

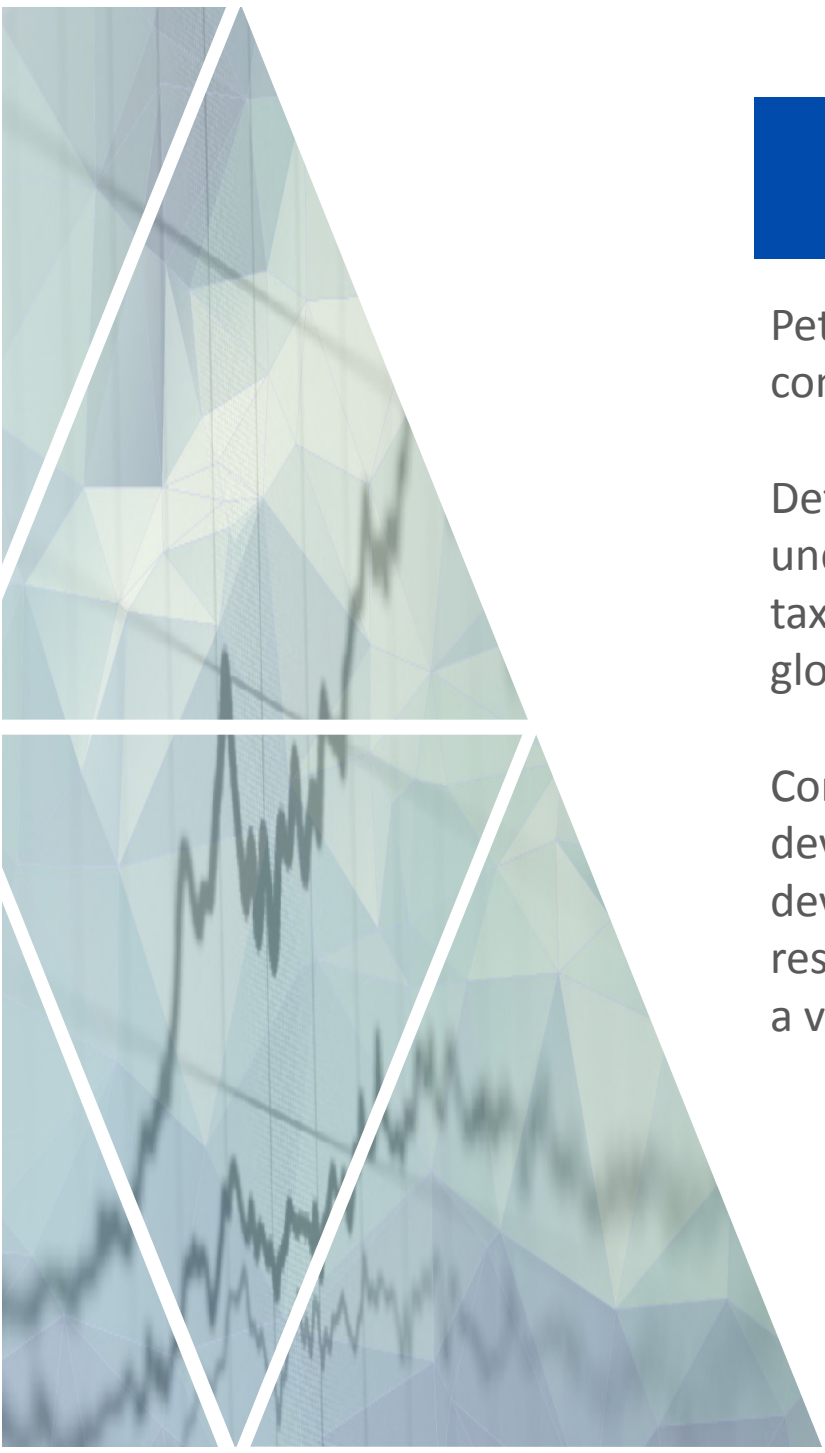
HOUSE ENERGY COMMITTEE

February 27, 2020



INTRODUCTION



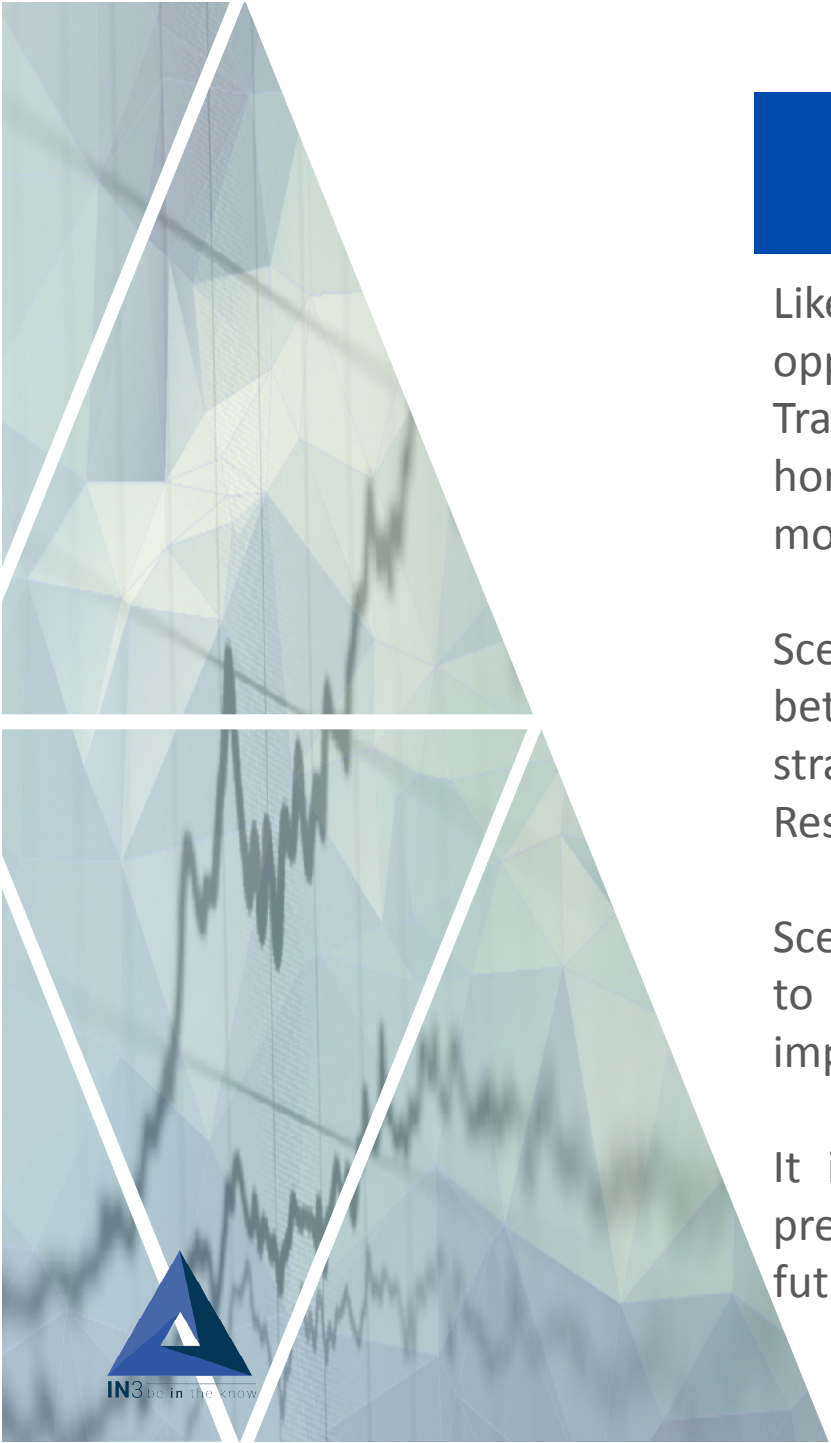


PETROLEUM POLICY & SCENARIOS

Petroleum Fiscal Policy involves many different, complex concepts in an ever-changing global industry.

Determining a government's fair share involves understanding how its resources, processes and taxation competes with other opportunities around the globe in a variety of very different circumstances.

Consequently, it is important for governments to develop and have in place a strategic plan for the development of its fiscal policy and hydrocarbon resources. That plan needs to be robust enough to be a viable across a range of possible future end states.



