

# **CAPITAL MARKETS DAY 2018**

AKER BP ASA

---

15 January 2018



# Disclaimer

*This Document includes and is based, inter alia, on forward-looking information and statements that are subject to risks and uncertainties that could cause actual results to differ. These statements and this Document are based on current expectations, estimates and projections about global economic conditions, the economic conditions of the regions and industries that are major markets for Aker BP ASA's lines of business. These expectations, estimates and projections are generally identifiable by statements containing words such as "expects", "believes", "estimates" or similar expressions. Important factors that could cause actual results to differ materially from those expectations include, among others, economic and market conditions in the geographic areas and industries that are or will be major markets for Aker BP ASA's businesses, oil prices, market acceptance of new products and services, changes in governmental regulations, interest rates, fluctuations in currency exchange rates and such other factors as may be discussed from time to time in the Document. Although Aker BP ASA believes that its expectations and the Document are based upon reasonable assumptions, it can give no assurance that those expectations will be achieved or that the actual results will be as set out in the Document. Aker BP ASA is making no representation or warranty, expressed or implied, as to the accuracy, reliability or completeness of the Document, and neither Aker BP ASA nor any of its directors, officers or employees will have any liability to you or any other persons resulting from your use.*

# Agenda

## Session 1: 13:00 – 14:30

- **Corporate strategy** - Karl Johnny Hersvik, Chief Executive Officer
- **Execute** - Karl Johnny Hersvik, Chief Executive Officer
- **Improve** – Per Harald Kongelf, SVP Improvement
- **Q&A**

- **Coffee Break**

## Session 2: 15:00 – 16:00

- **Grow** - Karl Johnny Hersvik, Chief Executive Officer and Gro Gunleiksrud Haatvedt, SVP Exploration
- **Finance** – Alexander Krane, Chief Financial Officer
- **Concluding remarks** – Karl Johnny Hersvik, Chief Executive Officer
- **Q&A**

# CAPITAL MARKETS DAY 2018

## Today's speakers

### **Karl Johnny Hersvik, Chief Executive Officer**



Karl Johnny Hersvik (born 1972) has been CEO of Aker BP since May 2014. Prior to joining Aker BP, he served as head of research for Statoil.

Mr Hersvik has held a number of specialist and executive positions with Norsk Hydro and StatoilHydro. He holds a number of directorships and is a member of several boards whose objective is to promote cooperation between industry and academia. Mr Hersvik holds a Cand. Scient. (second cycle) degree in Industrial Mathematics from the University of Bergen.

### **Per Harald Kongelf, SVP Improvement**



Per Harald Kongelf (born 1959) is responsible for Aker BP's improvement program. Prior to joining Aker BP, Per Harald Kongelf served as head of the Norwegian operations in Aker Solutions.

Kongelf holds an MSc degree from NTNU in Trondheim and has more than 25 years of industrial experience through numerous technical and management positions in Aker Solutions.

### **Alexander Krane, Chief Financial Officer**



Alexander Krane (born 1976) took up the position of CFO with Aker BP in 2012. Prior to joining Aker BP, he held the position of Corporate Controller with Aker ASA. He has also worked as a public accountant with KPMG, both in Norway and in the US.

Mr Krane holds a Bachelor of Commerce degree ("siviløkonom") from Bodø Graduate School of Business and an MBA degree from the Norwegian School of Economics in Bergen. He is also a state-authorized public accountant in Norway.

### **Gro Gunleiksrud Haatvedt, SVP Exploration**



Gro Gunleiksrud Haatvedt (born 1957) joined Aker BP in 2014. She came from the position of SVP Exploration for the Norwegian Continental Shelf with Statoil ASA, where she also served as country manager in Libya.

She has held several positions with Norsk Hydro (head of Geology, Technology and Competence). She has been responsible for business development and exploration in Iran, and VP Exploration for NCS. Ms Haatvedt holds a Cand. Scient degree in Applied Geophysics from the University of Oslo.

