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Oil Producing States and the Energy Transition

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Saudi Association for Energy Economics (SAEE) Webinar

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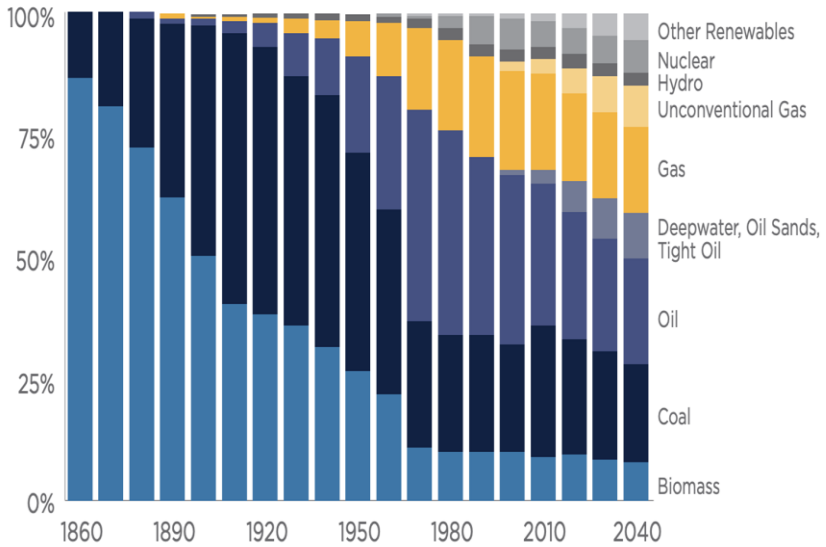
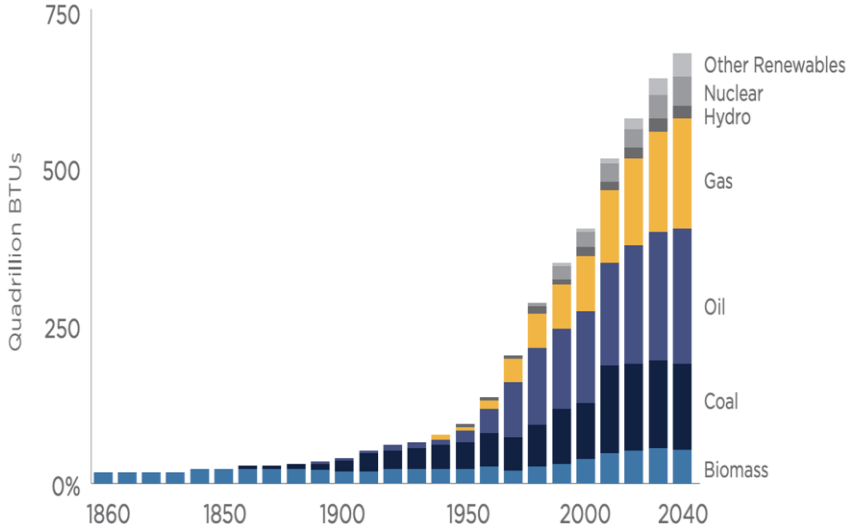
Energy transitions are really hard

Historically, energy consumption has been additive rather than a fuel substitution story

Global mix of fuels, share (%)