PETROLEUM POLICY & SCENARIOS

Likewise, petroleum companies have to compete for opportunities in an ever-changing global market. Traditional corporate 5 year or 10 year planning horizons proved inadequate for energy companies as most investments have 20 to 50 year time horizons.

Scenario planning creates natural and vital links between various aspects of an organization including strategic planning, innovation, risk management, Research & Development and leadership development.

Scenarios enable executives and other decision makers to open their minds to previously inconceivable or imperceptible developments.

It is not about predicting the future – it is about preparing an organization for a range of possible futures.

PLAN FOR OR CREATING A FUTURE

SINGLE ORGANIZATIONAL FOCUS

- Successful enterprises have clear, widely understood goals and regularly monitor progress and make implementation corrections as necessary



PREVENTING UNEXPECTED CONSEQUENCES

COMMENTS OFTEN HEARD

- Organizations attempt to create plans that do not require constant large scale change to correct for unexpected situations
- Alaska should strive to not be “caught by surprise”
 - Never thought prices would go so high
 - Never thought prices would stay this low for so long
 - Never thought so many companies would take advantage of the exploration credits
 - Didn’t think the per barrel credits would drive the effective tax rate so low
 - Didn’t appreciate that carry forward credits worked very differently than carry forward losses
 - Didn’t realize a technology change, such as shale development, would transform the global market so significantly and so quickly

CONSTANT CHALLENGE: WHAT IS FAIR SHARE

NEEDS TO BE DRIVEN BY POLICY GOALS

- How much can I take? What's our fair share? What's the right number?
- 2020 is not the 1980s - the world has changed, Energy has changed
 - The number of countries producers can operate in has increased, thereby increasing the competitive playing field
 - New technology has allowed production of more technically difficult reservoirs
 - Producers have many options where to operate, and governments must decide how they want to be considered for investment
- What once applied, or was once believed, likely can no longer be relied upon. Metrics have changed
- Just like for companies, scenario planning allows governments to set fiscal policies to move with these changes, as opposed to constantly reacting to unexpected changes

101 & 102 SUMMARY



GLOBAL ENERGY INDUSTRY

CONSTANTLY CHANGING

- Governments and producers must balance preparing for the future while addressing the present in a global market, where no single region, player, or component is isolated from another
- The goal is to design fiscal policy that is responsive to a complex and sophisticated business environment in global competition for producer investment dollars
- When putting together petroleum fiscal policy you must assume an unpredictable future that can range from much better than hoped to much worse than feared
- The more durable fiscal systems today are those set up to respond to inevitable change as well as the up and down cycles of the energy industry and geopolitical events

TWO DECADES OF PRICE VOLATILITY

POLICIES TESTED ACROSS A BROAD RANGE



THERE IS NO SINGLE IDEAL STRUCTURE

DESIGN BASED ON UNIQUE CHARACTERISTICS

- Many factors outside the control of energy industry participants are shaping the future of the industry
- After a century of trying, there is still **no single universally ideal or optimum petroleum fiscal structure**
- Why is that?
 - Reservoirs are unique
 - Government needs are unique
 - Geopolitical influences are not predictable
- Scenario planning allows possible courses of action to be tested against a number of varied end states

TESTING POLICIES AND GOALS

STARTING WITH A SET OF GOALS

- Fiscal design should start with a set of agreed policies or goals
- Some typical drivers of government fiscal policy design include:
 - Fill short term revenue needs
 - Build multi-generational wealth
 - Short on reserves – emphasize drilling
 - Long on reserves - bring in industry, bring on production
 - Provide affordable/discounted domestic energy supply
 - Grow associated industries (e.g. Petrochemical, Power)
 - Create long term jobs
 - Create a national oil company, build self sufficiency

SCENARIO PLANNING



HISTORICAL SCENARIOS

WHAT WILL THE NEXT DECADE BRING?

