



Oil Industry: On the Verge of New Risks or New Opportunities?

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Key Topics

- ◇ Future of hydrocarbons – sustainable growth of crude oil demand?
- ◇ New regulatory challenges
- ◇ Crude oil market: forward view
 - ◆ Fundamental drivers of oil price growth
 - ◆ Iran and Venezuela or OPEC production decline?
 - ◆ Role and agenda for “The Big Three”
- ◇ Rosneft-2022 Strategy – foundation of global energy security

Disclaimer

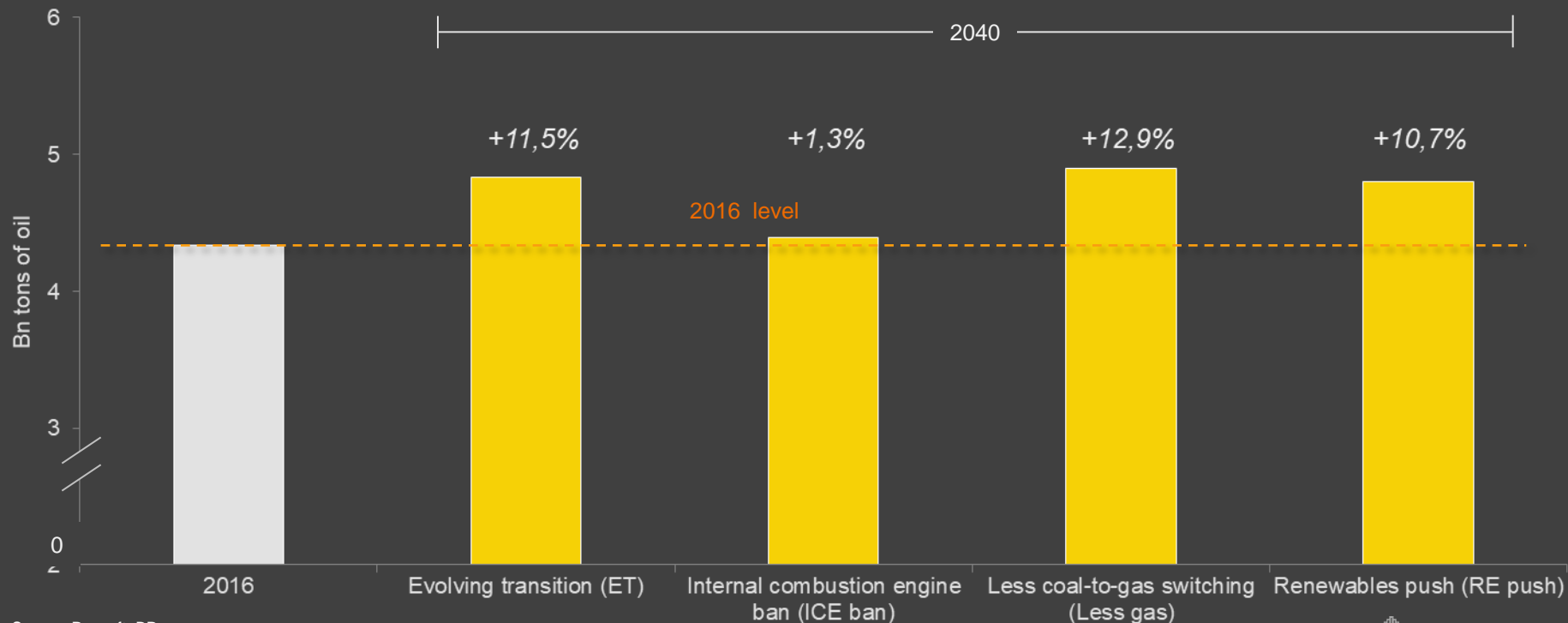
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Crude Oil Demand

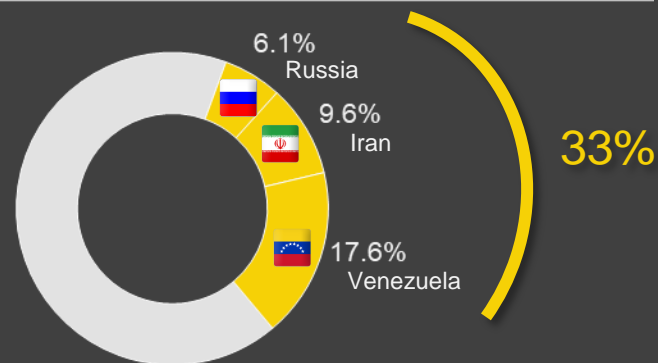
Crude Oil Demand Forecast (Scenarios)