# 2017 achievements

Building on successful M&A track record



Delivered three PDO's to the authorities



Production of 160 (139 ex. Hess) mboepd



2P reserves of 913 mmboe



USD 250 million in dividend payments



- Hess Norge AS acquisition
- Farm-down 10% in Valhall/Hod to Pandion Energy
- Added 134 mmboe in new reserves
- CAPEX decreased by ~20% from concept selection
- Efficient operations with high operational uptime
- 2017 production ~6% above CMD guidance (ex. Hess)
- Organic RRR of 2.3x
- Total RRR of 4.5x
- 3x free cash flow coverage last four quarters
- Proposal to increase dividends to USD 450 million in 2018 with and ambition to increase by USD 100 million per year to 2021

# Aker BP investment case

## ■ Well positioned to be profitable across the market cycles

- Purely operating on the NCS: Low political risk and attractive fiscal regime
- Strong balance sheet and capital flexibility: USD 2.9 billion in liquidity
- Robust investment program with average break-even of 18 USD/bbl\*
- Substantial cash generation and growing dividends

## ■ Extensive improvement agenda to strengthen long-term competitiveness

- Reorganizing the value chain with strategic partnerships and alliances
- Aim to be an industry reference for digital project execution
- Focus on flow efficiency to substantially reduce execution time

## ■ Strong platform for future growth

- Materially oil-weighted portfolio (~80% liquids): 2P reserves of 913 mmbbl and 2C contingent resources of 785 mmbbl at year-end 2017
- Potential to reach 330 mboepd in 2023 (13% CAGR)
- Proven M&A track record – targeting further selective inorganic growth



# Corporate strategy

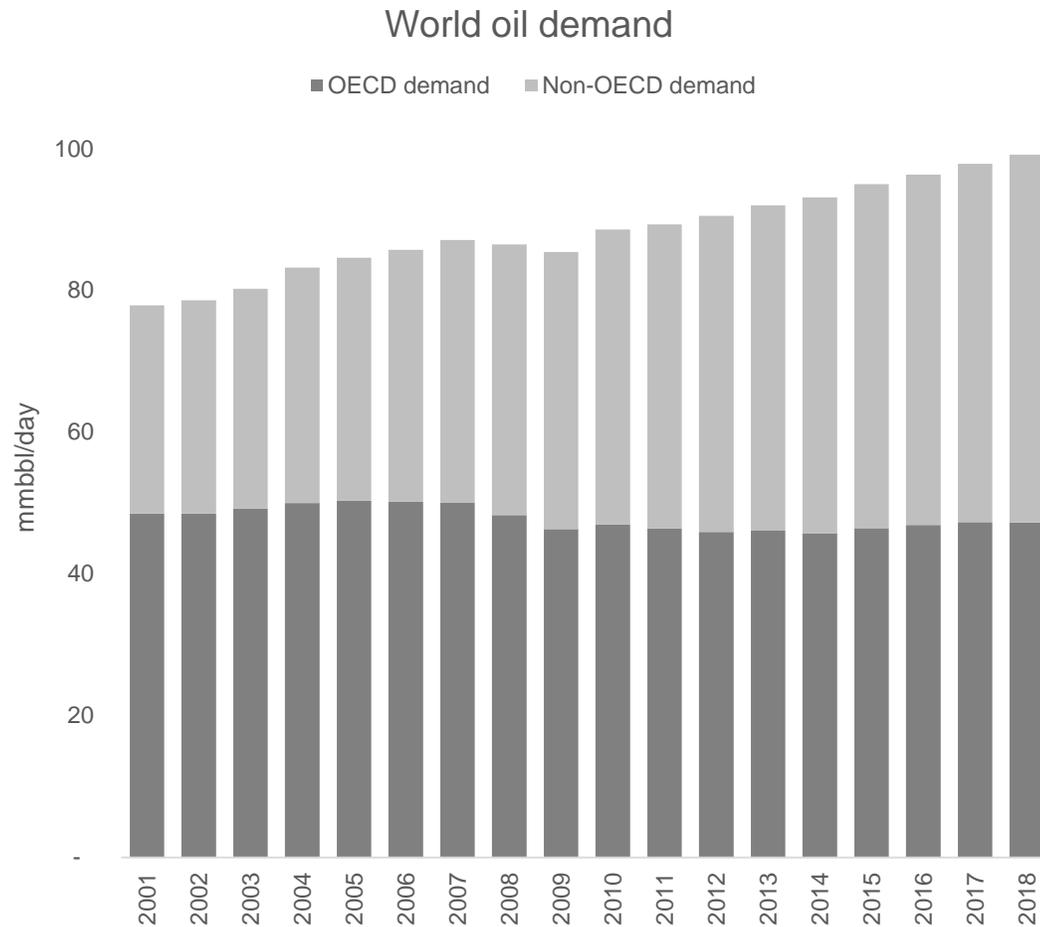
**Karl Johnny Hersvik**  
Chief Executive Officer