- With 2020 hindsight we can generally describe the main drivers of change to the energy industry in the past 5 decades
 - 1970s – The emergence of OPEC, tight oil supplies, deregulation of government pricing controls
 - 1980s - Unbridled activity, resulting supply surplus, end of cold war, surviving <\$20 oil prices
 - 1990s - Liberalization, globalization and massive opening of previously closed countries to outside investment
 - 2000s - Talk of climate change, dash for gas, private equity financing, oil/gas price parity disconnect
 - 2010s - Environmental focus and the shale revolution

SCENARIO PLANNING

EXPECTING THE UNEXPECTED

- Scenario planning is used by businesses to test the resilience of strategic plans against a range of possible future outcomes
- Many energy companies use scenario planning to be prepared for global developments that can drive energy systems
- These scenarios are “stories of the future”, developed by taking into account analyses of many factors:
 - Market fundamentals
 - Technology development
 - Geopolitical policies
 - Human resource availability
 - Energy resource availability
 - Changing consumer behavior

SCENARIO PLANNING

EXPECTING THE UNEXPECTED

- Three prominent energy companies post their scenario planning and thinking online
 - BP
 - Shell
 - Equinor (previously Statoil)
- Depending on the entity, it is not uncommon to see anywhere from 1 scenario with significant sensitivities to as many as 4 scenarios considered
- Additionally, government agencies such as the EIA and IEA publish their future industry scenarios on an annual basis
- These detailed, well-researched, well documented data-driven reports provide a window into the general thinking of the industry

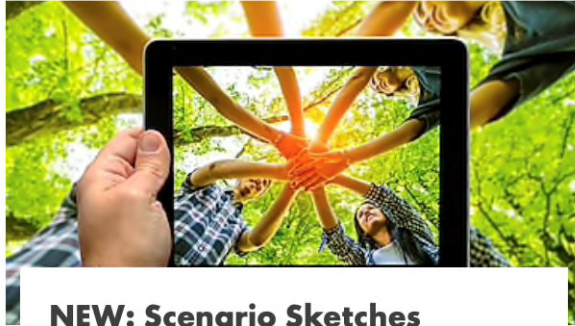
SCENARIO PLANNING

THE CURRENT COMMON DENOMINATOR

- Although many companies and agencies publish annual scenarios, there is a degree of commonality
- Currently, there is one main theme presenting the biggest challenge to the industry and economies today
- On the one hand there is a global recognition of a continually growing demand for more energy supply,
- While simultaneously faced with a global movement to rapidly reduce carbon emissions
- The challenge: “decarbonizing while meeting increased demand”

PUBLISHED SCENARIOS

SHELL



NEW: Scenario Sketches

We turn insights about how the world is changing – politically, economically, technologically and socially – into 'sketches' to help us think about the future.



Sky scenario

The Sky scenario illustrates a technically possible, but challenging pathway for society to achieve the goals of the Paris Agreement.



New Lens on the Future

Our New Lens Scenarios explore two possible ways the 21st century could unfold, with dramatically different implications for society and energy.



New Lenses on Future Cities

We analysed six city archetypes to better understand the changing world and created scenarios for how individual cities might evolve and become more efficient.

PUBLISHED SCENARIOS

EXXONMOBIL

ExxonMobil

[Energy and environment](#)

