

9th IEA-IEF-OPEC Symposium on Energy Outlook

Wednesday, 27 February 2019

IEF Headquarters, Riyadh, Saudi Arabia



# OPEC Oil & Energy Market Outlook

Prepared by the  
OPEC Secretariat



- **Short-term Market Outlook**
  - Review of the oil market in 2018
  - Projections for the oil market in 2019
  - Supply/demand balances in the short-term
- **Medium- and Long-term Market Outlook**
  - Key assumptions
  - Energy outlook
  - Oil outlook
  - WOO 2018 key messages - short video

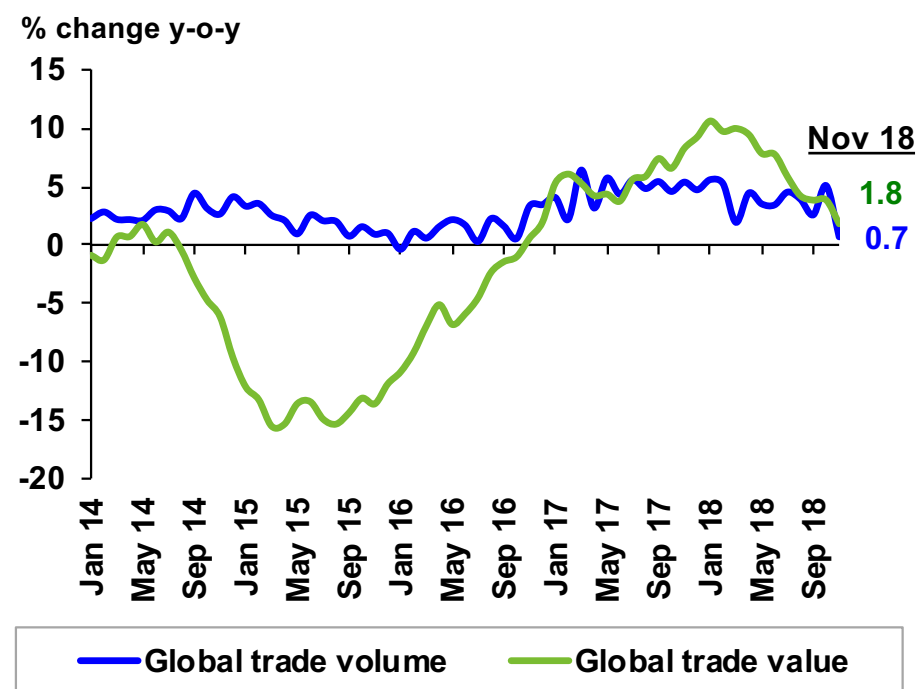
# World real GDP growth remains above trend, yet easing



## GDP growth by region

Unit: %	2017	2018	2019	Average 2014-18
<b>OECD</b>	<b>2.5</b>	<b>2.3</b>	<b>1.9</b>	<b>2.3</b>
- US	2.2	2.9	2.5	2.4
- Euro-zone	2.5	1.8	1.3	1.9
- Japan	1.9	0.8	1.0	1.0
<b>DCs</b>	<b>3.6</b>	<b>3.9</b>	<b>3.8</b>	<b>3.6</b>
<b>OPEC</b>	<b>0.5</b>	<b>1.1</b>	<b>0.7</b>	<b>1.5</b>
Brazil	1.0	1.1	1.8	-0.9
Russia	1.5	1.6	1.6	0.2
India	6.3	7.5	7.2	7.3
China	6.9	6.6	6.1	6.9
<b>World</b>	<b>3.7</b>	<b>3.6</b>	<b>3.3</b>	<b>3.4</b>

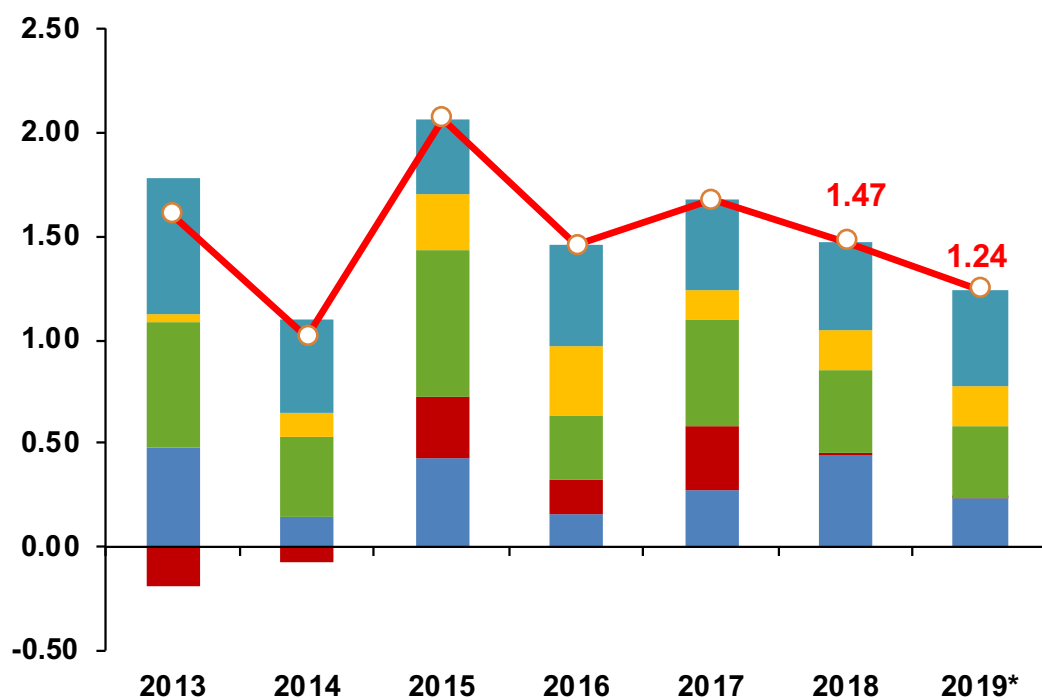
## Global trade volume and value



Sources: Netherlands Bureau for Economic Policy Analysis and Haver Analytics.

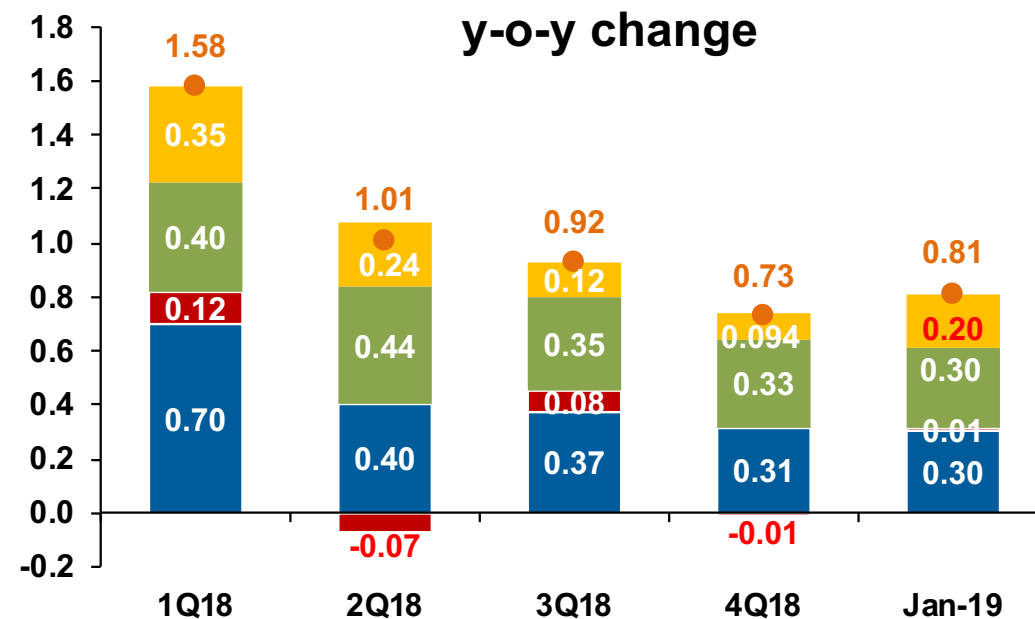
# World oil demand growth in 2018-2019

y-o-y change, mb/d



Note: \* 2019 = Forecast.