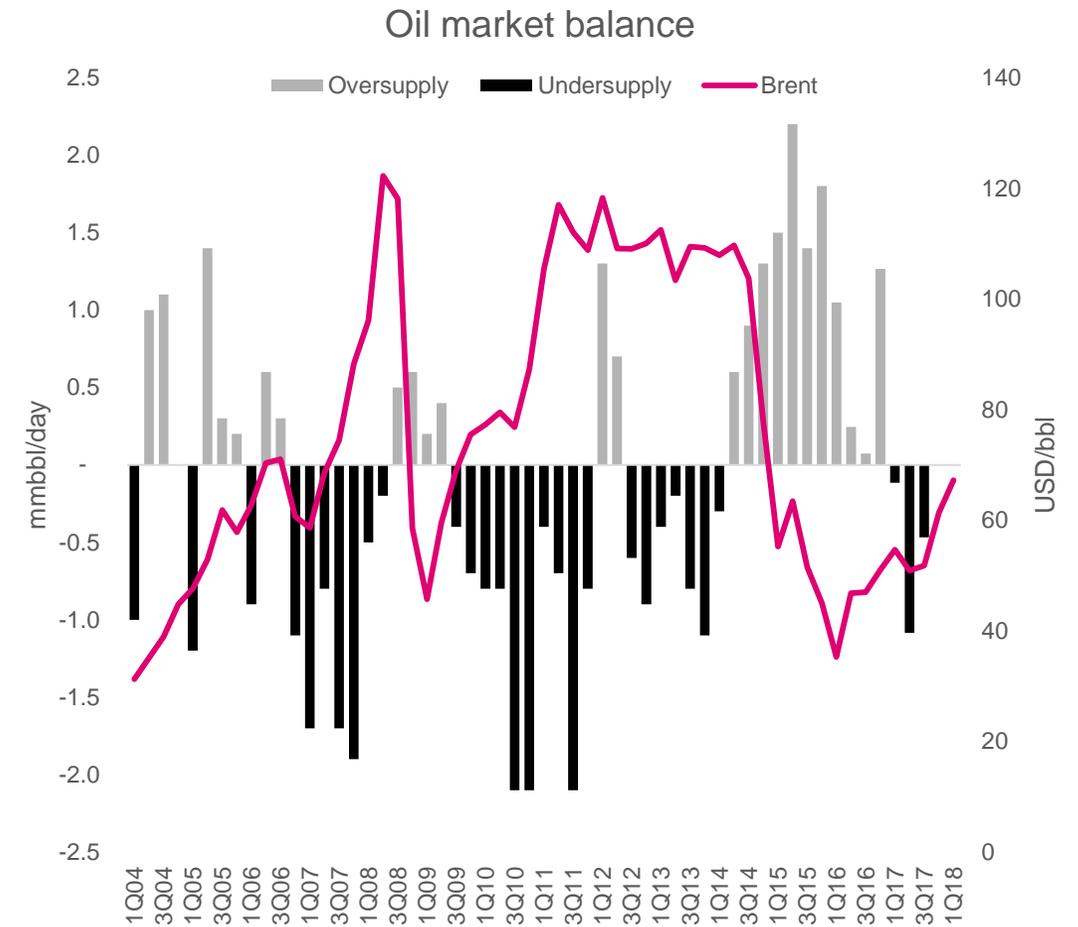
## SHAPING THE STRATEGY

# Oil market volatility calls for resilient strategy

### Steady growth in oil demand



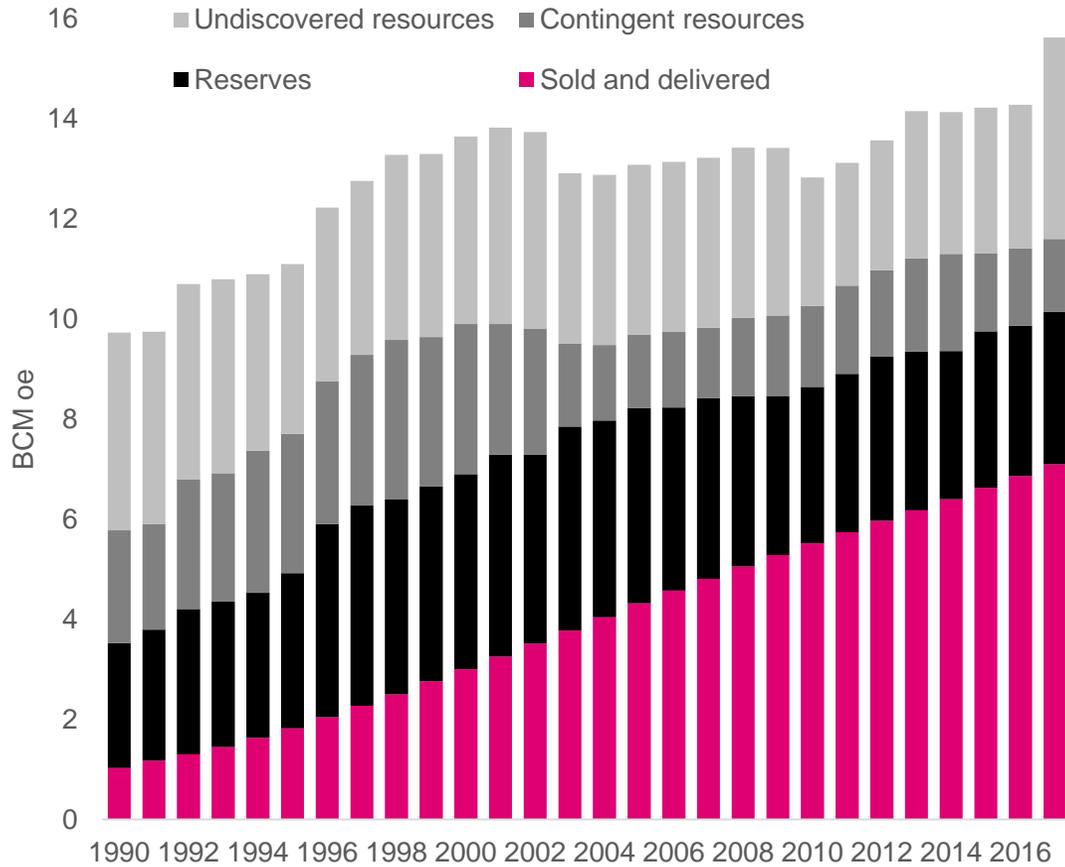
### Cyclicality is the name of the game



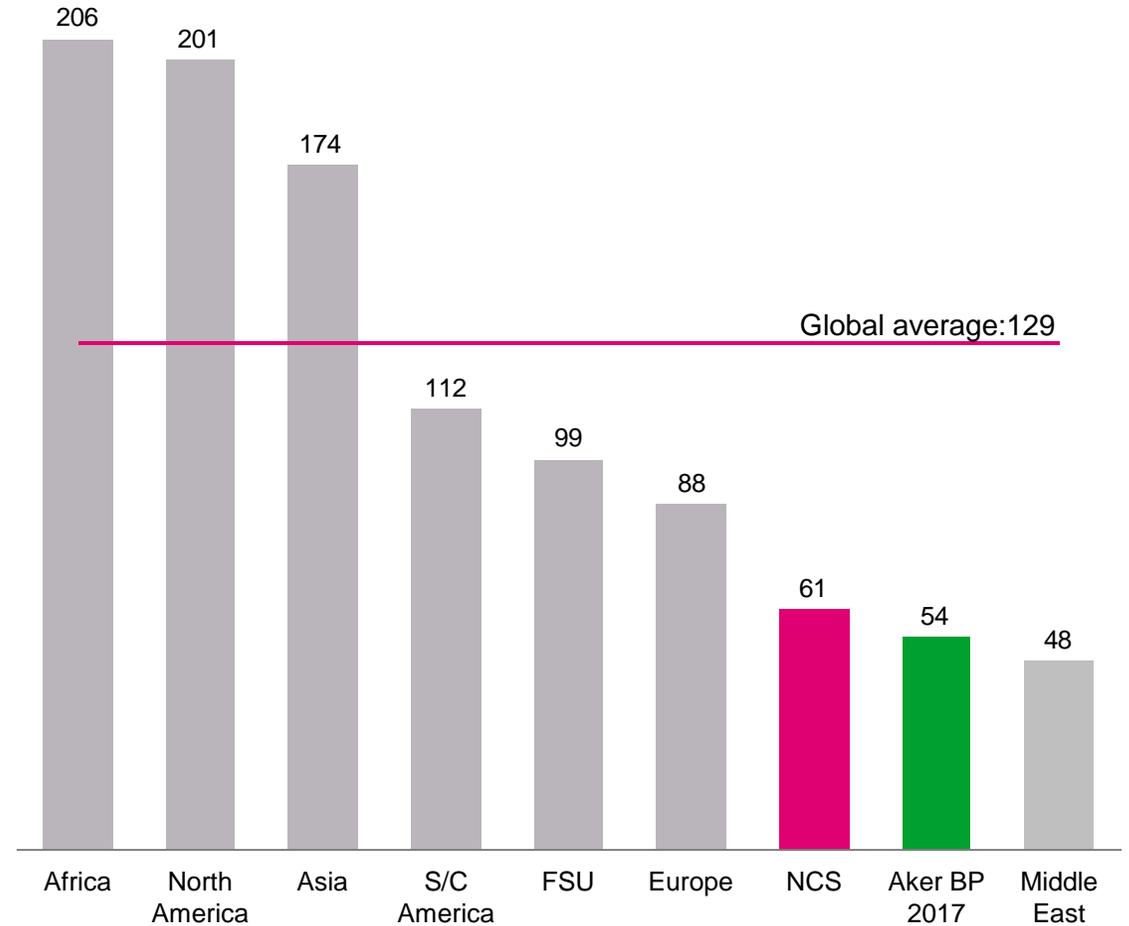
SHAPING THE STRATEGY