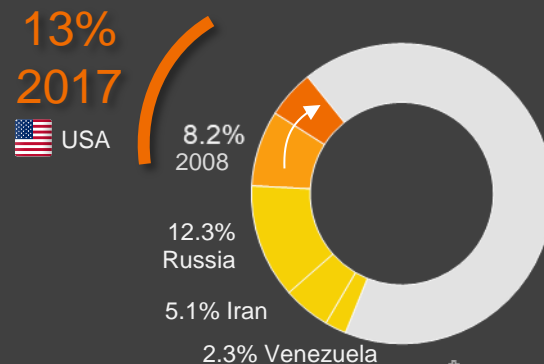
One Third of Global Oil Supply is Under Sanctions



Oil Reserves “Under Sanctions”



Liquids Production



Note: Proved reserves of liquid hydrocarbons as on 01/01/2017, Liquids production for 2017
Sources: Rosneft, BP, Bloomberg

Perceived and Real Threats to Oil Demand

GM

9.6 MM vehicles sold

Market Cap
\$53 bn



6.6 MM vehicles

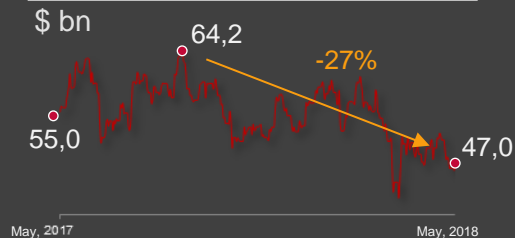
Market Cap
\$46 bn

FCA
FIAT CHRYSLER AUTOMOBILES

4.7 MM vehicles

Market Cap
\$35 bn

Tesla Market Cap



0.1 MM vehicles

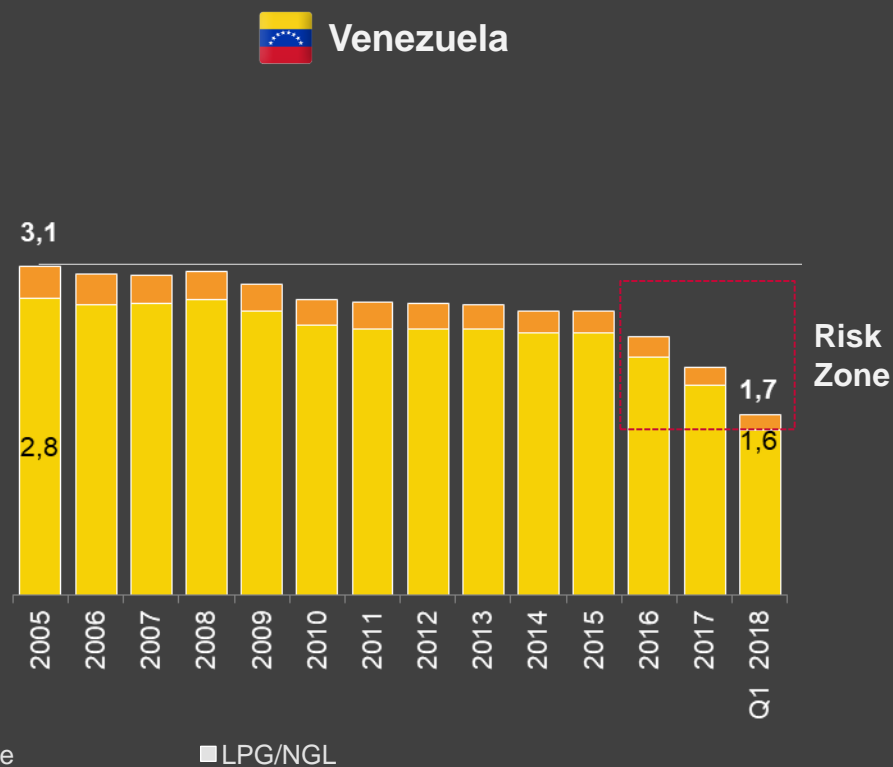
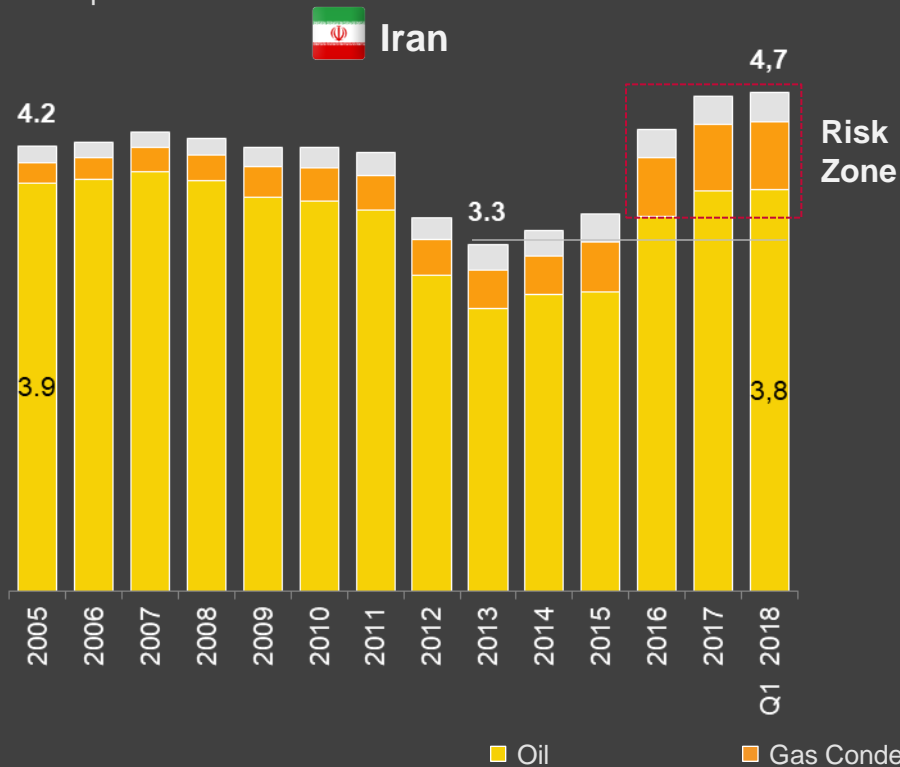