## 2018-2019 oil demand growth for selected countries, y-o-y change

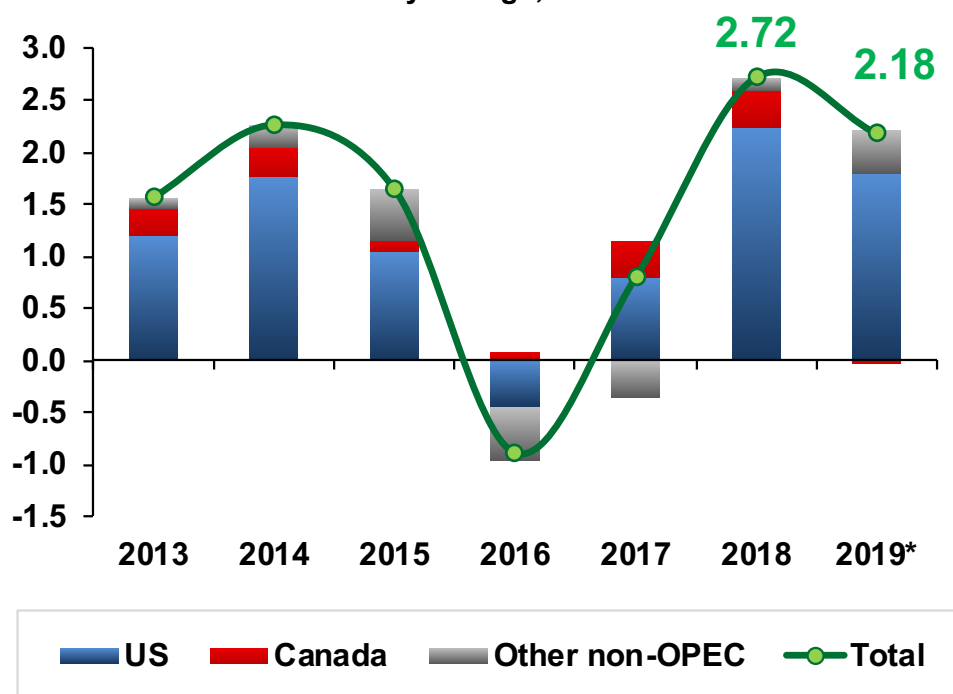


Note: \* Jan 19 preliminary/estimated.

# Oil demand growth remains healthy in 2018-2019, while non-OPEC supply recovers during the same period



**Non-OPEC supply growth**  
Y-o-y change, mb/d



Note: \* 2019 = Forecast.

**US liquids production forecasts**  
2018-2019, mb/d

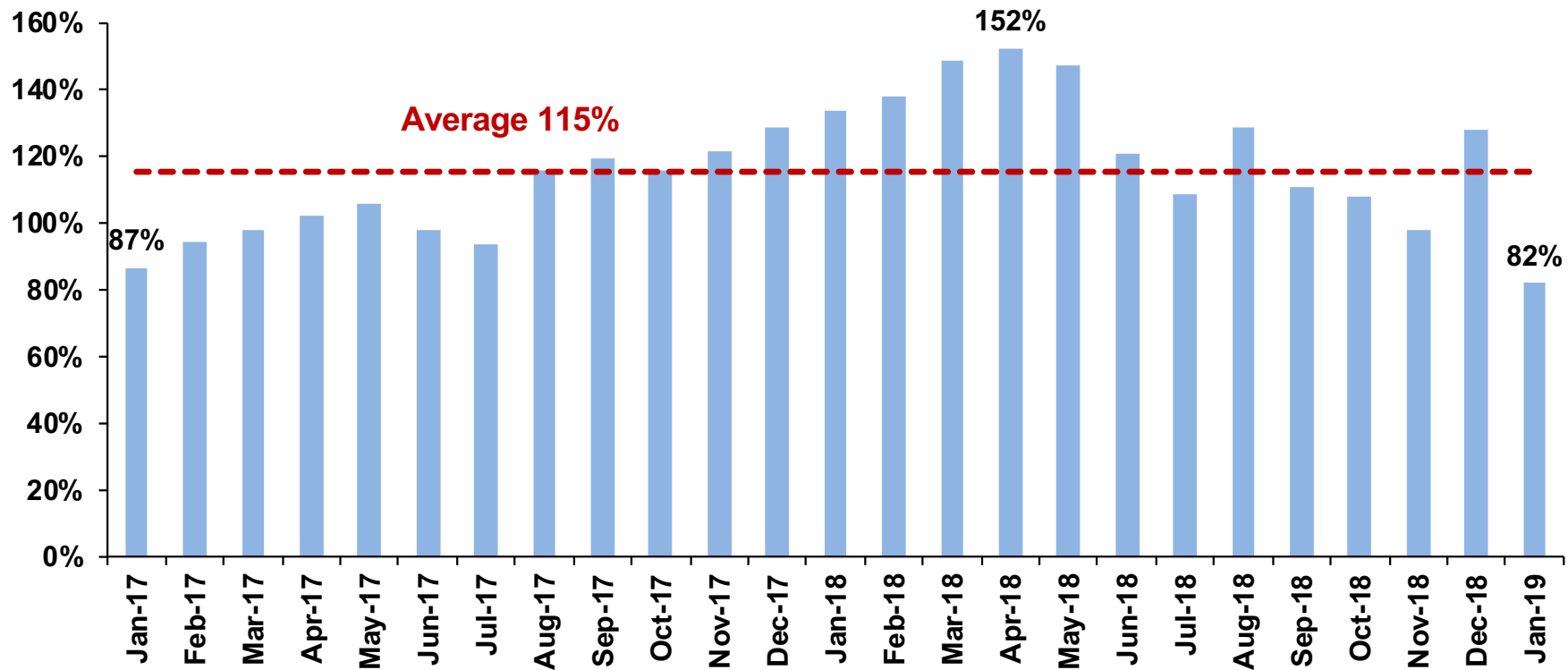
	2018	Change 2018/17	2019*	Change 2019/18
Tight crude	6.27	1.56	7.44	1.17
Gulf of Mexico crude	1.74	0.06	1.89	0.15
Conventional crude oil	2.94	-0.02	2.91	-0.03
Unconventional NGLs	3.26	0.49	3.69	0.43
Conventional NGLs	1.10	0.09	1.15	0.05
Biofuels + Other liquids	1.33	0.06	1.36	0.03
<b>US total supply</b>	<b>16.64</b>	<b>2.24</b>	<b>18.44</b>	<b>1.80</b>

Note: \* 2019 = Forecast.

