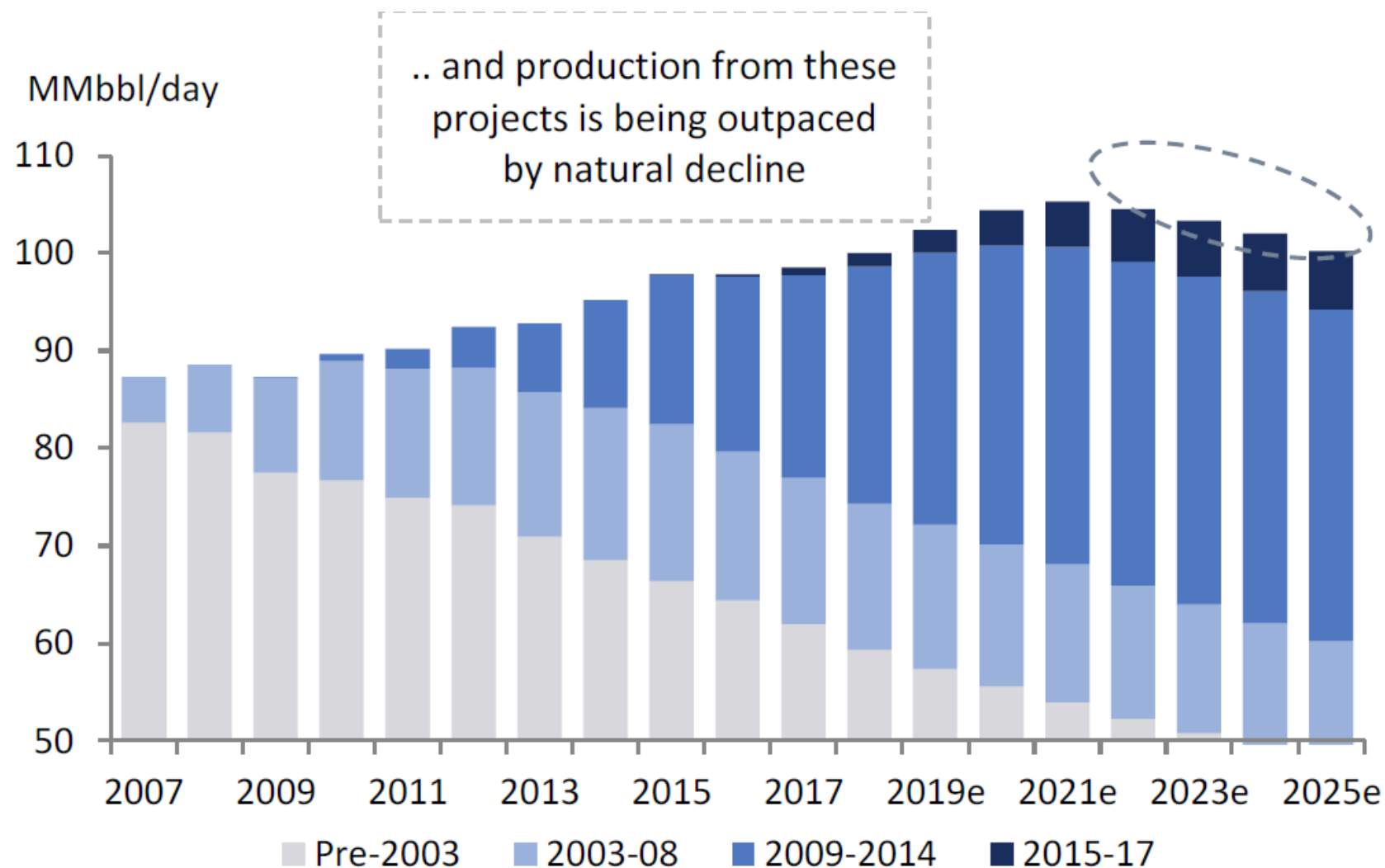




Average run rate life of current crude reserves (1P)

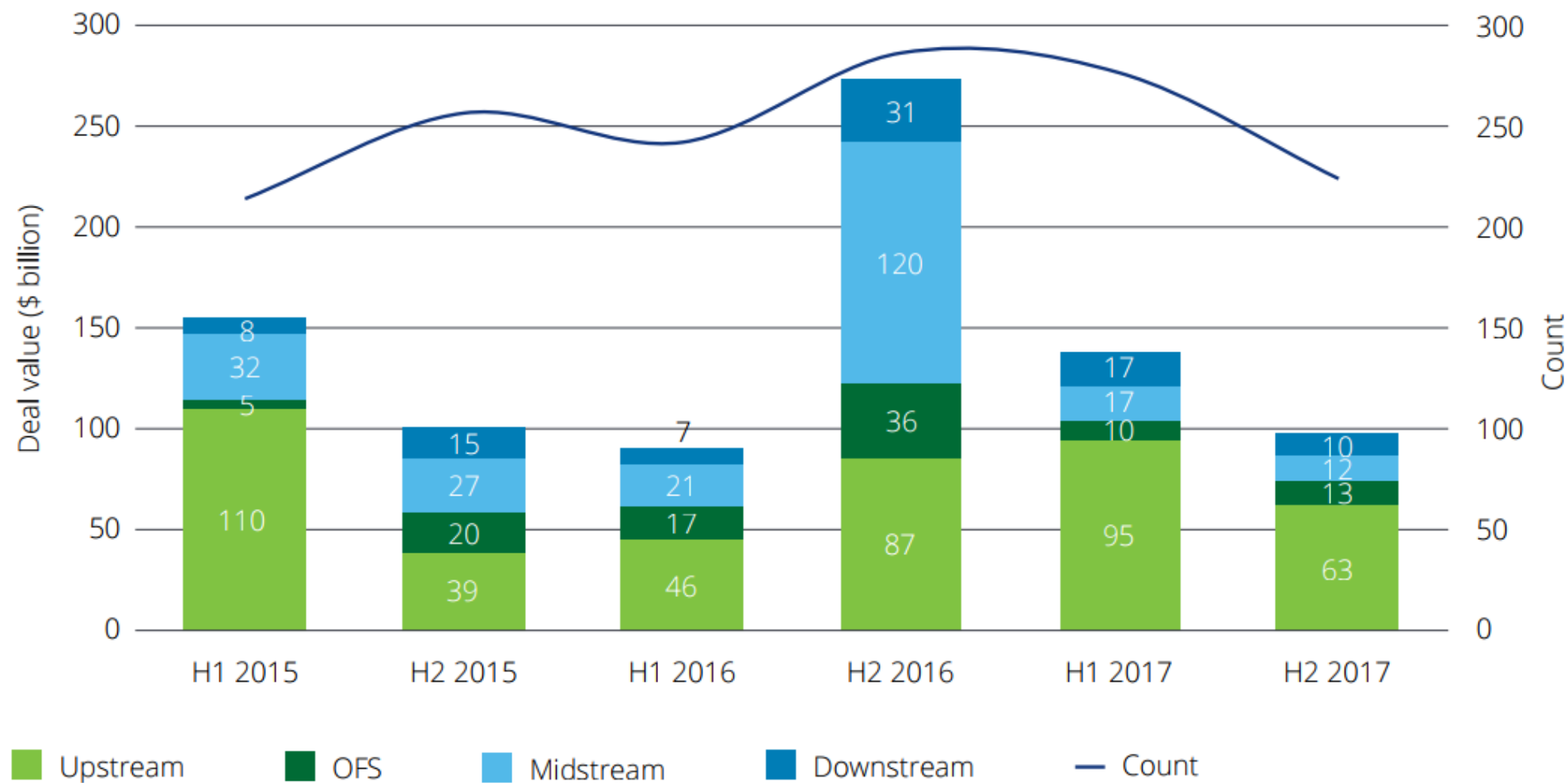


Production profile from sanctioned oil reserves

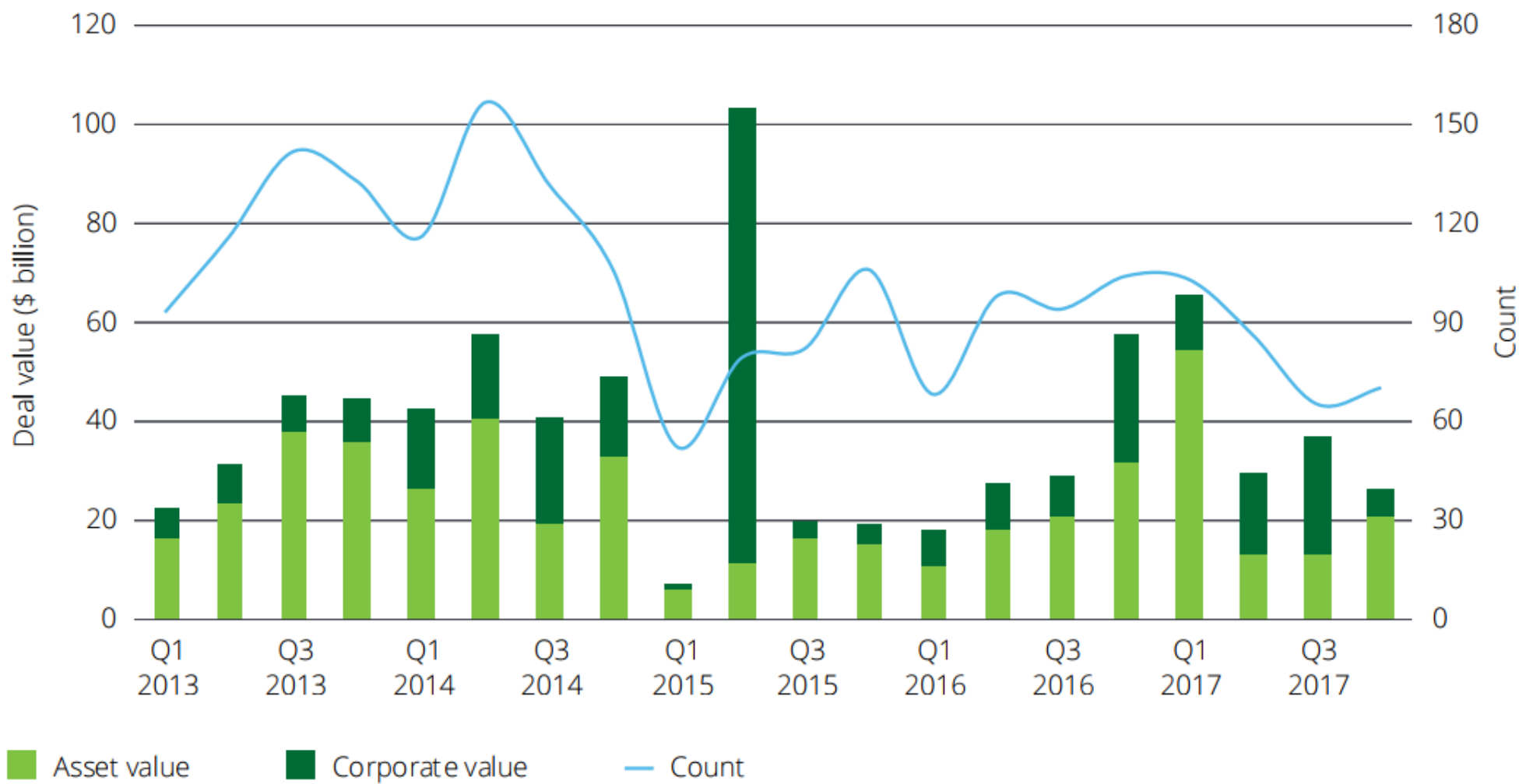


Global oil and gas M&A

Deloitte.

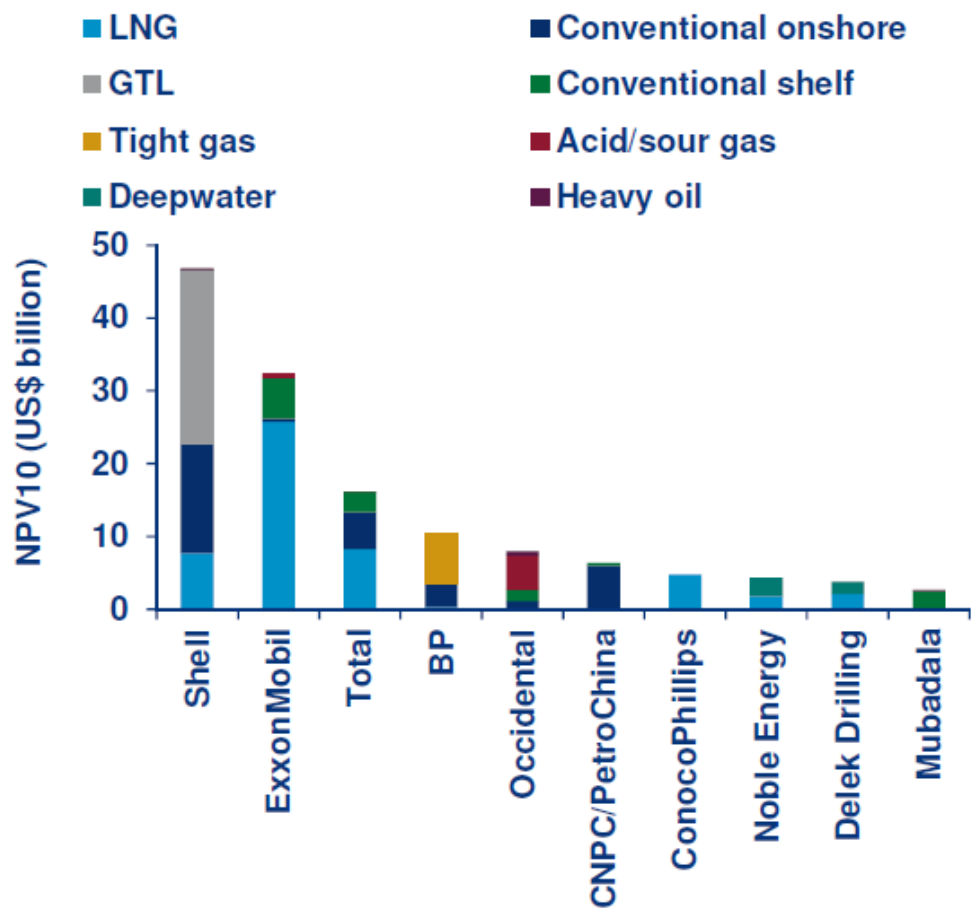


Upstream M&A



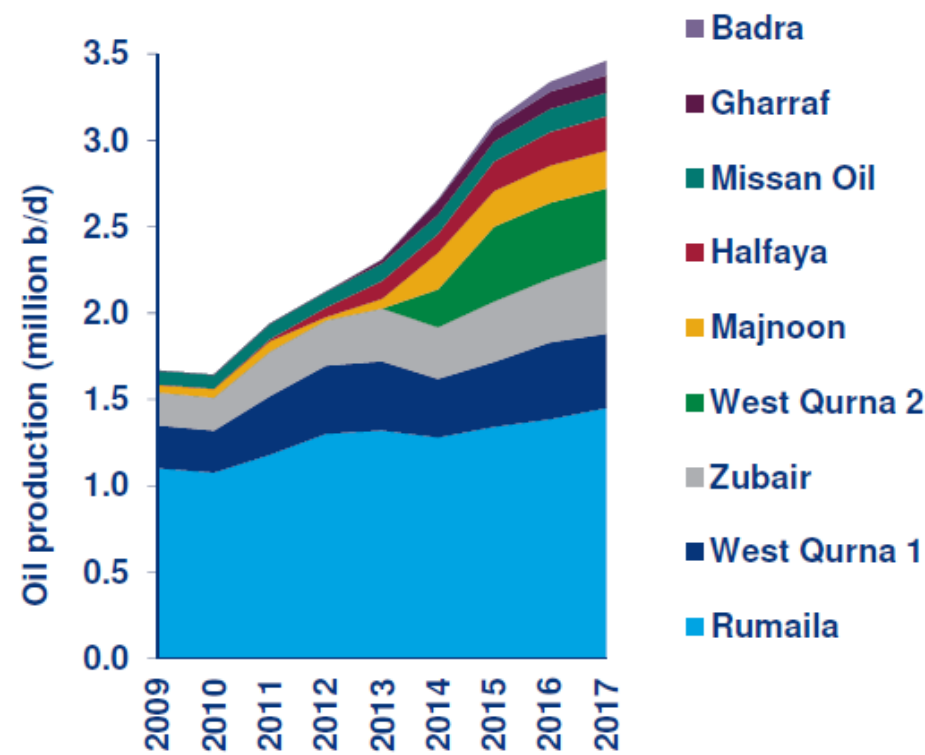
ME IOC value

Middle East IOC value by resource theme

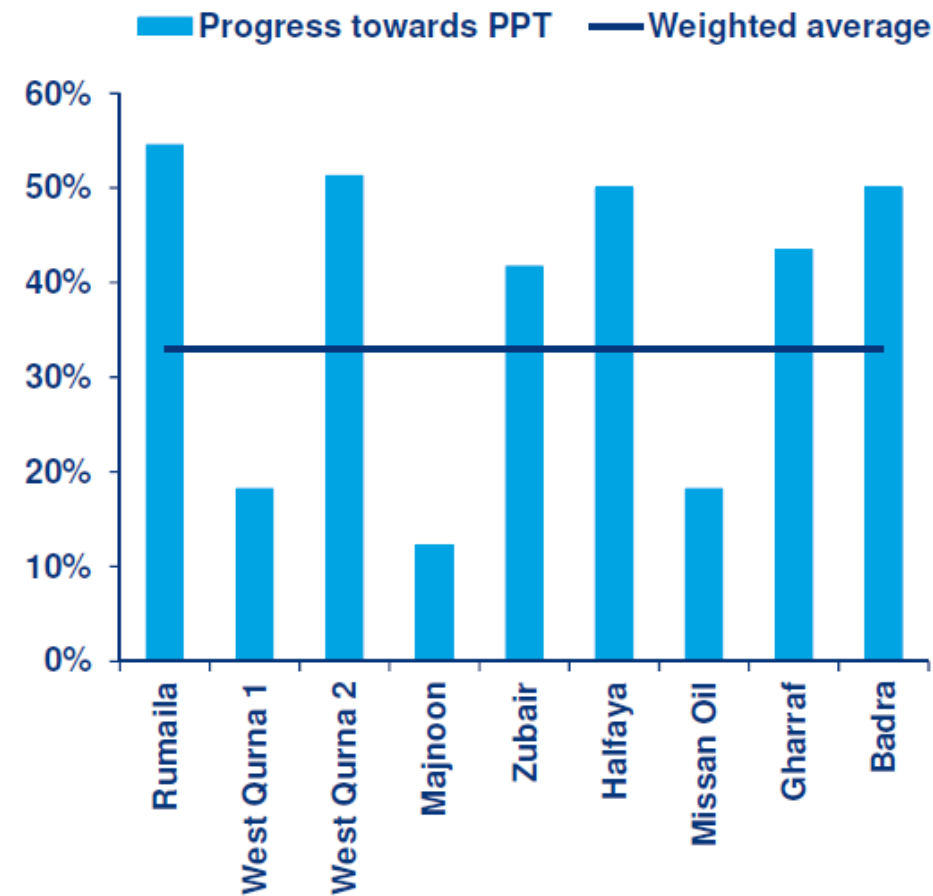


Iraq TSC

TSCs have more than doubled oil production



2017 progress to revised plateau production target (PPT)



Iran E&P players

European majors

Favoured by NIOC for their technology and know-how



European mid-caps

Specific expertise can be a plus for specific mid-size projects



Asians

Political relations and Iran's will to secure market share will help, but technical reputation can disserve some



Russians

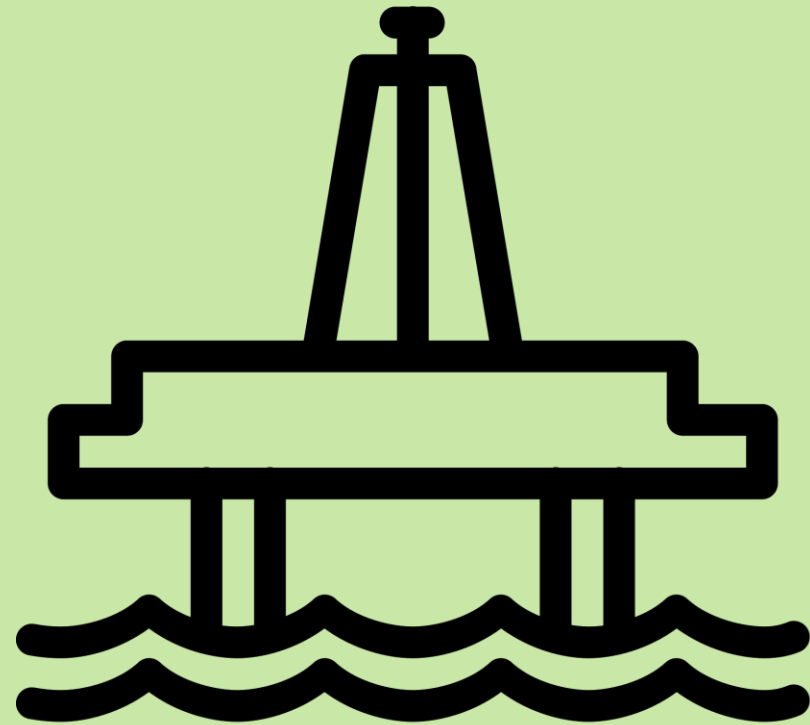
Political relations and part of Moscow's strategy to increase its influence in MENA oil and gas