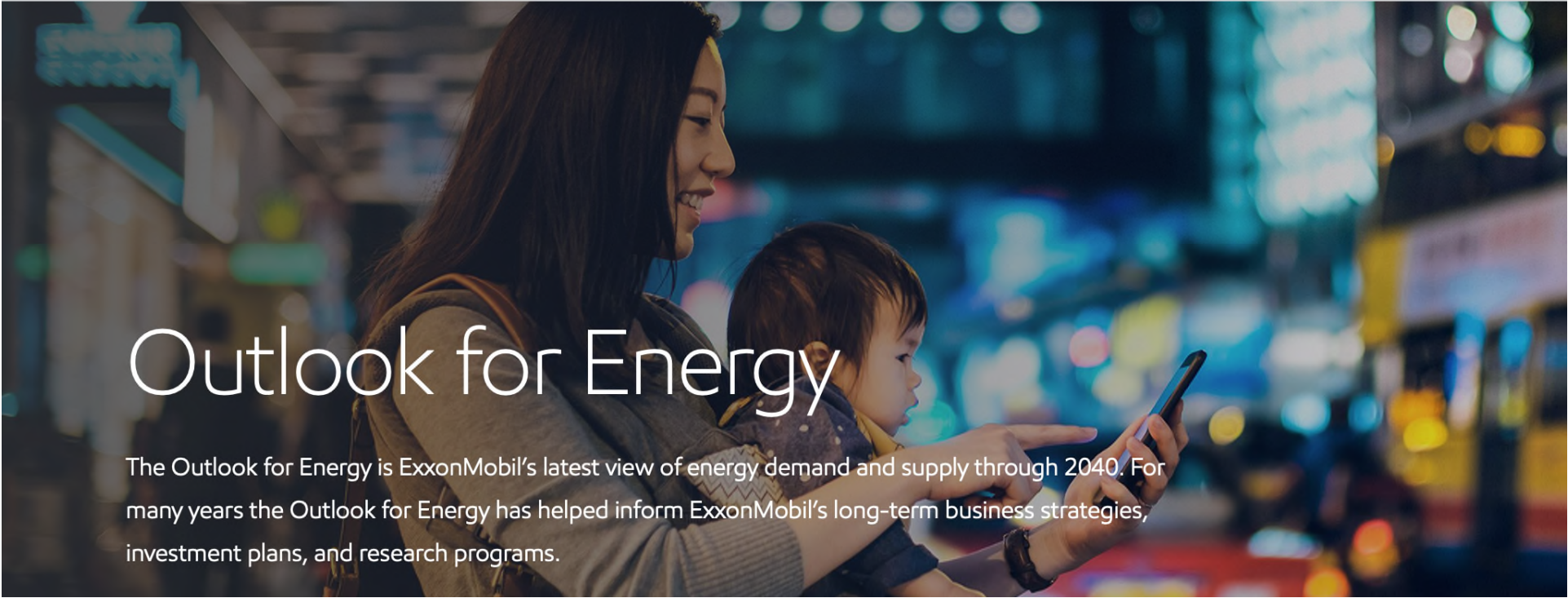
[Research and innovation](#)

[Community engagement](#)

[Company](#)

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Outlook for Energy

The Outlook for Energy is ExxonMobil's latest view of energy demand and supply through 2040. For many years the Outlook for Energy has helped inform ExxonMobil's long-term business strategies, investment plans, and research programs.



INSIGHT. INQUIRY. INGENUITY.

19

PUBLISHED SCENARIOS

BP



Building on the Energy Outlook, our 'insights' factsheets provide projections at a country and regional level. These 'insights' are based on the 'evolving transition' scenario

Global insights

Global – Evolving transition →

Global energy consumption grows by around one-third over the Outlook; energy intensity falls faster than at any time since at least 1965, and the energy mix shifts towards lower carbon fuels

Global – Rapid transition →

Global energy consumption grows by around one-fifth and CO₂ emissions half of current levels. Renewables amount to almost one-third of total primary energy in 2040

Regional insights

Africa →

Africa's net exports fall significantly even as production rises, due to its own consumption growing strongly; renewables become the largest source of power generation in 2040

Middle East →

The Middle East remains the largest net energy exporter, increasing both its oil and gas exports over the Outlook period

EU →

The European Union, thanks to its policies, leads the global transition towards a carbon-free economy

PUBLISHED SCENARIOS

BP

- BP generally looks at one scenario, but runs sensitivities on that scenario to test a range of outcomes
- The scenarios are released in an annual report called “The Energy Outlook”
- It includes extensive background analysis and support, all of which is published free to the public

The Energy Outlook considers a range of scenarios to explore different aspects of the energy transition. The scenarios have some common features, such as ongoing economic growth and a shift towards a lower carbon fuel mix, but differ in terms of policy, technology or behavioural assumptions

