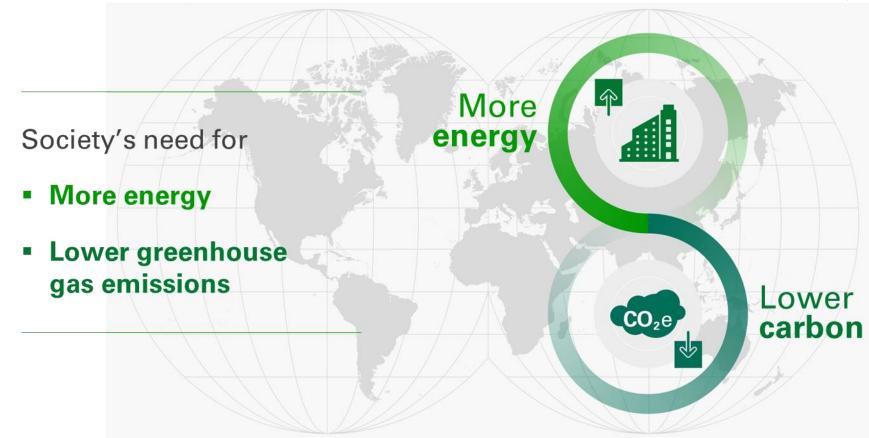


Advancing the Energy Transition January 2019

Dominic Emery – VP Strategic Planning

The dual energy challenge

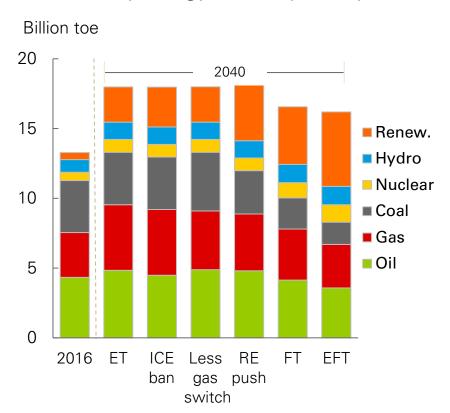




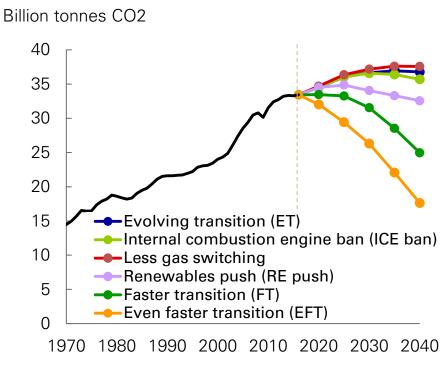
Alternative scenarios



Primary energy consumption by fuel



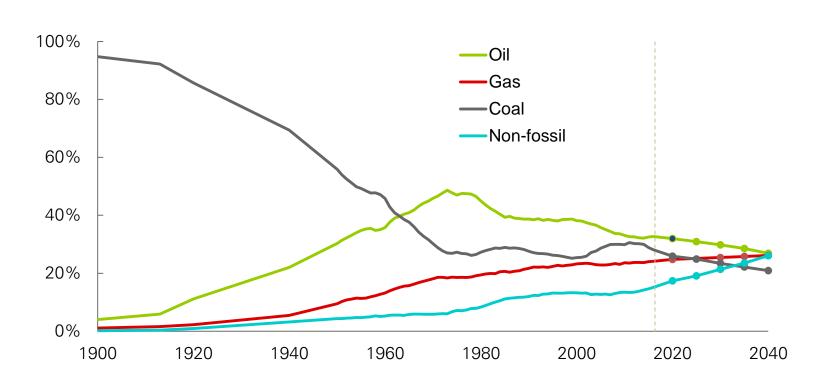
Carbon emissions



Diversified fuel mix



Shares of primary energy



BP Technology Outlook – what's changed



What's changed?

- Energy storage lower battery costs
- Renewables lower solar and wind costs
- Higher performance of unconventional reservoirs

What's **not** changed?

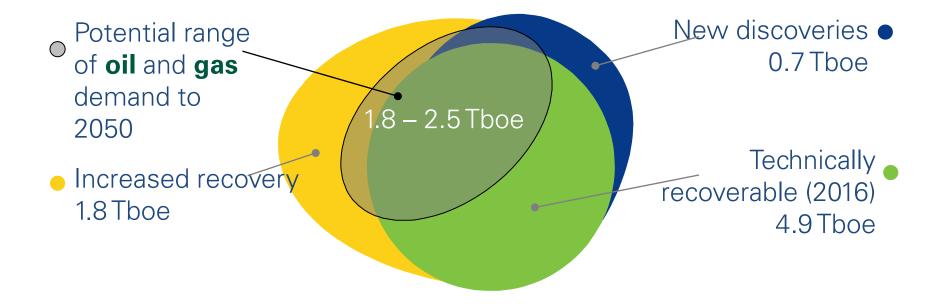
- Abundance of energy resources
- Comparative ease of Power sector decarbonisation
- Rapid evolution of digital technology

What's new?

