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Climate risk and the Norwegian economy

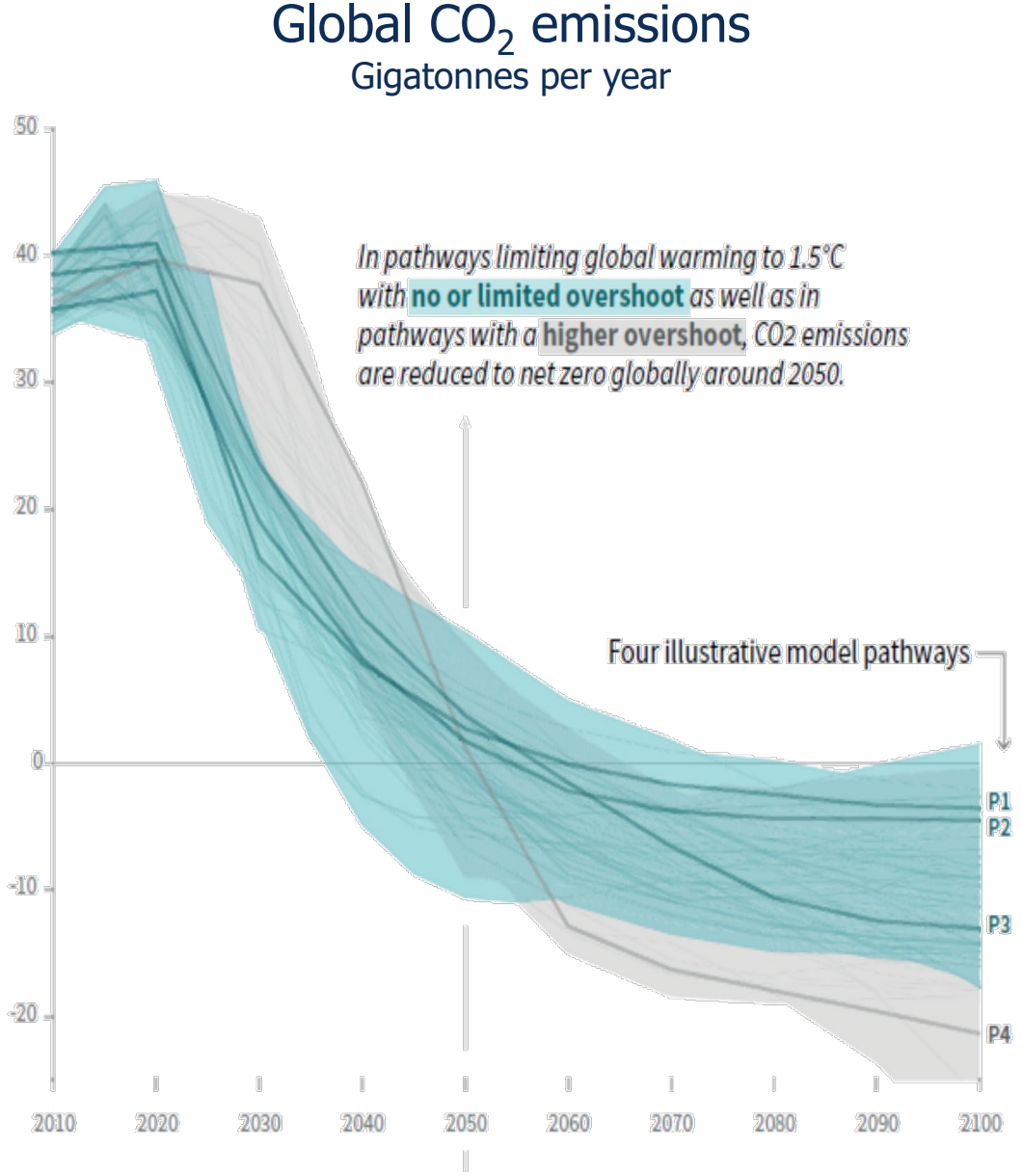
Better climate risk management

'Risky Days', Sparebank1 group
Stavanger, 2 September 2019

The climate challenge is massive

Paris was just a teaser, the work starts now

- Success requires continuous scaling of policies and effort
- Global net emissions shall have to be zero by 2050
- Demand and extraction of fossil fuels needs to be cut
- Any delay will add complications - and cost



Source: IPCC.

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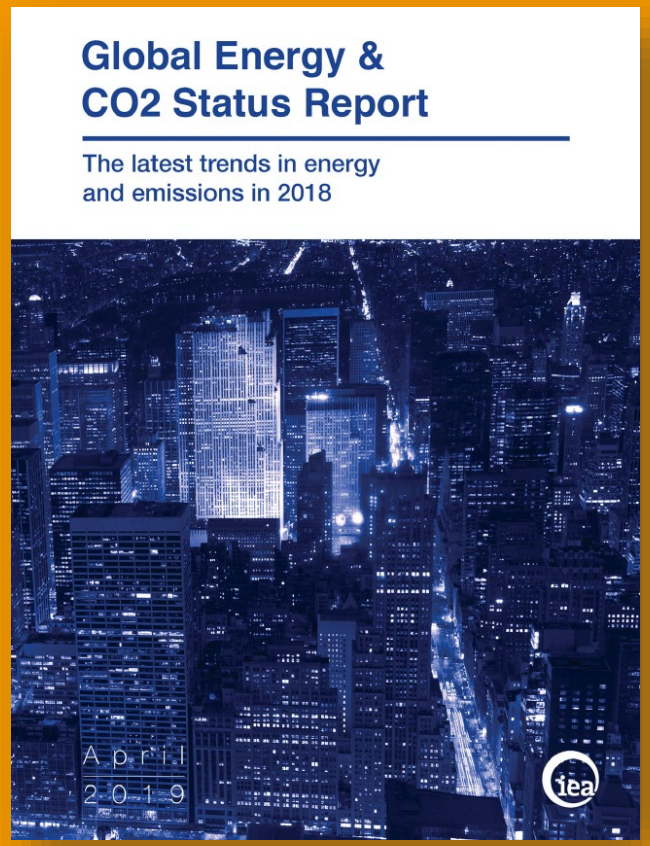
The world is not on the right track