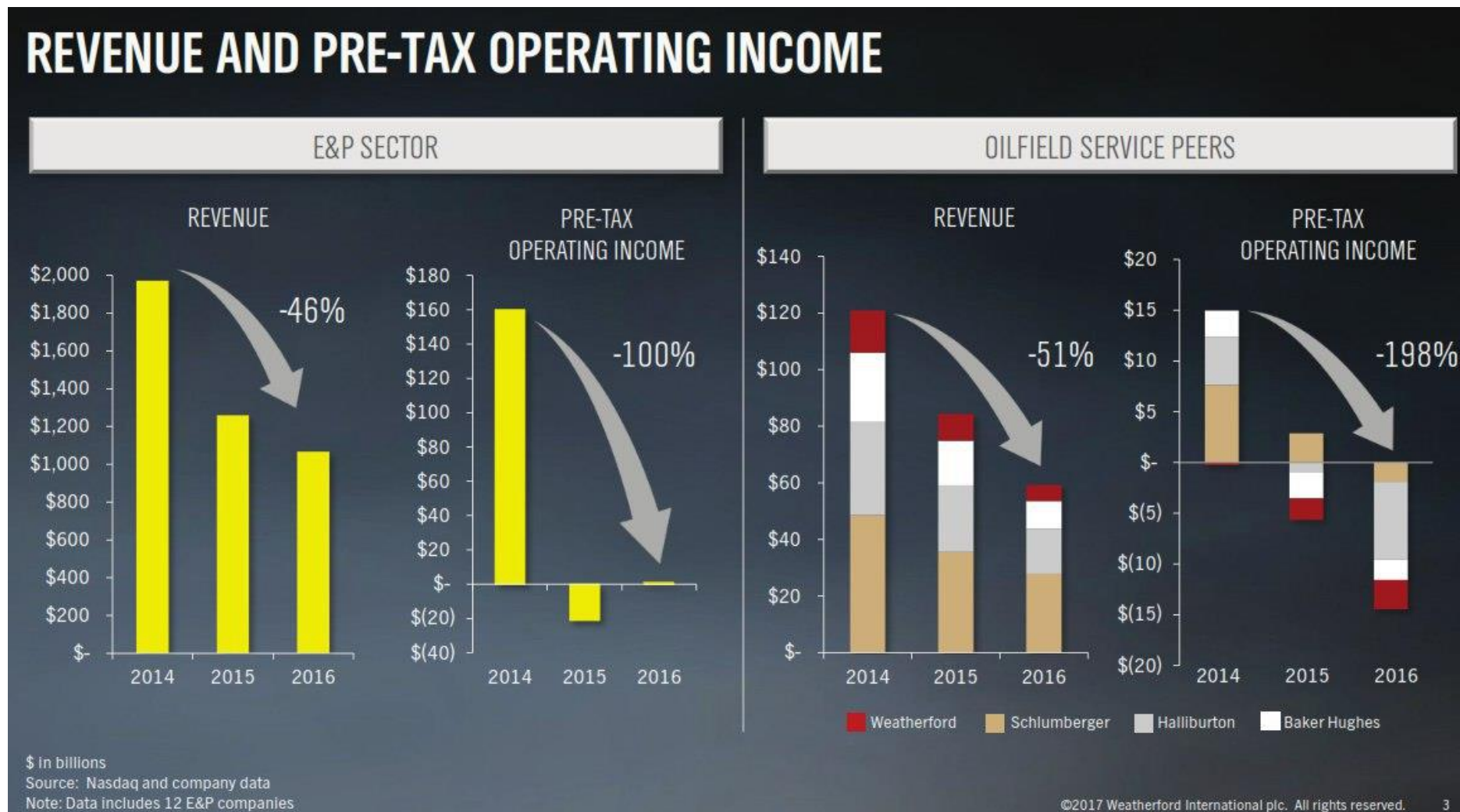
17 qualified Iranian E&P's

Name	Major shareholder	Name	Major shareholder
PetroPars	Government	PEDC	Private sector
OIEC	Public sector	PGFK	Government
Dana Energy	Private sector	IOEC	Public sector
PEDCO	Government	Kayson	Private sector
MAPNA	Government	Iran Ofogh	Private sector
Khatam-ol-Anbia	Government	PPZ	Private sector
IDRO	Government	GPT	Private sector
Persia	Government	NDCO	Government
Ghadir	Public sector		

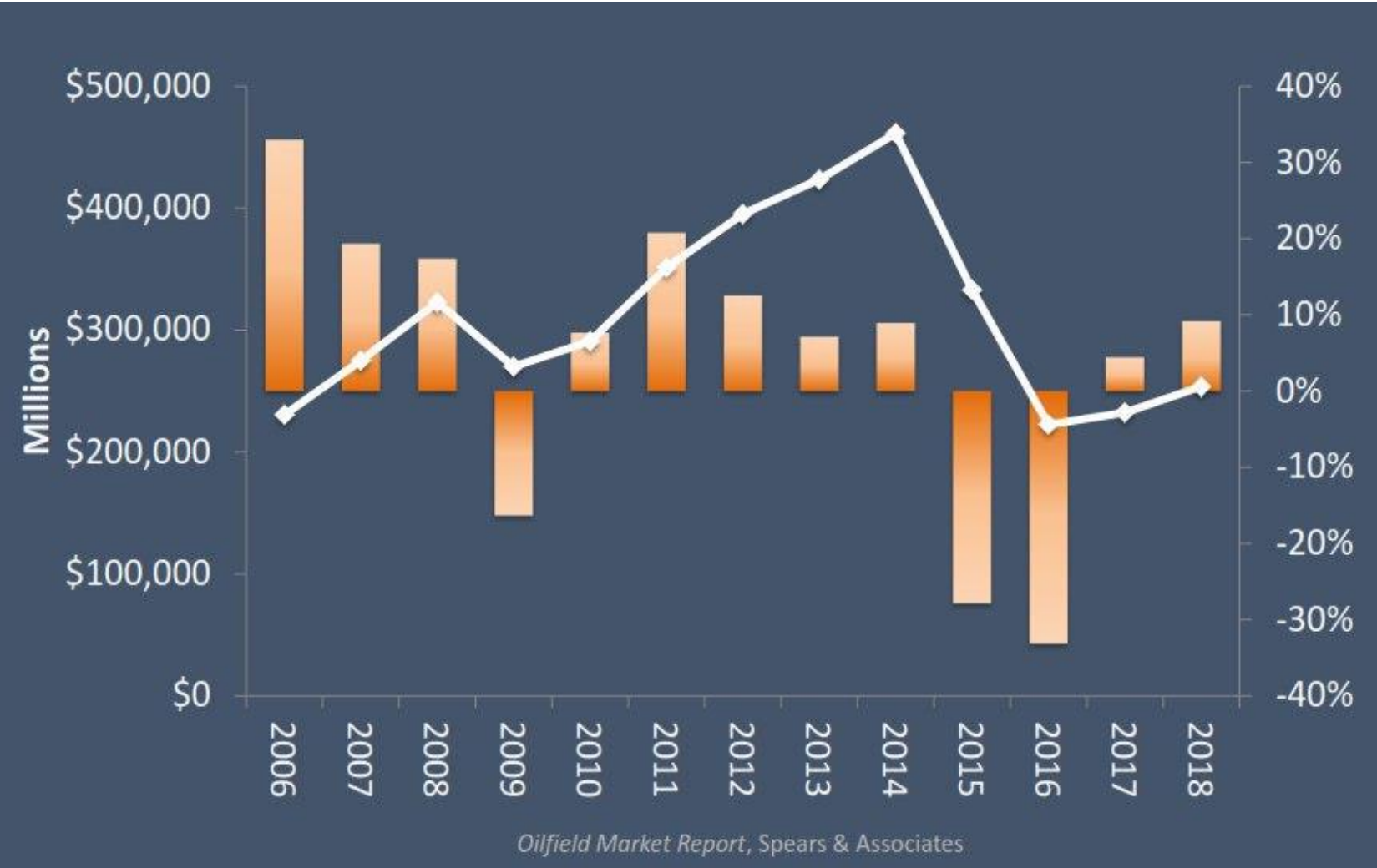
OFSE



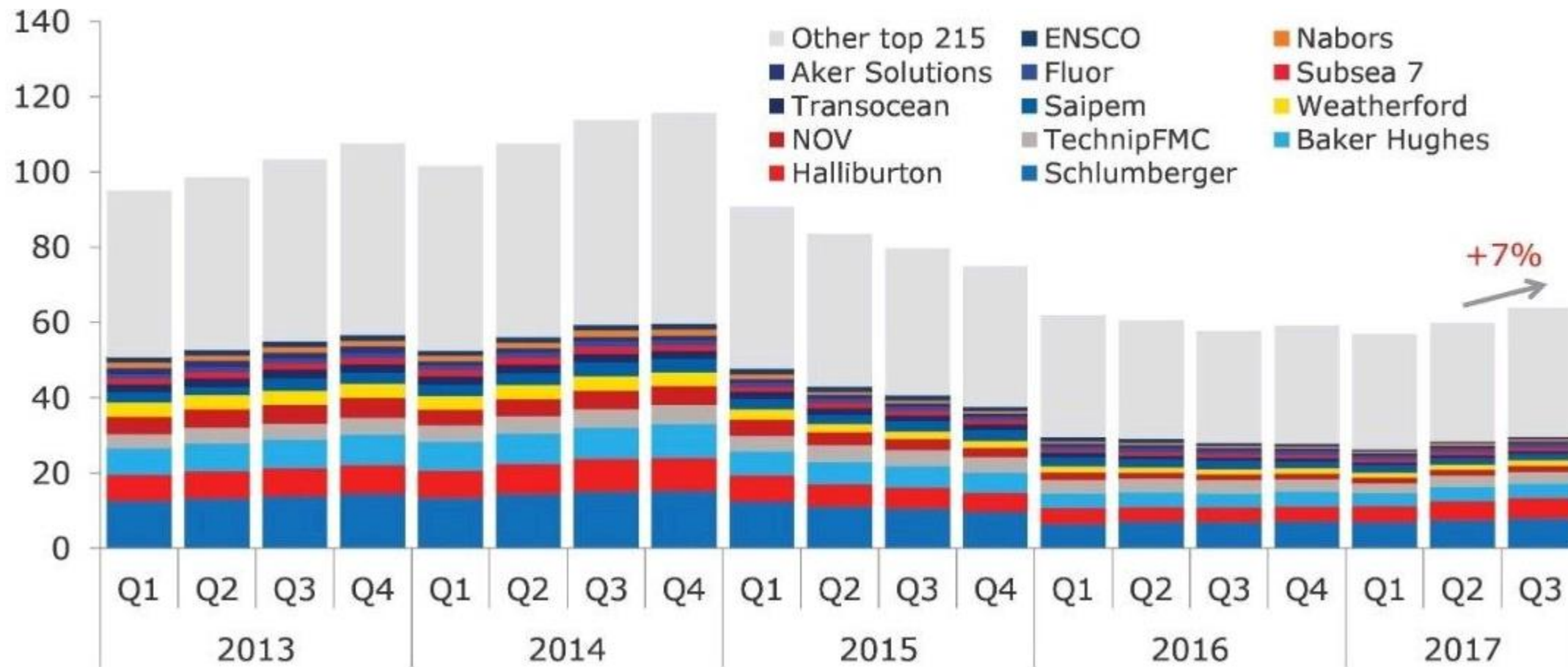
E&P and OFSE Sectors



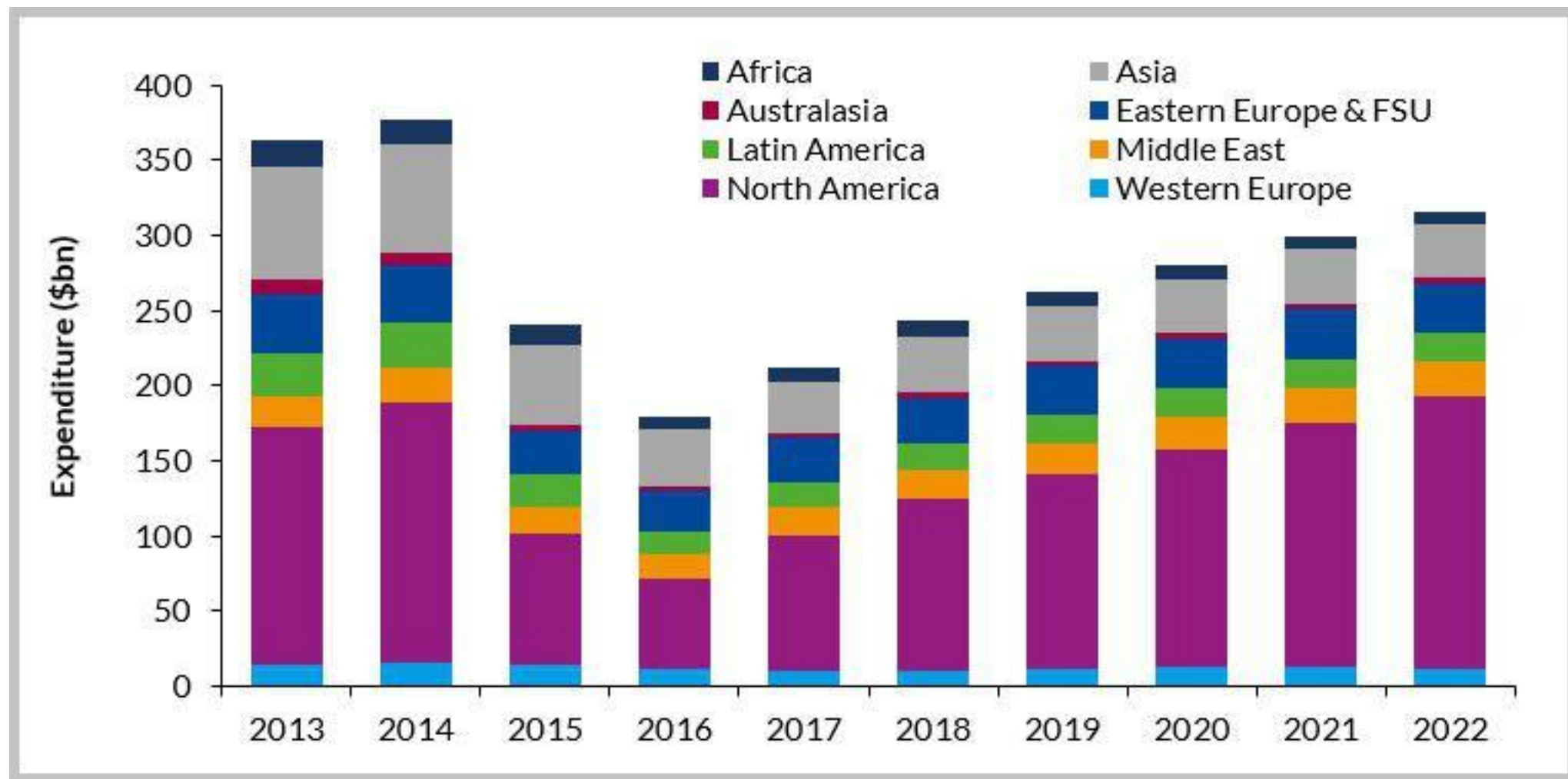
Oilfield Services Market



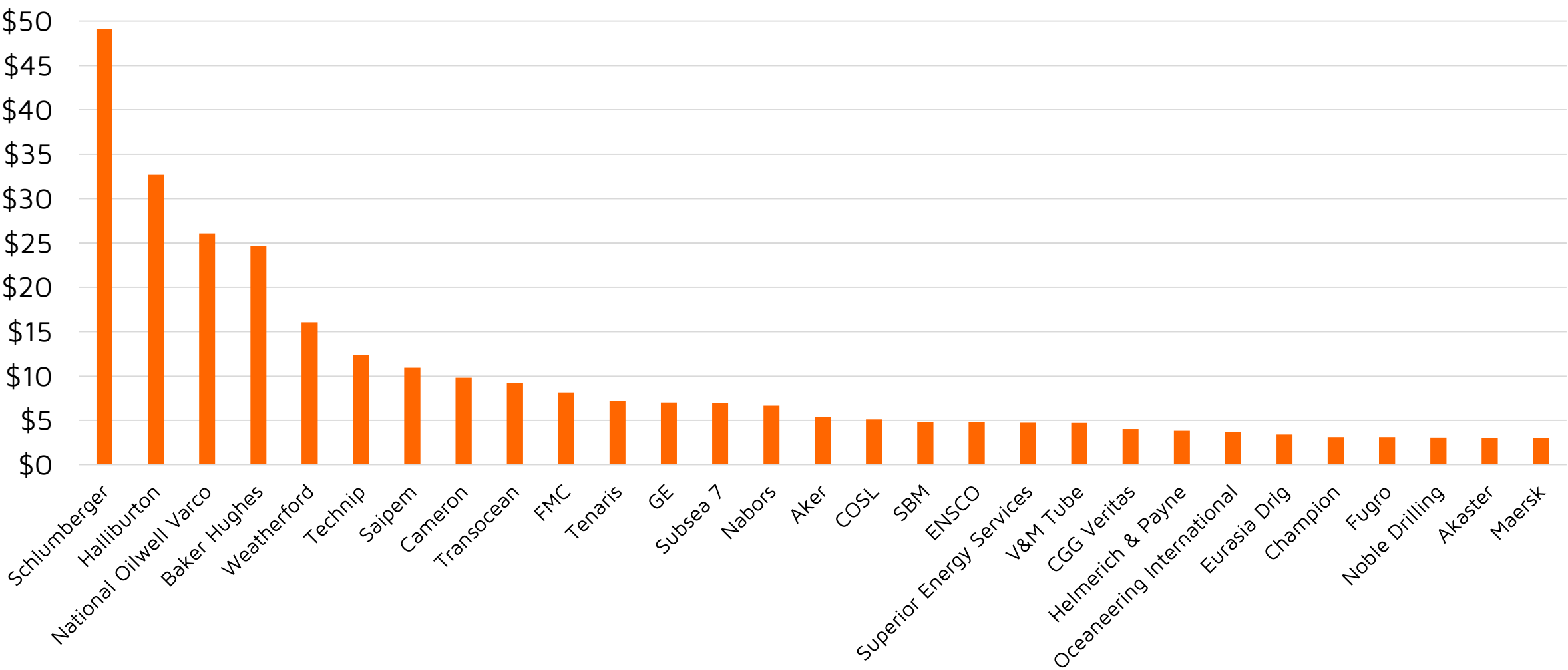
Oilfield Services Revenue (USD Bn)



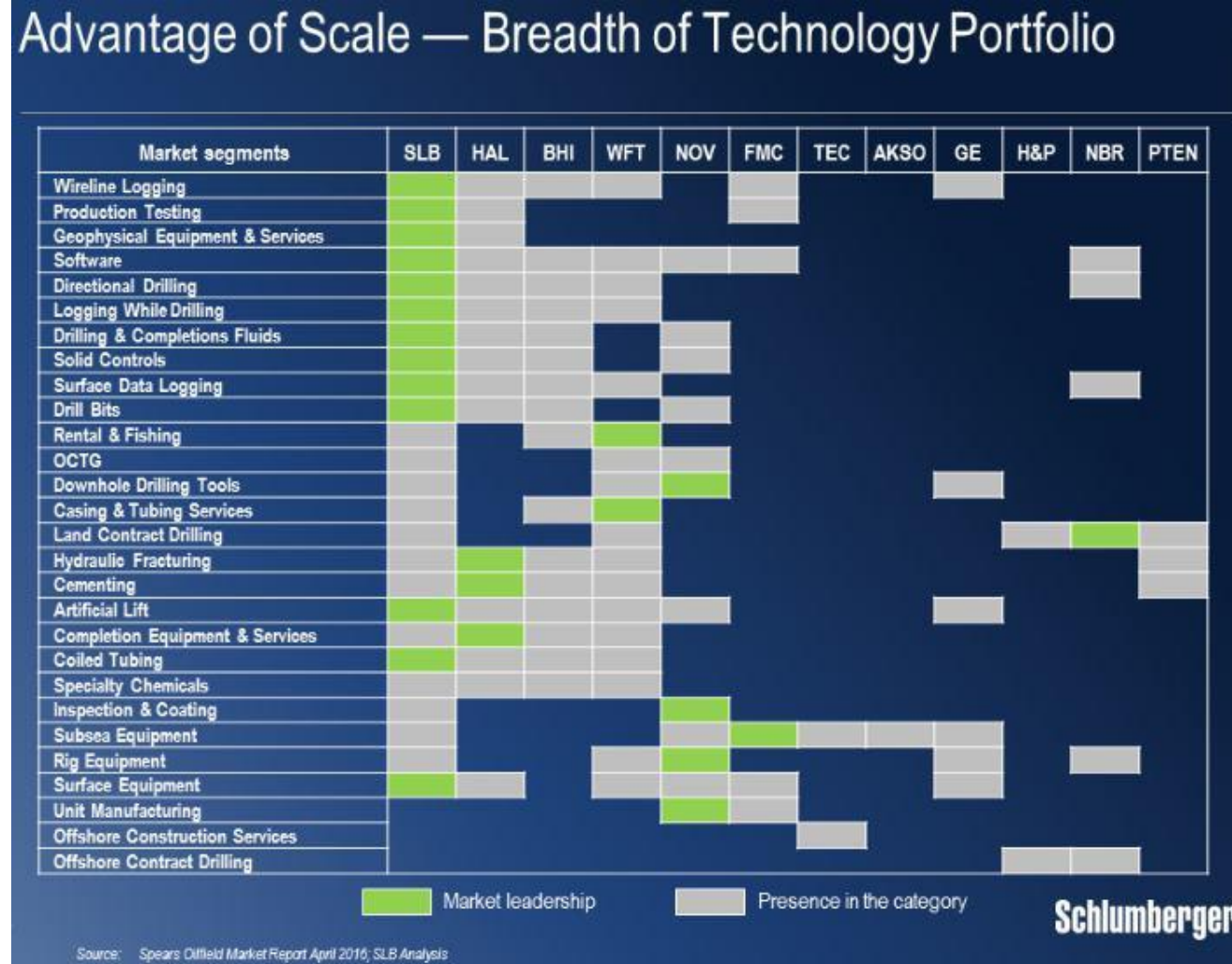
Oilfield Services Market



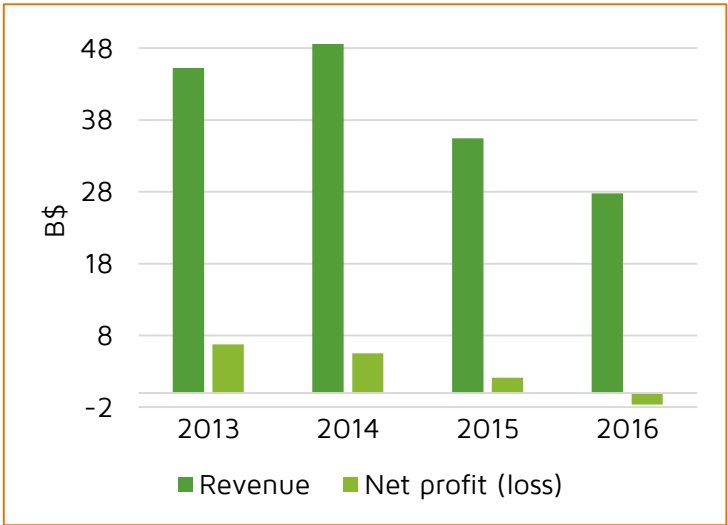
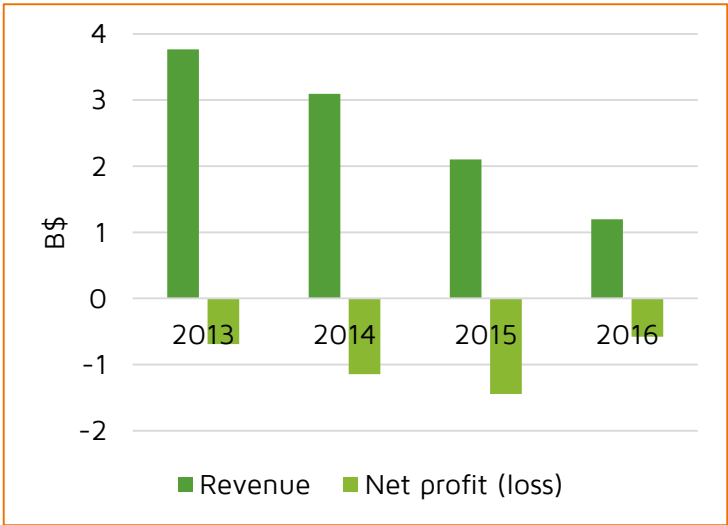
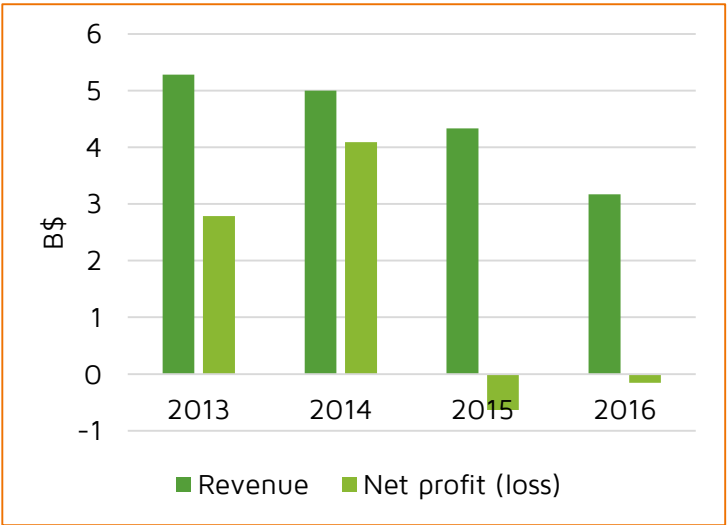
World Top players by revenue (2014)



