# World Oil Outlook

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2016

World Oil Outlook

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World

Outlook

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- How does the oil market outlook evolve up to 2040?
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### **Energy demand will increase by 40%**





#### Total primary energy demand

Growth in primary energy demand



- Energy demand to reach <u>382 mboe/d</u> by 2040.
  The bulk of the increase to come from Developing countries
- Energy demand in OECD regions expected to peak around 2030

### Shift from fossil fuels to renewables continues

%

- Fossil fuels continue to dominate the global energy mix
- Fastest growth for other renewables, albeit from low base
- Oil remains the most important fuel until the late 2030s







### Shift from fossil fuels to renewables continues

mboe/d

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- Fastest growth for other renewables, albeit from low base
- Oil remains the most important fuel until the late 2030s
- Majority of energy demand growth comes from gas, followed by oil and other renewables
- Oil and gas to satisfy 53% of world's energy needs by 2040

#### Growth in energy demand by fuel type







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#### World oil demand



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- Growth decelerates in the long-term



Annual oil demand growth



- Oil demand increases by 16.4 mb/d to reach 109.4 mb/d in 2040
  - Growth is driven by DCs while demand in OECD drops
- Growth decelerates in the long-term
- One-third of total growth comes from the road transportation sector
- Strong growth is also foreseen in petrochemicals and aviation



#### Oil demand growth by sector



 The number of passenger cars is expected to double up to 2.1 billion by 2040





1,000

500

0

2015

- The number of passenger cars is expected to double up to 2.1 billion by 2040
- Most of the increase comes from DCs (additional 916 million cars)



2025

2030

2020

#### Passenger car fleet composition

2040

2035

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- Most of the increase comes from DCs (additional 916 million cars)
- Non-conventionals (NGV, HEV, PHEV, BEV and FCV) will represent 22% of the car fleet





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- 109 million HEVs, 125 million PHEVs and 141 million BEVs are expected





### Non-OPEC supply: recovers to then fall

mb/d

- Slow road to recovery for non-OPEC supply in the medium-term
  - Growth coming mainly from Latin America and US & Canada

### Non-OPEC supply in the medium-term





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  - Growth coming mainly from Latin America and US & Canada
- Thereafter, non-OPEC supply remains fairly flat, but declines post-2030
  - Tight crude is the main source of growth initially. Oil sands and biofuels take over in the longer term



#### Non-OPEC supply in the long-term



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- Thereafter, non-OPEC supply remains fairly flat, but declines post-2030
  - Tight crude is the main source of growth initially. Oil sands and biofuels take over afterwards
- OPEC crude rises to 41 mb/d in 2040, accounting for 37% of world liquids







### Tight crude growth comes back...for some time

 North American tight crude increases to 6.3 mb/d in 2030 and then declines to 5.4 mb/d in 2040



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- North American tight crude increases to 6.3 mb/d in 2030 and then declines to 5.4 mb/d in 2040
- Some long-term tight crude supply is anticipated from Argentina and Russia
  - Globally, it reaches 6.7 mb/d in 2030 and then declines to 6 mb/d in 2040



#### Global tight crude outlook

### Tight crude growth comes back...for some time

mh/d

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- Some long-term tight crude supply is anticipated from Argentina and Russia
  - Globally, it reaches 6.7 mb/d in 2030 and then declines to 6 mb/d in 2040
- Total tight oil reaches a high of 10 mb/d in 2029. It plateaus and then declines below 9 mb/d by 2040



#### Global tight oil outlook





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- How does the oil market outlook evolve up to 2040?
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## Broad-based nature of INDCs adds uncertainty

- Two alternative scenarios were developed
  - Scenario A: faster tightening of emission reduction policies compared to the RC
  - Scenario B: timely implementation of conditional and unconditional INDCs supported by faster technology development

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- Global energy demand declines
- Demand for fossil fuels is reduced with coal being the most affected fuel
- Increase in renewables and nuclear



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- Two alternative scenarios were developed
  - Scenario A: faster tightening of emission reduction policies compared to the RC
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- Global energy demand declines
- Demand for fossil fuels is reduced with coal being the most affected fuel
- Increase in renewables and nuclear
- Total energy-related CO<sub>2</sub> emissions could be 14% lower compared to the RC

#### % change in total CO<sub>2</sub> emissions relative to the RC





### **Takeaways from the WOO 2016**



- Energy demand increases by 40%, reaching 382 mboe/d by 2040
- Energy mix to continue its shift from fossil fuels to renewables
- Oil demand reaches 109.4 mb/d in 2040 but growth decelerates over the long-term
- Non-OPEC supply recovers in the medium-term and then remains fairly flat before declining
- Demand for OPEC crude rises to 41 mb/d in 2040
- Changes in energy policies could reduce energy demand and further shift the energy mix towards renewables

## Thank you.

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