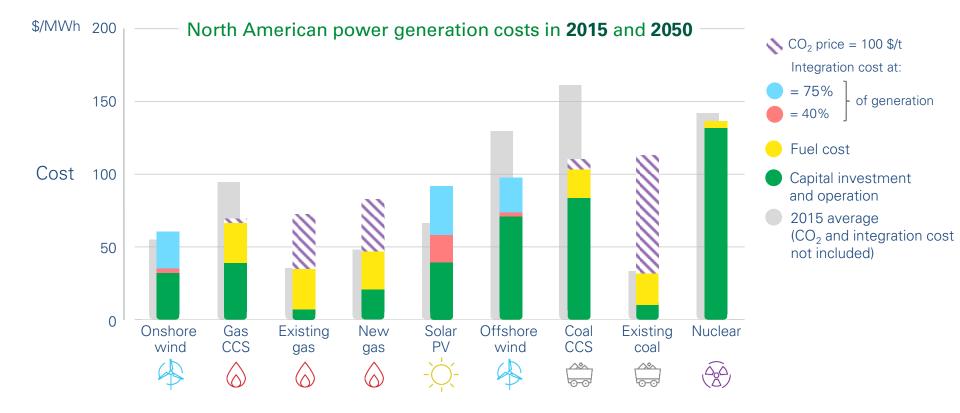
- Deep dive on intermittency
- Study of power storage options
- Analysis of the heat sector
- Focus on air quality
- Energy efficiency
- Modelling of low-carbon future and alternatives
- A focus on the energy systems of China, Europe, North America

Resources: Potential oil and gas resources are abundant



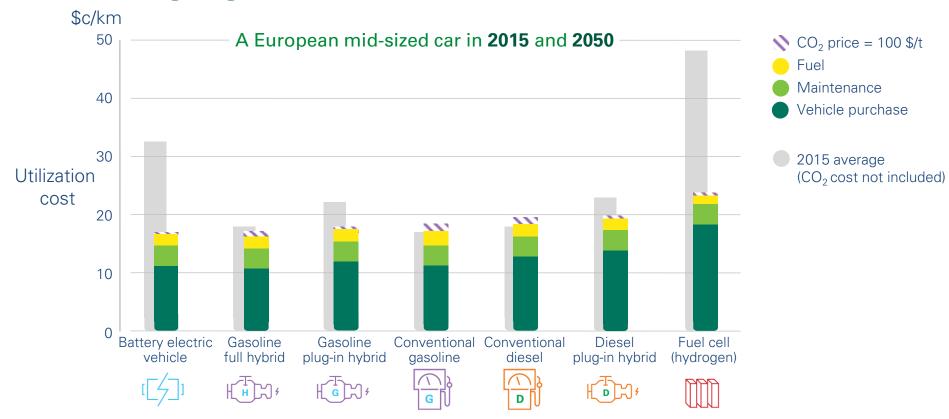


Power: The big switch, new onshore wind is increasingly competitive – with gas next in line



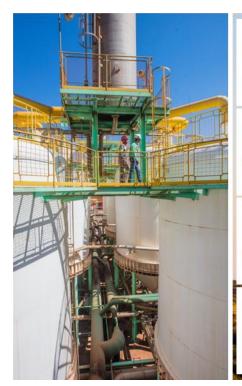
Transport: Light-duty sector costs are converging





BP's Strategic Priorities





Growing gas and advantaged oil in the Upstream

Market led growth in the Downstream

Venturing and low carbon across multiple fronts

Modernising the whole Group



New Low Carbon Businesses



Advanced mobility

Electric, connected and autonomous vehicles





Bio and low carbon

New fuels, gas, lubricants and plastics





Carbon management

Lowering carbon footprint for customers and BP





Power and storage

Low carbon power, storage and trading





Digital

Transforming productivity and customer experience



Reduce, Improve, Create framework



Reducing

emissions in our operations

Zero

net growth in operational emissions out to 2025

3.5 Mte

of sustainable GHG emissions reductions by 2025

Targeting methane intensity of

0.2%

and holding it below 0.3% out to 2025

Improving

our products



Provide lower emissions gas



Develop more efficient and lower carbon fuels, lubricants and petrochemicals



Grow lower carbon offers for customers

Creating

low carbon businesses



Expand low carbon and renewable businesses



\$500 million invested in low carbon activities each year



Collaborate and invest in the Oil and Gas Climate Initiative's \$1 billion fund for research and technology

Advancing low carbon

Our accreditation programme for low carbon activities

Advancing the Energy Transition



A clear approach

- 1. Reduce
- 2. Improve
- 3. Create



~\$500m
annual spend
within a strict
investment framework