Market Cap
\$47 bn

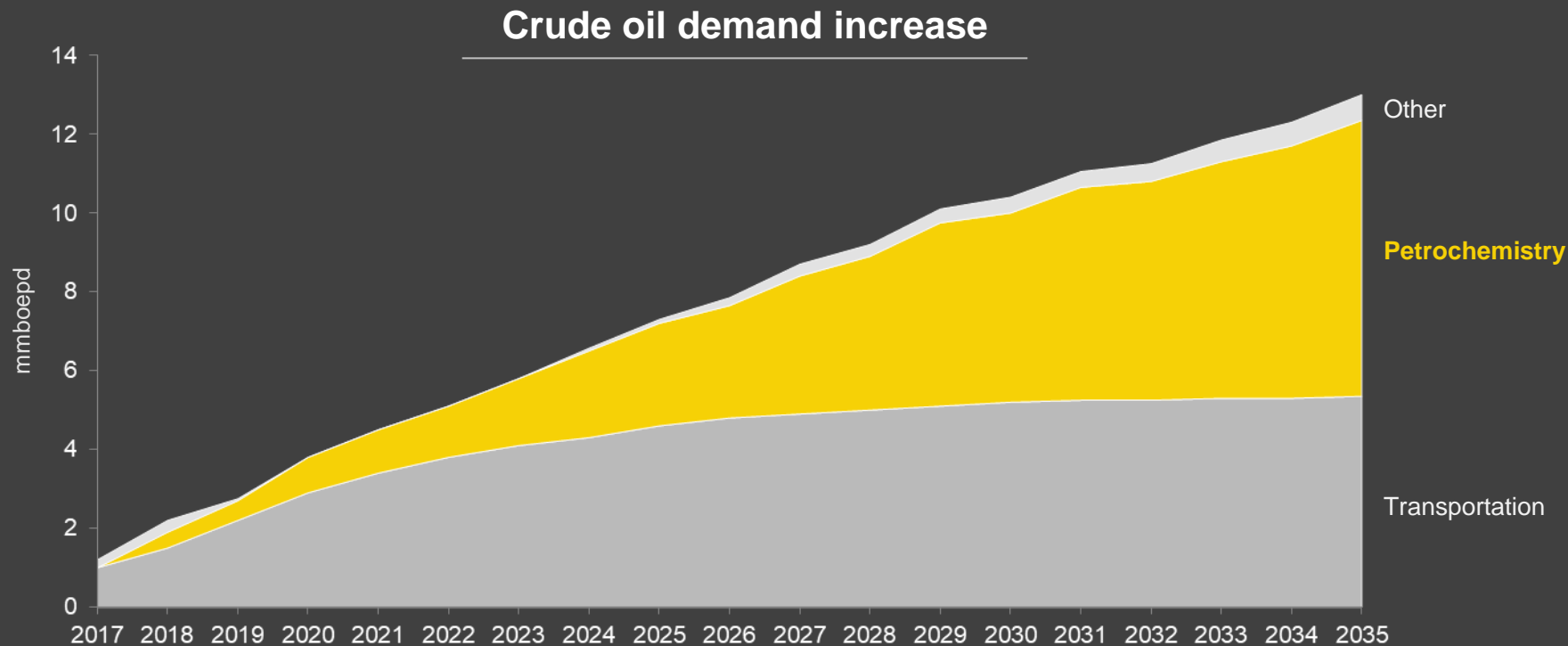
Iran and Venezuela vs. OPEC Production Decline?