Energy demand and CO_2 emissions keep increasing

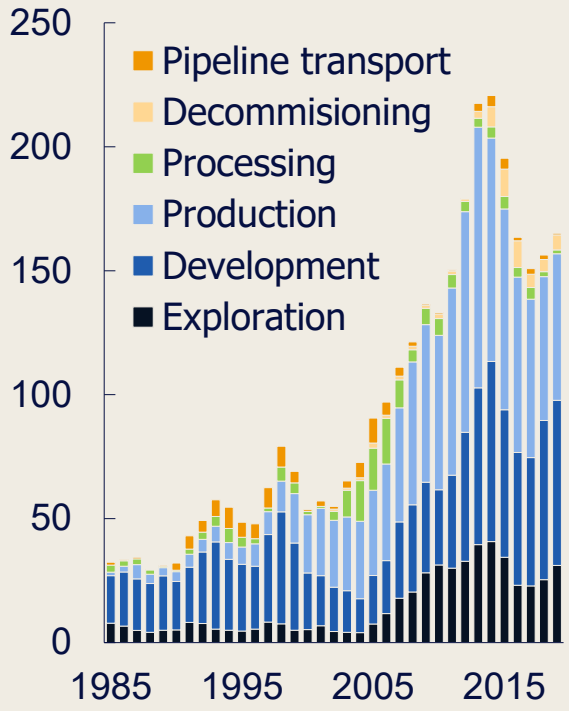


Conversion of natural capital

From below-ground resources to financial resources

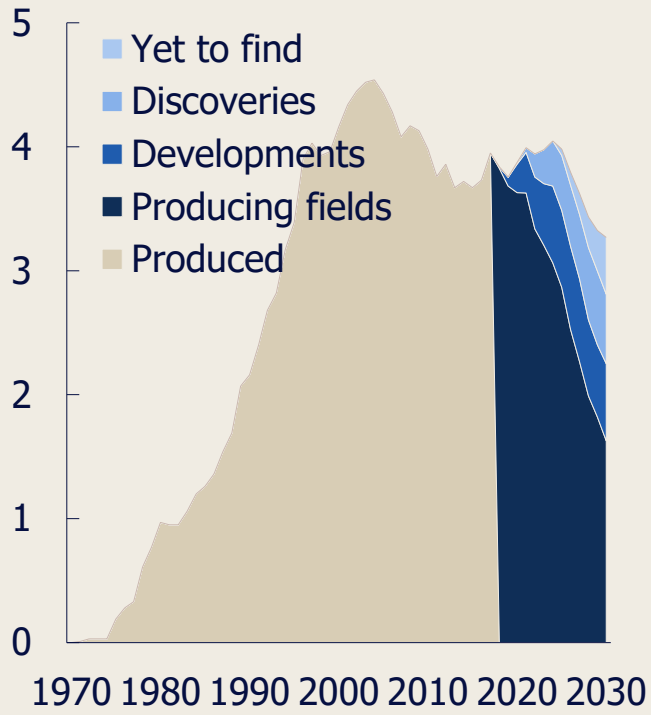
Investment

NOK bn (nominal)