PUBLISHED SCENARIOS

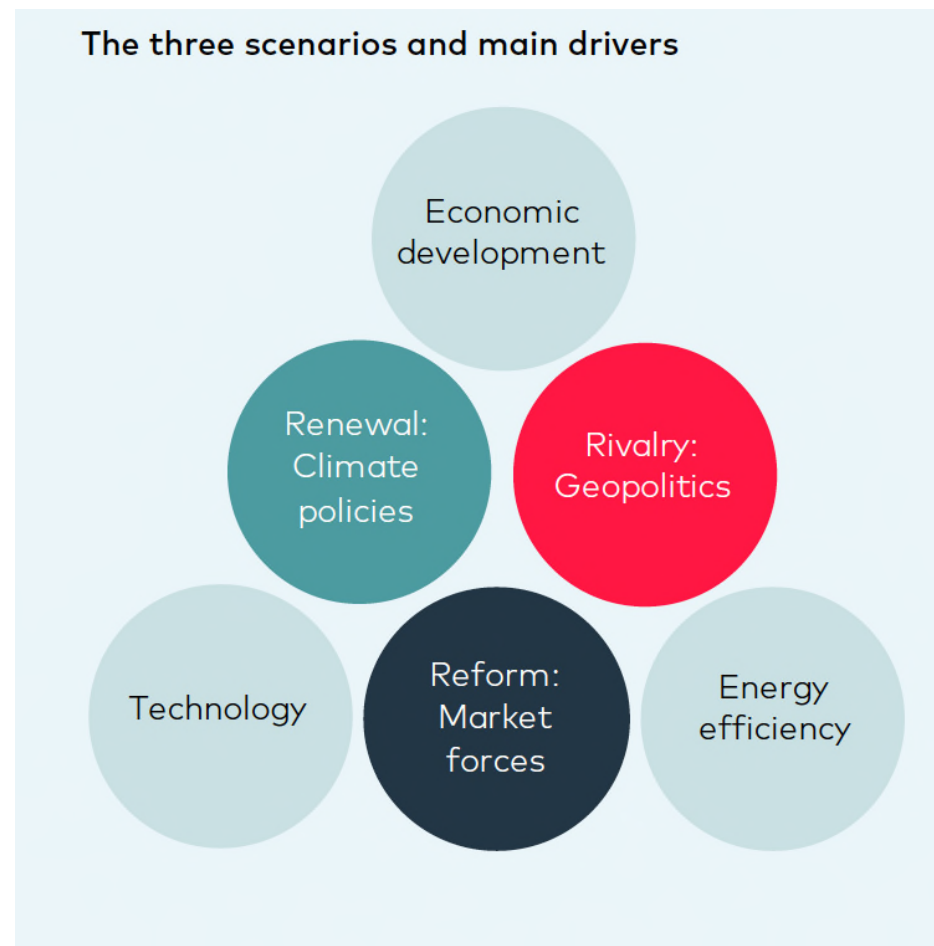
BP

- BPs base case is called the Evolving Transition
- In 2019, some of the alternative scenarios/sensitivities considered:
 - More energy required globally
 - Global single-use plastics ban
 - Lower-carbon industry and buildings
 - Lower-carbon transport
 - Lower-carbon power
 - Less globalization
 - Greater industry reform
 - Rapid transition of carbon emissions

PUBLISHED SCENARIOS

EQUINOR

- Equinor (previously Statoil) generally uses three broadly defined scenarios, but updates their thinking within each as necessary



PUBLISHED SCENARIOS

EQUINOR

- Equinor releases the scenarios in an annual report called “Energy Perspectives”
- It includes extensive background analysis and support, all of which is published free to the public
- This report is recognized globally, and used in many conferences and global forums to discuss the future of energy and the global economy