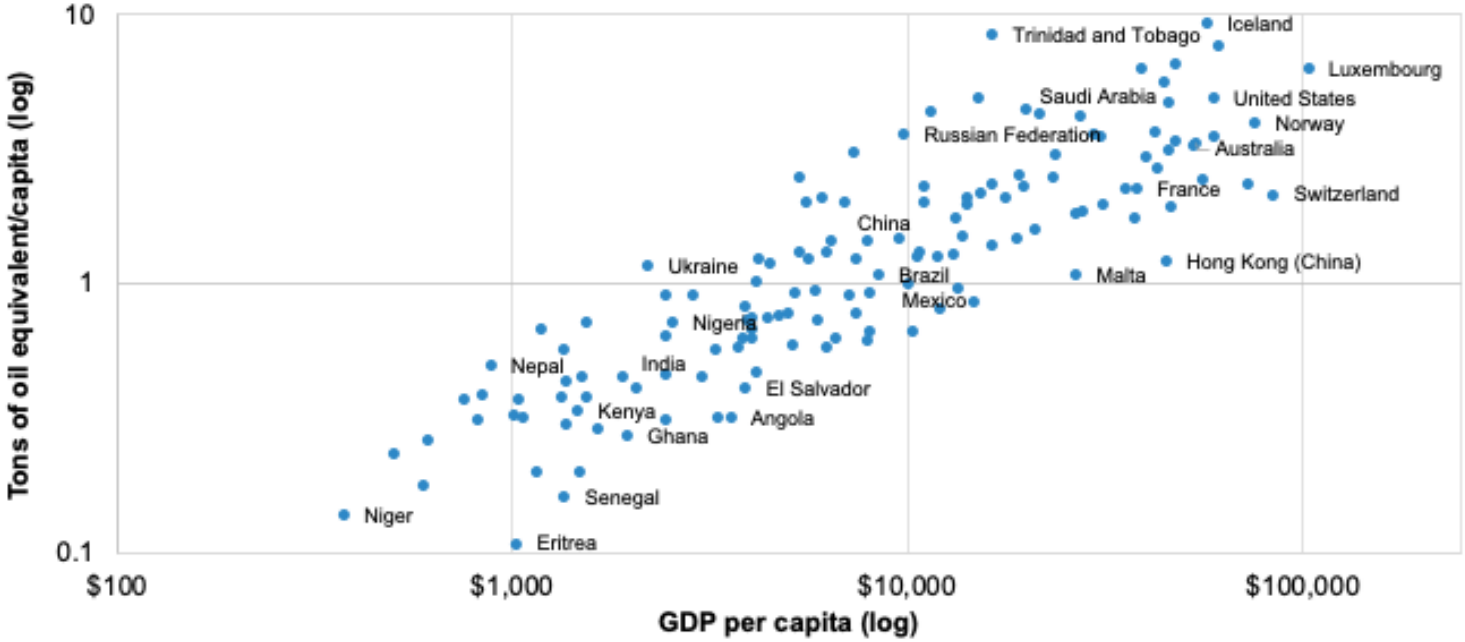
Global mix of fuels, quadrillion BTUs (quads)



Source: Center on Global Energy Policy; Smil, Energy Transitions; ExxonMobil Energy Outlook 2018

Income and energy go hand in hand

Total final energy consumption per capita (toe/capita) vs GDP per capita, 2018



Source: IEA; OECD

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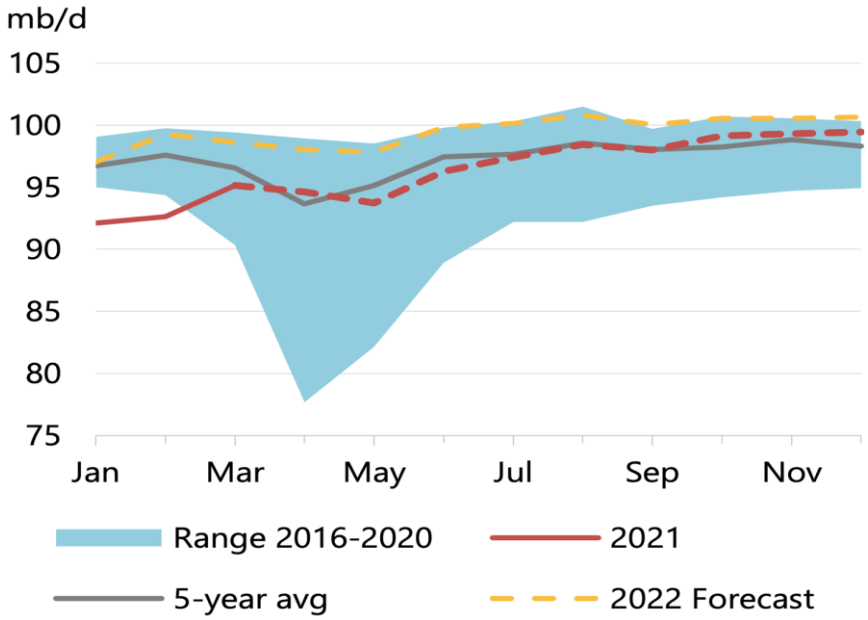
Global oil demand continues its recovery