Liquids Production

mmbpd

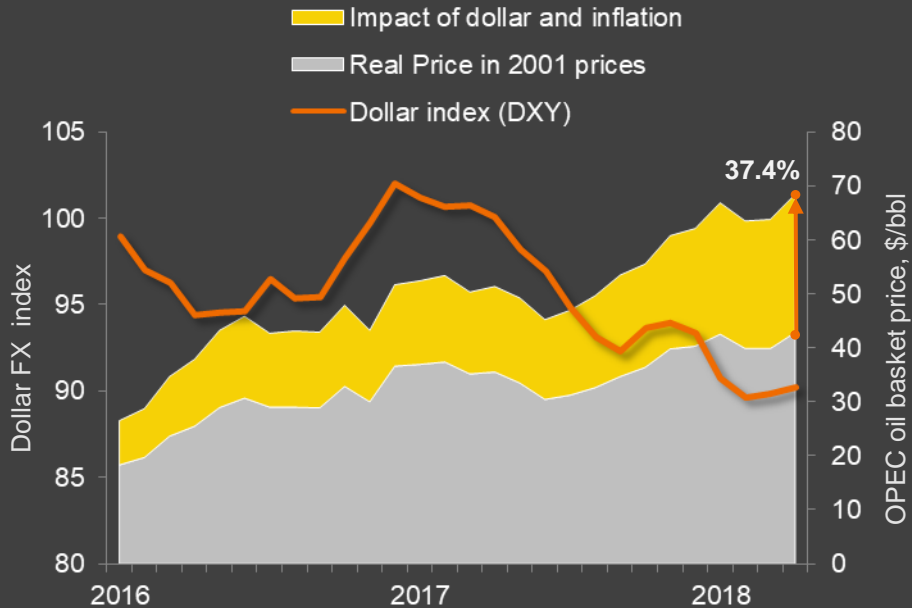


Petrochemicals and Transportation – Key Drivers of Crude Oil Demand

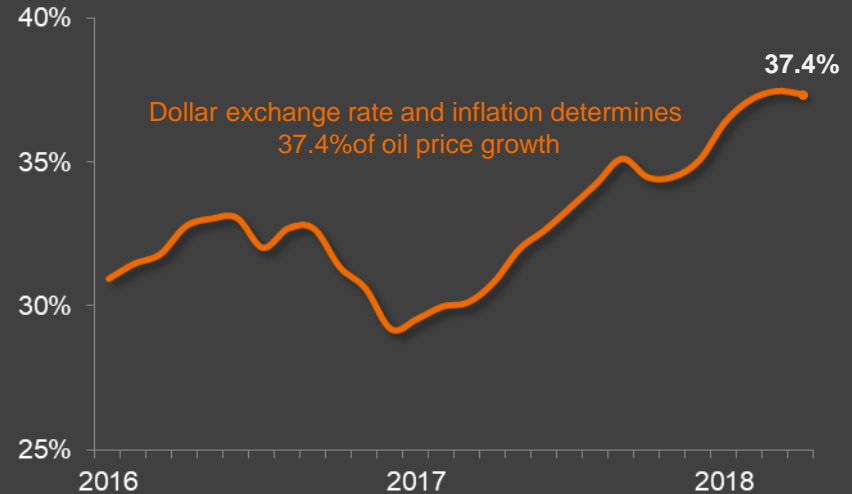


Impact of US Dollar on Crude Oil Price

OPEC Oil Basket Price Dynamics

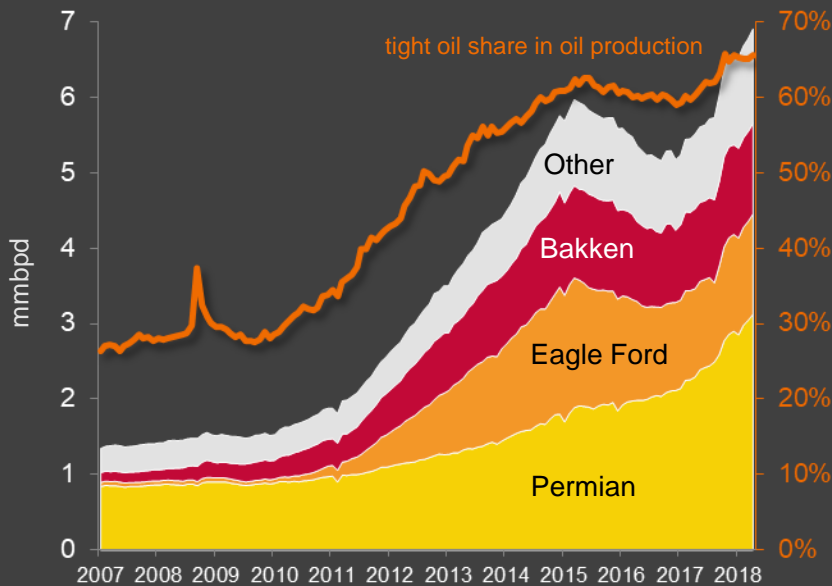


Dollar FX and Inflation Impact on Oil Price Growth