# Overall conformity, performance and gains: January 2017 – January 2018



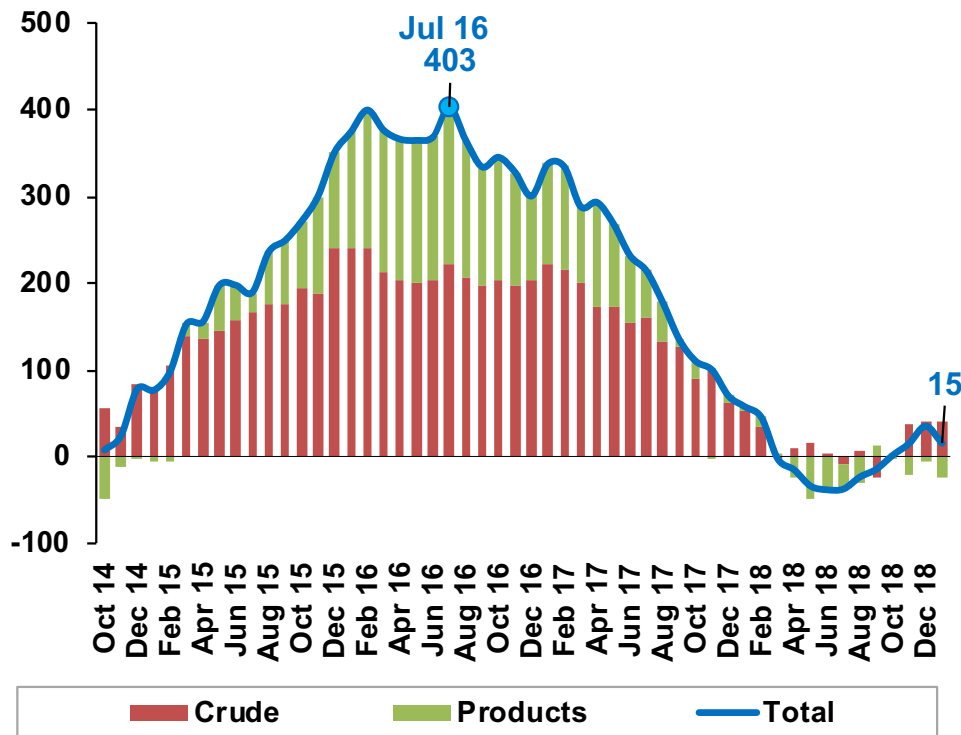
## Conformity under the Declaration of Cooperation



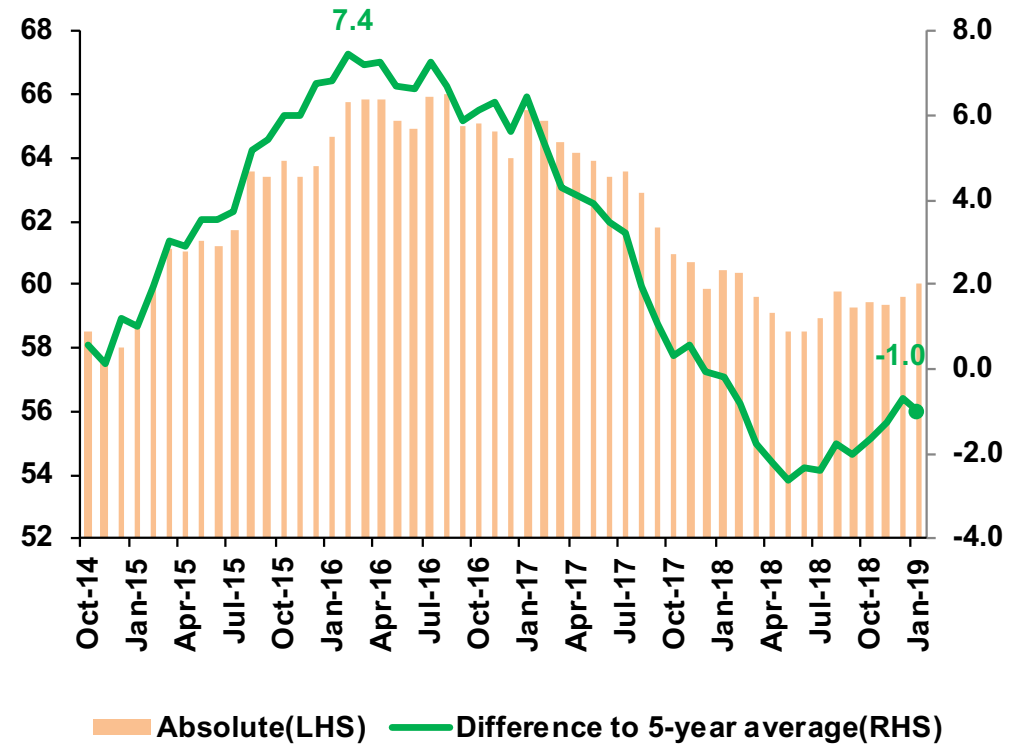
# OECD commercial oil stocks on the rise again



**OECD commercial oil stocks**  
(deviation from 5-year average, mb)



**OECD commercial oil stocks**  
Day of forward cover





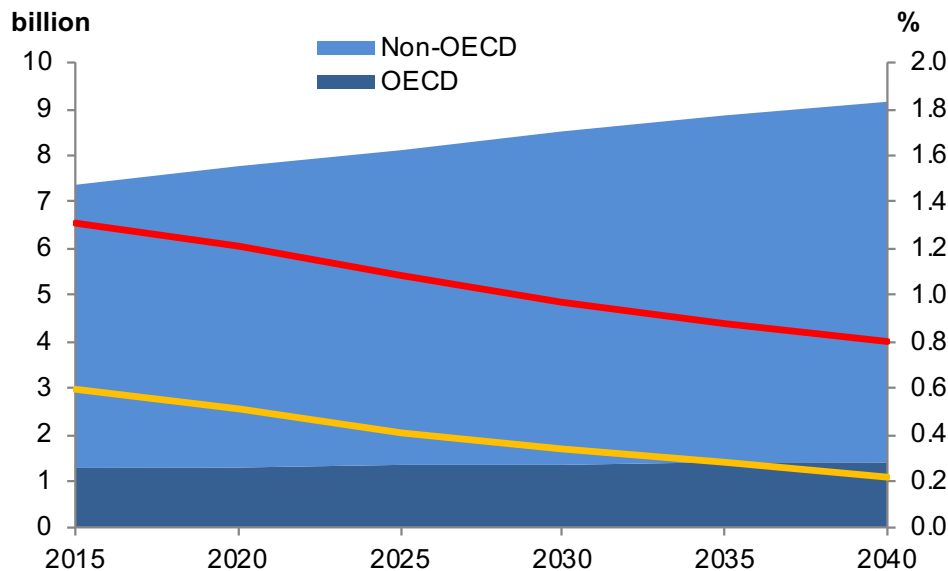
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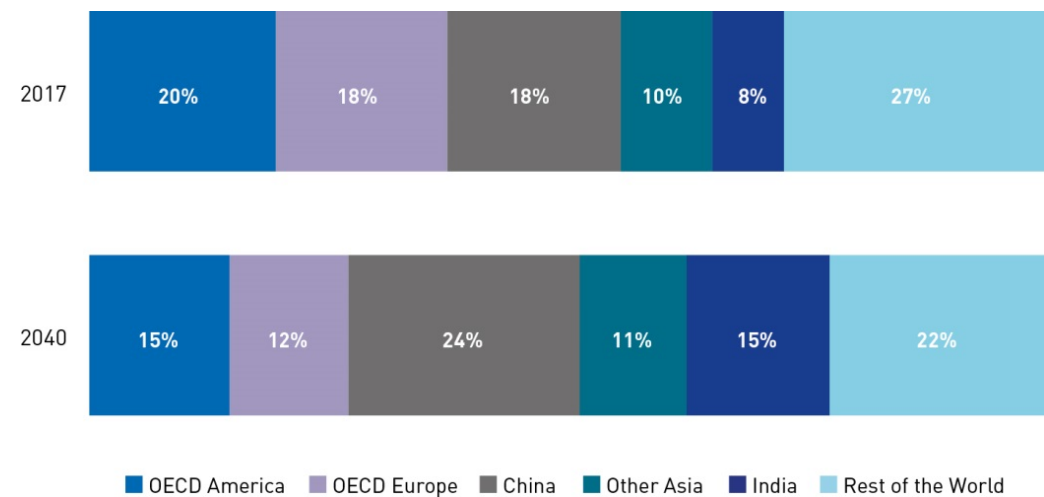
# Key assumptions