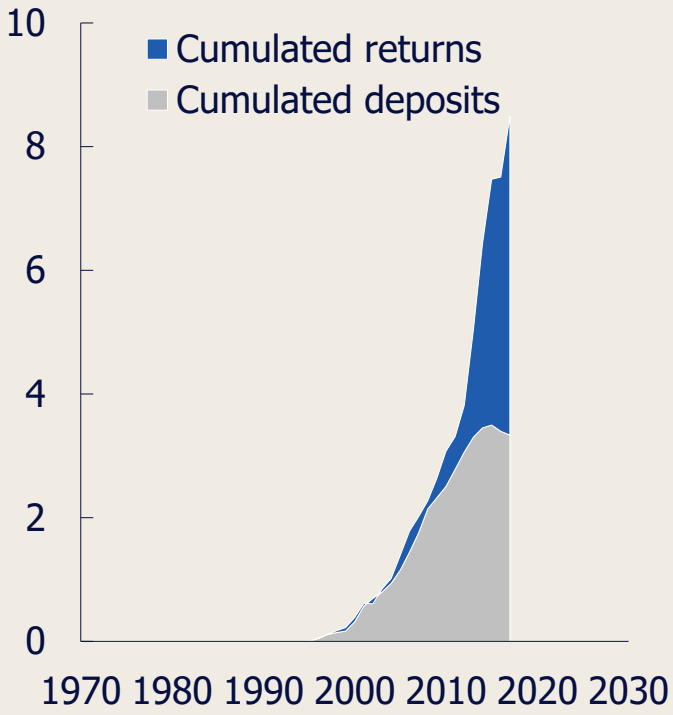
Extraction

mmboepd



Revenue management

Oil fund, NOK trn

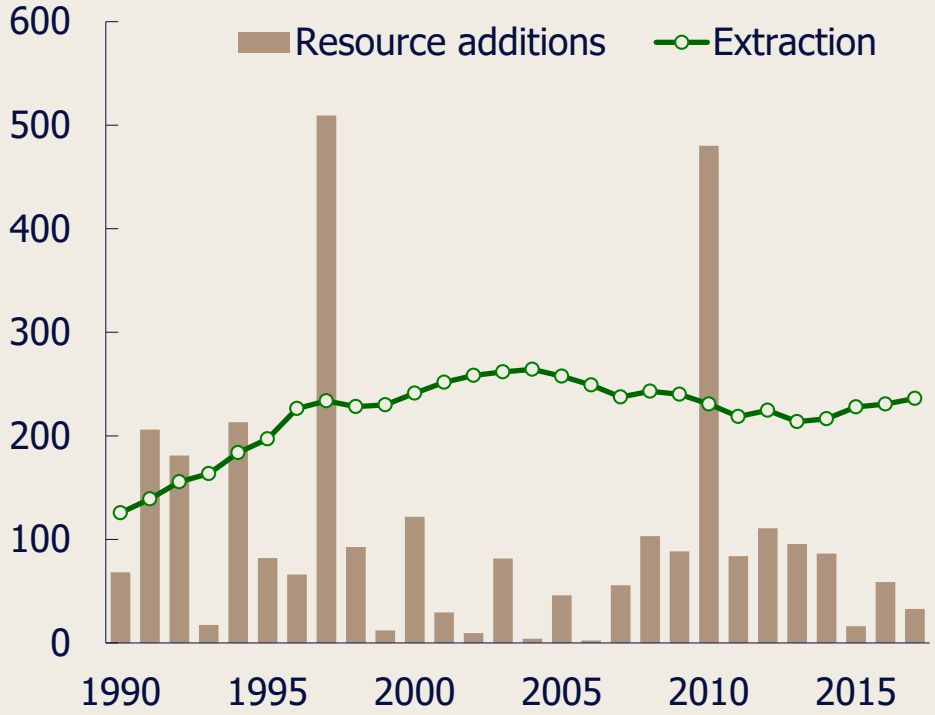


Clouds on the horizon

Constraints resource mobilisation and demand

Resource scarcity…

… raises challenges for reserve replacement



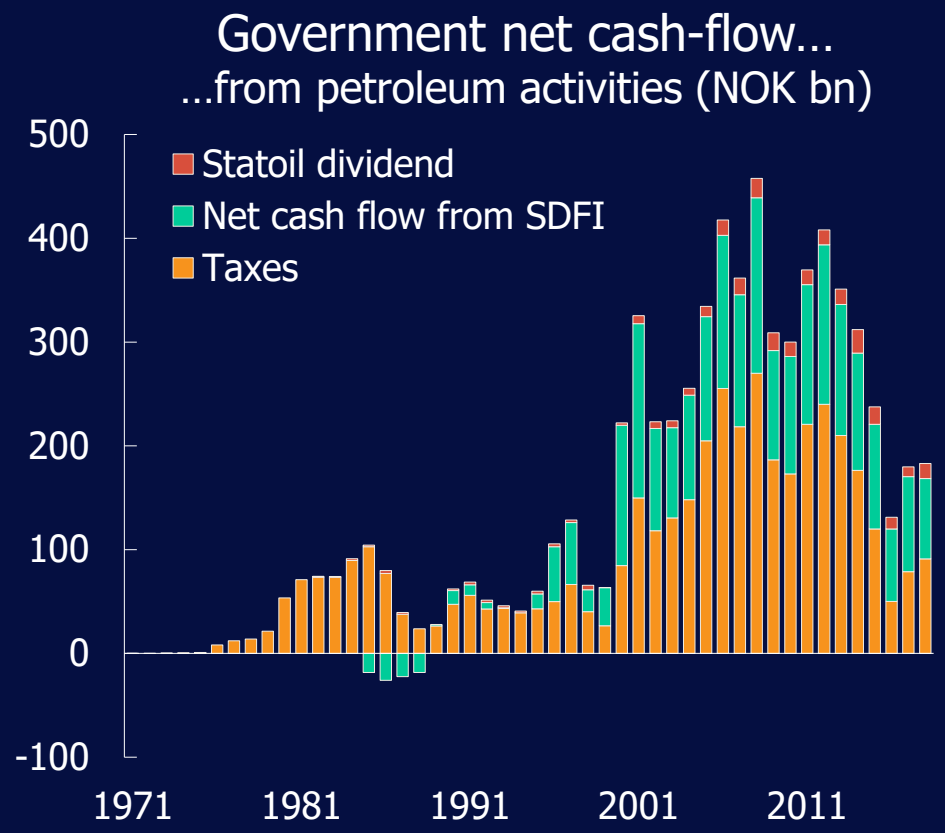
Climate policy uncertainty…

… raises raises risk around demand and prices

COP21·CMP11
PARIS2015
UN CLIMATE CHANGE CONFERENCE

Oil fund mechanism and fiscal policy rule

Separation of accrual and spending of oil and gas revenues



Net cash flow

Return

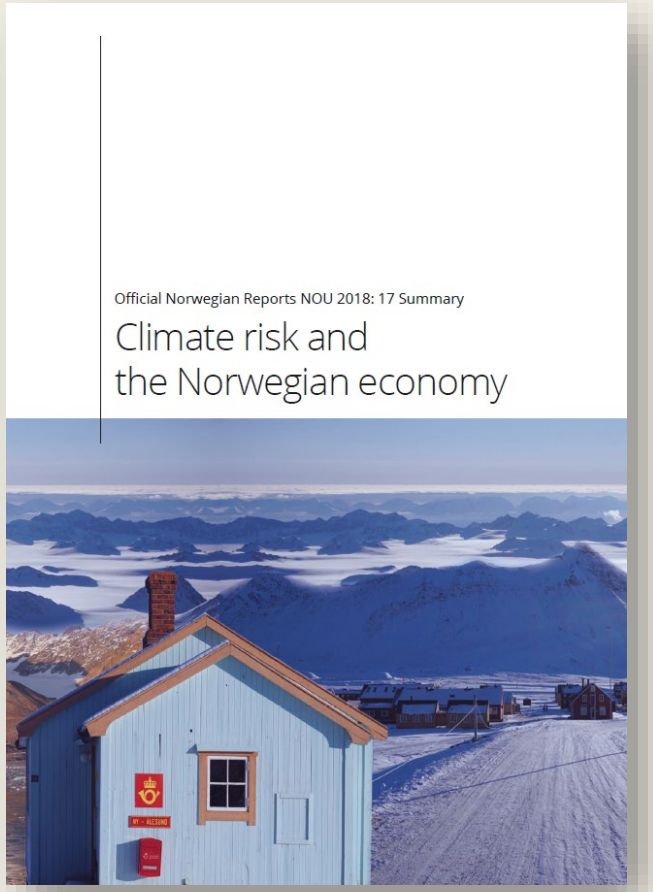
Fiscal policy rule

Oil Fund (GPF)