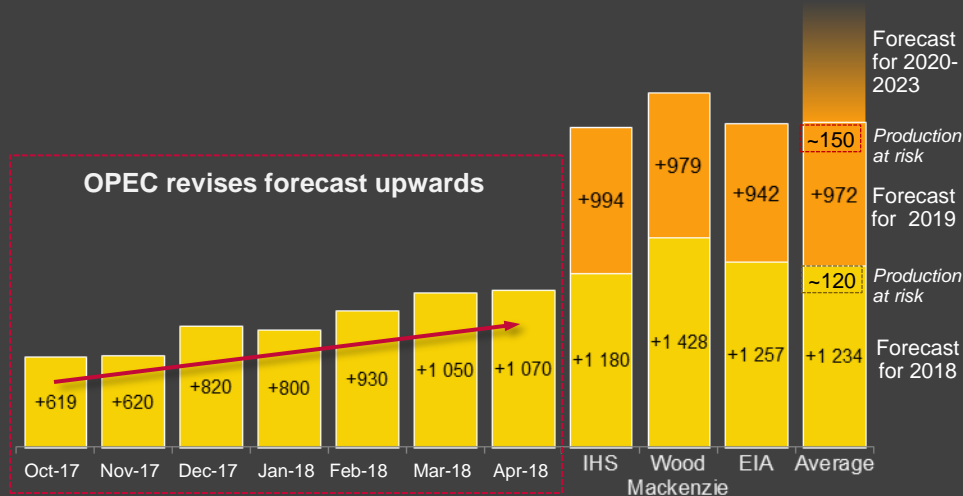
Evolution of US Tight Oil Production

Tight Oil Production



Tight Oil Production Forecast

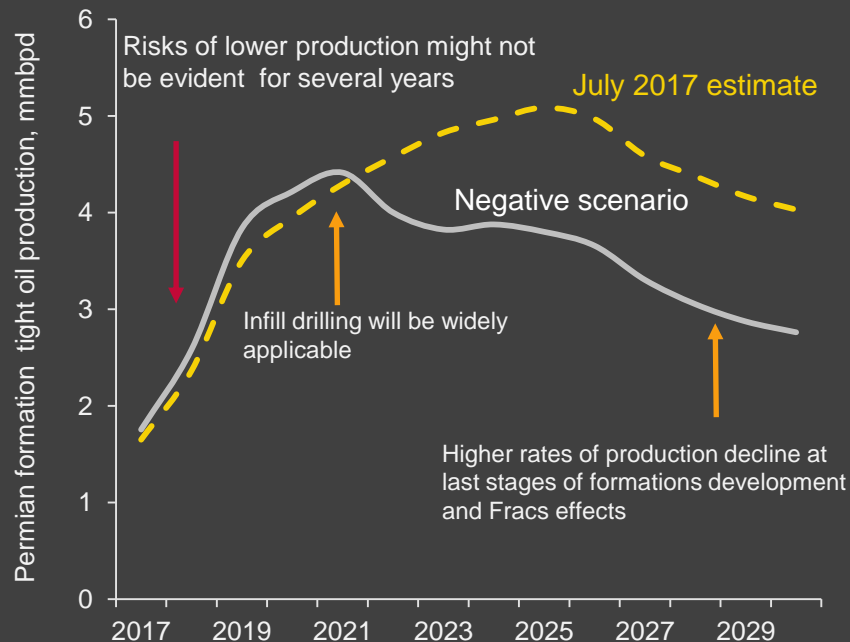
Change to the previous year, kbpd



Sources: Rosneft, EIA, Baker Hughes, Bloomberg
Note: OPEC didn't issue forecast for 2019

Long-Term Constraints for Tight Oil Production