# NCS remains an attractive place to be

>50% of oil & gas remains to be produced on the NCS

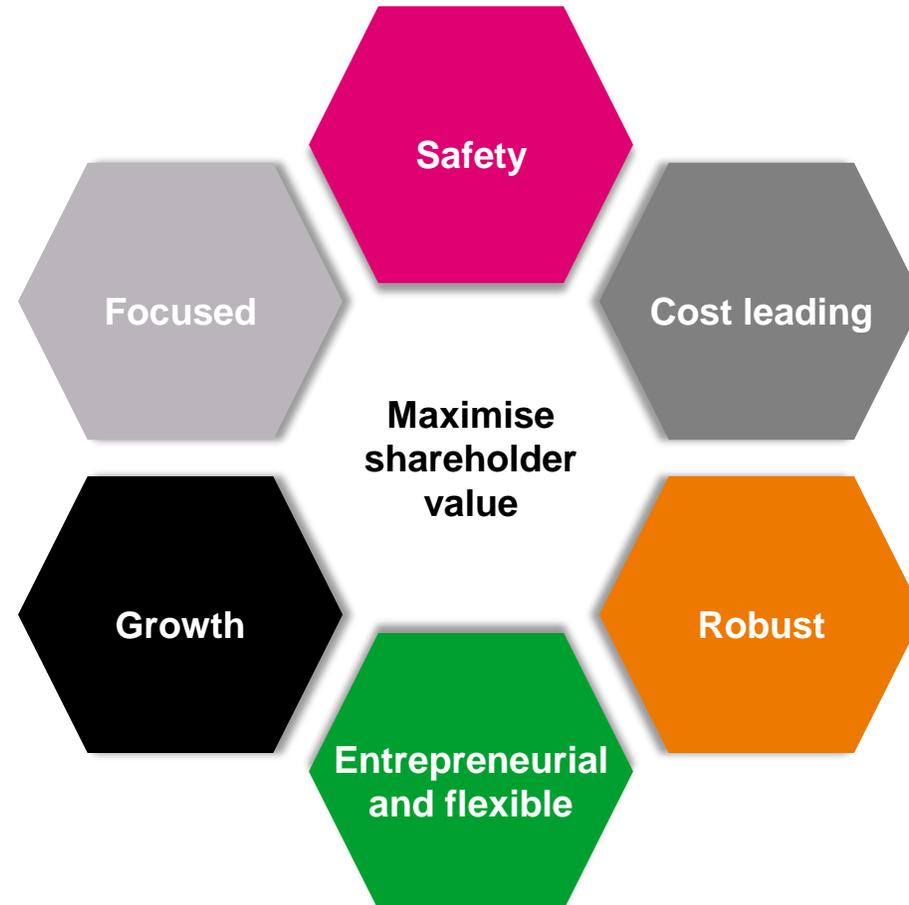


CO<sub>2</sub> emissions per unit oil & gas produced



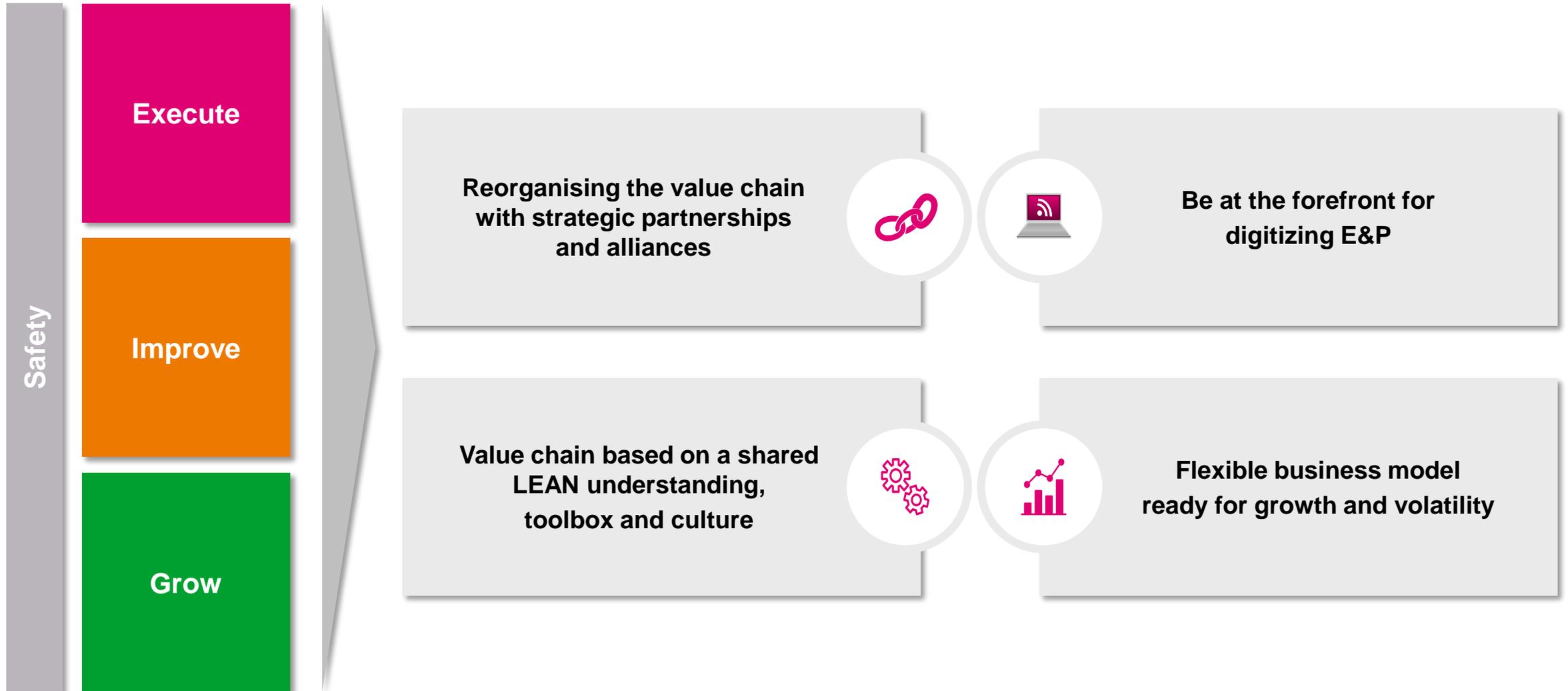
STRATEGIC AMBITION