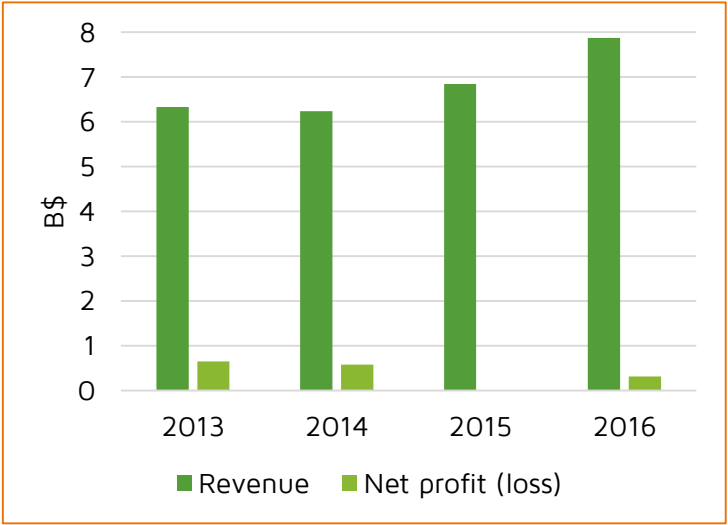
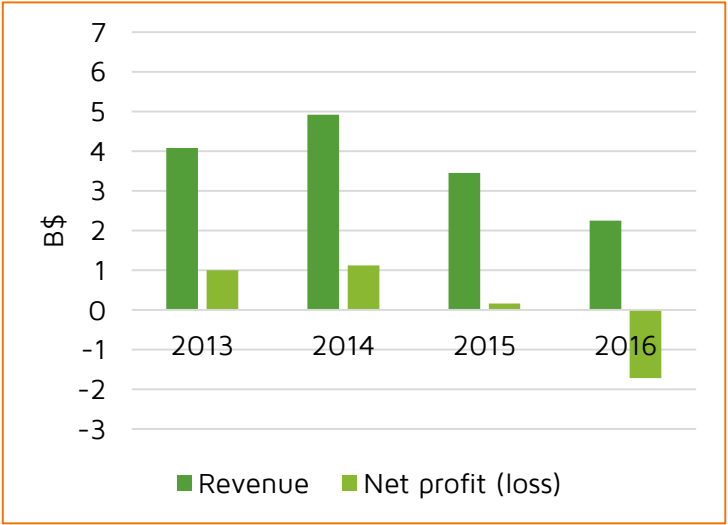
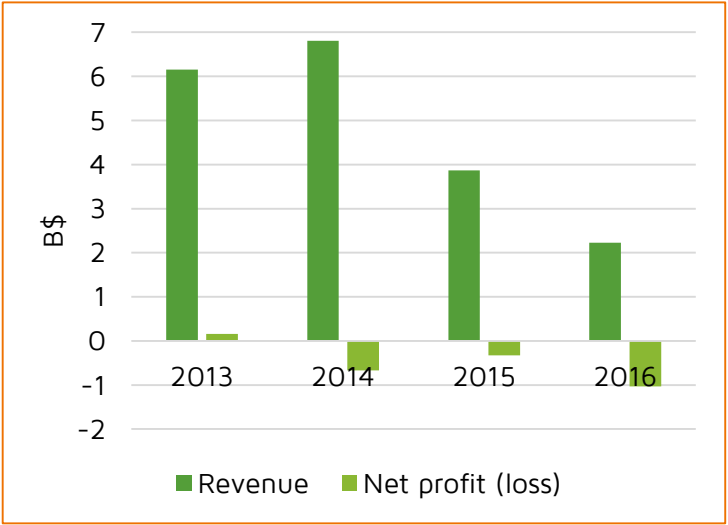
Players portfolio



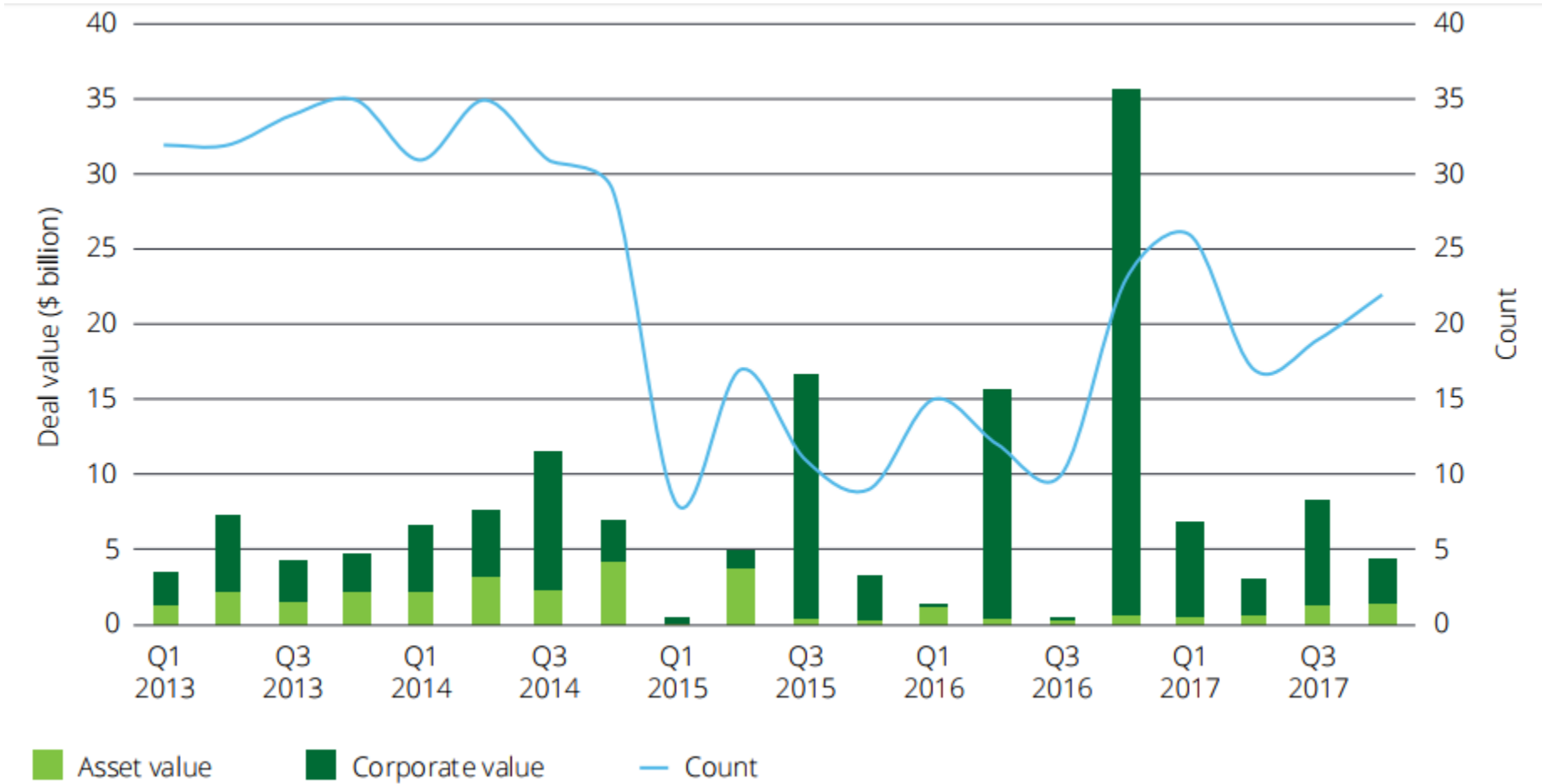
OSC's



OSC's



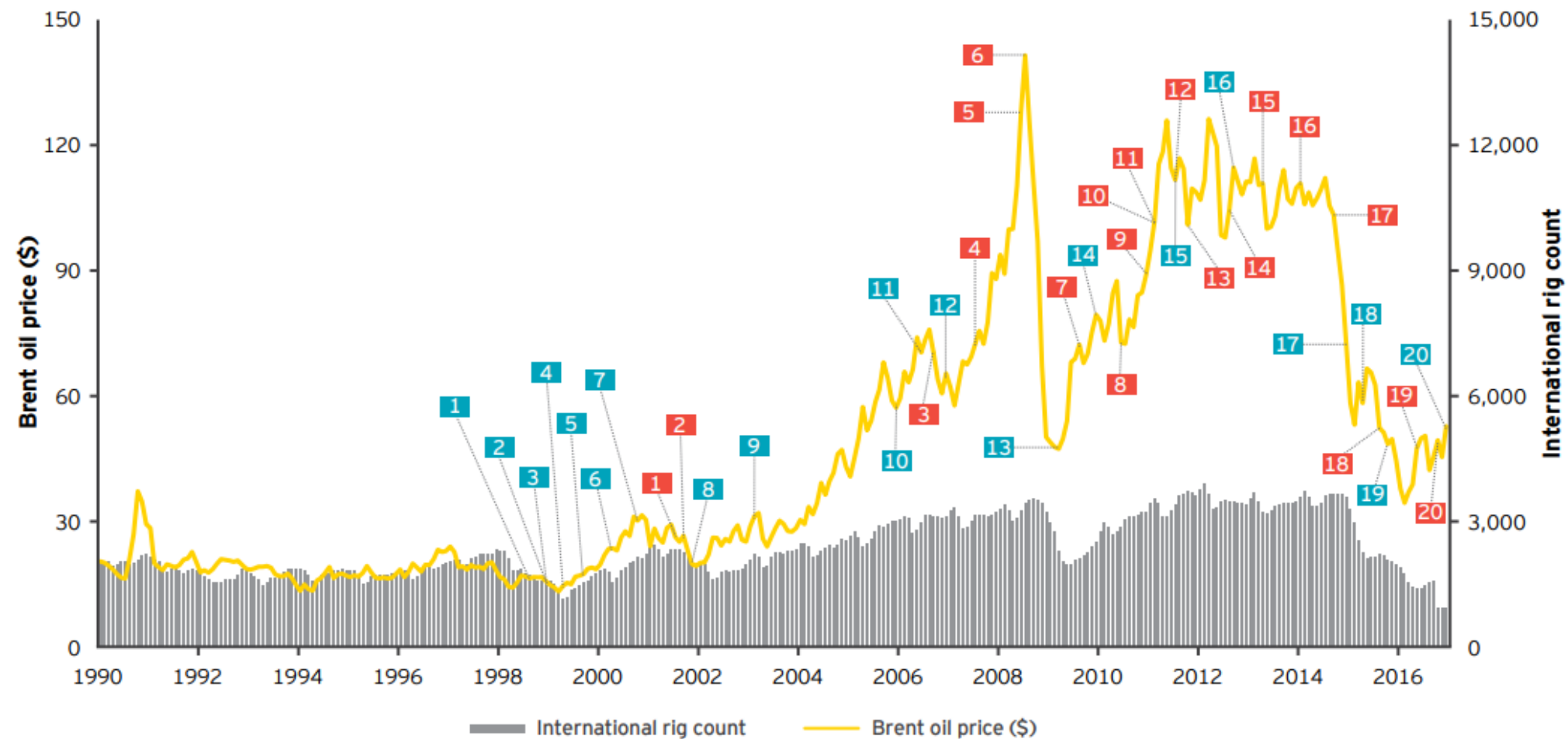
OFS M&A



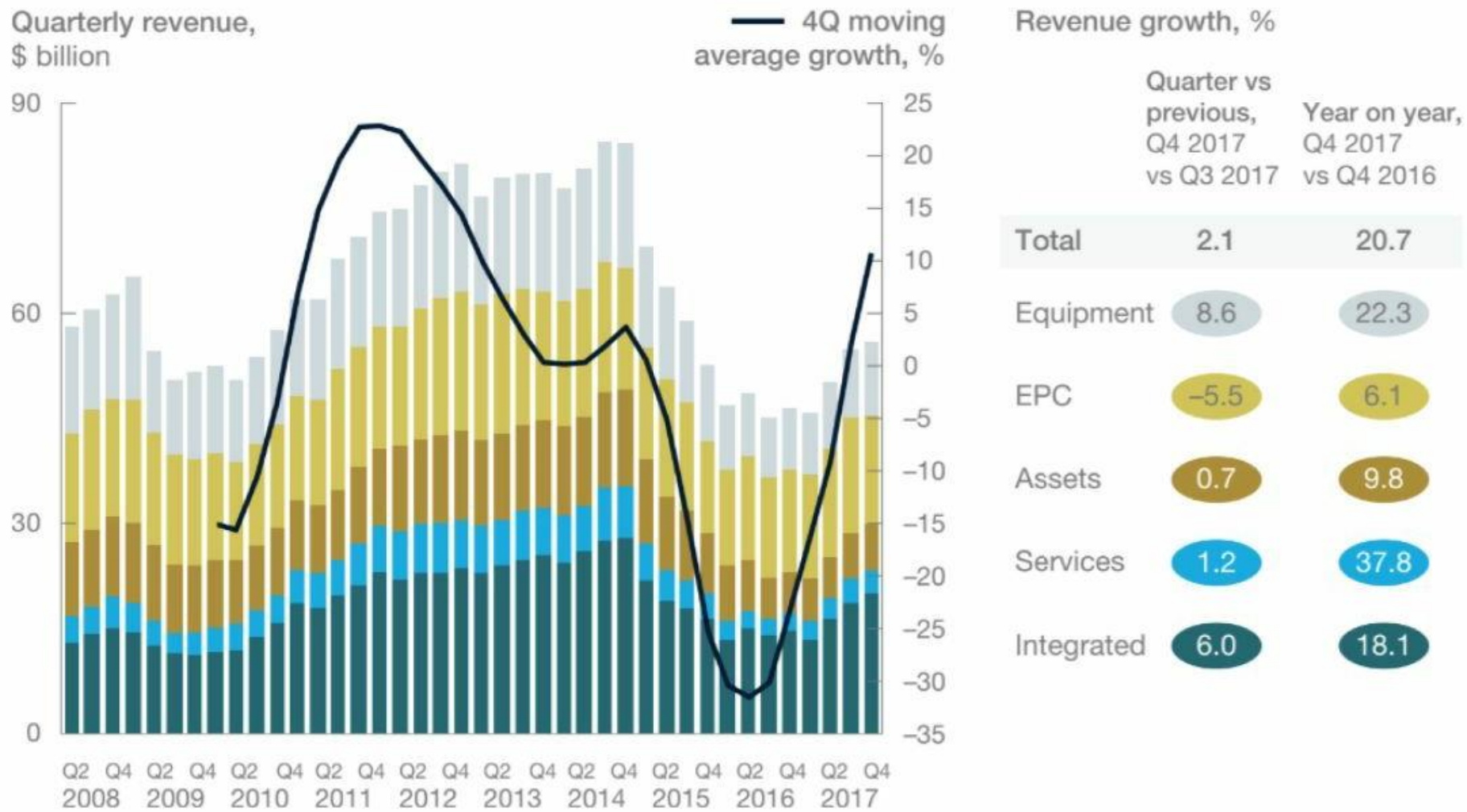
OFS consolidation



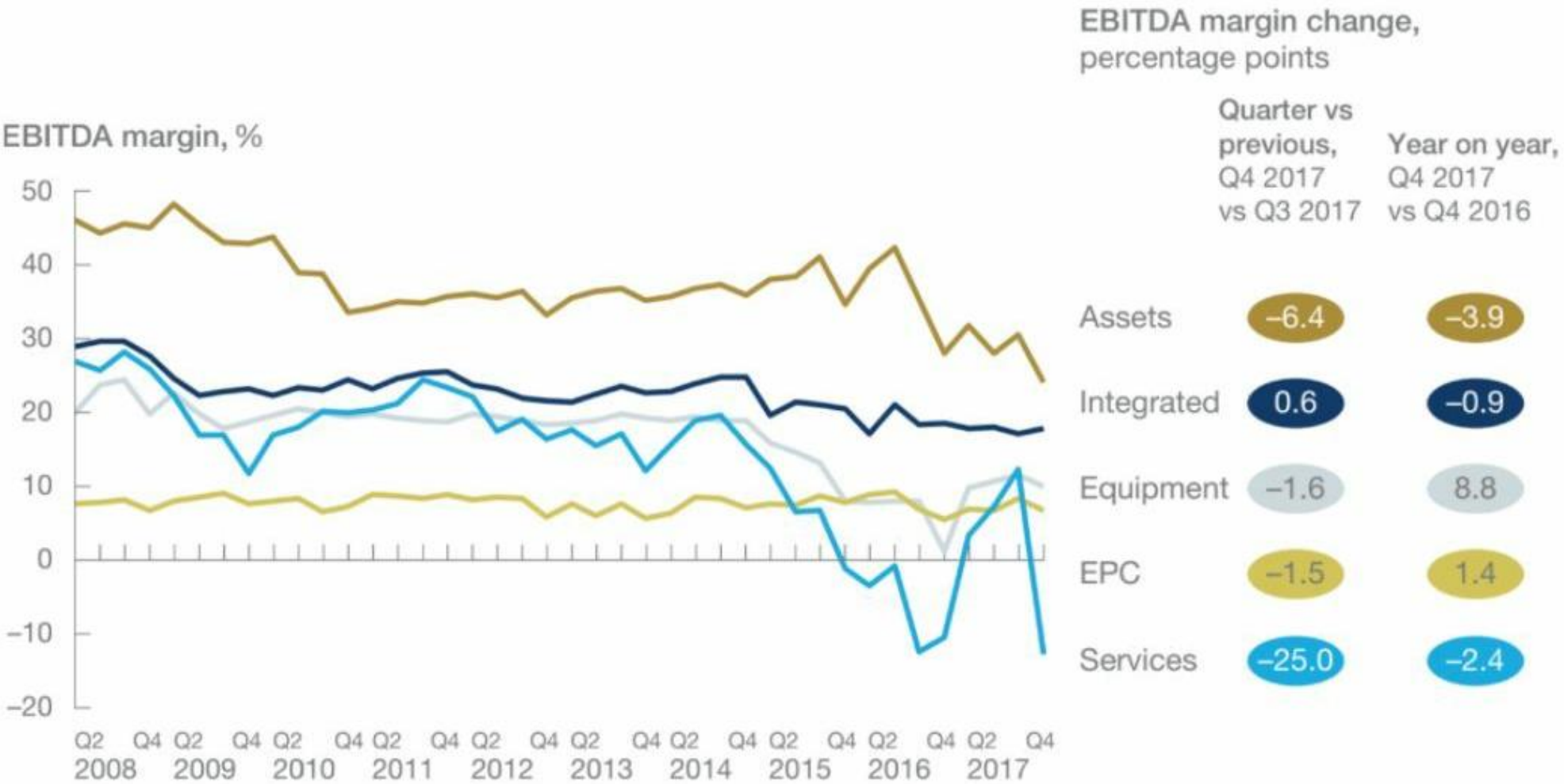
Oilfield services consolidation timeline