Permian formations geological risks downside scenario



Drilling and development

- Significant increase of drilling grid density
- Wells watercut growth
- Gradual exhaustion of sweet spot reserves

Ecology & environment

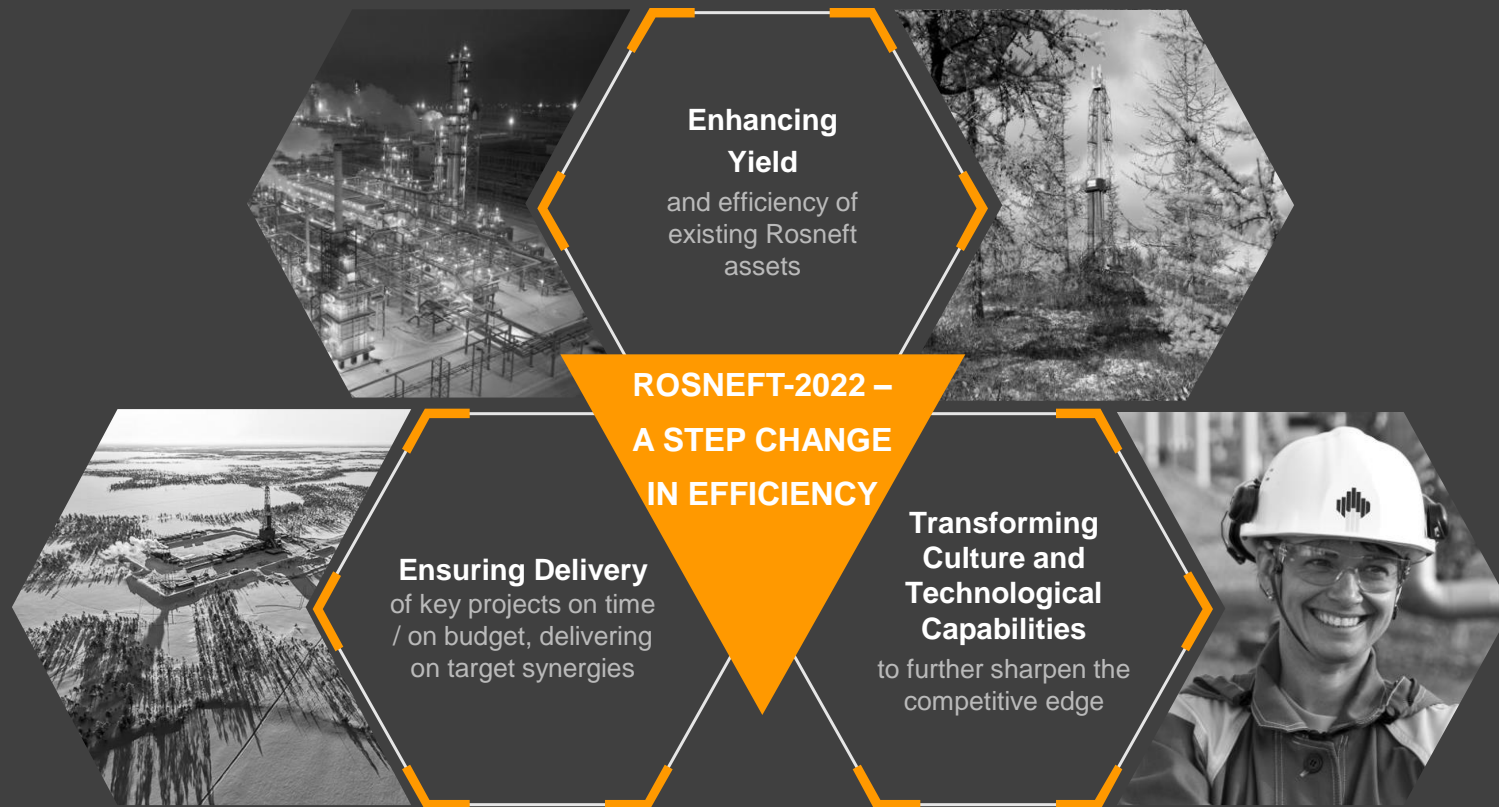
- Associated gas flaring
- The need for large quantities of water for Fracs – threat to formation water