World Oil Products Demand

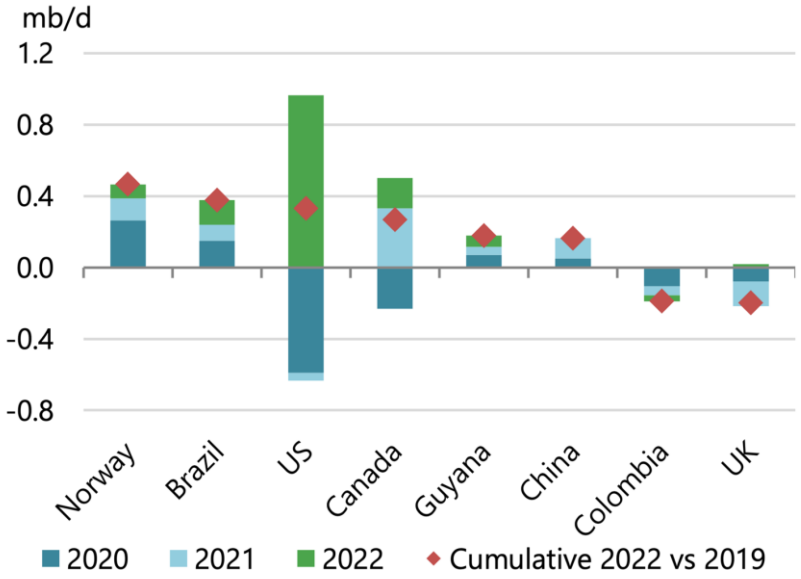


Global oil demand is expected to return to pre-pandemic levels by Q4 2022, supported by increased economic activity in major demand centers.

Source: IEA

Oil production recovers through 2022

Selected Non-OPEC+ Oil Supply Changes (2020-2022)

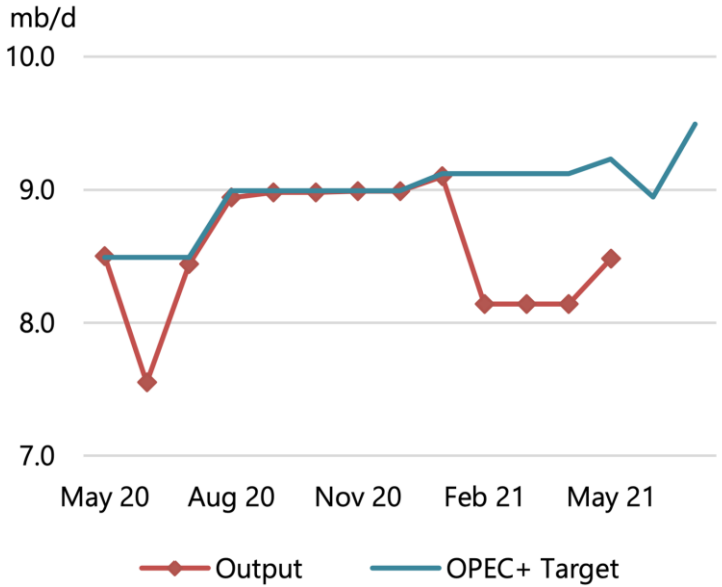


After two years of declines, the United States is set to drive oil production outside of the OPEC+ alliance.

Source: IEA

OPEC+ production ramps up

Saudi Crude Oil Production



In May, Saudi Arabia began to phase out its voluntary reductions as OPEC+ eased its supply cuts. Overall compliance with the cuts remained at 114% in May.