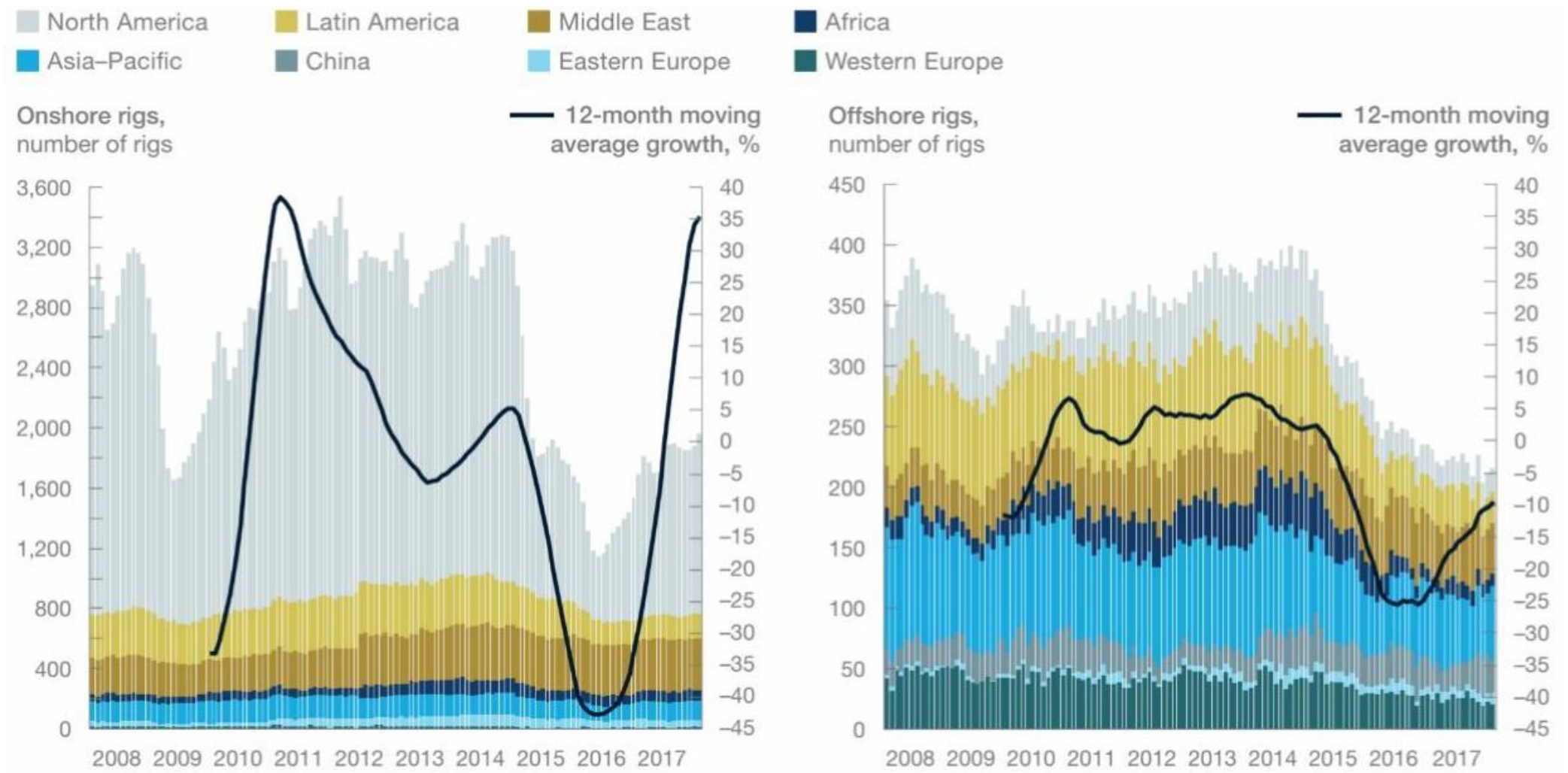
Revenue Growth



Margins



Number of Rigs



Rig market

Land



☐ Drilling

☐ Workover

Offshore



☐ Jackup

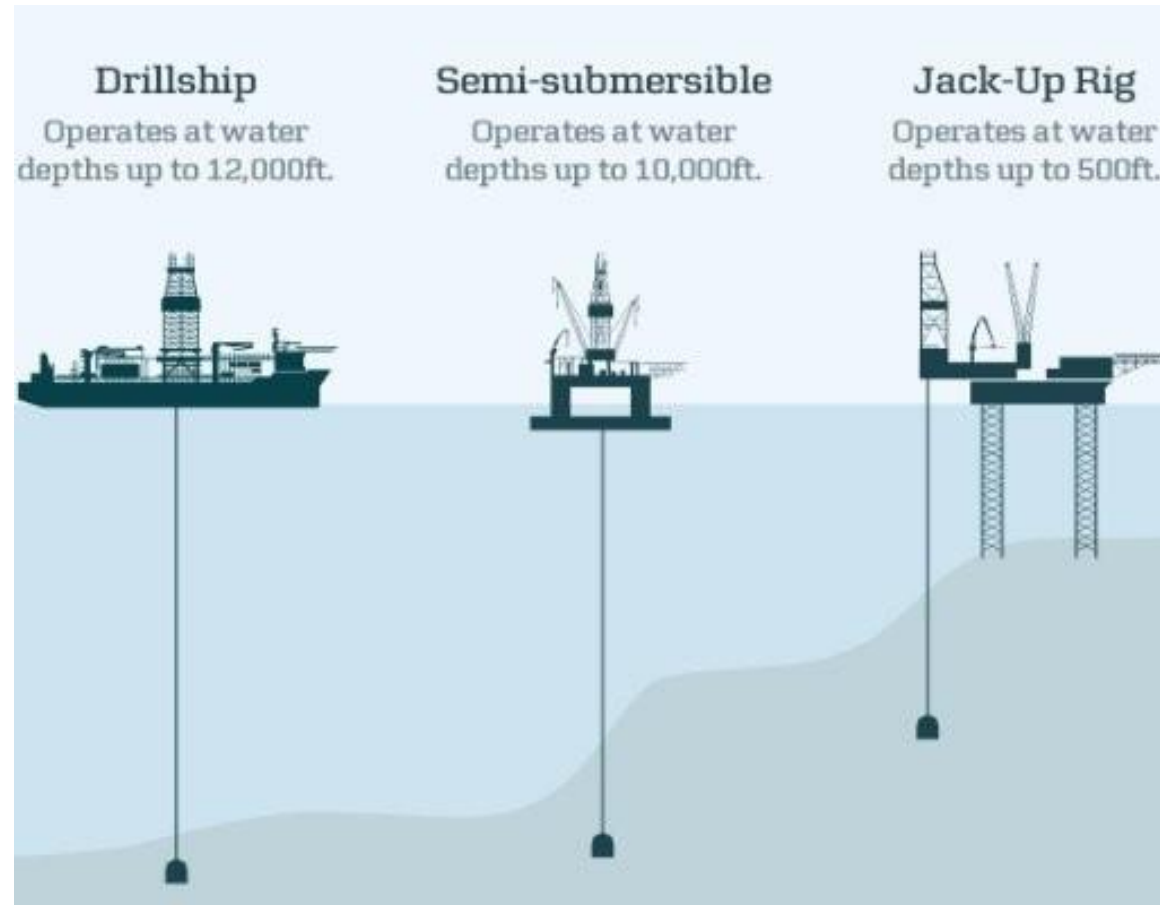
☐ Semisubmersible

☐ Drillship

TOP 10 offshore rig contractors (2017)

Top 10 offshore drilling contractors by number of rigs managed (total rigs includes rigs under construction).										
Company	Total rigs	Working	Under construction	US GOM	Latin America	NW Europe	W. Africa	Middle East	Asia/Pacific	Rest of world
Ensco	62	28	3	10	2	10	7	10	18	5
Seadrill	54	17	15	6	5	1	11	5	25	1
COSL	46	28	1	0	3	4	0	4	35	0
Transocean	44	19	2	11	10	8	0	0	12	3
Shelf Drilling	38	21	0	0	0	0	6	17	13	2
PDVSA	29	5	0	0	29	0	0	0	0	0
Paragon Offshore	29	2	0	11	0	10	0	7	1	0
Noble	28	15	0	9	1	3	0	8	5	2
Borr Drilling	24	0	13	0	0	5	3	1	15	0
Maersk Drilling	23	15	0	1	3	13	1	0	3	2
Top Ten Total	377	150	34	48	53	54	28	52	127	15
Entire Fleet	1033	387	143	95	163	100	64	176	373	62
Top Ten % of Total	36.5%	38.8%	23.8%	50.5%	32.5%	54.0%	43.8%	29.5%	34.0%	24.2%
Notes: Rig Types: Arctic, drill barges (but not inland barges), drillships, jackups, semisubmersibles, submersibles, and tender-assists. Rigs en route between regions are shown in the destination region. Latin America includes all South America, Central America, Caribbean and Mexico. Seadrill numbers do not include rigs owned and managed by North Atlantic Drilling.										
Data courtesy of IHS Markit. All data as of December 27, 2017.										

Offshore rigs

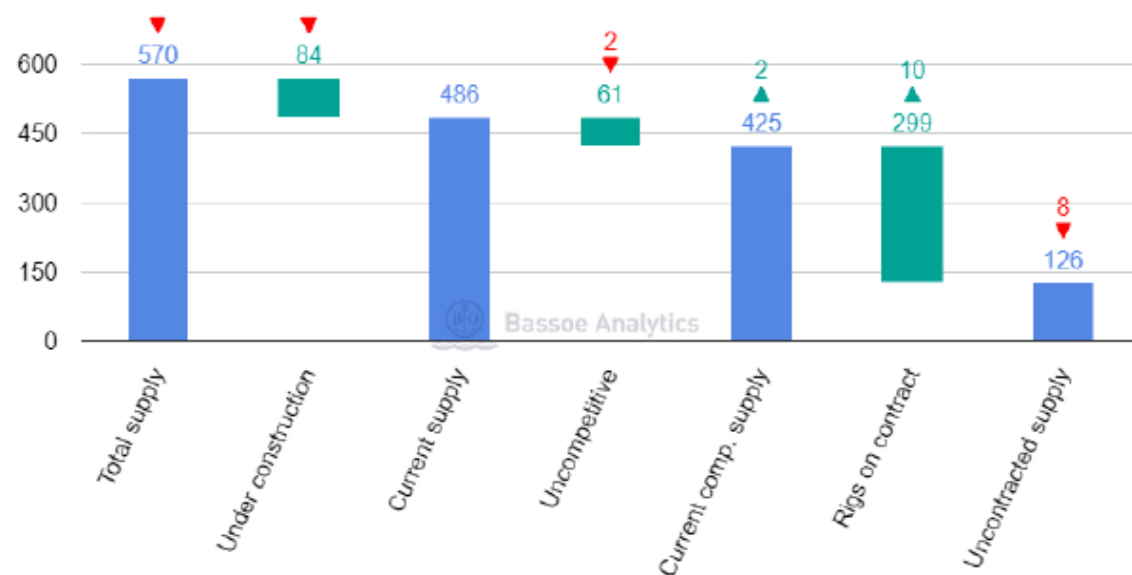


Jack-up

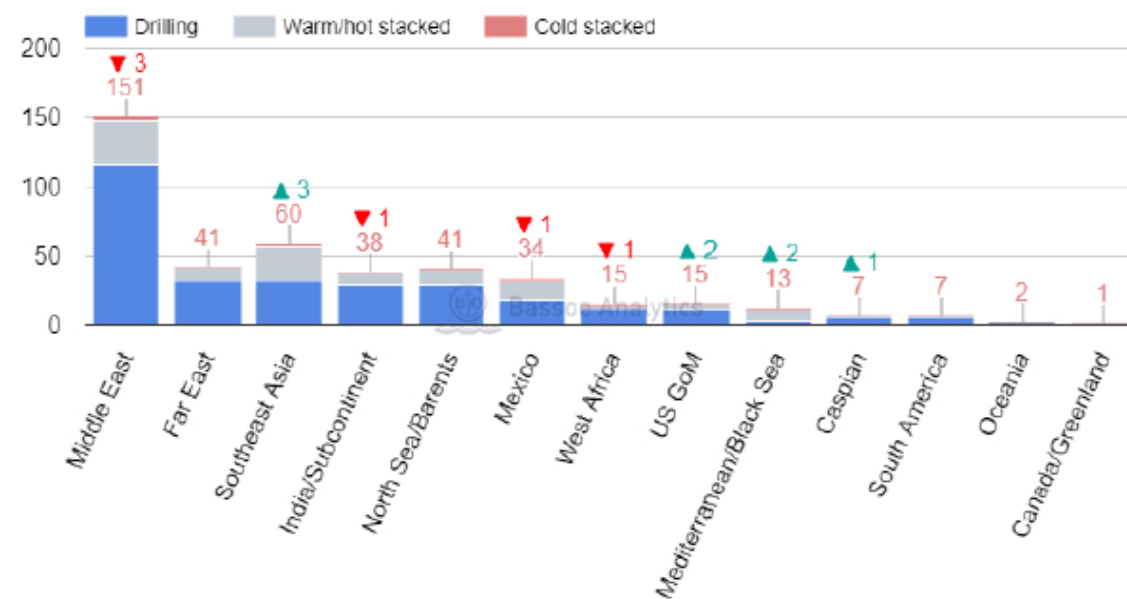


Jackups

Total util.: **61%** Comp. util.: **70%**



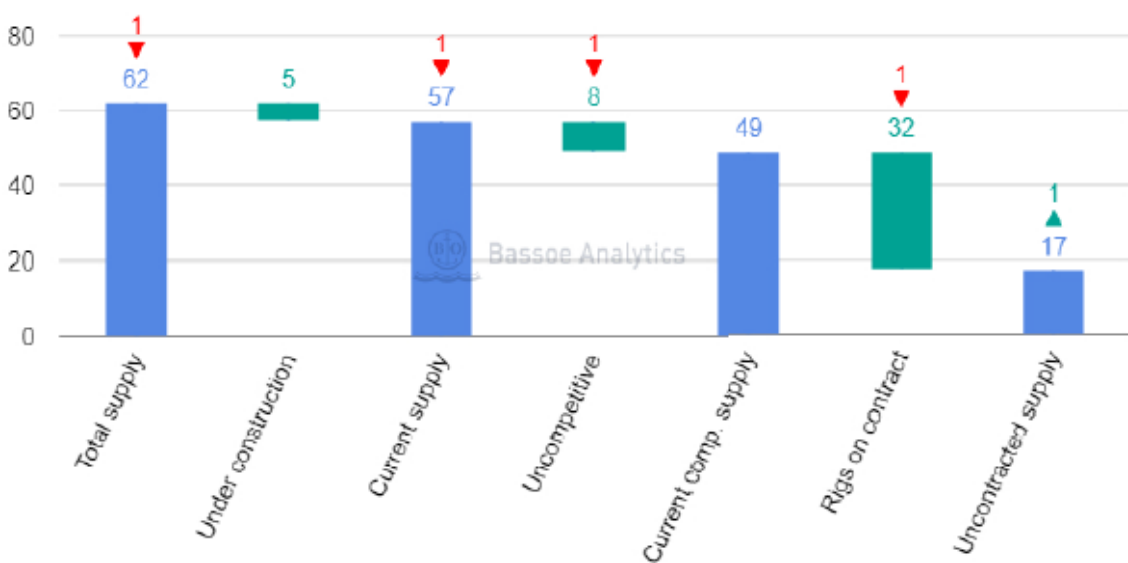
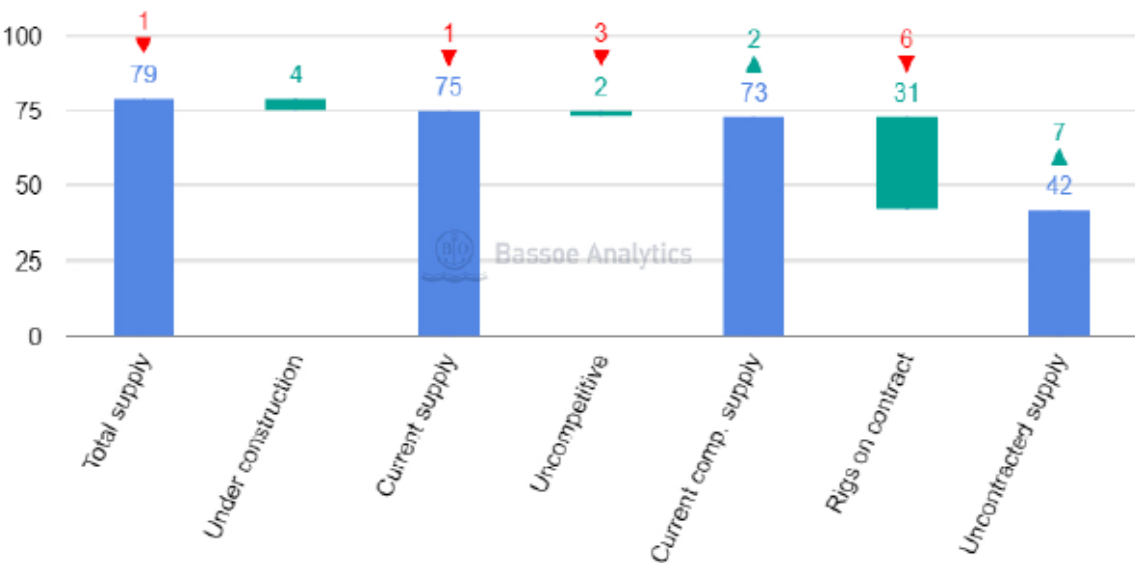
Jackup Fleet by Region



Semisubmersibles



Semisubmersibles Total util.: 47% Comp. util.: 51% Semisubmersibles Harsh Environment Total util.: 56% Comp. util.: 65%



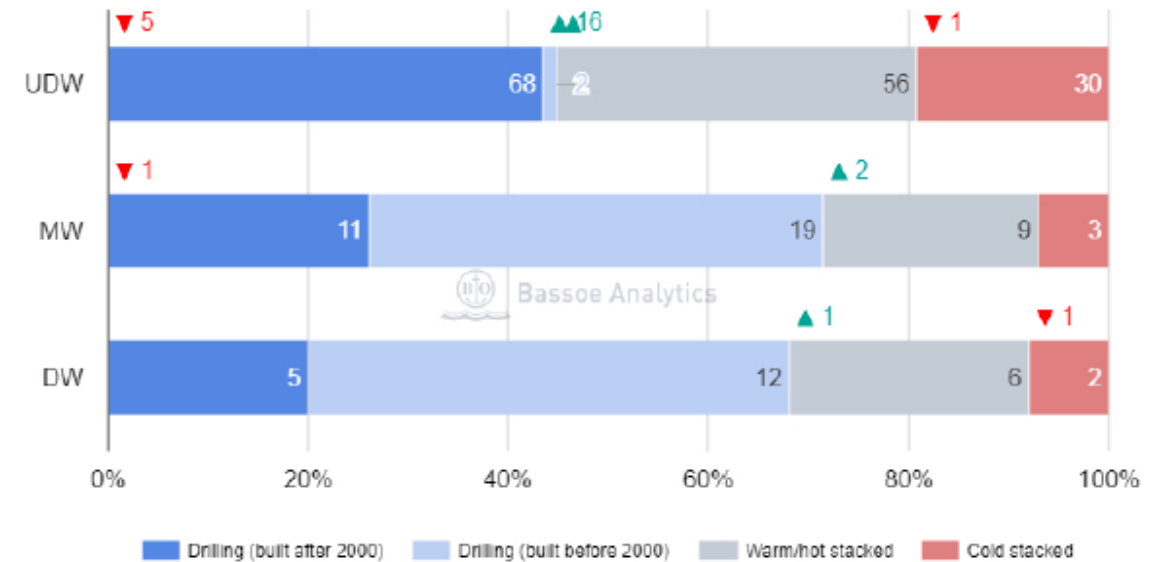
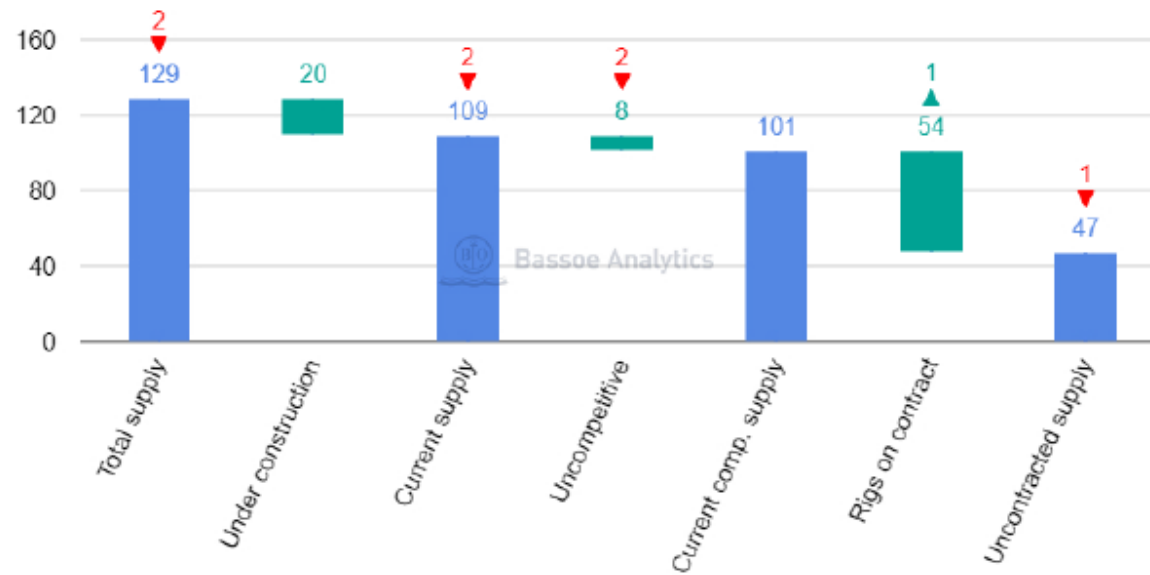
Drill-ships