Project Economics

- Industry inflation
- Infrastructure bottlenecks
- Lack of equipment
- Lack of skilled manpower

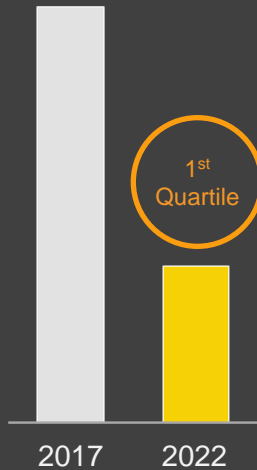


Rosneft-2022 Strategy

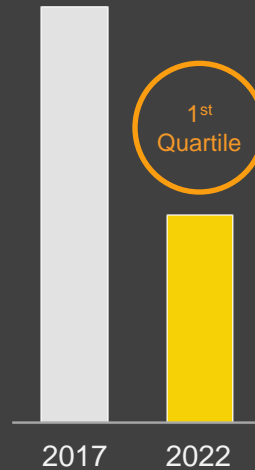


Health, Safety and Environment: Industry Leader

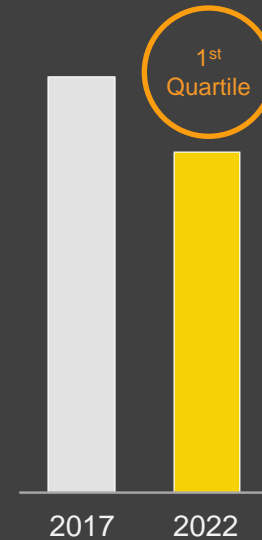
Process Safety Event Rate 1
(PSER-1)



Lost Time Injury
Frequency (LTIF)