## Population by region, 2015–2040



## Distribution of the global economy, 2017 and 2040

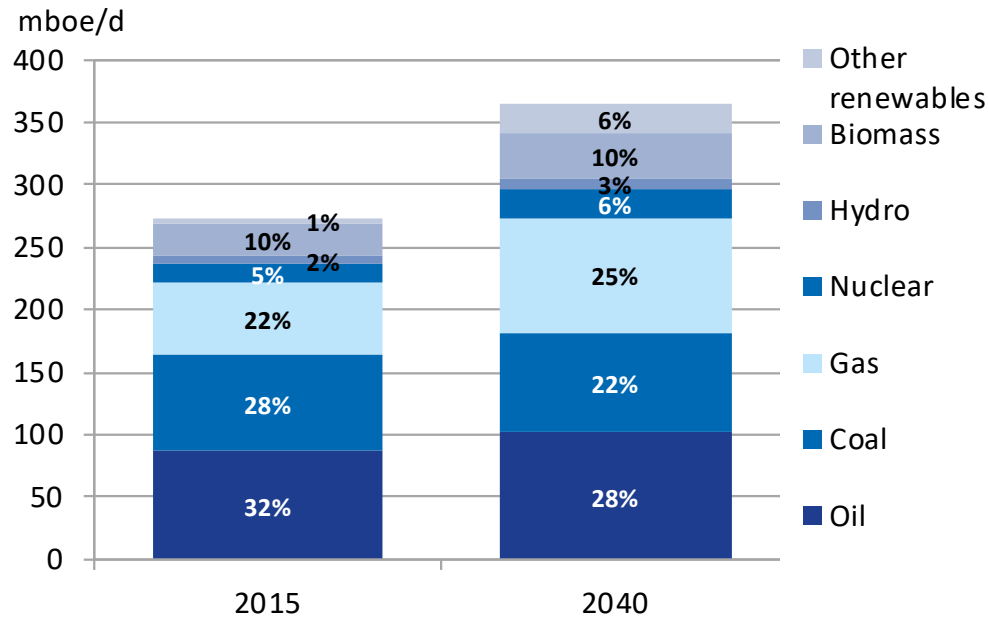


- Global population is expected to increase from around 7.6 billion in 2017 to 9.2 billion in 2040.
- Global GDP growth to average 3.4% p.a. between 2017 and 2040.
- Reference Case reflects evolutionary development in technology and policies.

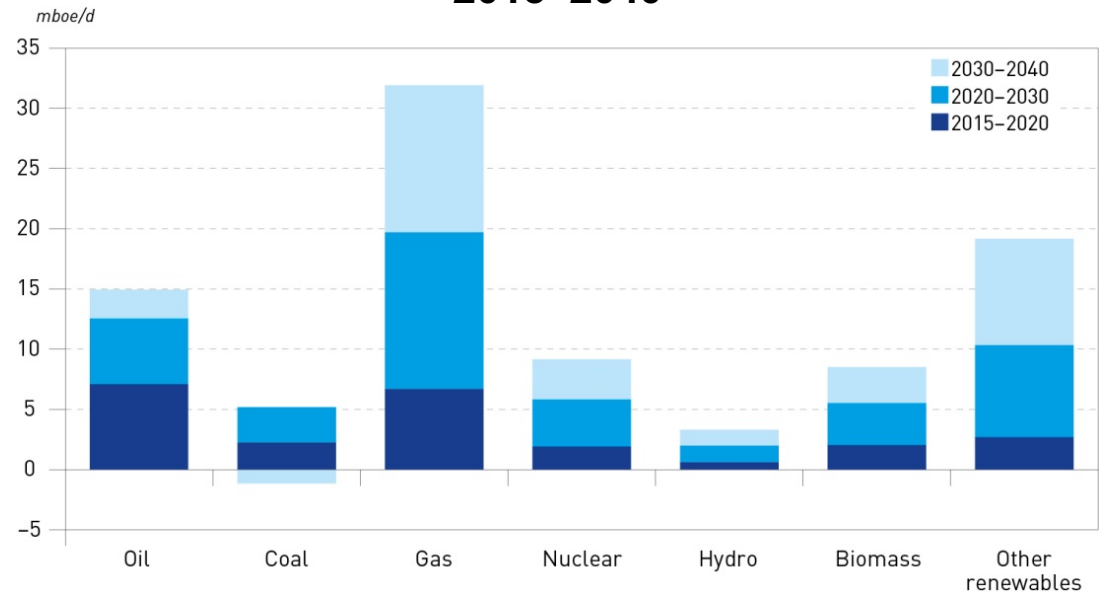
# In absolute terms, natural gas expands the most in the long-term, followed by 'other renewables'



### Energy demand and shares by fuel



### Growth in primary energy demand by fuel type 2015–2040

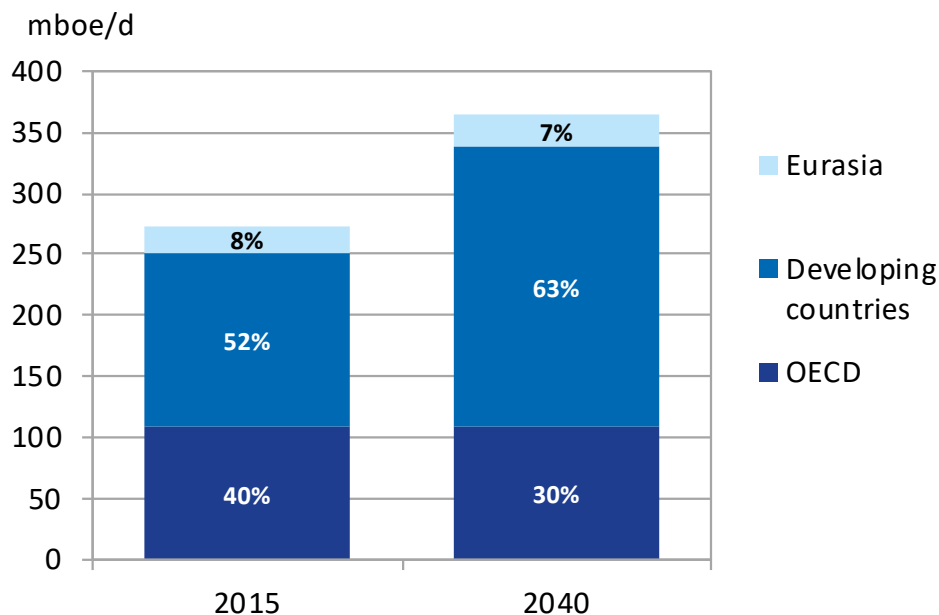


- Energy demand will increase by 91 mboe/d, or 33%, to reach the level of 365 mboe/d by 2040.
- Natural gas and 'other renewables' show the largest growth in the long-term.
- Oil retains the highest share in the global energy mix throughout the forecast period.

# Overall energy demand increases along with changes in regional distribution



## Energy demand by region



## Growth in primary energy demand by region 2015–2040

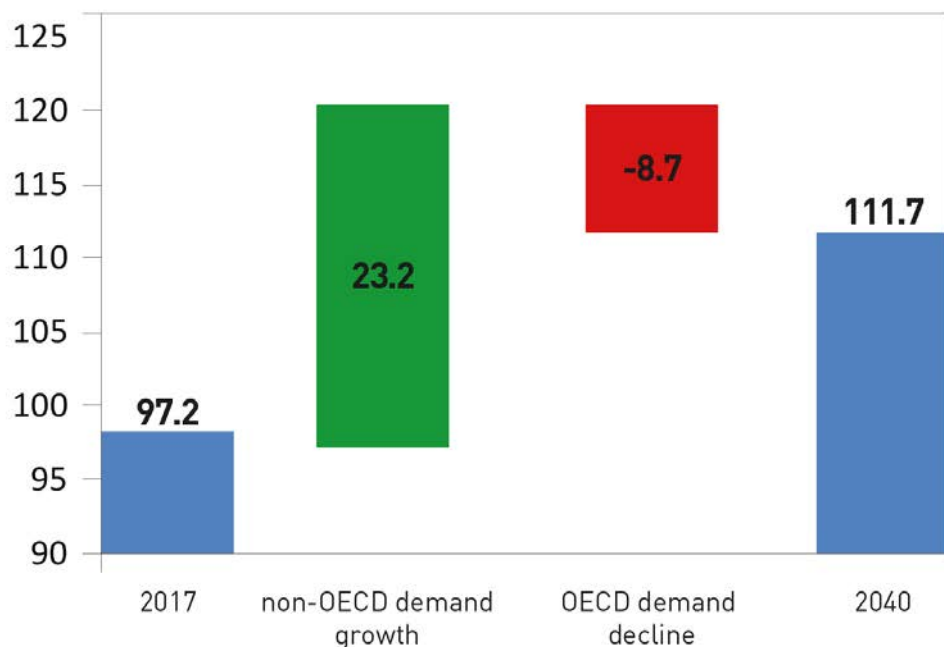


- Energy demand in China and India will grow by more than 20 mboe/d each.
- The share of Developing countries in total demand increases by 10 percentage points.