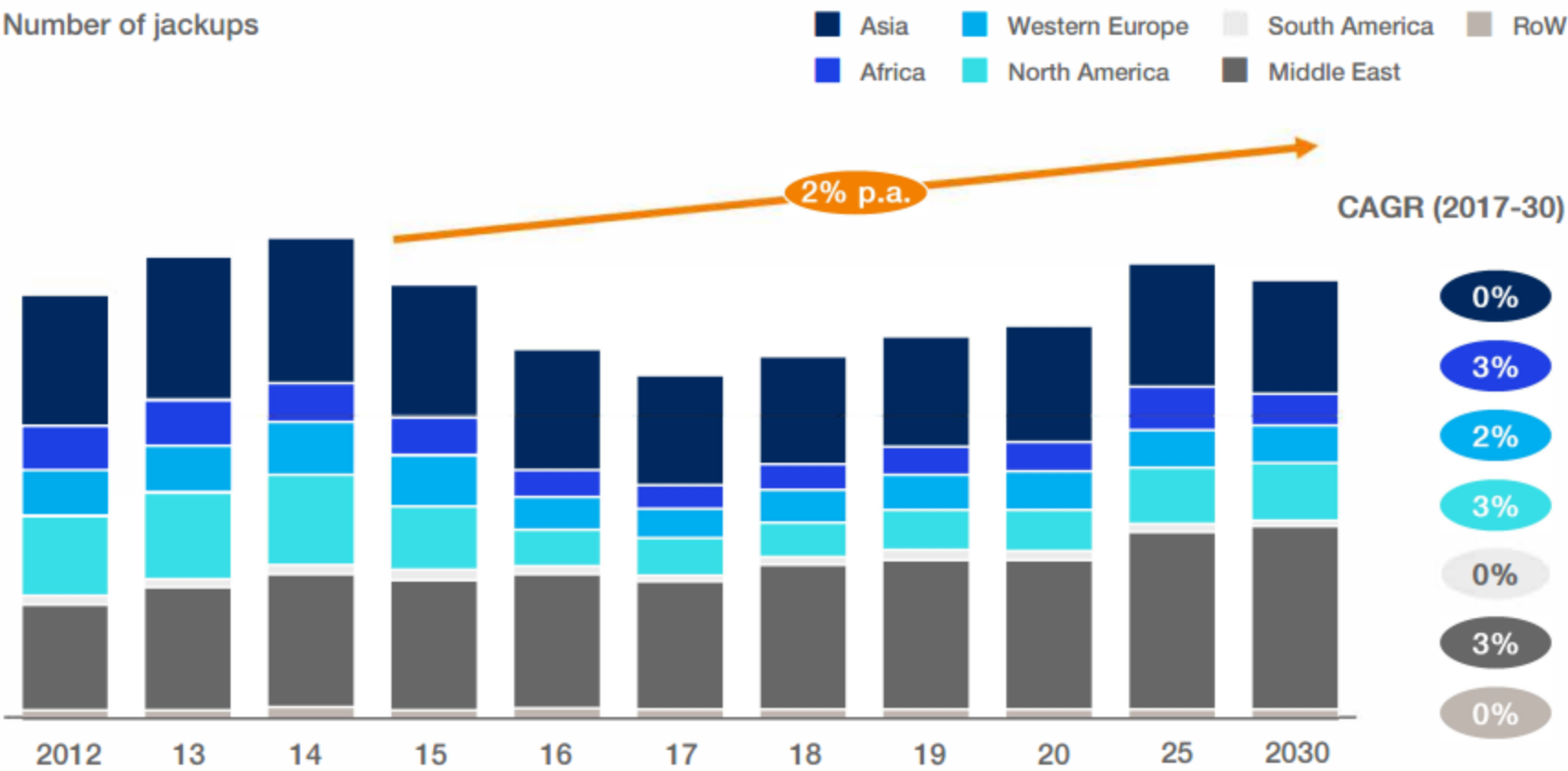
Drillships

Total util.: **49%** Comp. util.: **53%**

Competitive Utilization by water depth



Jack-up demand

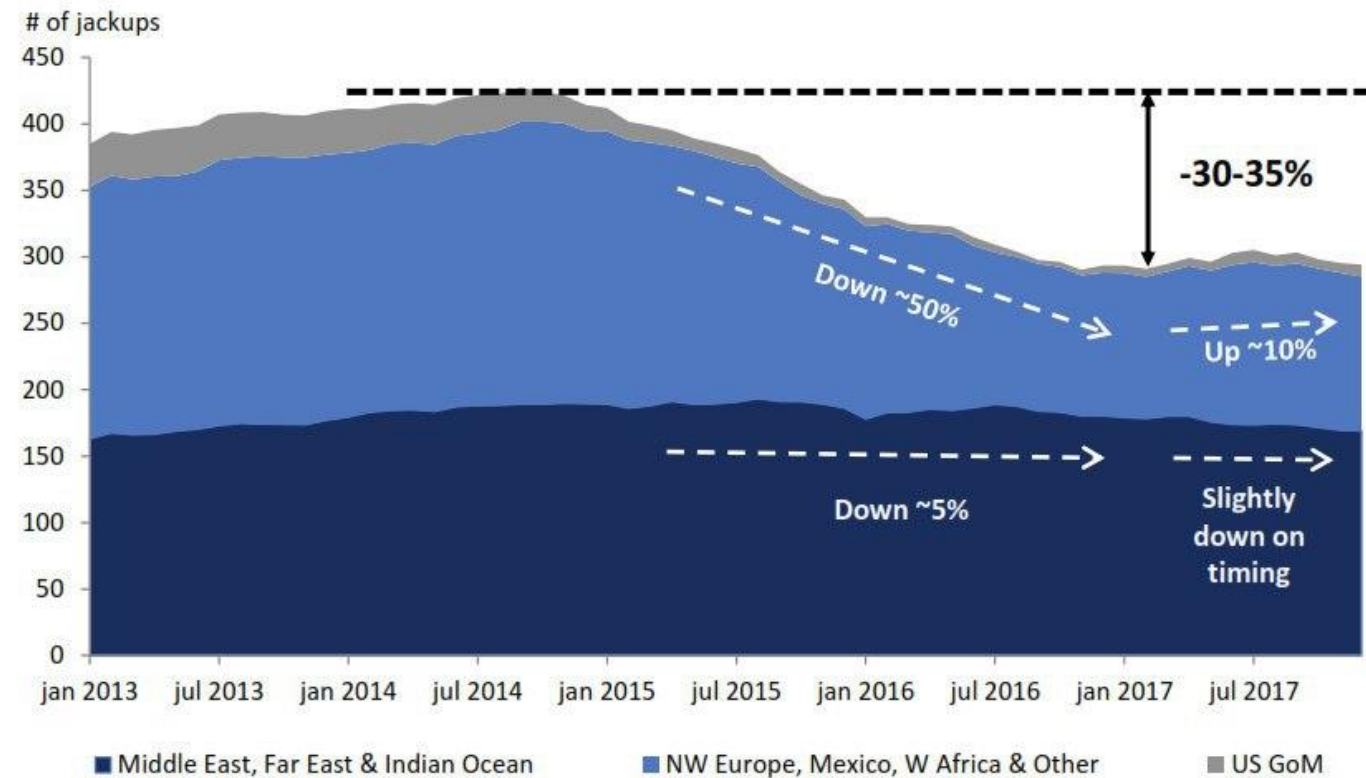


Offshore rig market



Jackup demand driven by short-cycled production drilling

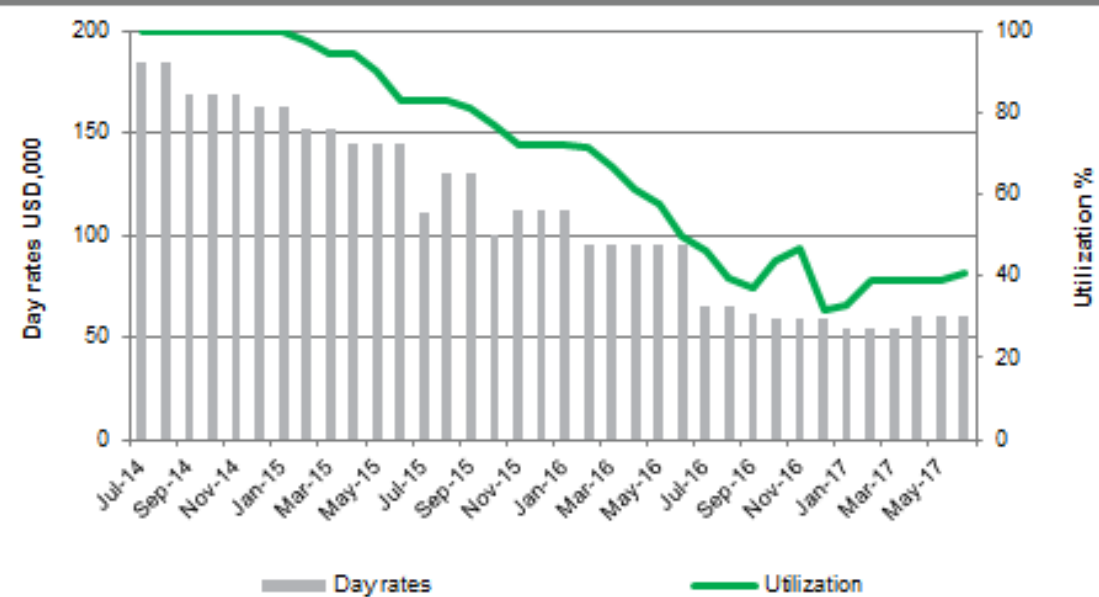
Jackup demand 2013-2017YTD



Offshore rig market



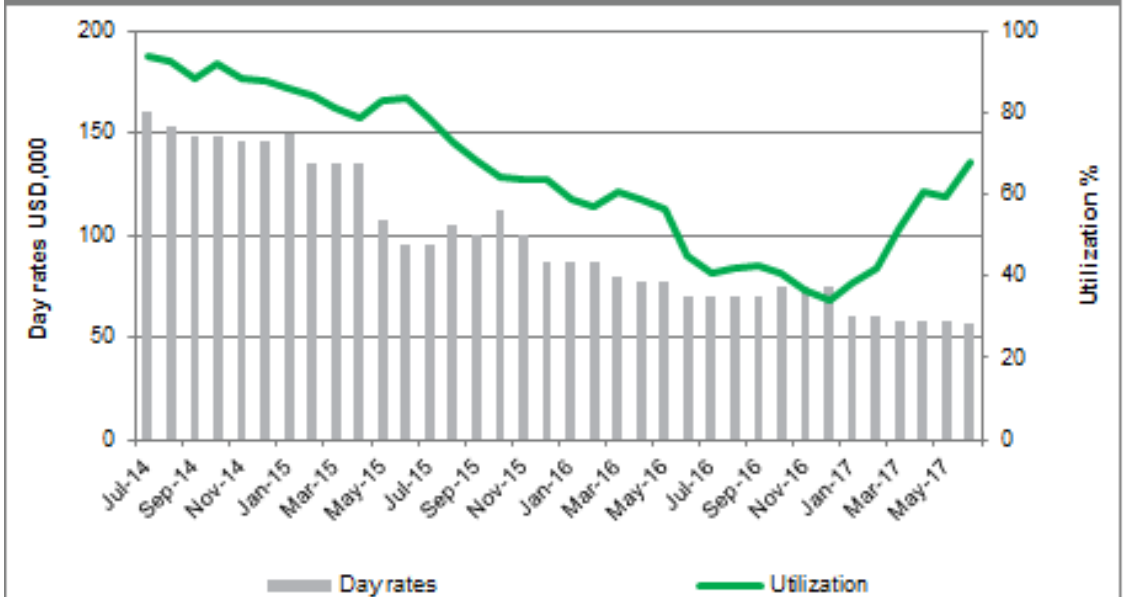
Northwest Europe Harsh Standard Jackups
Average day rates v Total contracted utilization



Source: IHS Markit

© 2017 IHS Markit

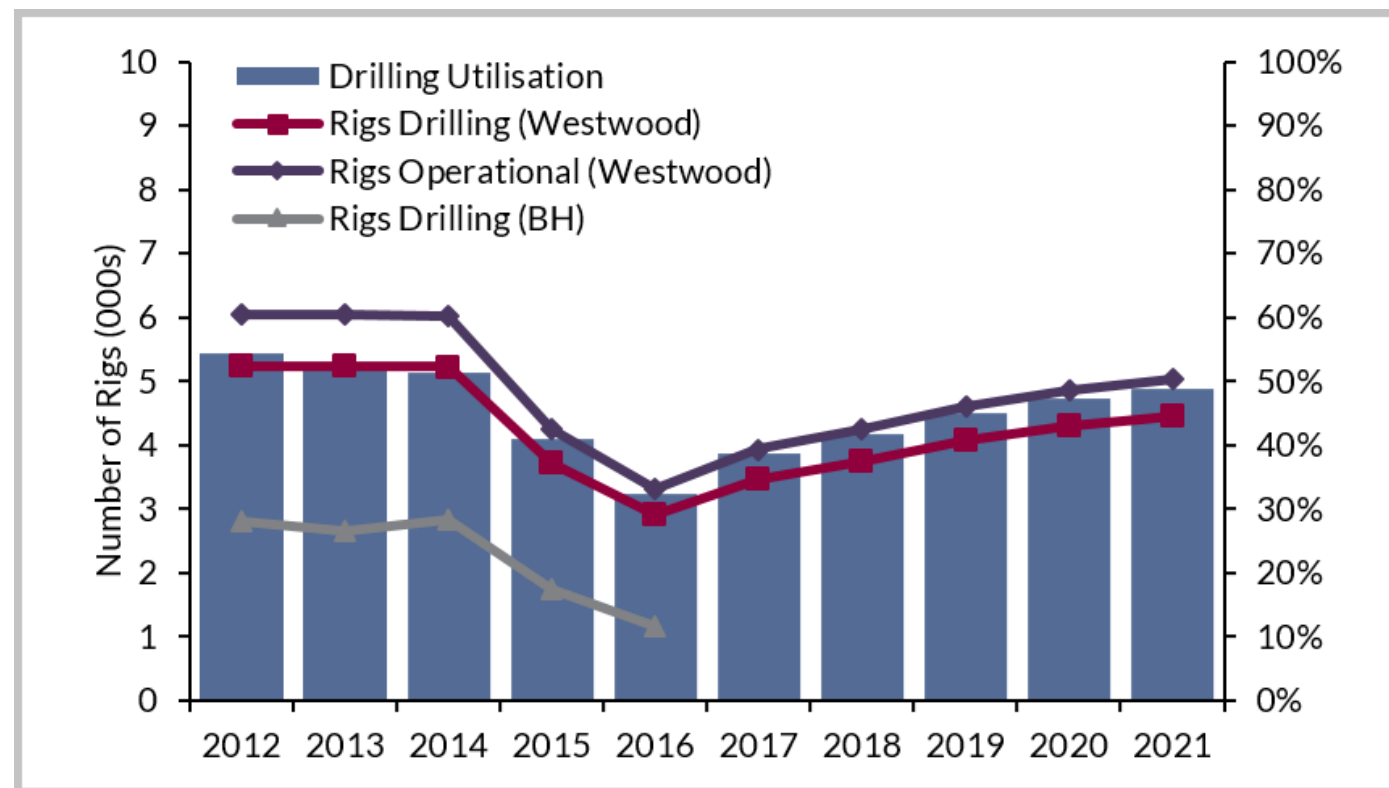
Southeast Asia Jackups 361-400 IC
Average day rates v Total contracted utilization



Source: IHS Markit

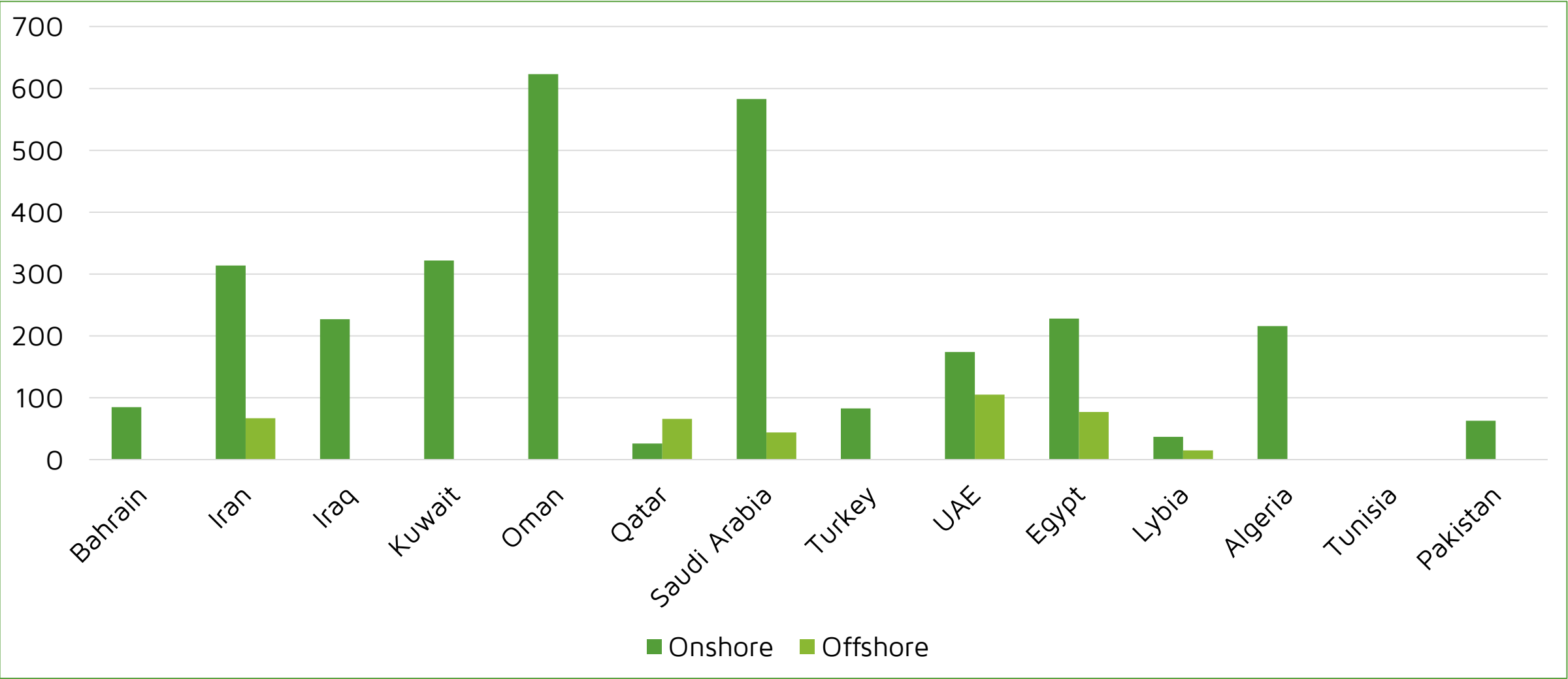
© 2017 IHS Markit

Land rig market

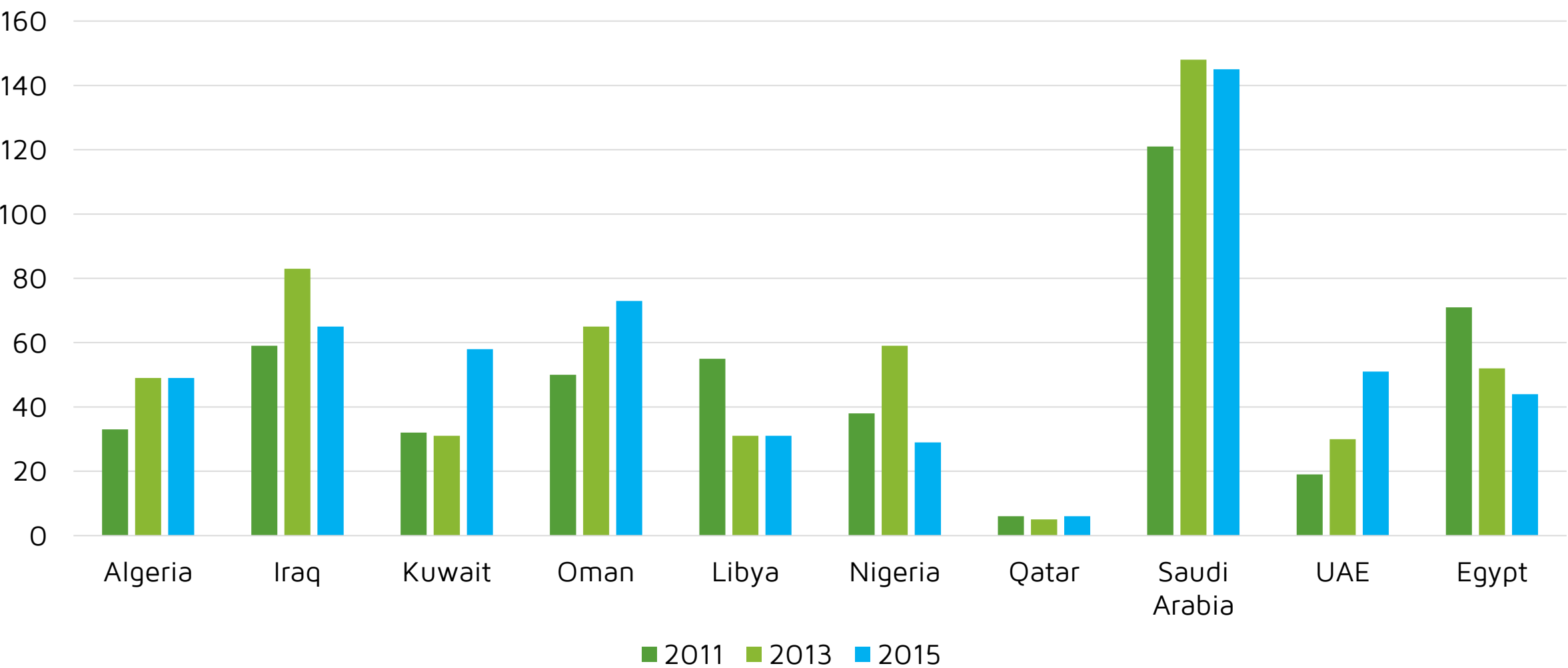


MENAP

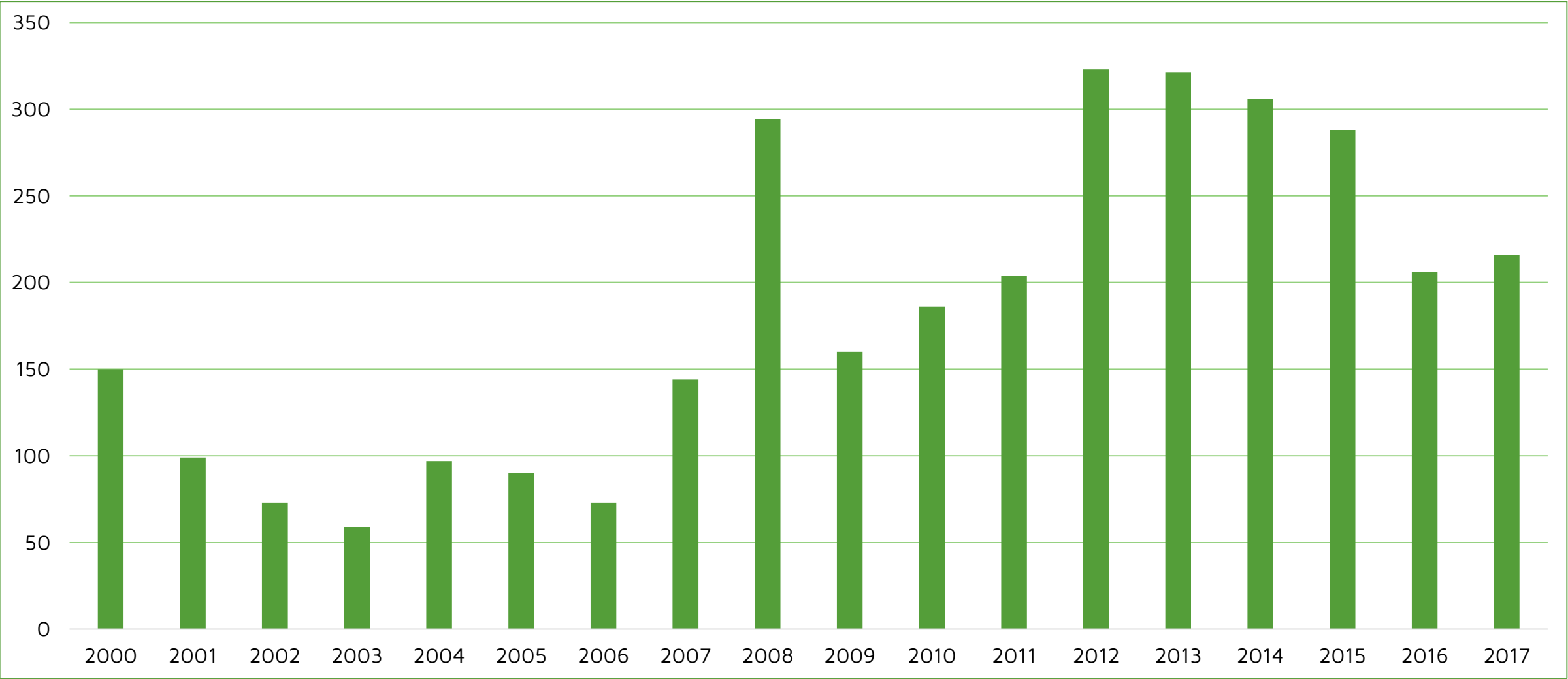
Number of wells drilled by location (2016)