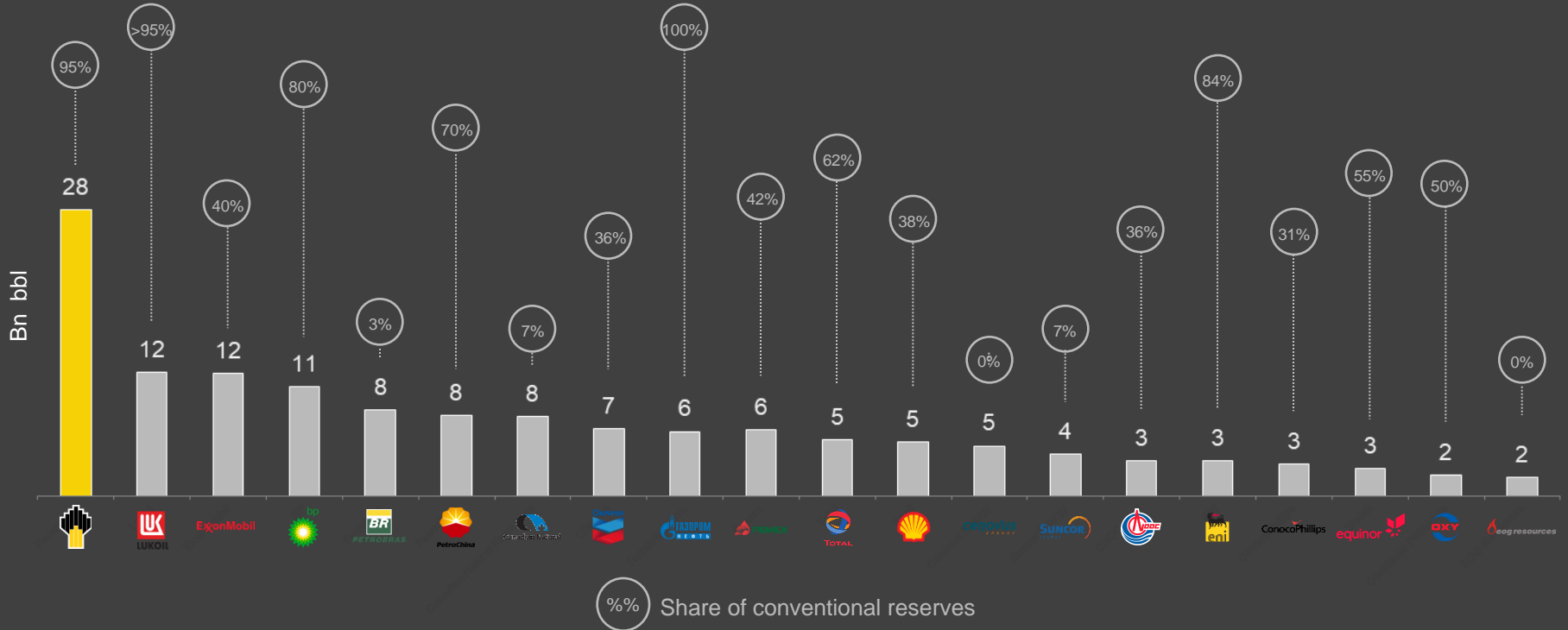


Greenhouse Gas
Emissions (GHG)



Crude Oil Reserves as Sustainable Competitive Advantage

Proved Oil Reserves



Crude Production

Rosneft - 2022

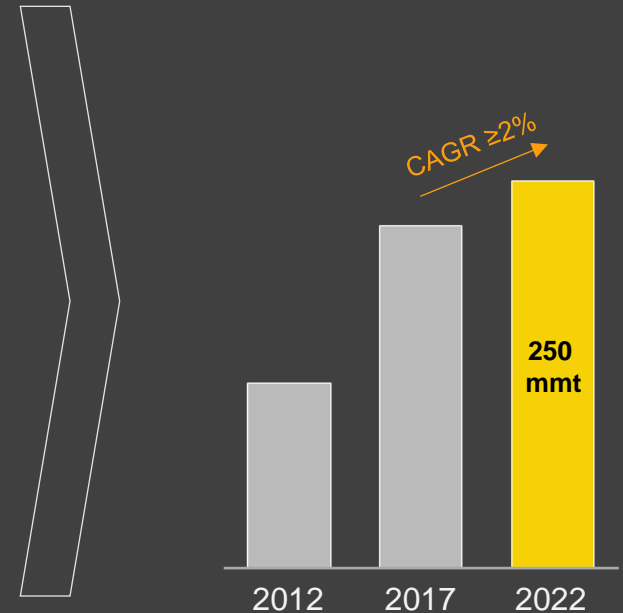
40% Share of horizontal wells

-10% Reduction of well costs*

33 mmt Hard-to-recover oil production

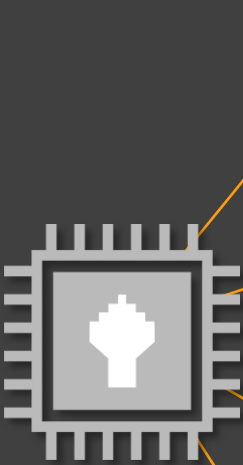
+20-30% Increasing productive time of drilling rigs

Liquids Production



Focus on Developing Technological Edge

Programs (*Integrated Digital Solutions*)



“DIGITAL OILFIELD”

- Development of oilfields with application of big data
- Real time modeling and optimization of production based on the industrial Internet
- Predicting of hardware failures



“DIGITAL PLANT”

- Modelling of production processes using big data
- Design, construction and operation of plants using 3D models
- Predicting hardware failures



“DIGITAL SUPPLY CHAIN”

- Planning, control and simulation of supply chain based on big data
- Risk management and trading based on digital platforms



“DIGITAL FUEL STATION”

- Using big data for pricing and attracting the customers
- Interaction with customers based on self-service terminals
- Real time material flows control at fuel stations and stock management