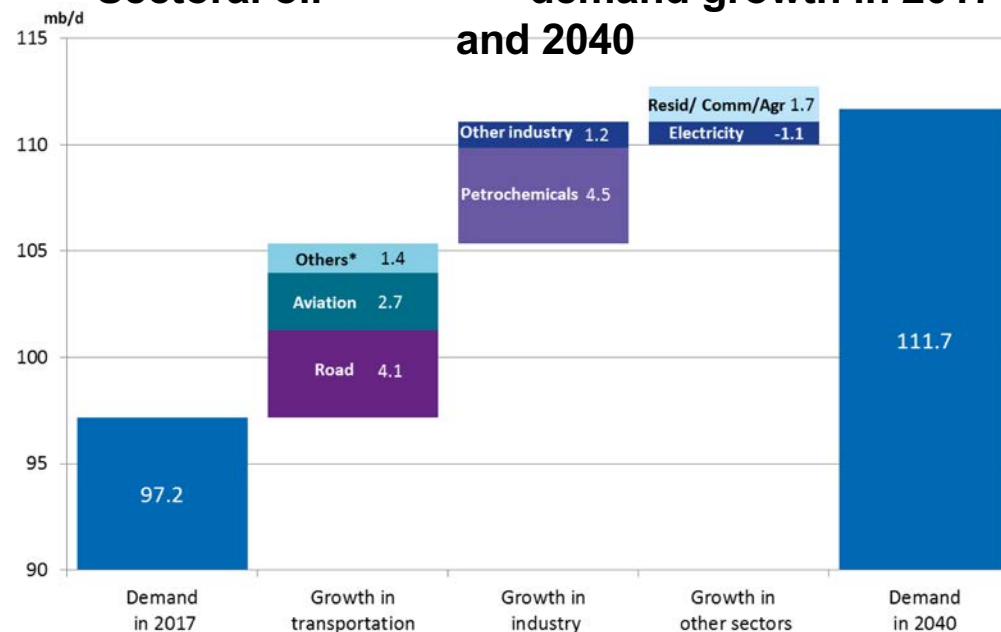
# Long-term oil demand projected to increase by 14.5 mb/d to reach 111.7 mb/d in 2040



**Regional oil demand growth in 2017 and 2040**



**Sectoral oil demand growth in 2017 and 2040**

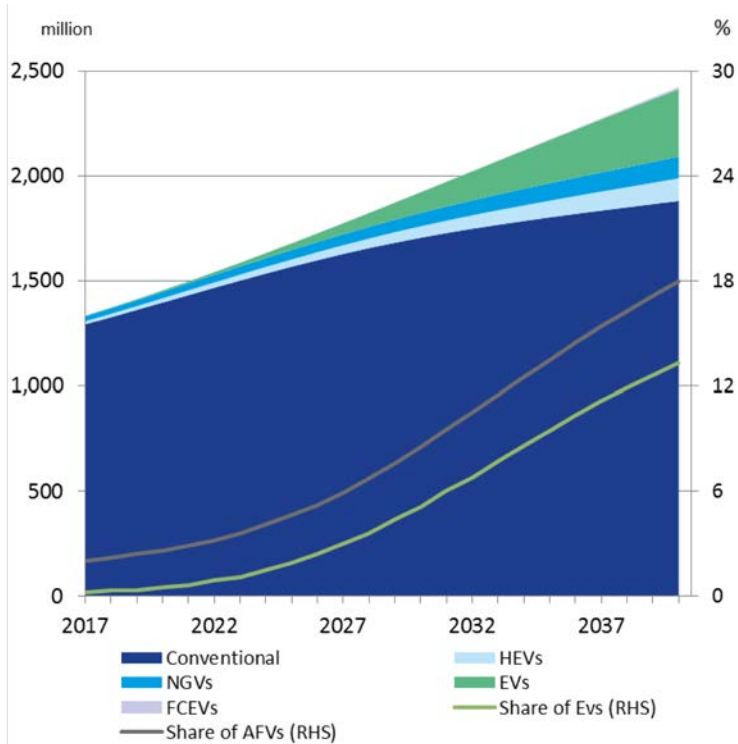


- Oil demand in Developing countries to increase by more than 22 mb/d between 2017 and 2040.
- Road transportation remains the largest oil demand sector, but petrochemicals see the largest increase.