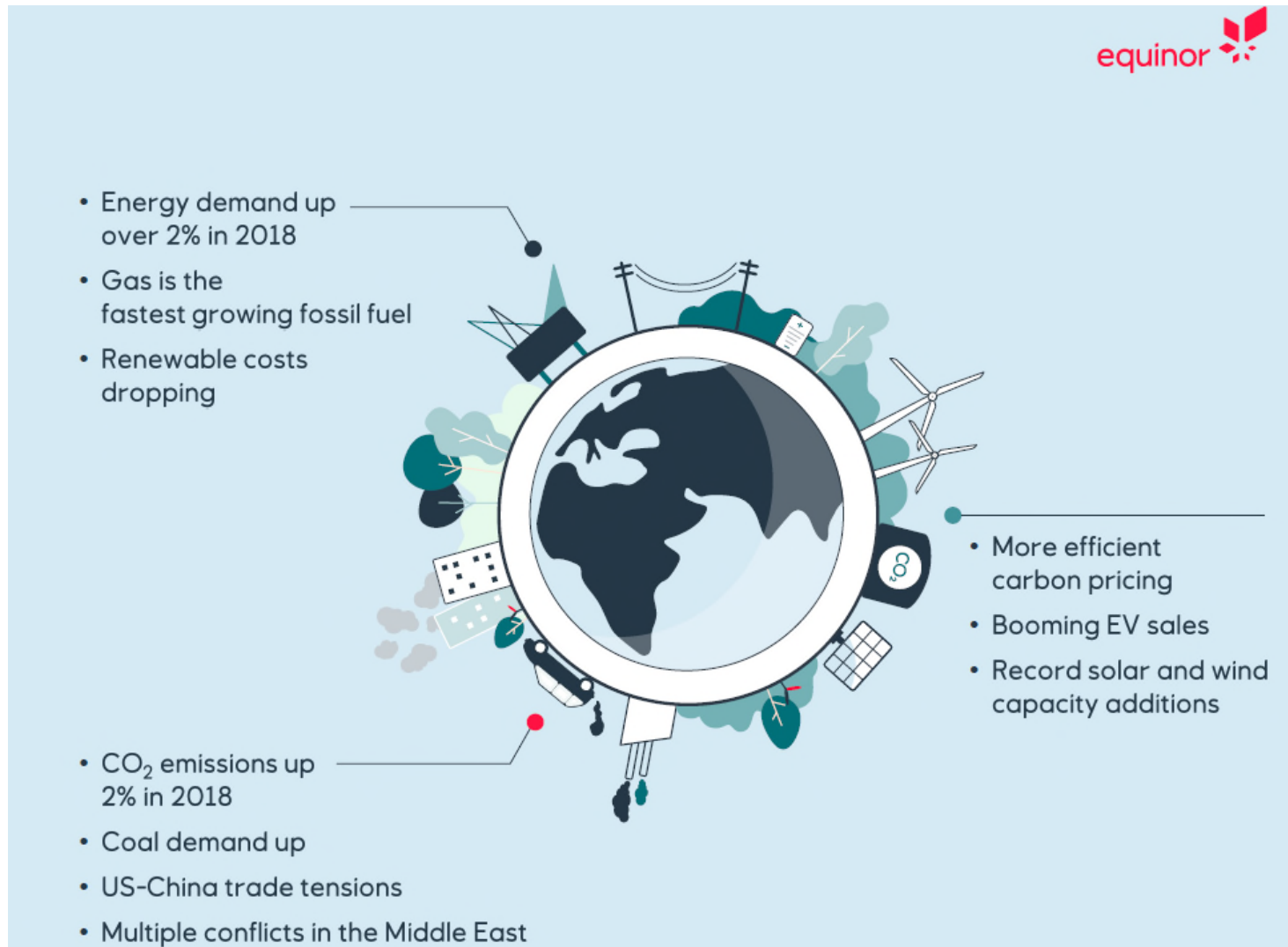
PUBLISHED SCENARIOS

EQUINOR

- At a high level, the three scenarios are:
 - **Reform** – “represents a future driven by technology development and benign market forces, supported by gradually tightened energy and climate policy”
 - **Rivalry** – “the energy transition is slowed by lack of trust, significant geopolitical volatility and ineffective solutions to common challenges”
 - **Renewal** – “driven by rapid and significant energy and climate policy tightening, global political cooperation, and fast technology change”