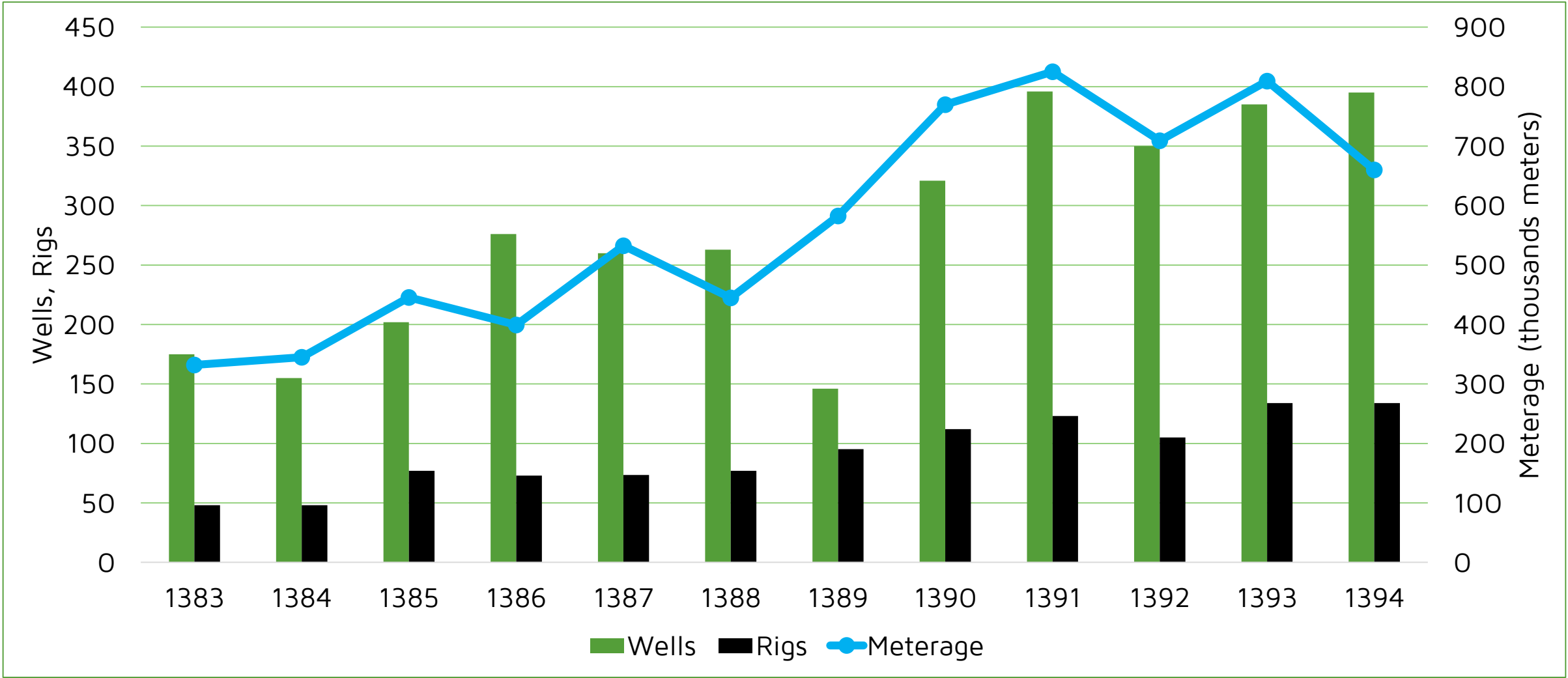
Active Rigs



Iran completed wells



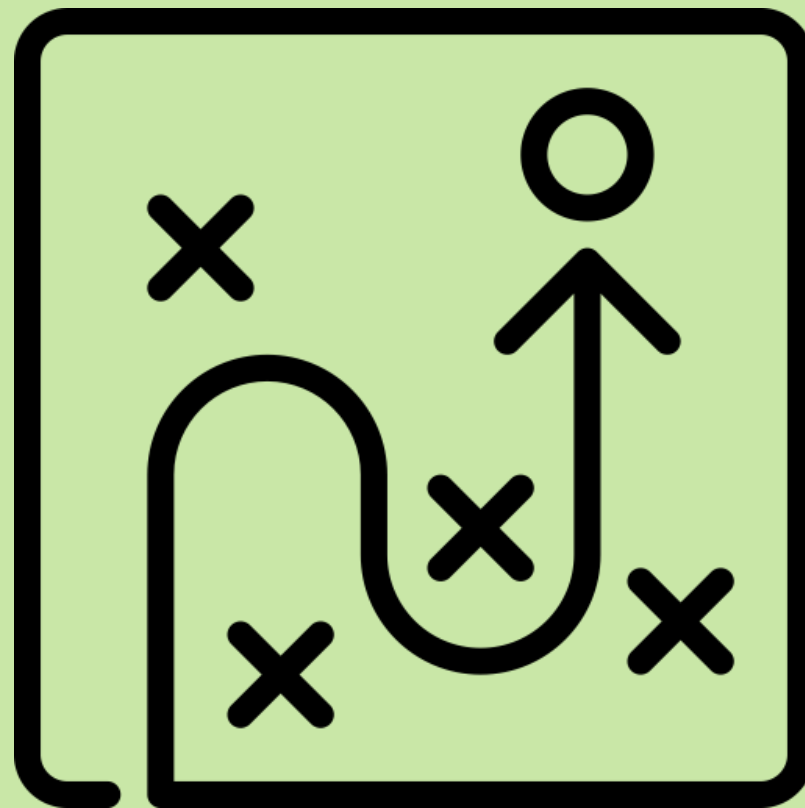
Iran drilling activity



Iran rig players

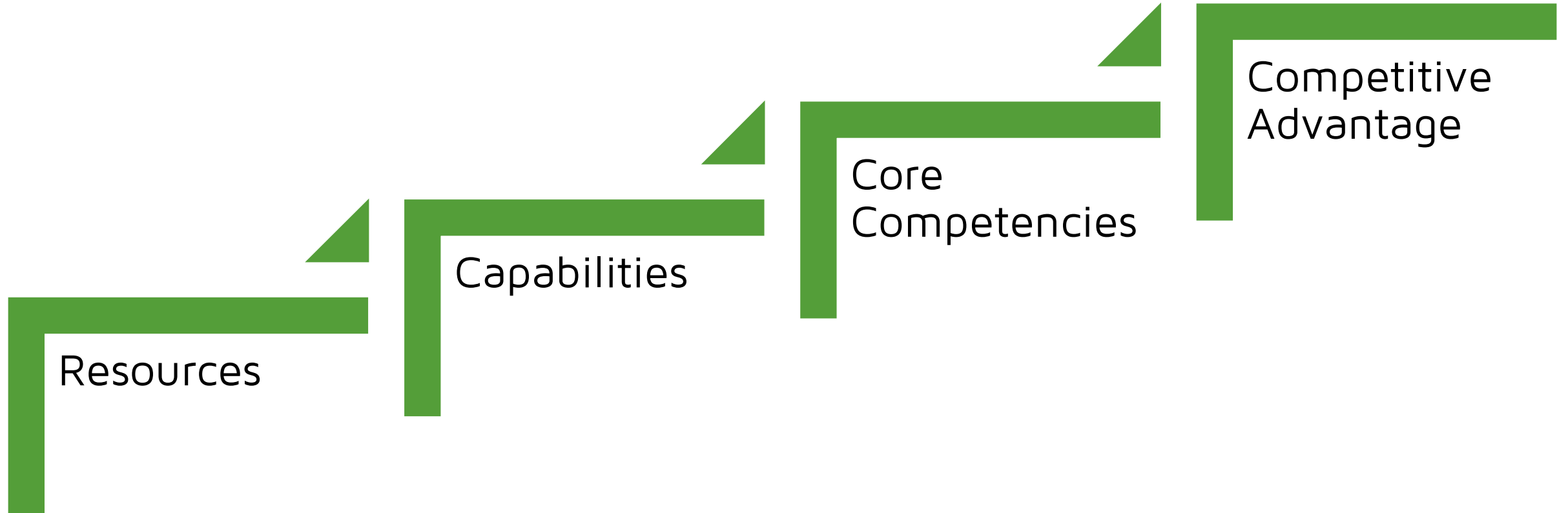
- NIDC
- NDCO
- Saba
- PEDEX
- TADBIR
- GPT
- NAFTKAV
- DANA
- Pirahaffari
- Mapna
- PTS (GWDC)
- PSKED
- Omid
- Sepanta

Strategy



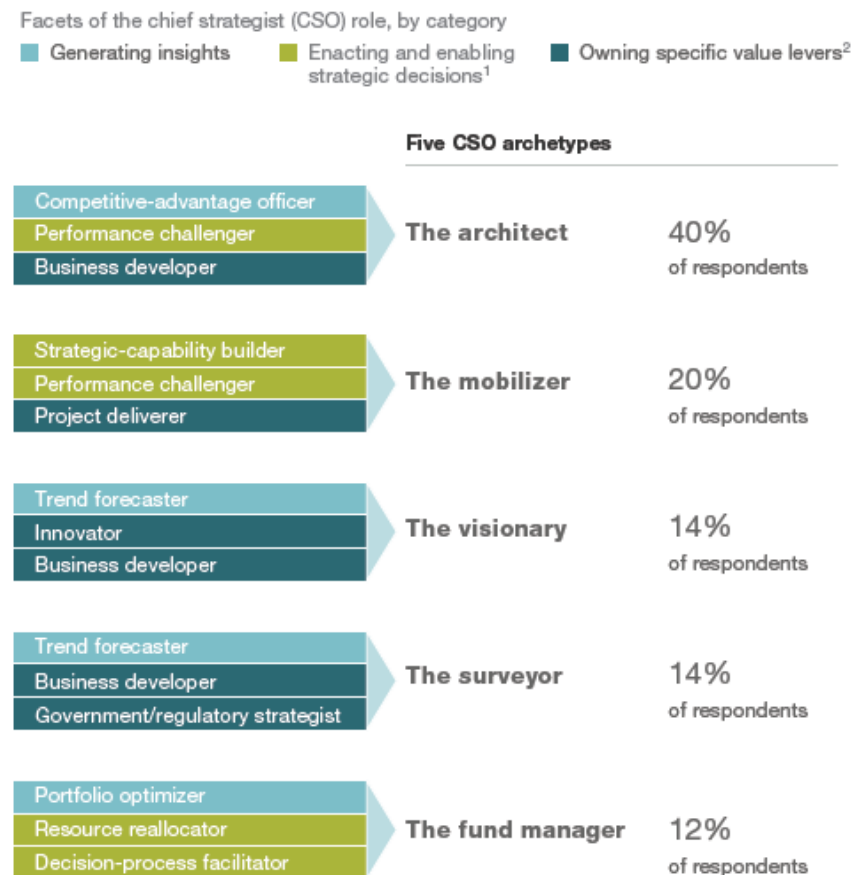
Strategy

Grant (1991)



Rethinking the role of the strategist

McKinsey & Company



¹Facet in this category but not in any cluster: plan facilitator.

²Facet in this category but not in any cluster: strategy formulator.

Source: 2013 McKinsey survey of nearly 350 senior strategists across the globe in 25 industries ranging from banking to manufacturing

Eight shifts

From annual planning to strategy as a journey

From getting to 'yes' to debating real alternatives

From 'peanut butter' to one-in-ten wins

From approving budgets to making big moves

From budget inertia to liquid resources

From sandbagging to open risk portfolios

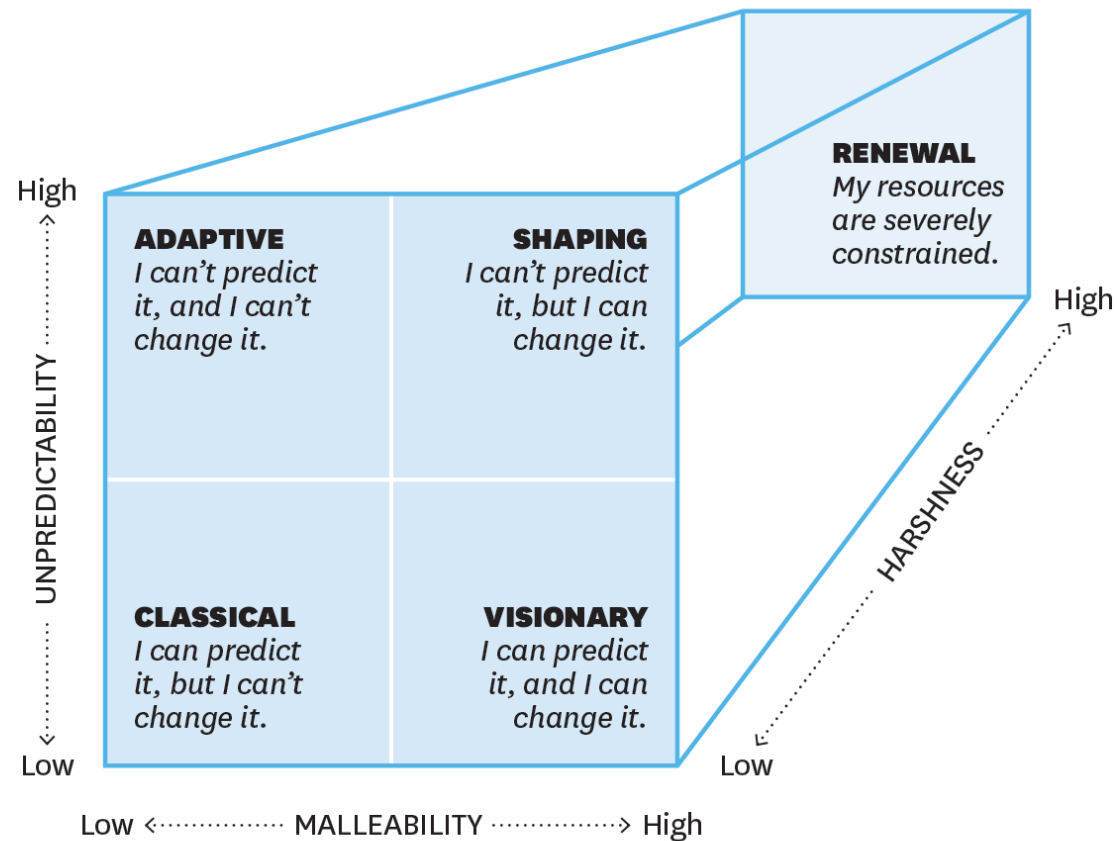
From 'you are your numbers' to a holistic performance view

From long-range planning to forcing the first step

BCG strategy pallet

5 Approaches to Strategy

And the business environment in which you might use each one.



SOURCE BCG

© HBR.ORG

Agility



The five stages of grief



10 strategic actions

1. Turn core suppliers into business partners
2. Obtain more favorable terms with non-core suppliers
3. Upgrade pricing capabilities to mitigate customer demands for double-digit price concessions
4. Crosslink continuous improvement efforts for greater impact
5. Equip the field with digital technology to boost productivity
6. Shrink the corporate center
7. Restructure functional operating models for long-term advantage
8. Modify headcount with a scalpel, not an axe
9. Upgrade your planning processes
10. Adopt a more leveraged “smart” model for manufacturing

3 Imperatives



Strategies for sustainable success

Cost containment for customers as a market differentiator

- Strategy 1: Advanced technology to lower customer costs
- Strategy 2: Innovative business process efficiencies to lower customer costs
- Strategy 3: Integrate value chain offering or bundle offerings to lower customer costs

Internal cost-containment initiatives

- Strategy 4: Increase internal business process efficiencies to support balance sheet improvements or lower prices for customers

Traditional business model changes or market strategies

- Strategy 5: Expand or add new market offerings
- Strategy 6: Pursue long-term contracts
- Strategy 7: Add or expand market offerings to non-energy sectors

Four strategic options



Main decisions

Business model

- What do we want to be known for in the future?

Growth objectives & portfolio structure

- How big do we want to be?

Operatorship targets

- What is our target balance between operatorship and non-operatorship of portfolio assets?

Risk appetite

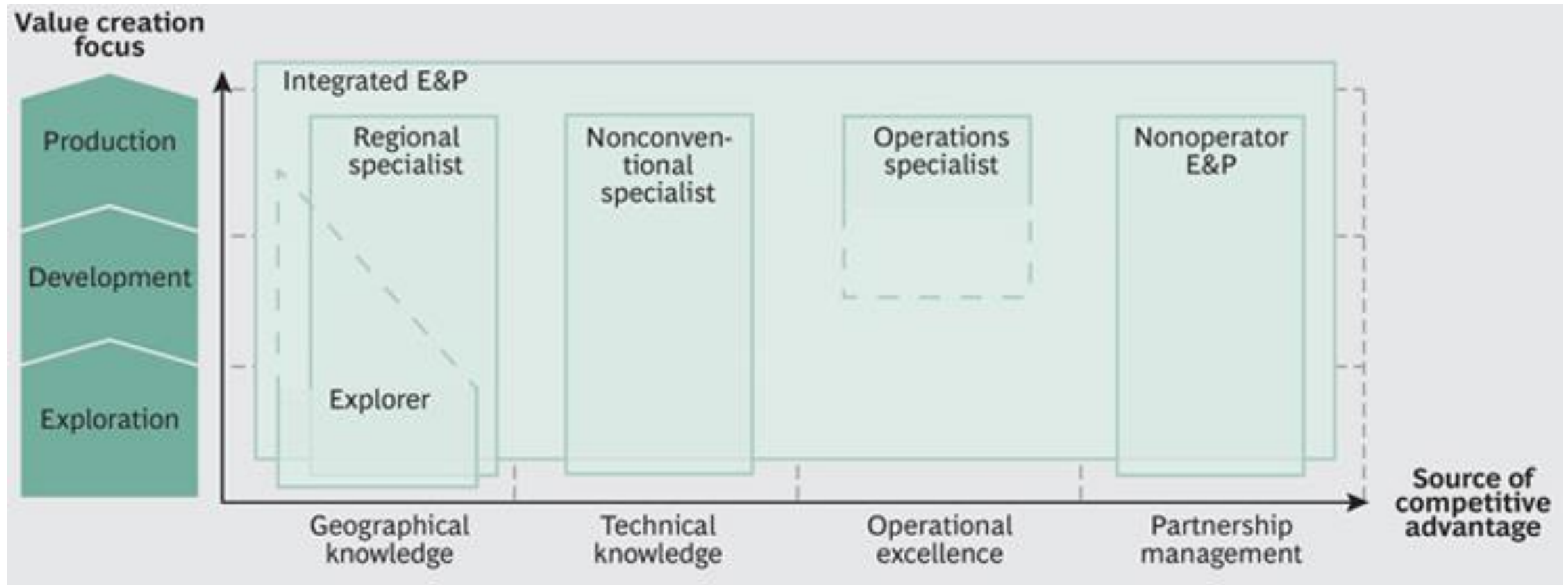
- What is our appetite for risk?

Financing approach

- What financing approach is needed to support our growth strategy?

Strategy

6 business models



Strategy

6 business models

Integrated E&P players (Anadarko, Premier Oil, & Apache):

- Balanced portfolio across technologies, geographies, and phases life cycle.

Explorers (Cairn Energy, Kosmos Energy, & Cove Energy)

- Concentrate on exploration of frontier areas and early monetization of discoveries.

Regional specialists (Pacific Rubiales Energy, Afren, & Pluspetrol):

- Specific countries with established presence & high degree of familiarity.

Nonconventional specialists (Chesapeake Energy, Canadian Oil Sands, & Husky Energy):

- Such as heavy oil, shale oil, and oil sands.

Operations specialists (including Perenco, Black Elk Energy, & Occidental Petroleum):

- Efficient extraction from existing fields.