# Interplay of multiple factors shapes oil demand growth in the road transportation sector

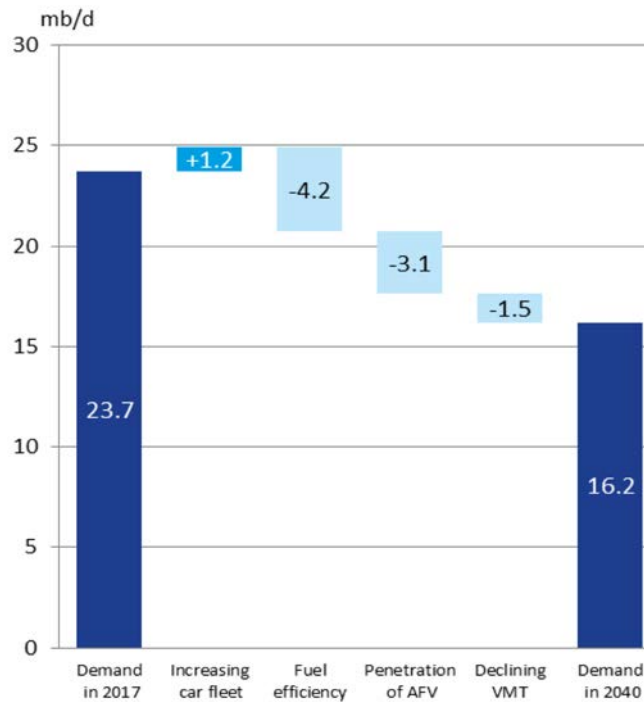


**Global road vehicle fleet composition 2017–2040**

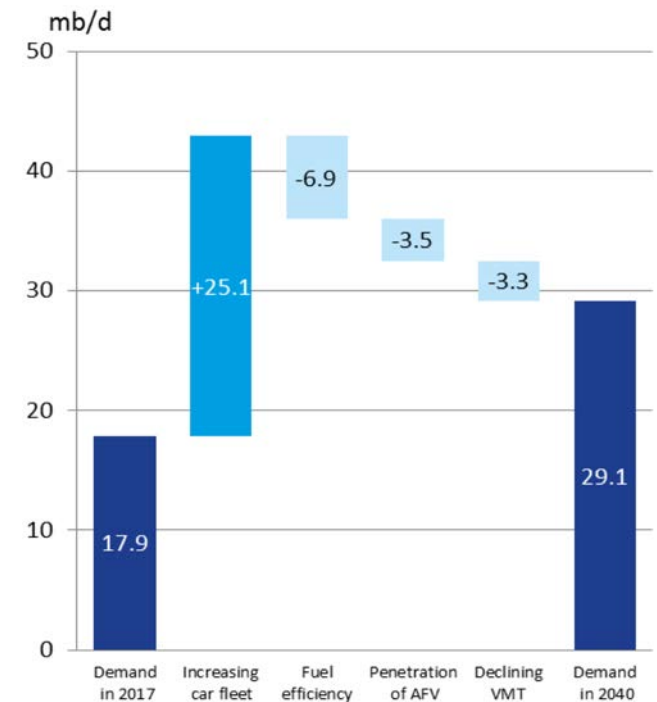


**Demand in road transportation in 2017 and 2040**

**OECD**



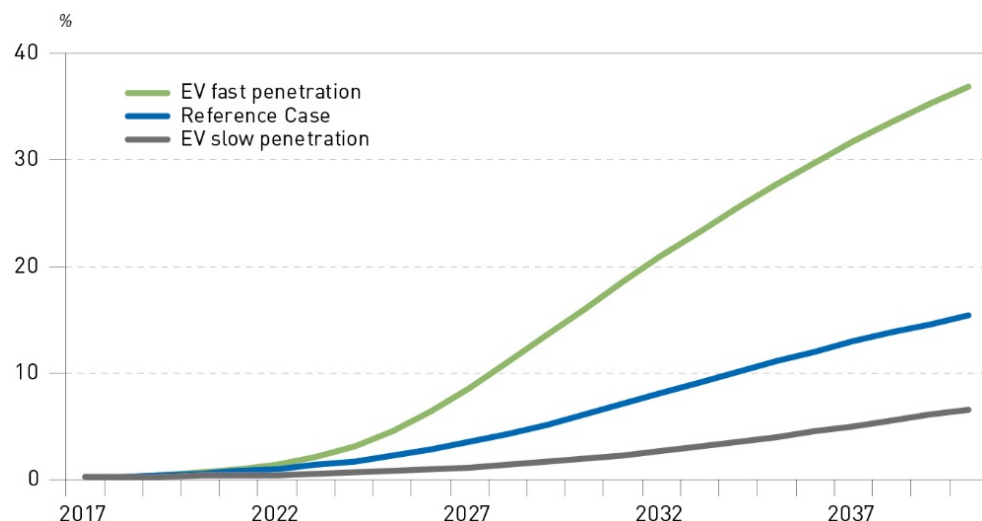
**Developing countries**



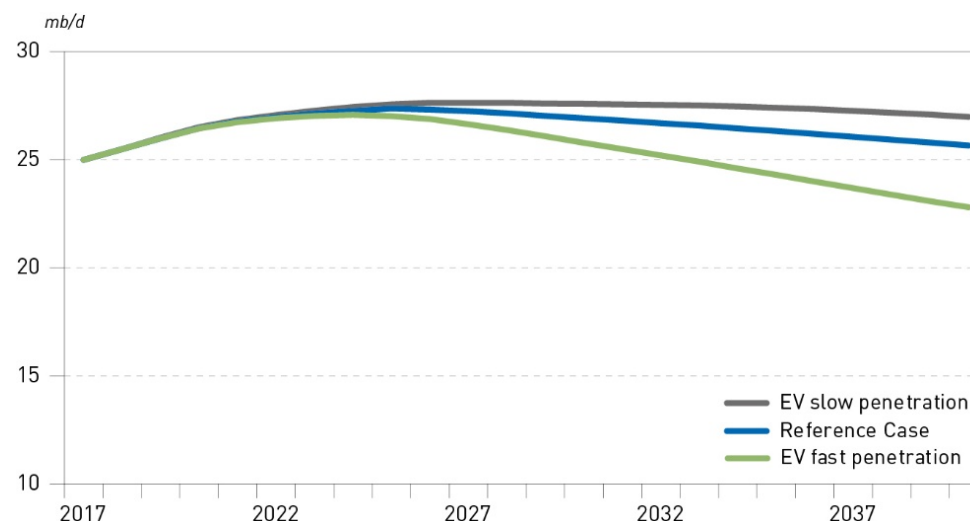
# Road transportation oil demand is sensitive to the expansion of electric vehicles



### Electric vehicle penetration in the car fleet in the different sensitivities

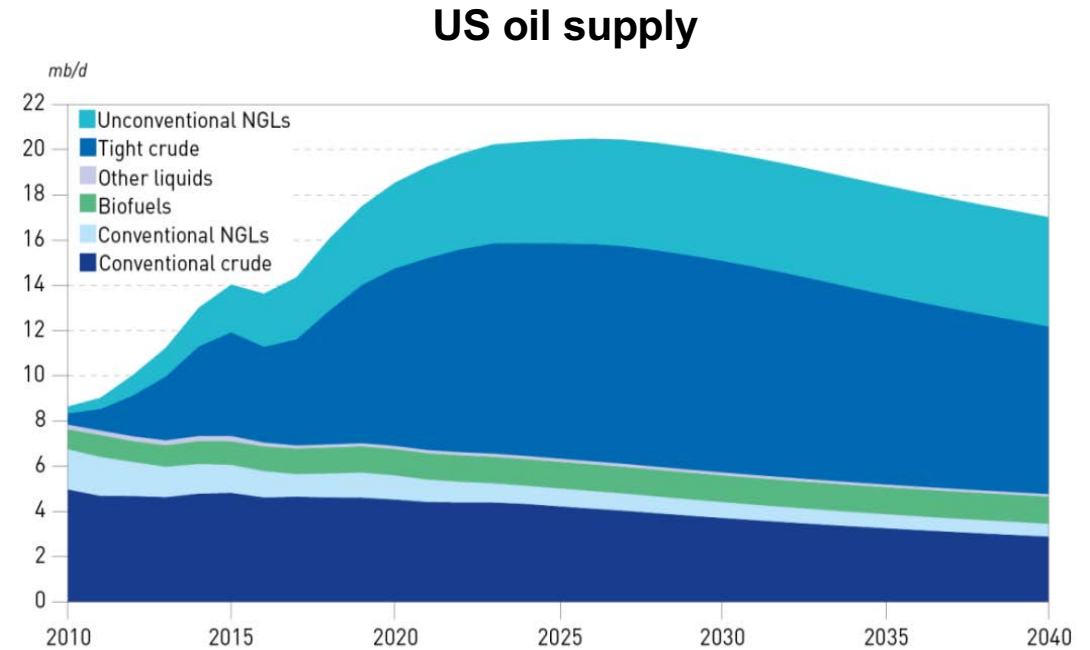
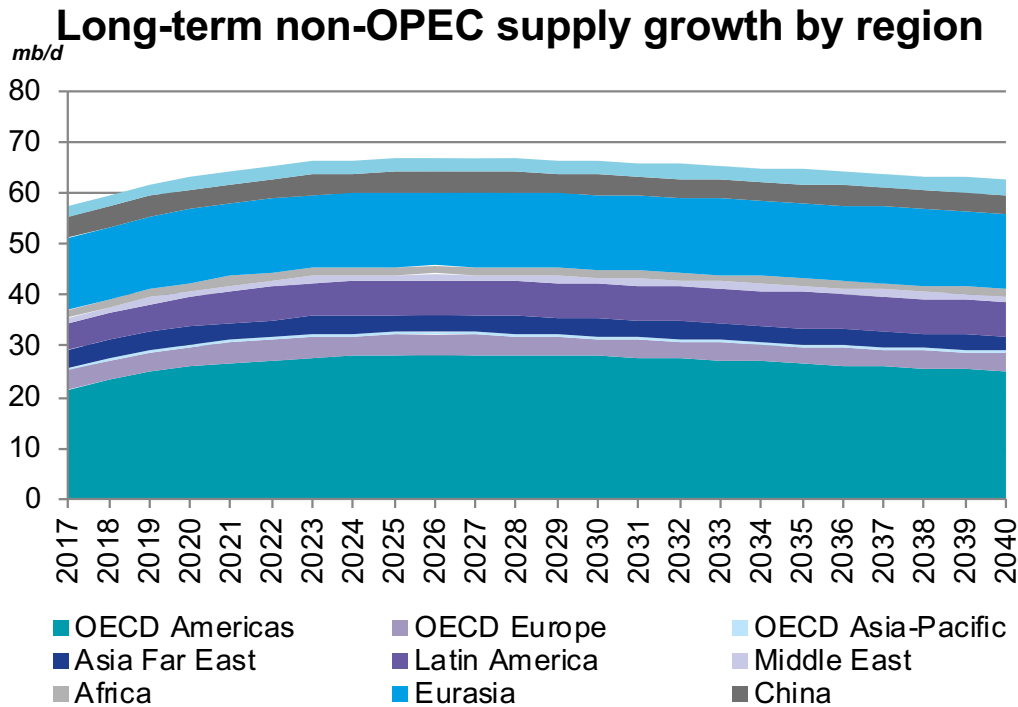