Source: IEA

The world is not yet on a path to net zero

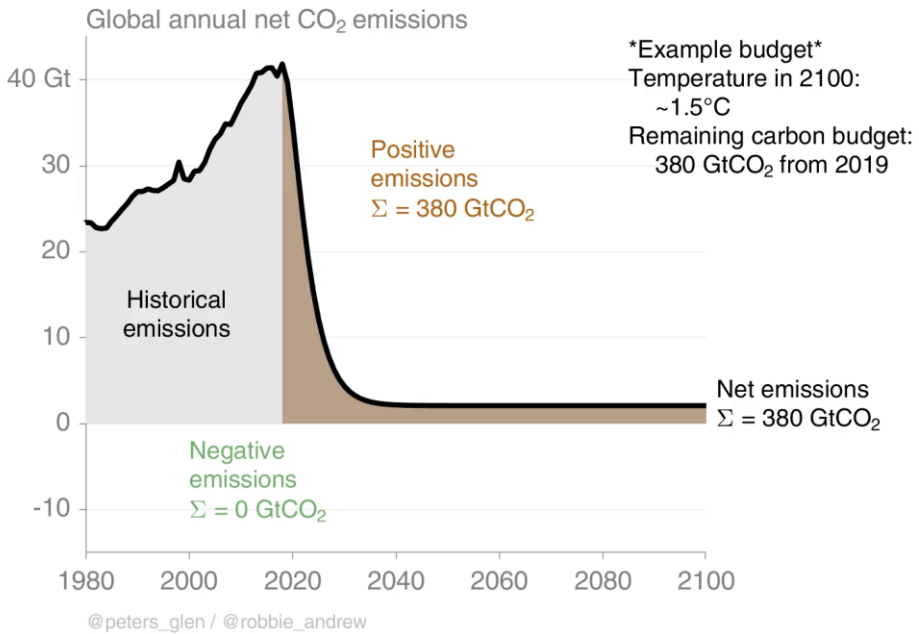
There is no need for investment in new fossil fuel supply in our net zero pathway

OPEC+ needs to open the taps to keep the world oil markets adequately supplied.