Non-operator E&P players (Mitsui & Co. & Galp Energia)

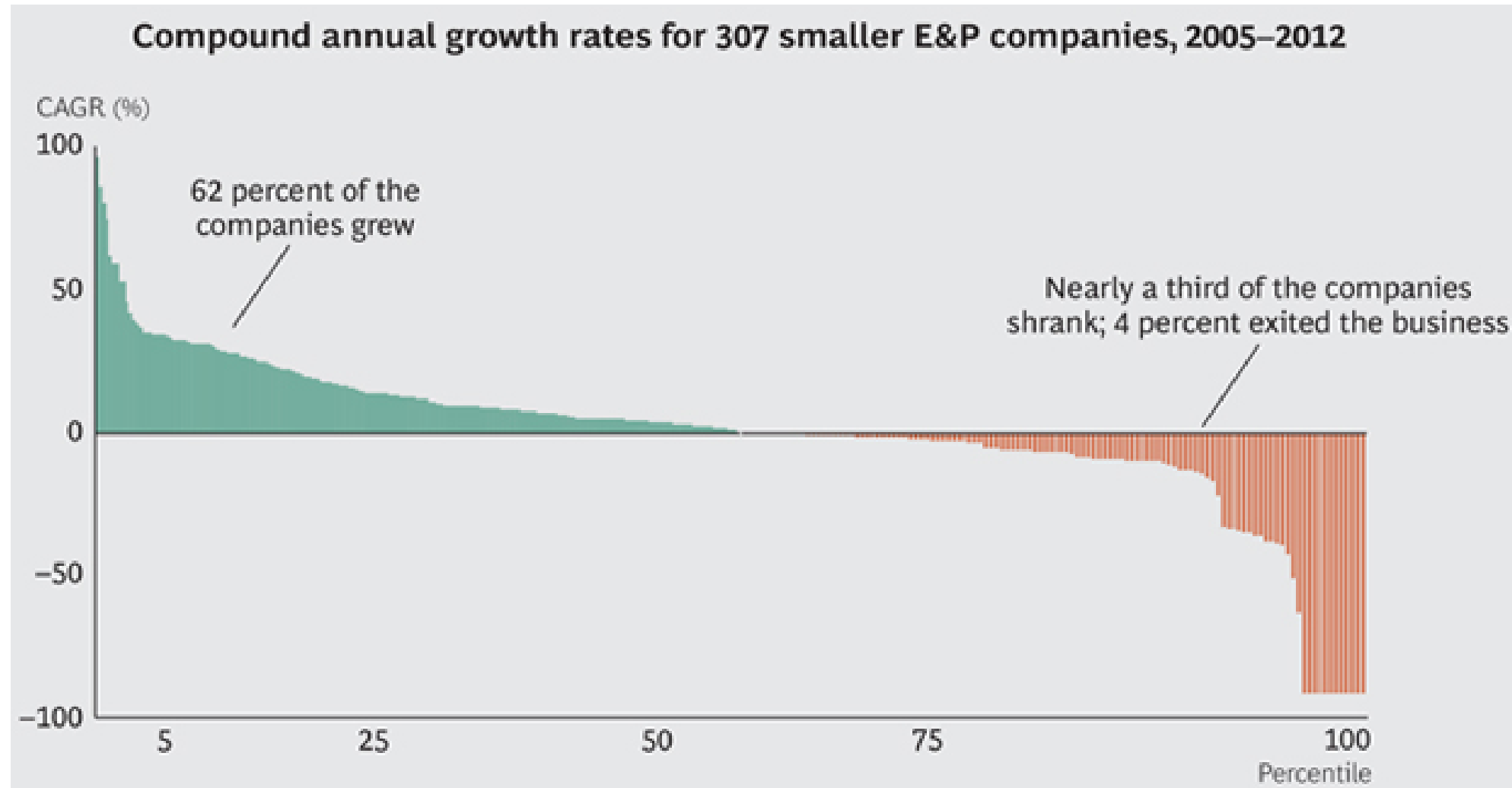
- Use their relationships with NOC's and governments to gain access to high-quality assets & manage those assets but do not act as operators.

Strategy Operatorship

- Non-operator
 - the fastest and the least complex way to build scale
 - fails to create externally credible expertise for future growth and differentiation
- Operator
 - build credibility, capability, and resources
 - added organizational complexity and a heavy fixed-cost base
- Intermediate paths
 - Long-term outsourcing of operations and maintenance in North Sea
 - Outsourcing well engineering and geoscience functions
 - leading IOC's begin to manage their non-operated investments

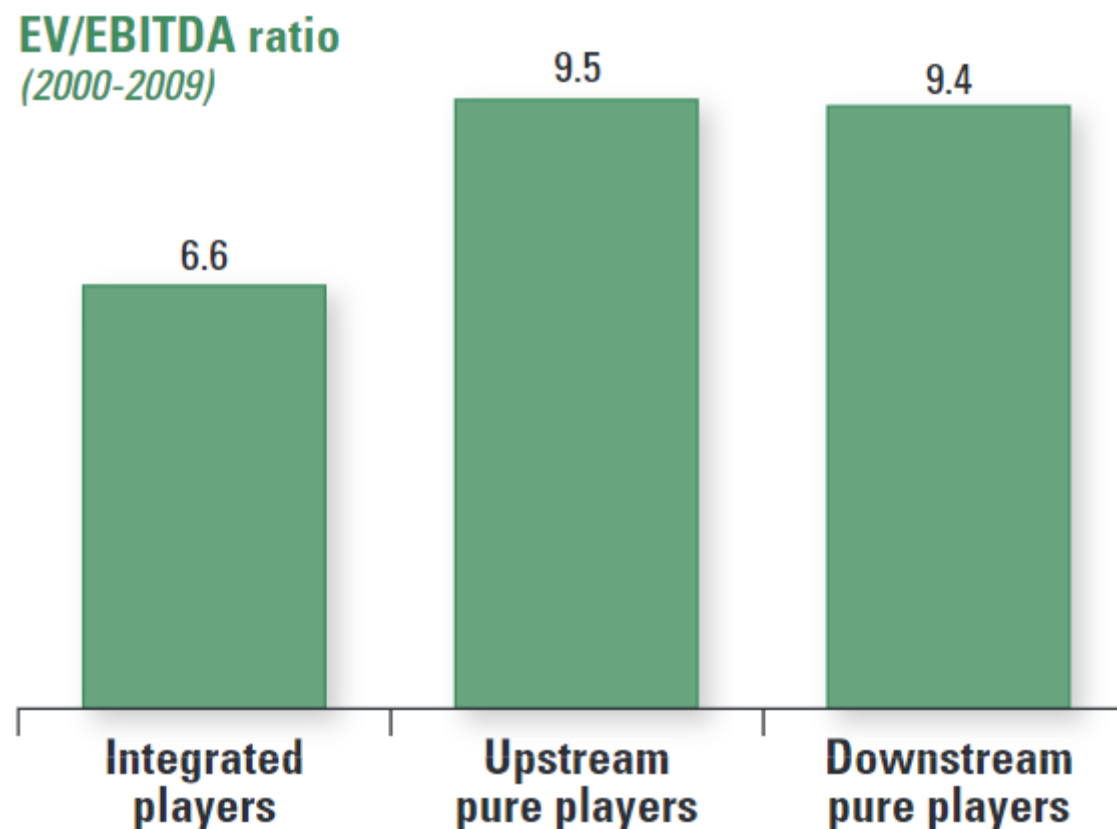
Strategy

Winners & losers



Challenging the integrated oil and gas model

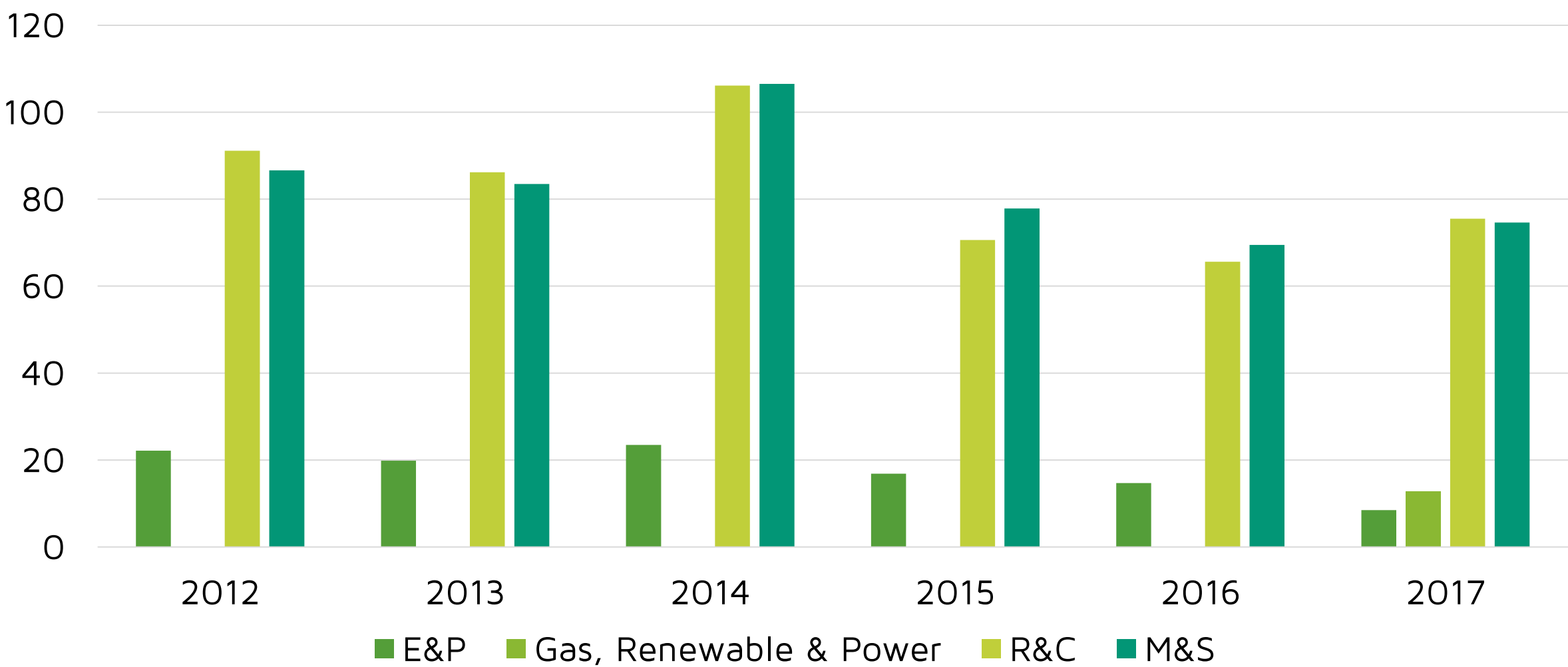
ATKearney



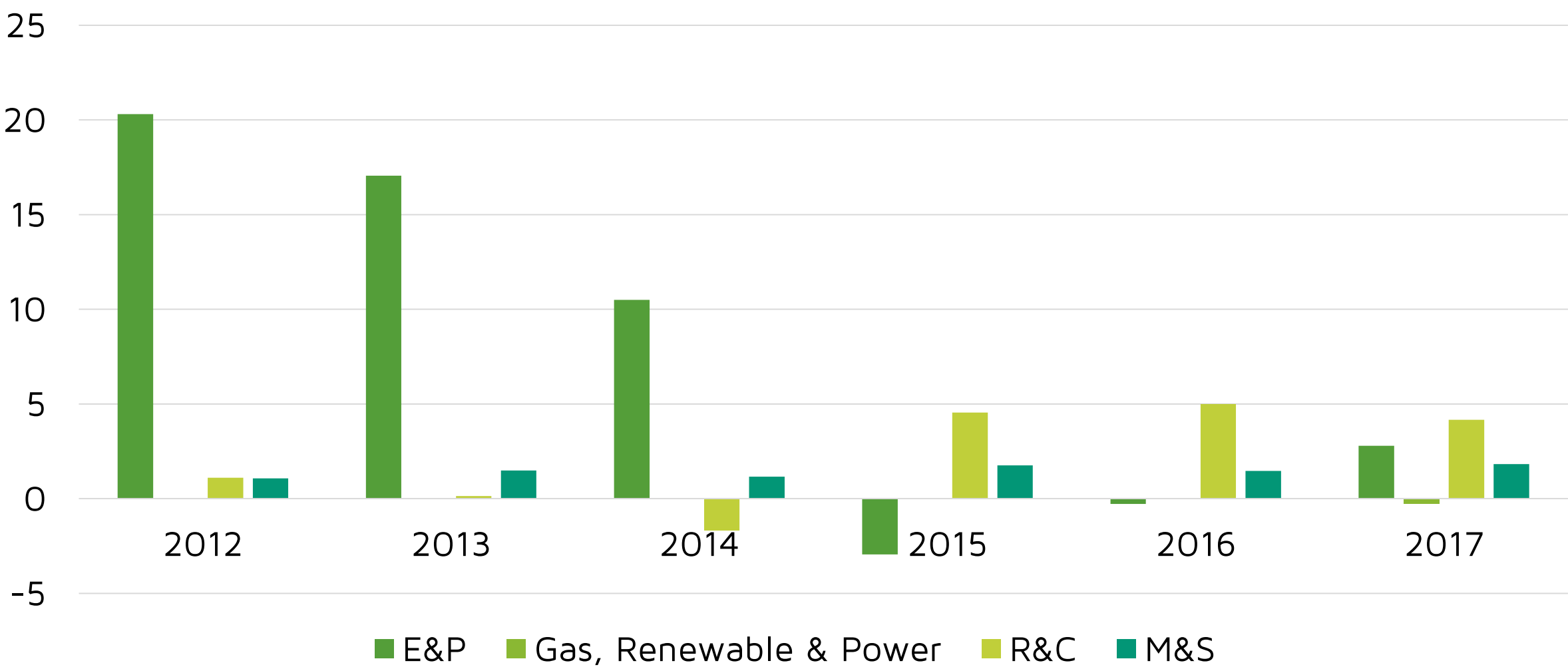
Note: EV/EBITDA is the ratio between enterprise value and earnings before interest, taxes, depreciation and amortization.

Source: A.T. Kearney analysis

Total consolidated sales (\$ bn)



Total operating income (\$ bn)



UDI

Upstream Diversification Index (UDI)

Production
mix

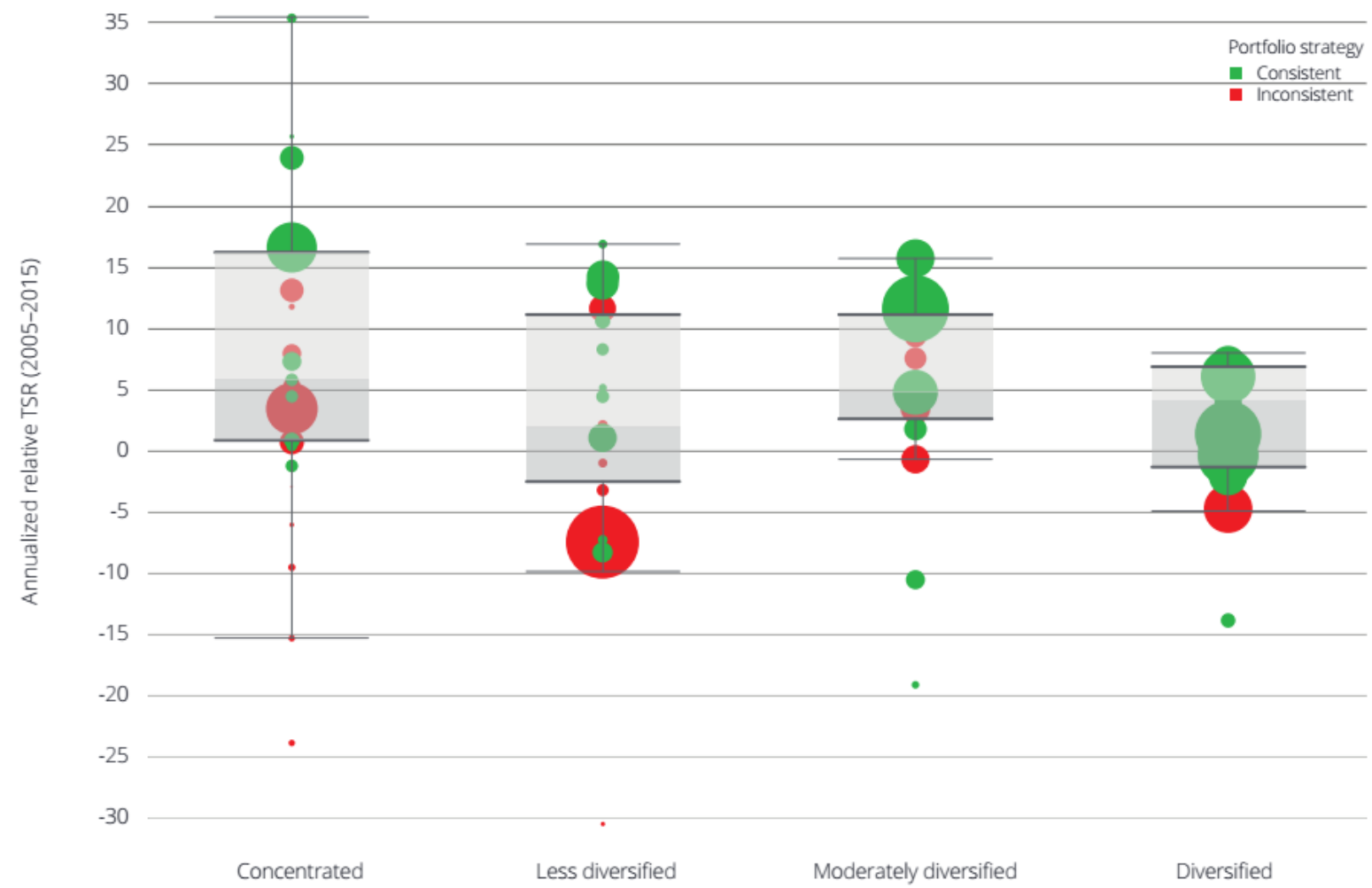
Region

Resource

Basin

Investment
cycle

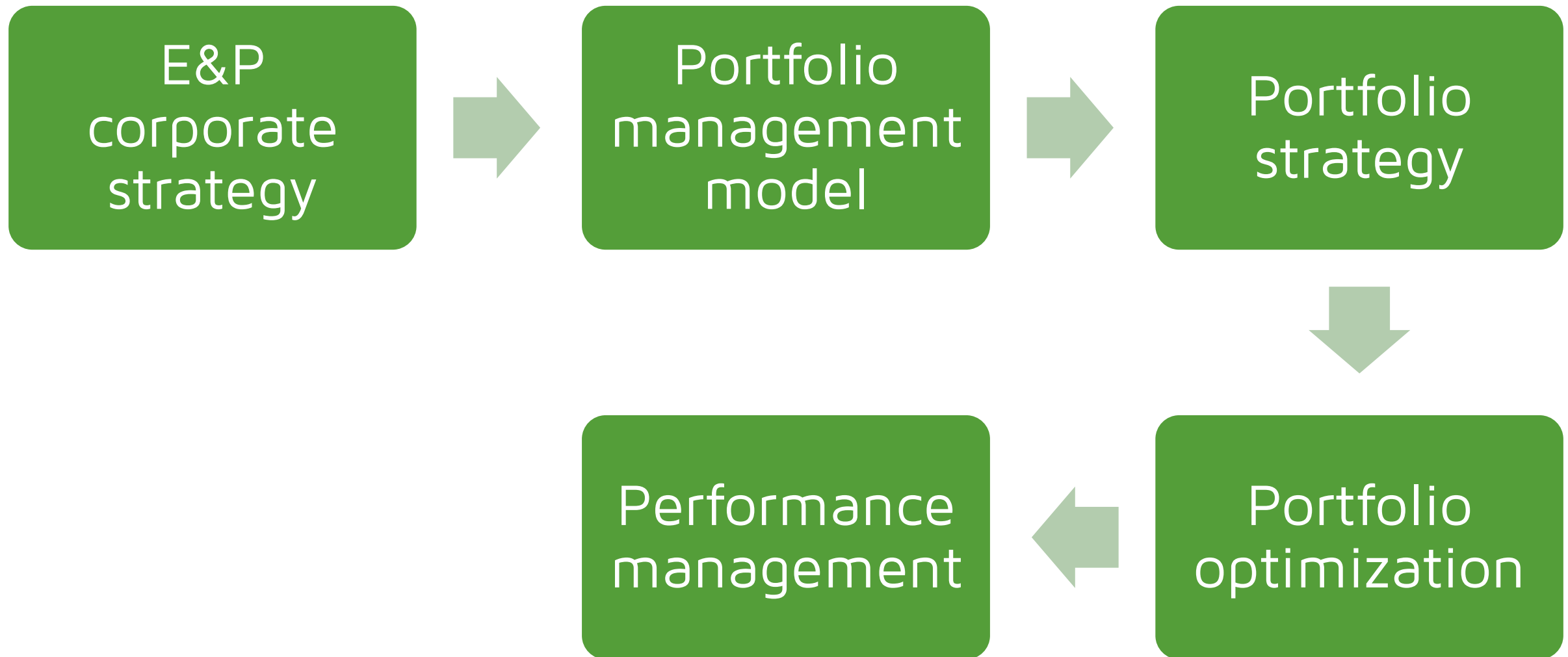
UDI TSR by diversification groups (percent, 2005-2015)



Oil and gas capability areas

Capability Area	Description	Example
E&P value chain	Capabilities with respect to a particular part of the E&P value chain	Occidental Enhanced oil recovery
Core region	Capabilities with respect to operating in a particular geographic area	Lundin Norwegian North Sea
Play types	Capabilities regarding exploration in particular geological play types	Tullow Oil Rift basins, stratigraphic traps
Technology	Capabilities in application of a particular specific technology	Statoil Harsh environments
Operational	Capabilities to combine various technologies and operating practices	EOG U.S. shale plays
Product	Capabilities relating primarily to one particular product	BG Gas value chain
Partnerships	Capabilities in establishing and leveraging partnerships	Wintershall Gazprom partnership
Political situation	Capabilities to operate under particular political circumstances	BP Russia
Commercial situation	Capabilities to secure assets in particular commercial situations	Apache Bilateral negotiations