### Oil demand in the passenger car segment in the different sensitivities



- Demand implication is fairly limited over the next ten years, within the range of 1 mb/d, but start widening during the last decade of the forecast period
- The range of uncertainty is more than 4 mb/d by 2040

# Non-OPEC supply peaks in late 2020s when US tight oil plateaus



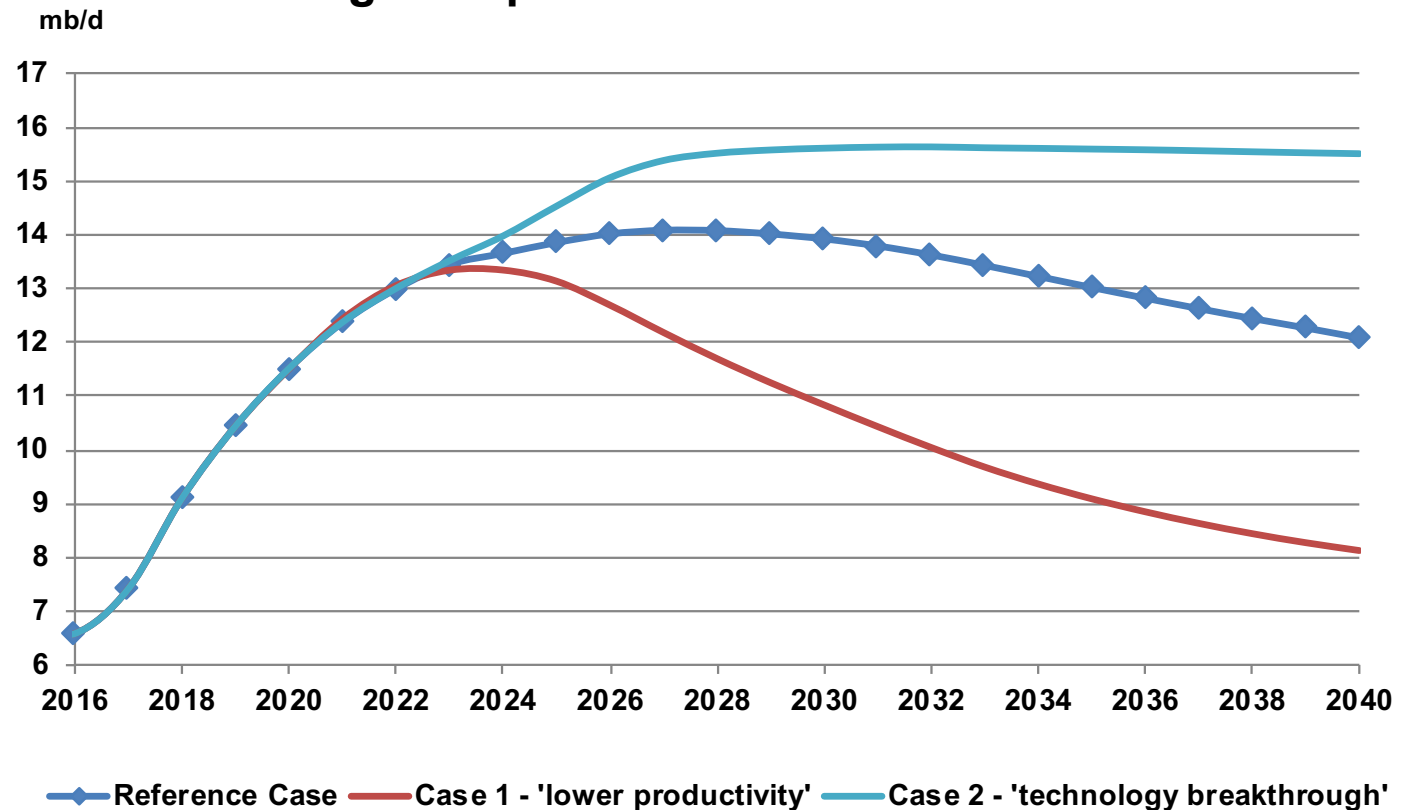
- Demand for OPEC crude only exceeds current levels after US tight oil peaks in the late 2020s. Thereafter, however, it grows continuously and reaches almost 40 mb/d by 2040.

# US tight oil: sensitivities illustrate uncertainty and a wide range of possible outcomes



- Sensitivities show a range of +/- 1-2 mb/d relative to the Reference Case peak, and +/- 3-4 mb/d by 2040.
- Any such outcome would have a meaningful impact on non-OPEC supply and oil markets in general.