Source: IEA

Global commitments require a VERY rapid transition

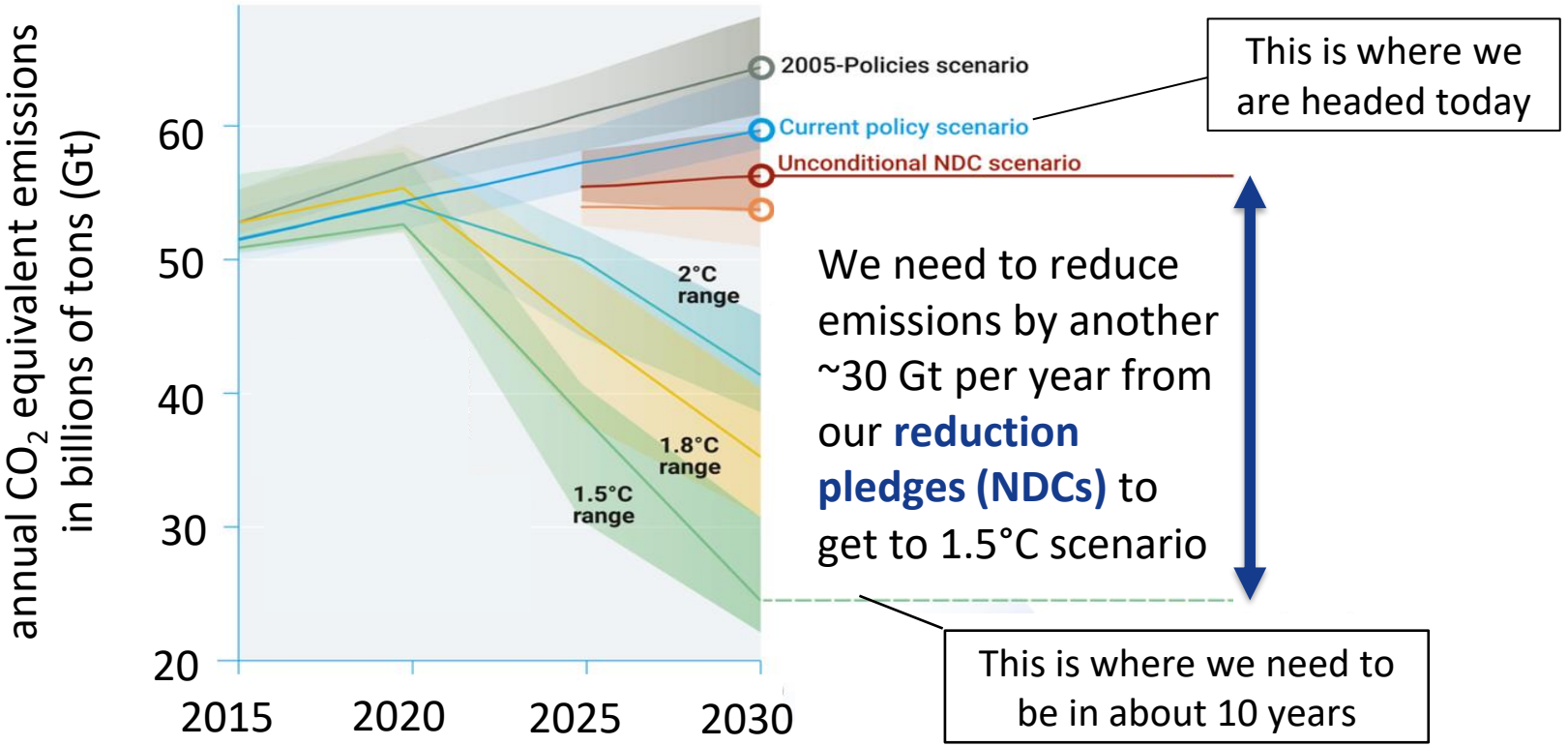
Global annual net CO_2 emissions



Source: Global Carbon Project

CO_2 emissions cuts of 1 to 2 billion tonnes are needed each year between 2020 and 2030 to limit climate change in line with the Paris Agreement goals

The Ambition – Reality Gap Is Enormous

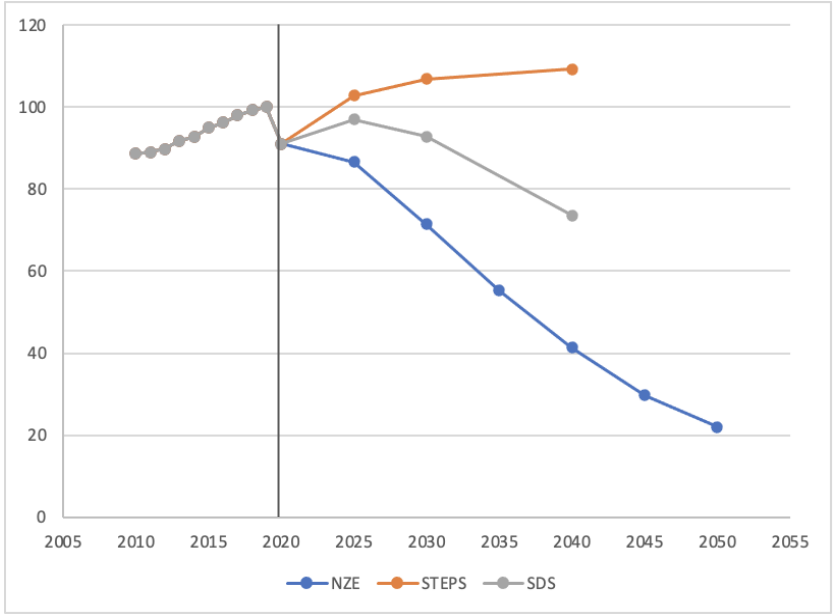


Source: UN Environmental Program 2019

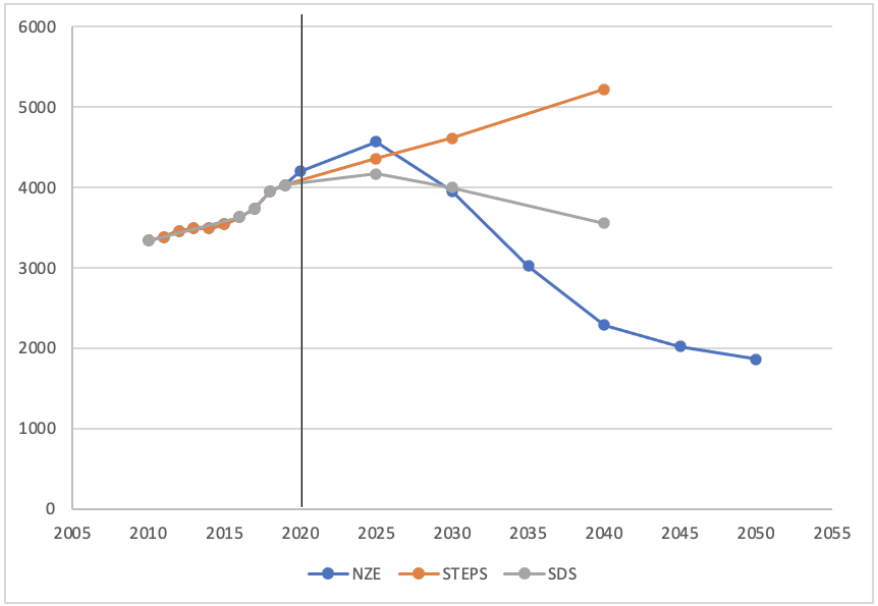
NDC = Nationally determined contributions