Government budget

Norway's Climate Risk Commission

Better climate risk management



Government Commision on Climate Risk

Members, mandate, and priorities

The commision was asked to describe climate risk

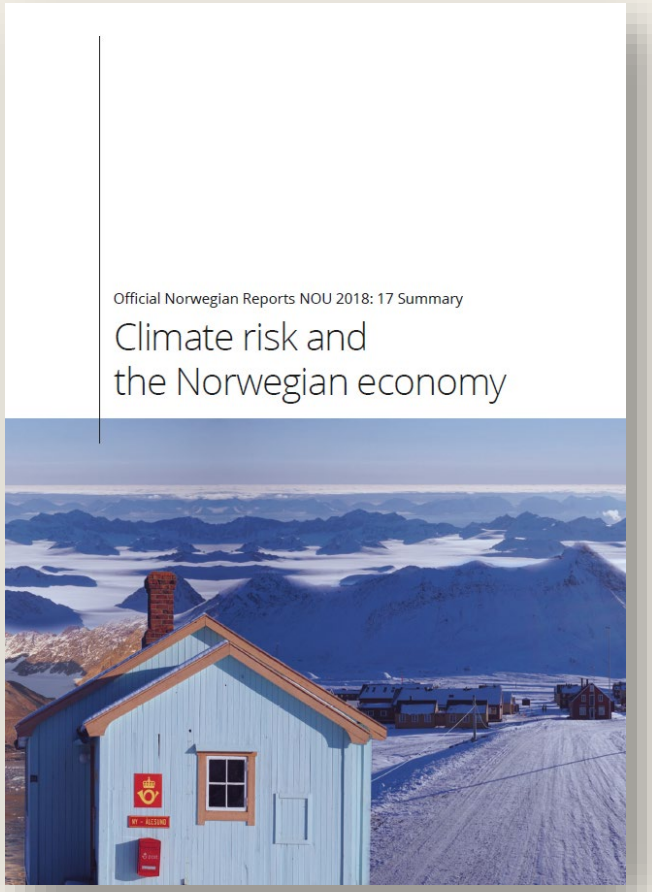
- Climate-related risk-factors and their significance for the Norwegian economy
- How climate risk can be analysed and described most appropriately
- How private and public sector entities can be provided with an analytical framework for analysing and managing climate risk i in the best possible way

Too many questions, too little time

- Twelve months, nine meetings
- Wide range of stakeholder input
- Univocal report and proposals
  - Call for more systematic approach to climate risk
  - A broad and aggregate perspective
  - Sound principles and processes
  - Information, reporting, knowledge

Main themes of the commision's work

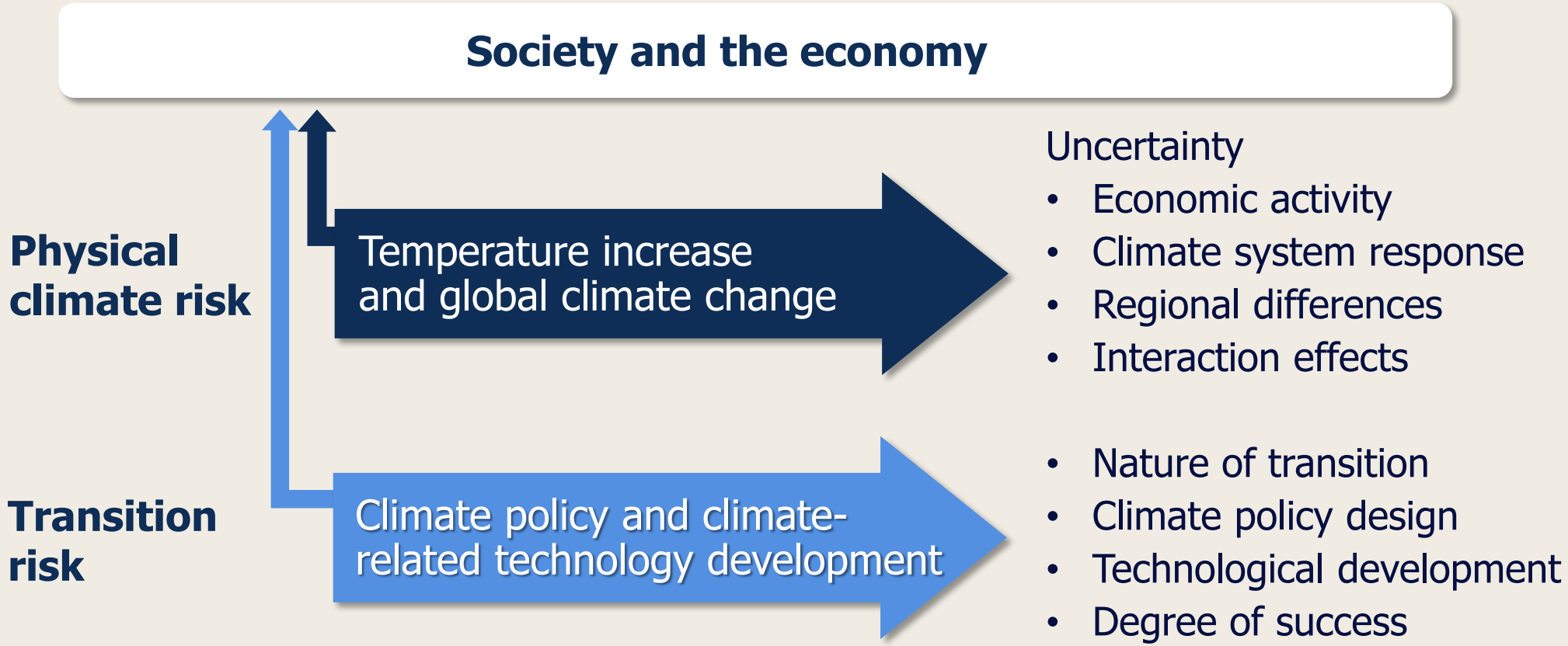
Climate-related risk factors and their significance for the Norwegian economy



