Transformation of the E&P through implementation of new technology

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The E&P company of the future

- **Reserves & Resources**
  - 2.8 bn barrels oil equivalent

- **Production growth**
  - ~400 mboepd in 2022, ~525 mboepd in 2028

- **Industry-leading low production cost**
  - <$7 USD/boe targeted from 2023

- **Industry-leading low carbon emissions**
  - <4 kg CO₂/boe Net zero by 2030

- **Sustainable dividend growth**
  - $2.0 USD/share in 2022
Our world faces challenges ... energy industry needs to provide the solutions

We MUST embrace smart business models, new technology & the power of data to transform our industry
Business transformation is our journey to become the leading E&P company

What it takes to be the leading E&P company

- Operate safely and efficiently
- Decarbonise our business
- Deliver growth on quality, time and cost
- Establish the next wave of profitable growth options
- Lead the transformation of E&P
- Create the most attractive place to work

Assets have identified where improvements are needed to realize potential and close performance gaps. These opportunities contain the top problems to solve within each asset.

Our opportunities to deliver on the corporate targets - “Business Transformation”

**Project**
- Identify and sanction volumes from ILX
- Unlock uneconomical IOR volumes

**Operations**
- Accelerate field development projects
- Minimize production down time
- Maximize production potential from existing wells

**End of life**
- Minimize energy losses
- Reduce Production cost (excl CO2)
- Reduce CO2 intensity
- Reduce Opex/boe
- Reduce Abex
- Reduce P&A costs
Data volumes expanded

*Bondcap, “Internet Trends 2019,” Jun 11, 2019
And that data rose from the basement to the cloud
And it transformed AI
New technology implementation to transform the E&P industry

New ways of working
• Production management
• Inspection & maintenance
  • Field development

Data
• Contextualization
• Quality and availability
  • Liberation from proprietary software

Hardware technology
• Drones & robots
• Sensor technologies
• Additive manufacturing

Selected Aker BP examples:
- Operations twin
- Subsea inspection
- Topside check & report
Example: subsea inspection

**Autonomous Inspection Drone System**
Development of tethered inspection drone capable of parallel operation

- Reduced IMR vessel days* due to parallel activity sets
- Reduced offshore manning as drone is managed from shore
- High quality data from stereo cameras

**Management of Digital Assets**
Aspiration to have representative & easy accessible 3D models for mission planning, data comparison

- Condition based inspection & intervention plans
- Mission planning & simulation
- Evergreen models

**Subsea wireless communication**
Development of dual channel acoustic protocol supporting increased interoperability

- Ecosystem of solutions
- Internet of Things
- Potential for subsea mesh network covering subsea infrastructure

*cost reduction, CO2 reduction through fuel savings
Example: topside check & report

Introducing robots to reduce OPEX by allowing certain key functions be autonomously or remotely operated from shore.

Key functions include:

1) Operator rounds – Autonomous operation/reporting
   • Record/report planned inspection points.
   • Monitor/report unusual heat/noise/vibration development.
   • On-demand inspection.
   • RBI information gathering.

2) First responder – Automatic movement, remote controlled inspection.
   • Unconfirmed F&G alarm.
   • Operational alarm.
   • Autonomous inspection.
   • ESD2, ESD1, Black start: Verify valve and equipment status.
Operations twins
Leading the transformation of E&P

- Our world faces challenges – E&P must respond and transform
- Value is created when we succeed in combining new technologies, new ways of working and intelligent use of data
- Aker BP is taking decisive steps to be a front runner in the E&P transformation