A broad energy company
with an ambition to be a leader in the energy transition
OUR STRATEGY

Always safe, high value, low carbon

Strategic focus areas

- High value growth in renewables
- Optimised oil & gas portfolio
- New market opportunities in low carbon solutions

50 PERCENT
Reduction of operated emissions by 2030

50 PERCENT
Gross capex investments to transition by 2030

40 PERCENT
Reduction in net carbon intensity by 2035
The global energy system is undergoing a transformation

The energy transition is defined by restructuring the energy system in order to deliver sufficient and affordable energy with reduced CO₂ emissions.

The key enablers are:
- **Energy intensity** - decoupling economic activity and energy use
- **Carbon intensity** - decarbonising energy use
- **Carbon removal** - removing carbon from the atmosphere

A balanced approach to the ‘energy trilemma’ together with industry, governments and society at large will be needed for a just transition.
IEA 2021 scenario | Pathway to net-zero

Today to 2050: Pathway to net-zero (IEA, 2021)

- Increasing activity and energy demand
- Behaviour and avoided demand
- Energy supply efficiency
- Buildings efficiency
- Industry efficiency
- Transport efficiency
- Electric vehicles
- Other electrification

- Hydrogen
- Wind and solar
- Transport biofuels
- Other renewables
- Other power

CCUS industry
CCUS power and fuel supply

520 Mt/yr
7.6 Gt/yr

Net emissions reduction
New market opportunities in low carbon solutions

15-30 million tonnes per annum
CO₂ transport and storage capacity by 2035
Equinor share

>25%
CO₂ transport and storage market share in Europe by 2035

3-5 major industrial clusters
Clean hydrogen projects by 2035

>10%
Clean hydrogen market share in Europe by 2035
CCS is ready to be deployed at scale
... and Equinor is one of the front-runners

1. Sleipner/Snøhvit – Technology works!
2. Northern Lights – Market opener
3. Scale-up to bring costs down
CCS - Key activities and focus areas

- **CO2 storage maturation and optimization**
  - Adapt and qualify subsurface tools
  - Integrate subsurface workflows
  - CO2 injection technology

- **CO2 storage integrity and monitoring**
  - Environmental consequences
  - CO2 containment and leakage risk assessment
  - CO2 and well monitoring

- **Cost-efficient CO2 subsea and wells**
  - Cost-efficient CO2 subsea and well design
  - Well integrity

- **CO2 value chain optimisation**
  - CO2 specifications
  - CO2 shipping and pipe transport

- **CO2 capture technology**
  - Post-combustion CO2 capture
  - Carbon removals

- **CCS Data & Digital**
  - Fit-for-purpose IT architecture and platforms

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**Subpro Zero PhD project:** “Systematic methods for smart management of CO2 transport and storage”
Norway as an energy provider to Europe

An industrial plan for a European energy centre

Business areas

- 3.9 Million boe/d Oil- and gas production
- 50-100 kboe/d Export of LNG
- 10 GW Offshore wind
- 40 Million tons/year CCS storage capacity
- 2 GW Hydrogen

Energy pr year

- Primary
  - Gas ~1300 TWh
  - ~45 TWh
  - ~20 TWh
  - ~0.5 Mt
- Gas ~1300 TWh
- ~45 TWh
- ~20 TWh
- ~0.5 Mt

Norway as an energy provider to Europe

- Gas ~1300 TWh
- ~45 TWh
- ~20 TWh
- ~0.5 Mt

Offshore wind

- 10 GW

Hydrogen projects

- Dogger Bank
- Sheringham Shoal
- Hywind Scotland
- Hywind Tampen
- Kårstø
- Kollsnes
- Mongstad
- Troll
- Johan Sverdrup
- Tjeldbergodden
- Sørlige Nordsjø 2
- Utsira Nord
- NL phase 2, Smeaheia

Onshore facilities

- Floating wind
- Bottom-fixed wind
- CCS
- Hydrogen
Equinor’s technology mission

Transforming through technology

1972—2022

Established (1st. Producer 1986)

Subsea

CO\textsubscript{2} removal and storage (sleipner)

Hammerfest LNG (Subsea to beach 145 km)

Åsgard subsea compression

Northern Lights

eVXT DCFO

Unmanned field developments

50 years of industry history, realised by innovation, research & technology developments and project execution excellence
• Hywind SPAR
• Åsgard “subsea” compressors
• Subsea oil storage
• Subsea chemical storage
• Subsea seawater treatment for injection
• «All electric» valves
• Drones
Remotely Operated Factory (ROF™) roadmap

**PROJECT DEVELOPMENTS**

- **Asgard**
  - Subsea compression

- **Hywind Scotland**
  - Offshore floating wind

- **Oseberg Vestflanken 2**
  - Unmanned Wellhead Platform (UWP™)

- **Krafla/Askja**
  - Unmanned production platform, supported from host (UWP™)

- **Peon**
  - Stand alone gas/condensate development

- **Barents/UK**
  - Stand alone remote oil/gas development
  - 200→1500m water depth

- **GoM/Brazil**
  - Ultra deep water UPP™
  - 1500m→4000 water depth

**FUTURE OPPORTUNITIES**

- Capex: -30%
- Opex: -50%
- Cost: -15%
Peon UPP concept

- Simplification
  - No living quarter or shelter
  - No helideck - access from Supply Operation Vessel
  - No lifeboats
  - No fire water
  - No insulation (?)
  - No hydraulics / pneumatics – all electric
  - Hywind Spar hull – no utility systems in spar
- Reliable and robust design
  - Robust equipment selection
  - High material quality
- Automation and digitalisation
Peon - Subsea digital technologies

All-electric subsea

DCFO

Subsea digital twin

Resident underwater drones
Thank You

Andreas Jagtøyen,
SVP TDI Renewables & Low-Carbon