- Assessment of climate risk
- Framework for ongoing monitoring of climate risk
- Climate risk management principles
- Sound decision-making processes that integrate climate risk
- Apropriate incentives

Climate risk – key relationships

Climate change, climate policy, technology, economy, and society



Government commision on climate risk

Climate-related risk factors and their significance for the Norwegian economy

- The climate system is changing
- Global appreciation of climate risk
- Economics and risk theory
- A broad and general perspective
- Sound climate risk management may support climate policy

Climate policy
and climate risk management

Reduce likelihood of catastrophic climate change
Reduce uncertainty around energy transition

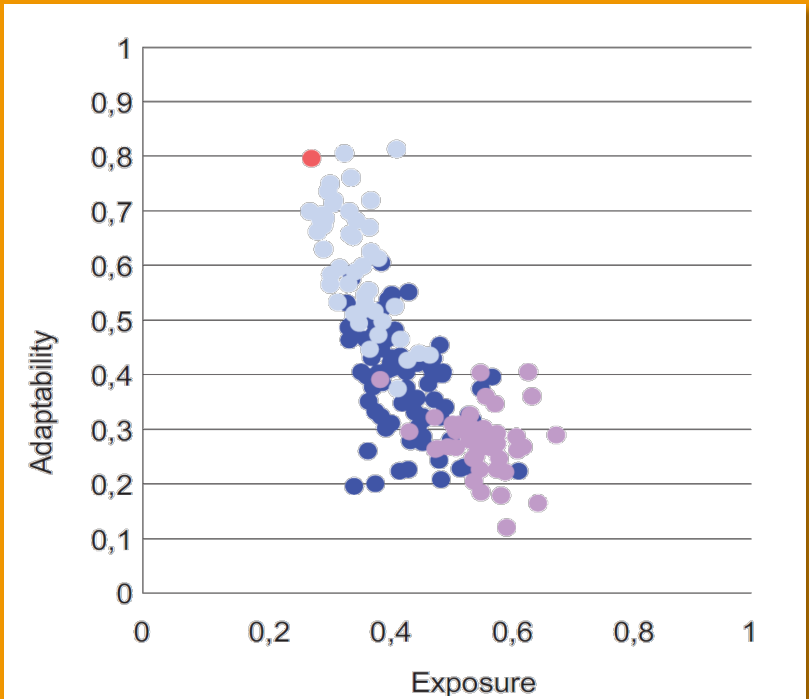
Better-informed investment decisions
Smooth transition to low-emission society