## US tight oil production - sensitivities

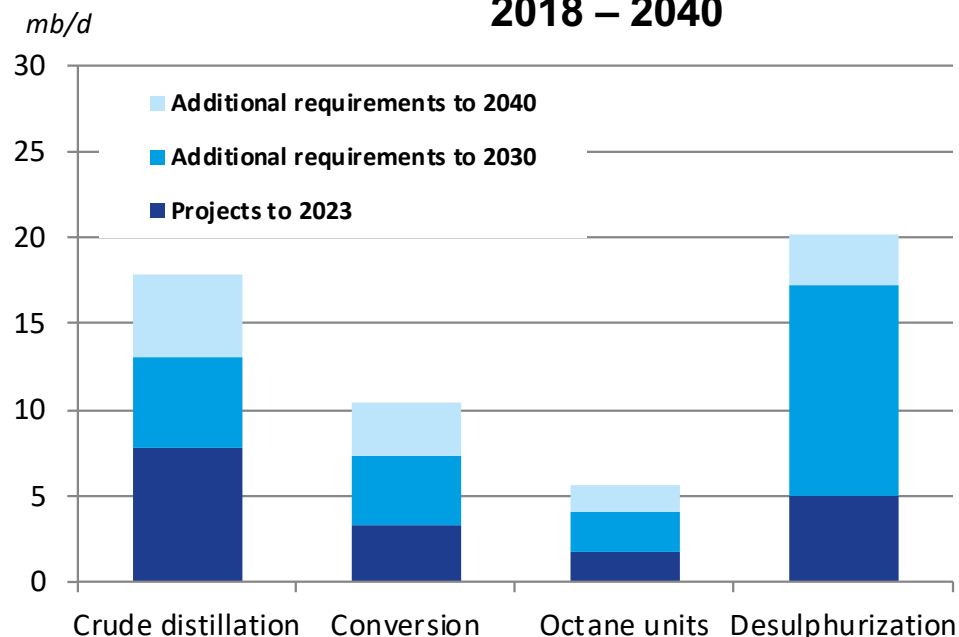




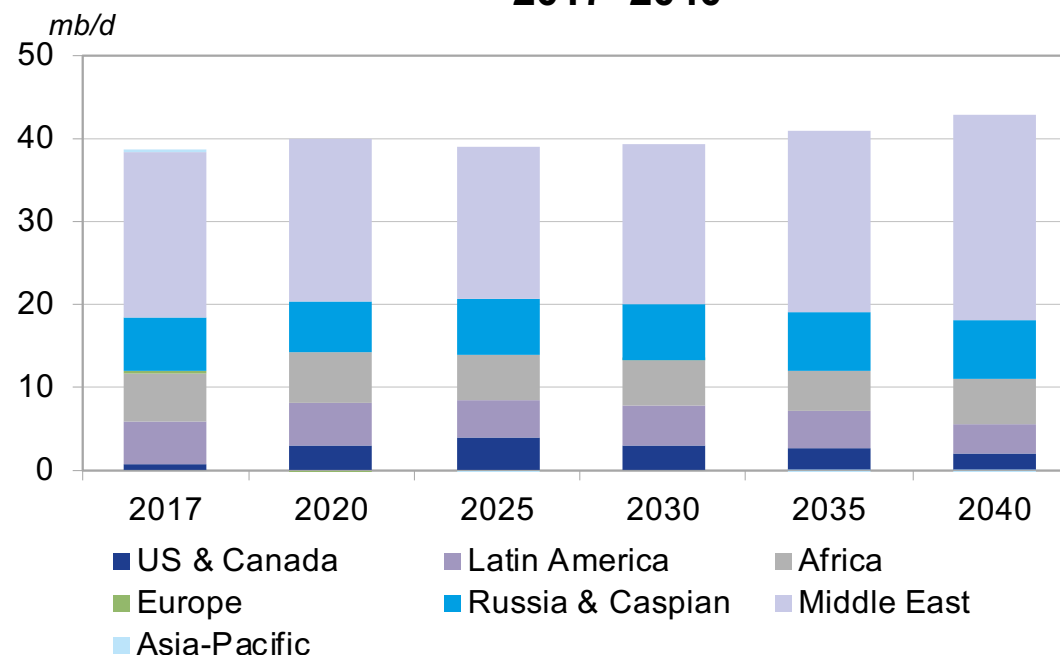
# Substantial expansion of the downstream sector required



**Global capacity requirements by process type  
2018 – 2040**



**Global crude oil exports by origin\*  
2017–2040**



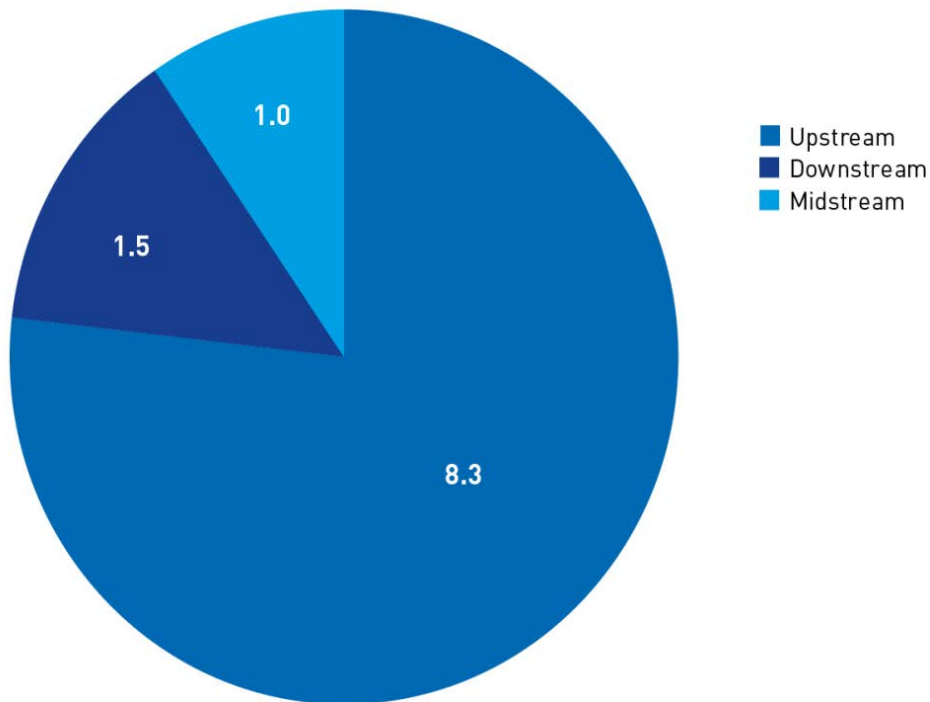
- Long-term distillation capacity additions projected at 17.8 mb/d.
- Global crude oil exports increase over the long-term, with the Middle East remaining dominant.

# Oil sector requires investment of \$11 tn by 2040

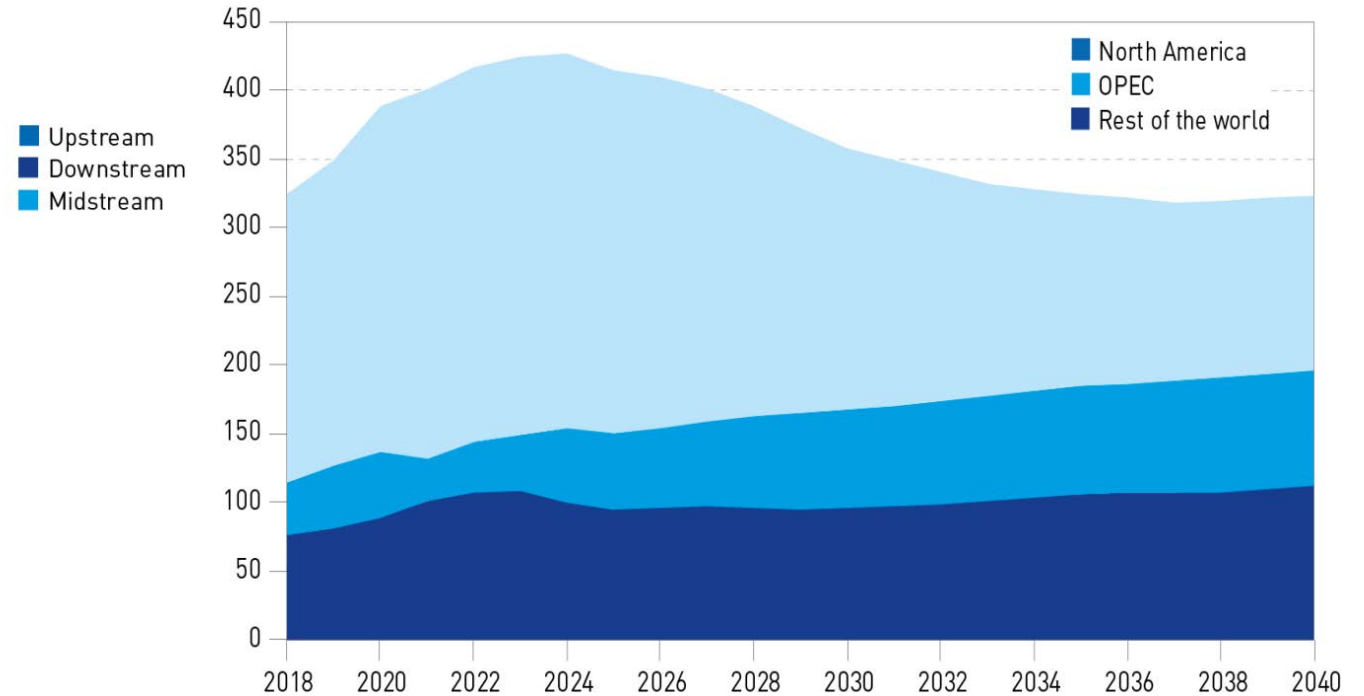


## Cumulative oil-related investment requirements by sector, 2018-2040

\$ (2017) trillion



\$ (2017) billion



- The majority of investments will be in the upstream, much of which in North America.



Thank you



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