Portfolio management components



Optionality



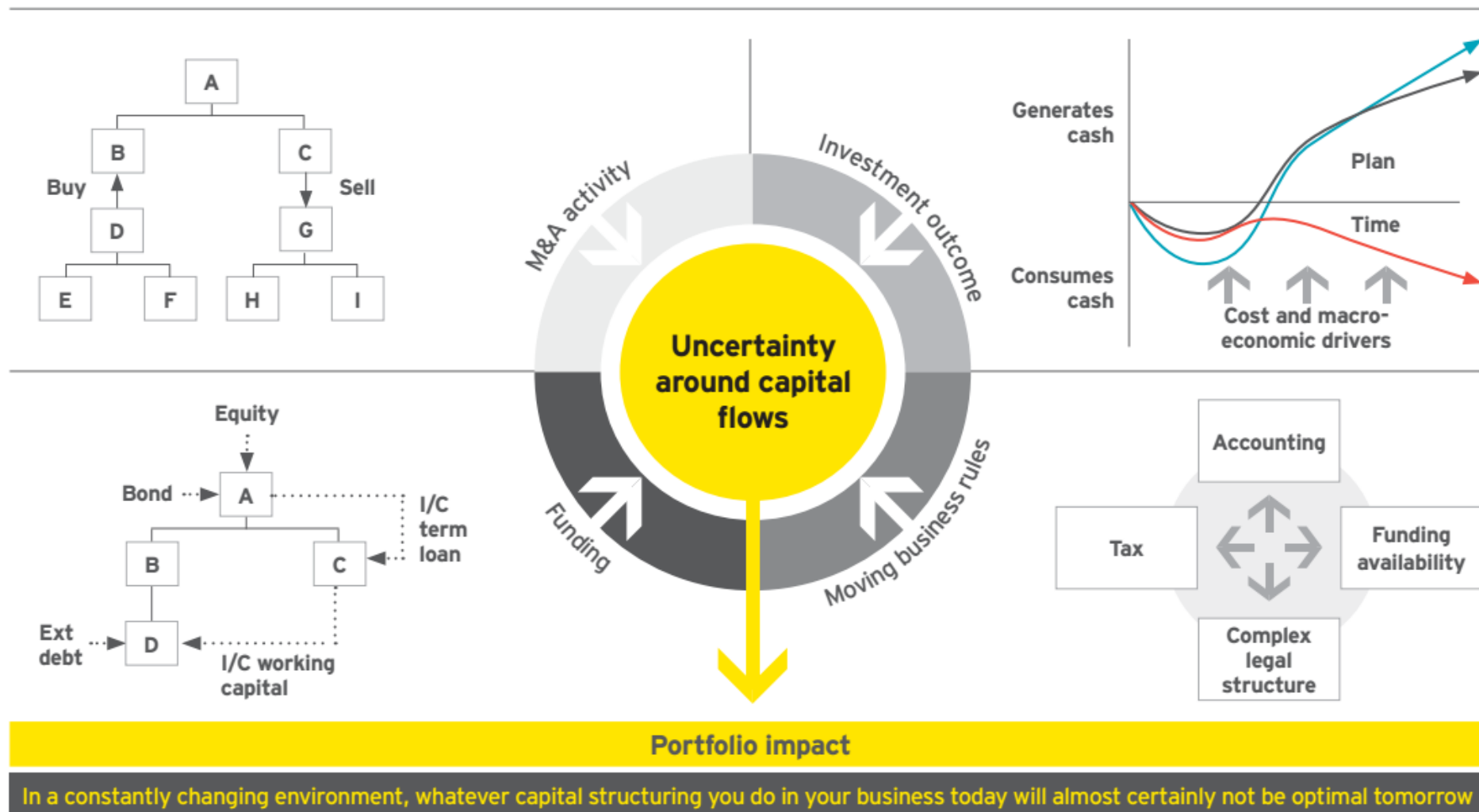
- A company has optionality if it can quickly, effectively & efficiently shift its focus from underperforming businesses, assets & projects to better-performing ones that fit with its current strategy and enhance the overall value of the portfolio.
- A company will best leverage its optionality if it can:
 - Proactively identify potential changes in its operating environment and review the impact of these changes on its project and portfolio
 - Rapidly decide on a suitable course of action that would at the very least preserve, but ideally enhance, the value of its portfolio
 - Act in a timely, cost-efficient and effective manner

Optionality at different levels



	Enabler	Examples in oil and gas
Corporate	▸ Adaptable legal and capital structure ▸ Strong balance sheet ▸ Access to different sources and types of financing options ▸ Governance and decision tools	▸ Master limited partnerships (MLPs), joint ventures (JVs) ▸ Diversity in geographical coverage, customer mix and contracting structures ▸ Low leverage/high debt capacity ▸ Bond finance, project finance, mezzanine finance, lending
Portfolio	▸ Balanced projects portfolio ▸ Build flexibility in talent pool ▸ Leverage alliances to expand and diversify portfolio ▸ Optimized and transparent portfolio performance	▸ Diversified assets: geologic, geographic, technology and maturity stage plays ▸ Non-operated assets ▸ JVs, technological alliances ▸ Portfolio optimization software using linear programming techniques
Project	▸ Visibility over project timing and cost ▸ Adaptable commercial and contractual structure ▸ Acting early in the project life cycle, before funds are committed	▸ Planning and reporting tools/technology ▸ Contract change control and risk management ▸ Project assurance/health checks

Optionality at the corporate level



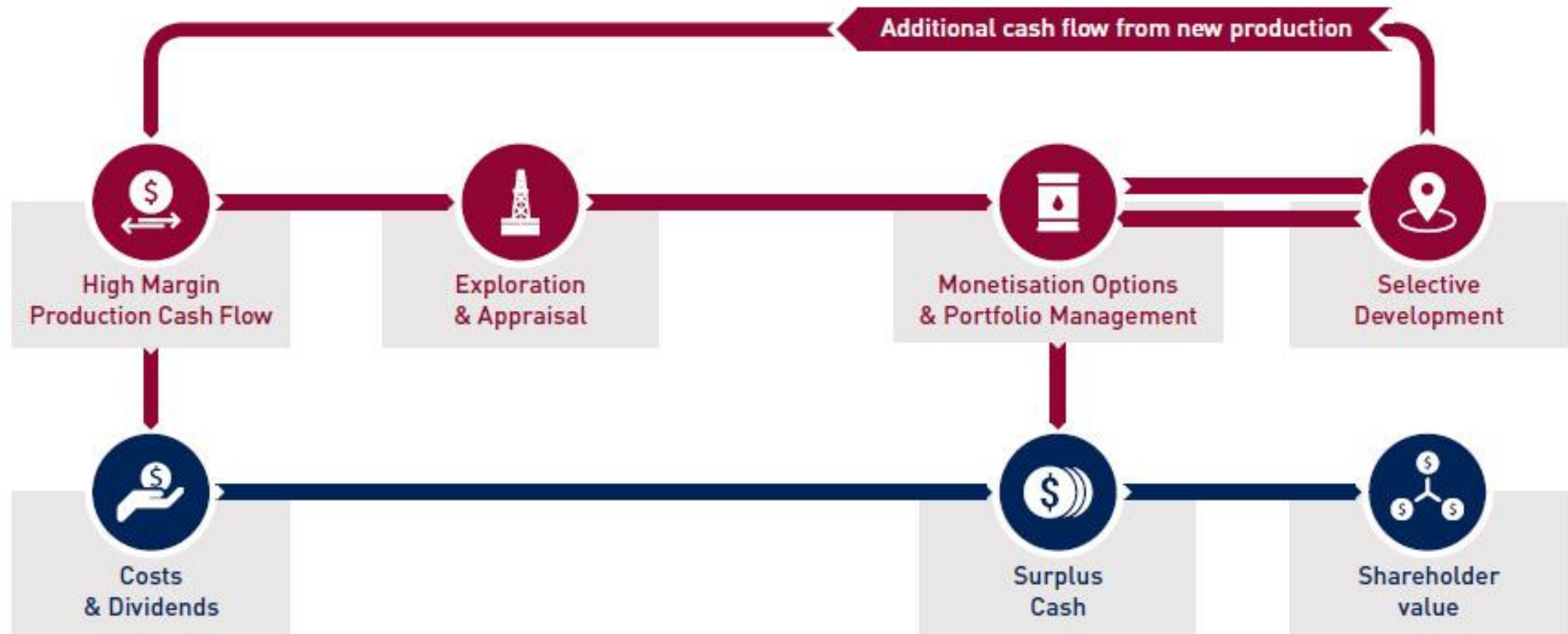
Emerging strategies & business models

- Corporate strategic objectives will increasingly focus on sustainable profitability
- Differentiated capabilities will become a key factor for future success
- New business models and forms of partnership will emerge
- As business models evolve, portfolios will be reviewed for coherence and resilience
- Companies will explore new forms of technology deployment
- Innovative approaches to retaining and recruiting talent will be essential for long-term success

BP Business model



Tullow Strategy



Tullow

Business model



Perenco Overview



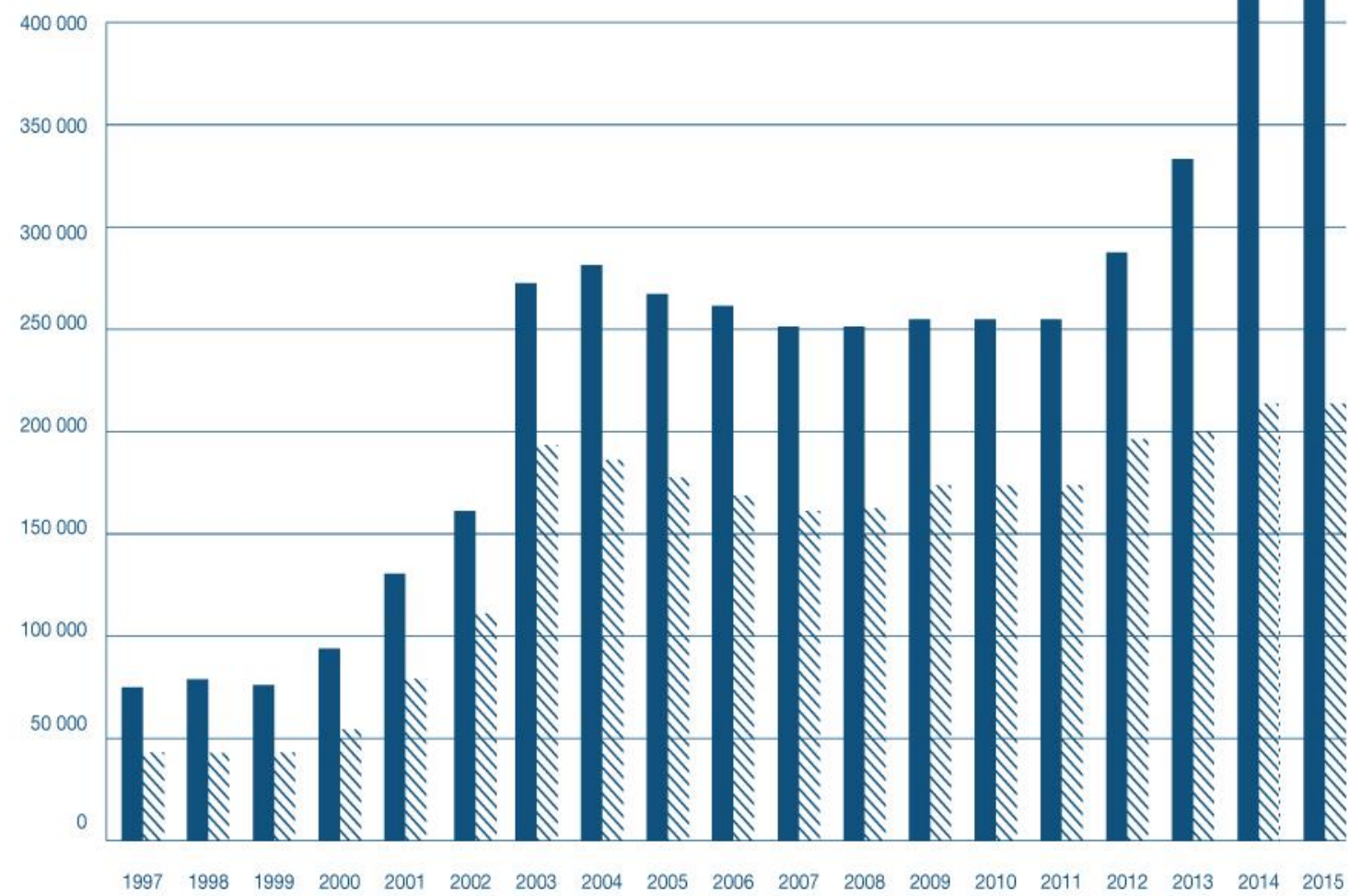
- Production: 450,000 bpd (250,000 WI) in 13 countries
- Active in Cameroon, Colombia, Congo, DRC, Gabon, Guatemala, Peru, Tunisia, Turkey, UK, Venezuela, Vietnam
- Active in trading 120,000 bpd oil
- Estimated turnover 2008: 4 B\$

Perenco Strategy



- Main business strategy: buy unprofitable assets from IOC's
- Current growth strategy: acquisitions of both producing fields and undeveloped assets, development of existing assets, arresting the production decline curve by rationalization of operations & high-value exploration

Perenco Production

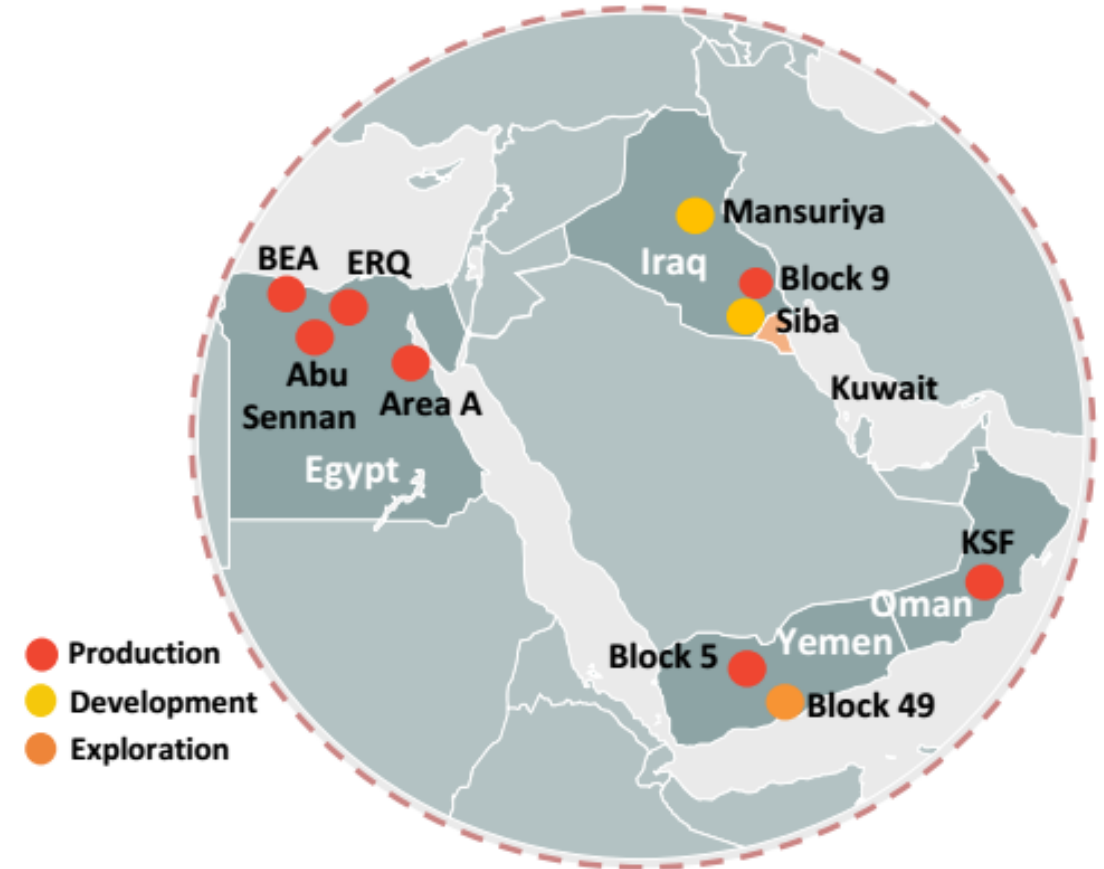
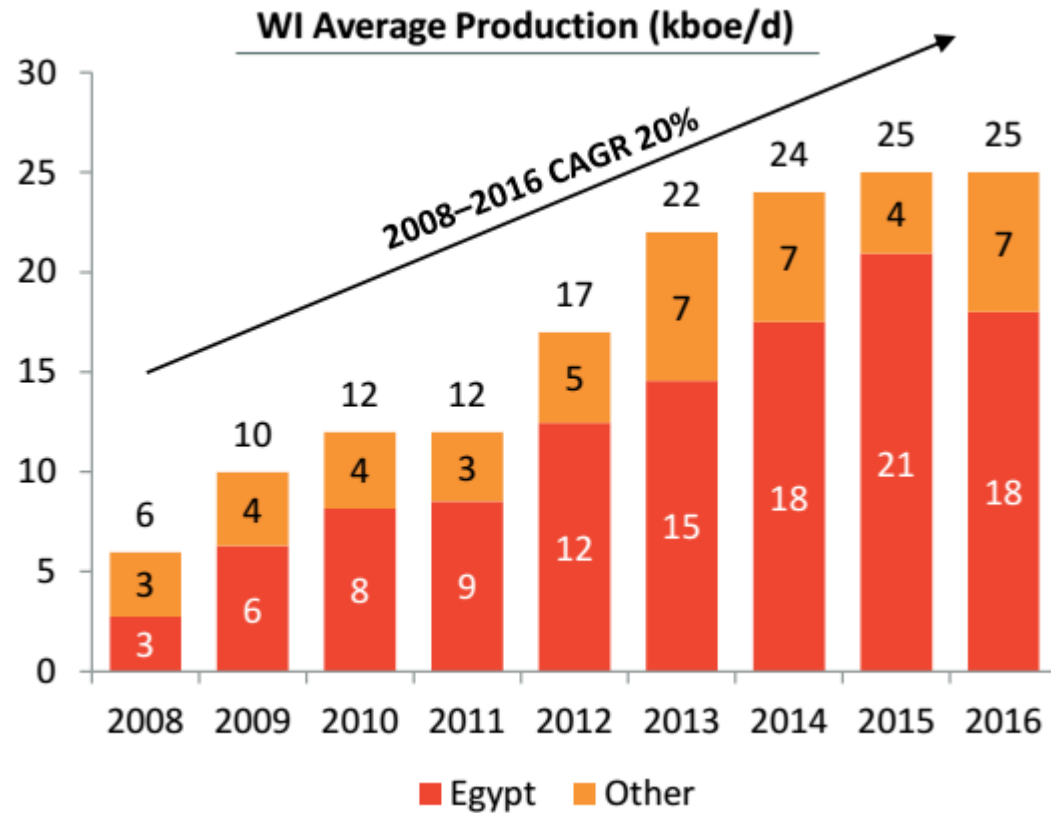


Kuwait Energy Overview



- WI production: 25,000 bpd
- Revenue: 138 m\$, gross profit: 32 m\$, operating loss: 81 m\$, total loss for the year: 116 m\$
- WI 2P reserves: 818 mboe, 2C WI reserves: 942 mboe
- Active in Egypt, Iraq, Yemen, Oman, Kuwait

Kuwait Energy Overview



Kuwait Energy Strategy

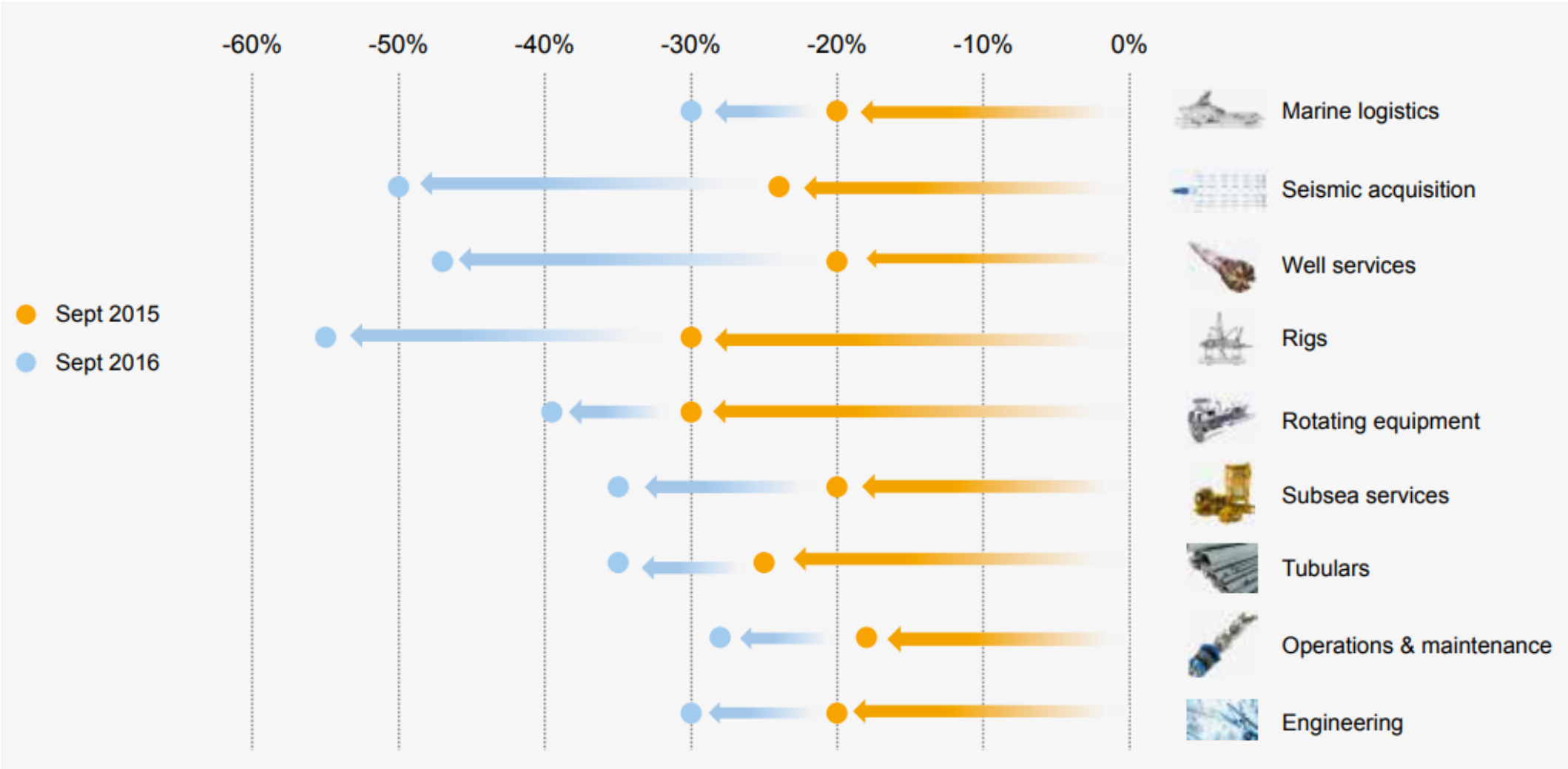


- Vision: To be the pre-eminent Middle East based independent oil and gas company
- Strategy:
 - Focus on the MENA region
 - Emphasis on production & development over exploration
 - Leverage local knowledge & expertise
 - Prudent financial strategy
 - Strong corporate governance

Total's experience

- Integrating climate into strategy
- Cost reduction
- Creation of the Gas, Renewables & Power Segment
- Creation of a new Total Global Services segment
- Corporate headquarters refocused on strategic functions

Cost deflation



ONE Total

Total Global Services generating results



- **~400 M\$ savings in 2017** (Opex + Capex), targeting **1 B\$ by 2020**
- **40% of procurement negotiated globally**
- **Bundling contracts** with major vendors to create economies of scale

ONE TOTAL



- **One Total Chair** per country
- **Cross-segment** support functions
- Group-wide **simplification program**