Climate risk to the Norwegian economy

Well developed, well adjusted, well managed

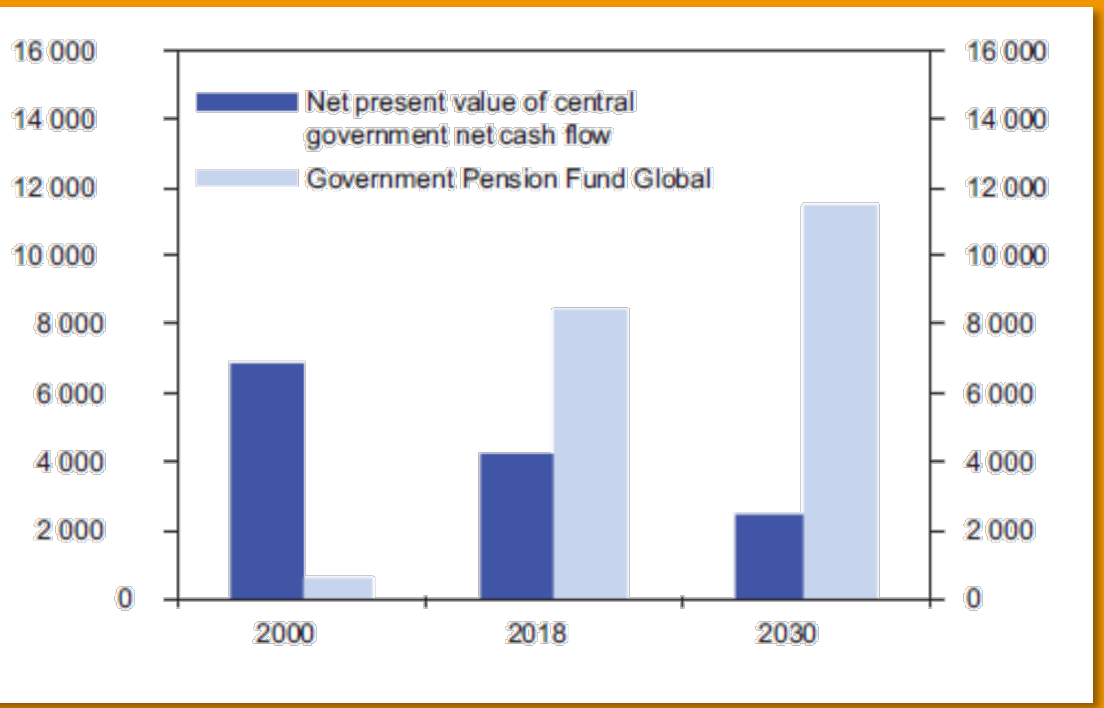
Climate risk exposure

University of Notre Dame Global Adaptation Index



Resource revenue management

Gradual reduction in climate risk exposure



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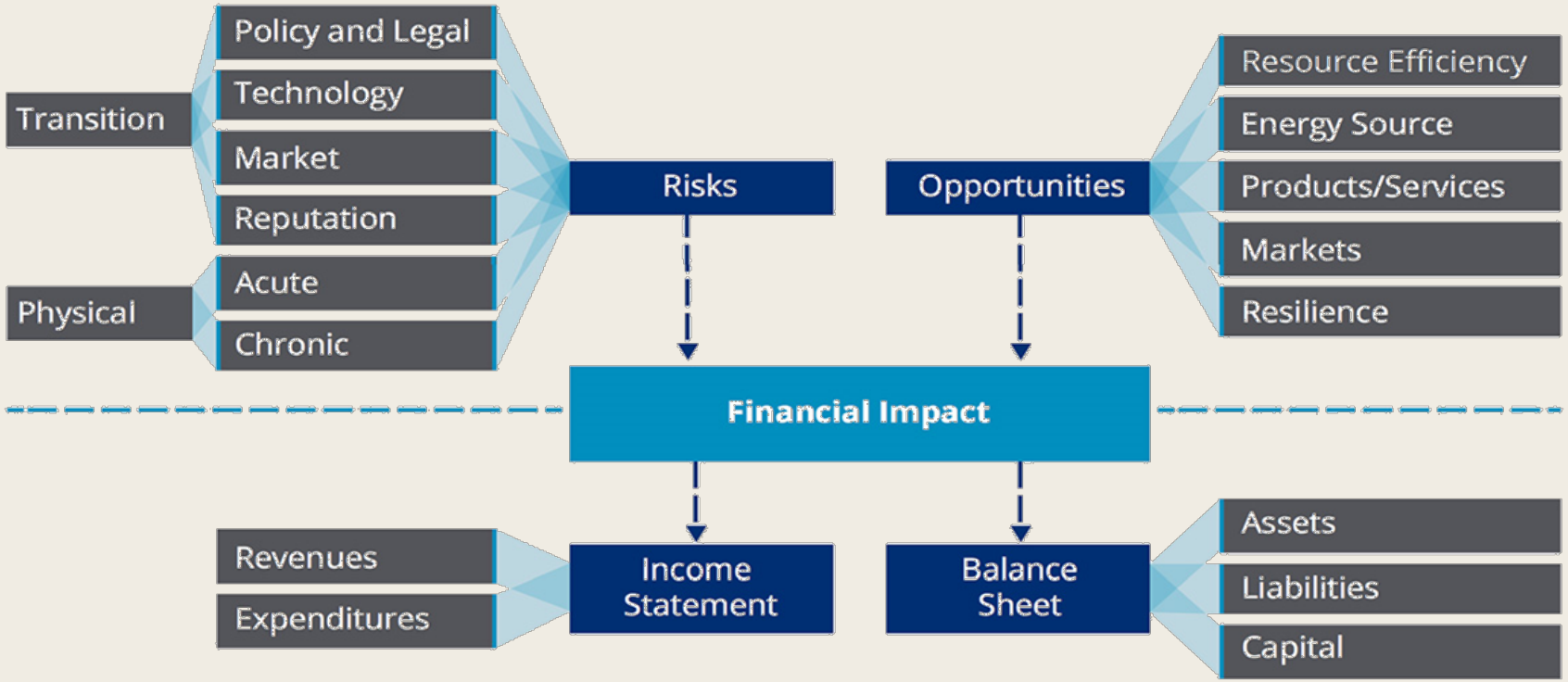
Climate risk for business and industry

TCFD approach to climate-related risks, opportunities, and financial impact



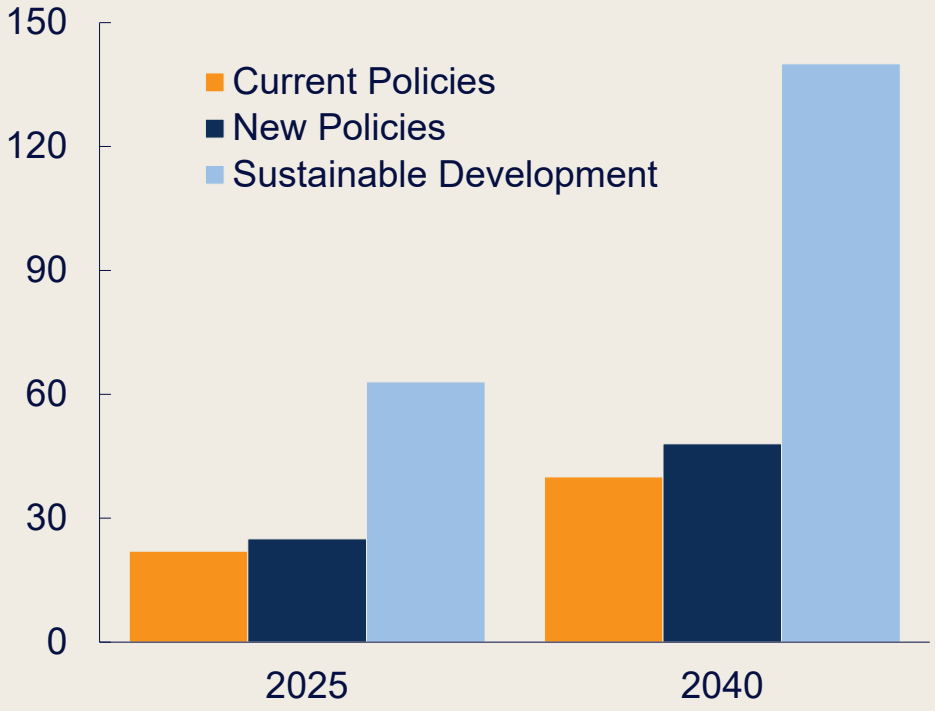
Source: Task Force on Climate-related Financial Disclosure (TCFD).