PUBLISHED SCENARIOS

EQUINOR

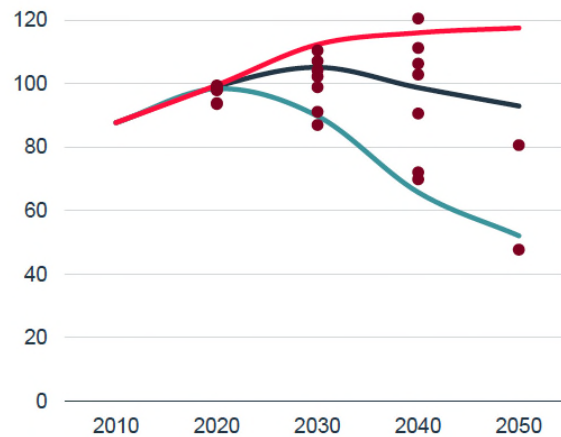


PUBLISHED SCENARIOS COMPARISON

OIL AND GAS DEMAND PROJECTIONS

Global oil demand

mbd

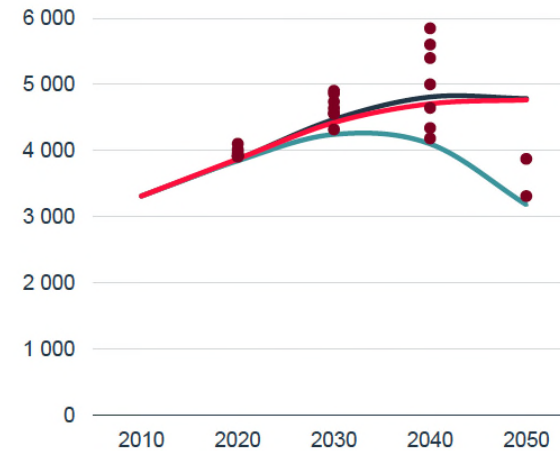


Reform
Renewal
Rivalry
Other projections

Source: Equinor, IEA, BP, Exxon, Shell, DNV GL

Global gas demand

bcm



Reform
Renewal
Rivalry
Other projections

Source: Equinor, IEA, BP, Exxon, Shell, DNV GL

- Consistent views on oil but wide variance on gas demand

PUBLISHED SCENARIOS

EIA

- The US EIA (Energy Information Administration) designs a “Reference Case” each year as a future forecast
- They then take into account a number of factors to determine their “side cases”. For 2020, some factors included are:
 - High and low price
 - High and low supply
 - High and low economic growth
 - High and low renewables costs
- It includes extensive background analysis and support, all of which is published free to the public
- The information is published annually through their “Annual Energy Outlook”

PUBLISHED SCENARIOS

A WEALTH OF KNOWLEDGE

- Each of the entities we highlighted spend millions of dollars developing their reports
- These annual or biannual reports are more than worth the time to read and digest
 - Most give access to prior reports if you are interested to see how thinking has evolved over time
 - Most have data sets on numerous items that can be downloaded and used
- Alaska can choose to develop scenarios for creating or stress testing its petroleum fiscal policies. These industry available resources are an excellent starting point

SETTING GOALS

ALASKA GOAL SETTING

BALANCING SHORT AND LONG TERM

- Let's circle back – What is Alaska's fair share? It depends
- Alaska's fair share is the maximum amount it can take while achieving its goals
- It depends – what are the State's goals?
 - Budget defined revenue generation?
 - Keeping TAPS full?
 - Bring NS discoveries online?
 - Continued exploration?
 - Harvest the slope?
 - Promote unconventional shale and heavy oil?
 - Attract new operators?
 - Fuel new industry and commerce?
 - Monetize North Slope gas?
- One or more of the above (or others not listed) could be combined to set the State's strategic direction

DEFINING THE GOAL

DESCRIBE THE “ROAD” TO TAKE

- Seems to be consensus that gas demand will continue to grow considerably over the next decade plus
- Because of lead time, Alaska would need to act now
 - Need to capture dedicated market
 - Significant upfront capital costs
 - Economics driven by early cash flows
 - 30 to 50 years of robust cash flow
- What “policies” could be put in place?
 - Use as anchor to keep North Slope going for decades to come
 - Minimal government take in first 10 years or so
 - High government share of profits next 30 to 40 years
 - Job creation and increased slope activity
- This is just one example of how a state goal matches up with consensus scenario and a plan to get it done

AK SCENARIOS



ALASKA EXAMPLE SCENARIOS

NO SURPRISES, CONTINUAL CHANGE

1. Slow uptake on climate change. Current price will slow shale development, once overhang works prices rise \$10 to \$20 but stay sub \$100 for a decade
2. Geopolitical uncertainty and volatility, energy security, patchy climate policies, prices rise to +/- \$100
3. Aggressive targets for the reduction of fossil fuels, support companies refuse to conduct business in the arctic, North Slope into harvest mode

If we were to go with the above type scenarios based on pretty wide industry consensus, then the challenge is to design a fiscal system that promotes growth (Scenario 1 & 2) but at the same time ensures a fair share in harvest mode (Scenario 3)



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THANK YOU
QUESTIONS?

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