Oil demand is nowhere close to on track for net zero 2050

Global Oil Demand (mb/d)



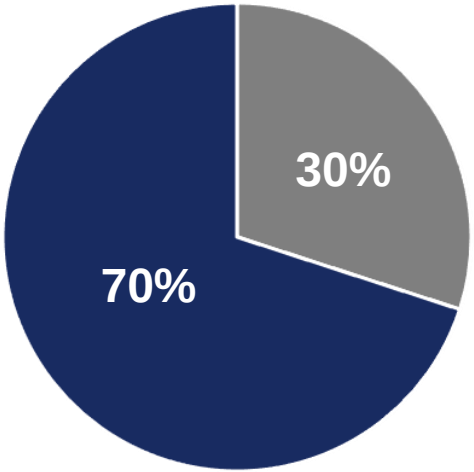
Global Gas Demand (bcm)



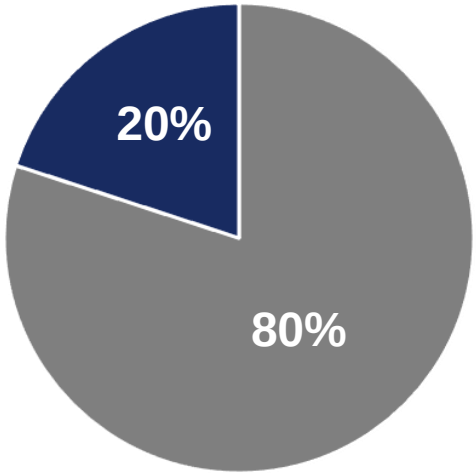
Source: IEA

Promises and actions are two different things

Mid-century net zero pledges cover 70% of the world's emissions



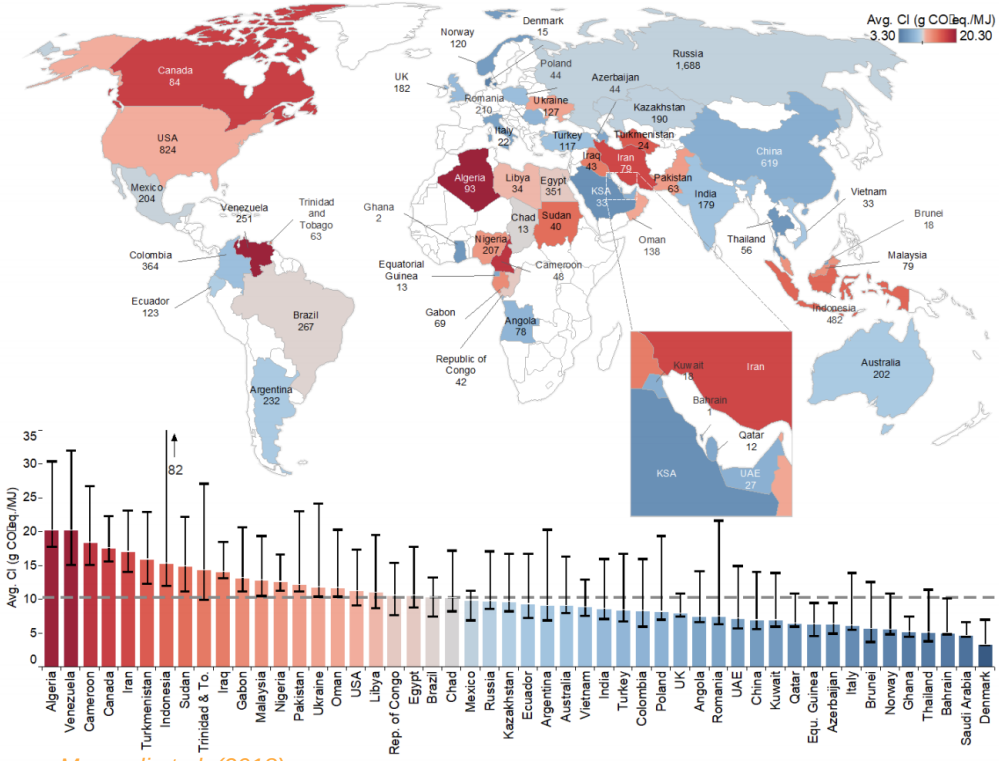
Legally-binding mid-century net-zero pledges cover only 20% of the world's emissions