Climate risk for the oil and gas industry

All about prices and valuations

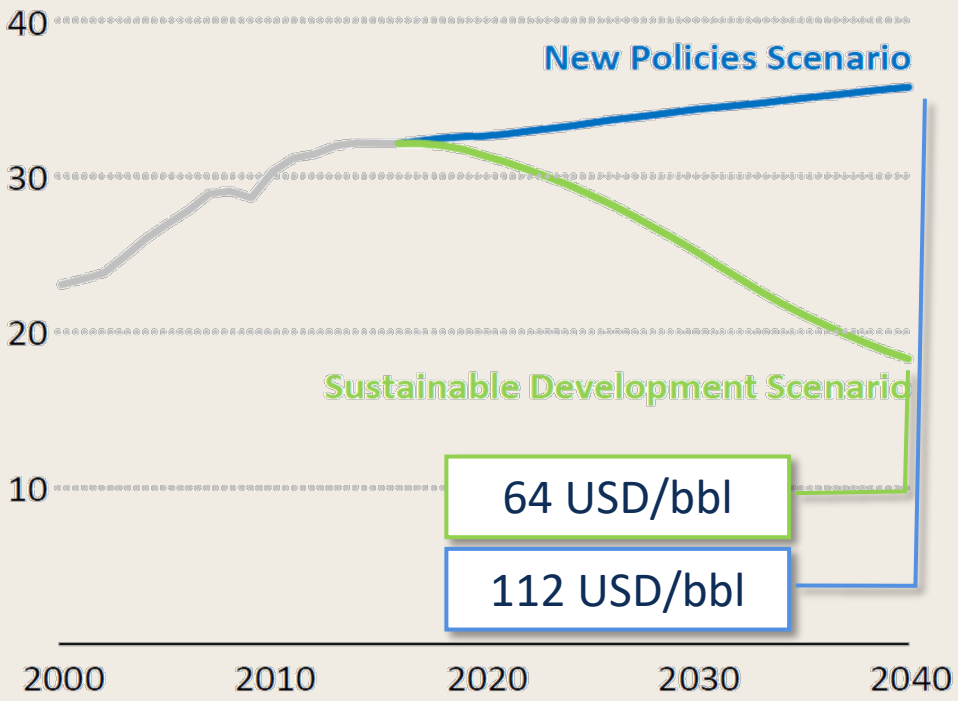
CO_2 prices in EU in IEA's scenarios

USD/tonne



Global CO_2 emissions towards 2040…

… and oil price impact

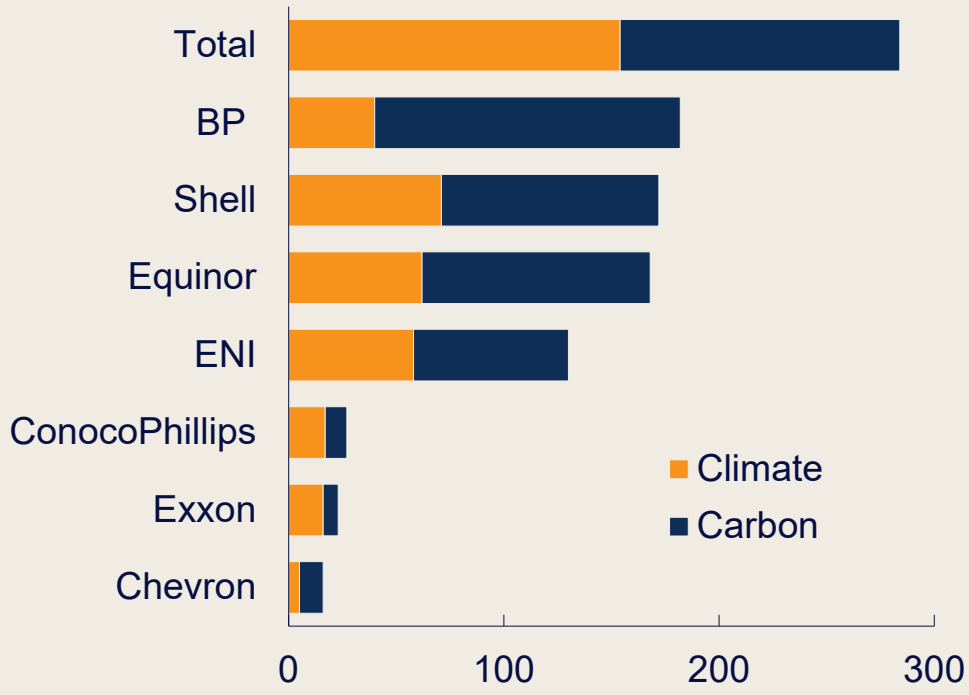


Source: International Energy Agency.

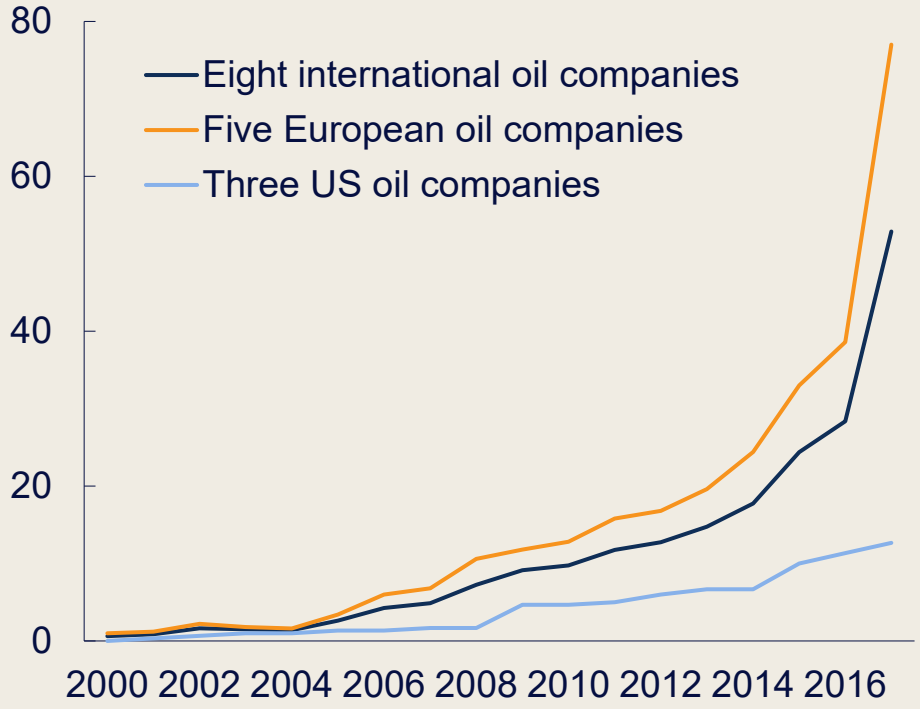
More words about climate and CO_2

Indicators of climate risk: Word counts from annual reports

Word counts from annual reports 2017



Average frequency for 'climate'



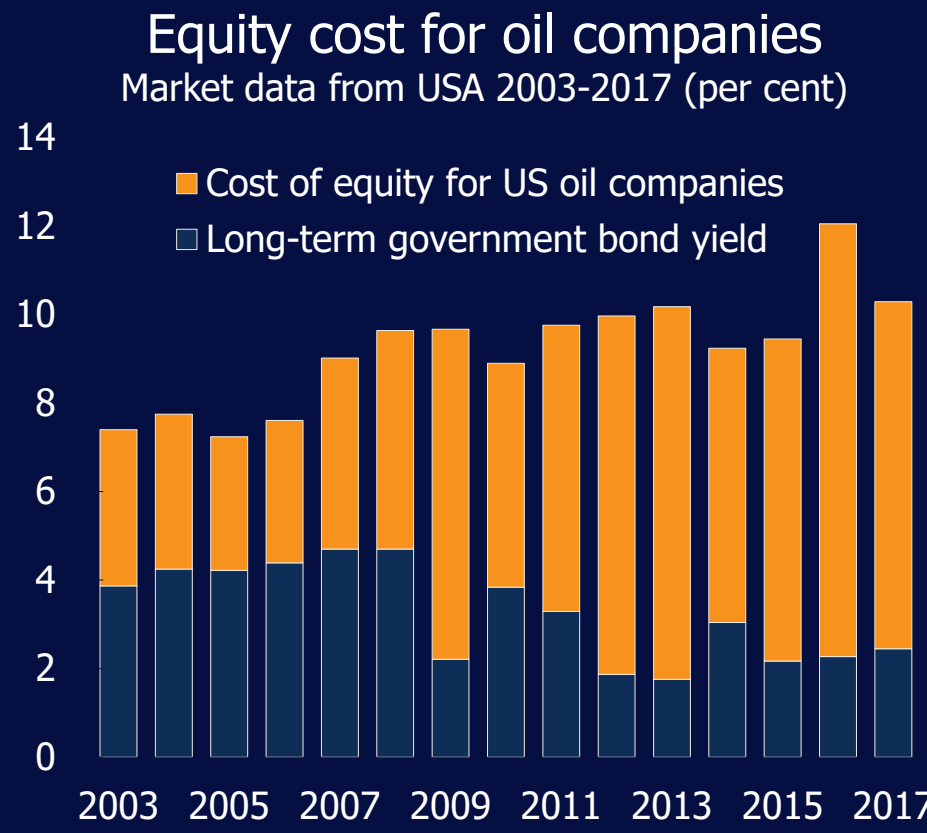
Adjustment of operations

Short-term response

- Climate risk is long-term
- The response is immediate
- Push for lower CO_2 intensities
  - Energy efficiency
  - Electrification
- Push for lower costs

Adjustment of investment

Higher uncertainty, lower project values, more caution



- Lower capital expenditure
- Myopic investmen behaviour
- Appreciation of flexibility
- Cross-fire on gas projects
  - Attractive CO_2 intensity
  - Capital intensity and project horizon

Adjustment of strategy and governance

Impact on strategy and business development

- Public outreach
- Diversification
  - Horizontal integration
  - Vertical integration
- Acquisition and development of new business activities
- Governance and shareholder activism

Companies with energy scenarios

Increasing engagement in energy dialogue

Government commision on climate risk

General climate risk management principles

- **Comprehensiveness**: Use an integrated process in analyses of threats, opportunities, and risk factors
- **Framework**: Address climate risk in the context of other risks and risk frameworks
- **Appetite**: Desired level of risk must be be based on a broad assessment of benefits, costs, and robustness
- **Resilience**: Attach weight to resilience in line with the precautionary principle
- **Incentives**: Clear links should be established between decisions and implications
- **Standardisation**: Risk assessments should be performed as similarly as possble across various fields
- **Communication**: Risk management should be based on cooperation, information sharing, and transparency

Norway’s climate risk commision

Better climate risk management

- Climate change means climate risk
- The only answer is climate policy
- Norway’s economy is highly exposed, but also resilient
- Climate risk should be understood and managed
- TCFD principles should be adopted

Thank you for listening!

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