Source: IEA

The barrels best positioned to compete will be the lowest carbon intensity…

Estimated upstream crude oil carbon intensity

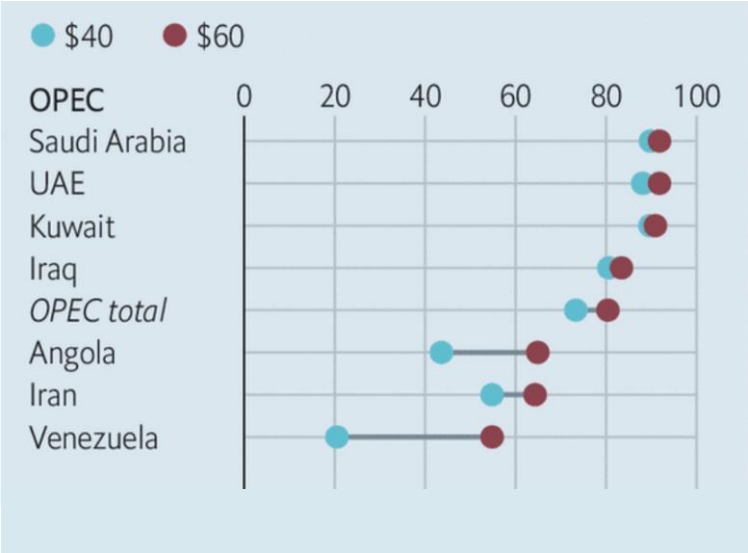


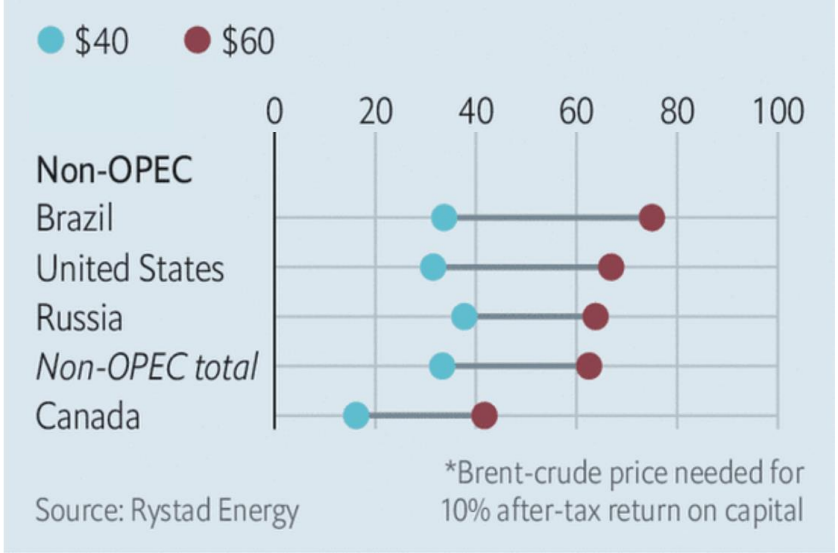
Source: Masnadi et al. (2018)

At 33 g CO_2e/MJ, Saudi oil is some of the least carbon-intense oil in the world.

… and the lowest cost

Extractable oil reserves by break-even price, January 2020 (% of total reserves)





Source: IMF