# Create the leading offshore independent E&P company



# CORPORATE STRATEGY

## Strategic toolbox



CORPORATE STRATEGY

# Always prioritise safety

## 2018 HSSE forward agenda

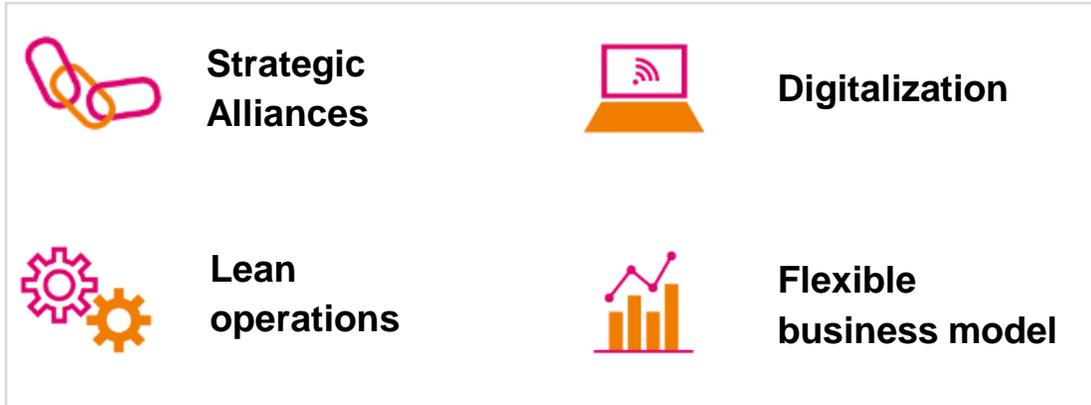
- Safety is our number 1 priority
- Maintain safe and reliable operations with zero HSSE incidents and no cyber attacks with significant impact on performance
- Expand and roll out sustainability and energy efficiency strategies throughout the organization
- Develop new systems for managing barrier health, including operational, organizational and technical barriers to strengthen process safety
- Work towards a climate neutral operations environment
- Further develop our HSSE footprint in the Barents region



CORPORATE STRATEGY

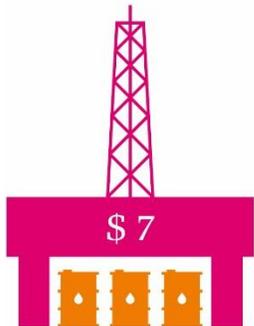
# Targeting significant efficiency improvements

Great savings possible – requires new way of thinking

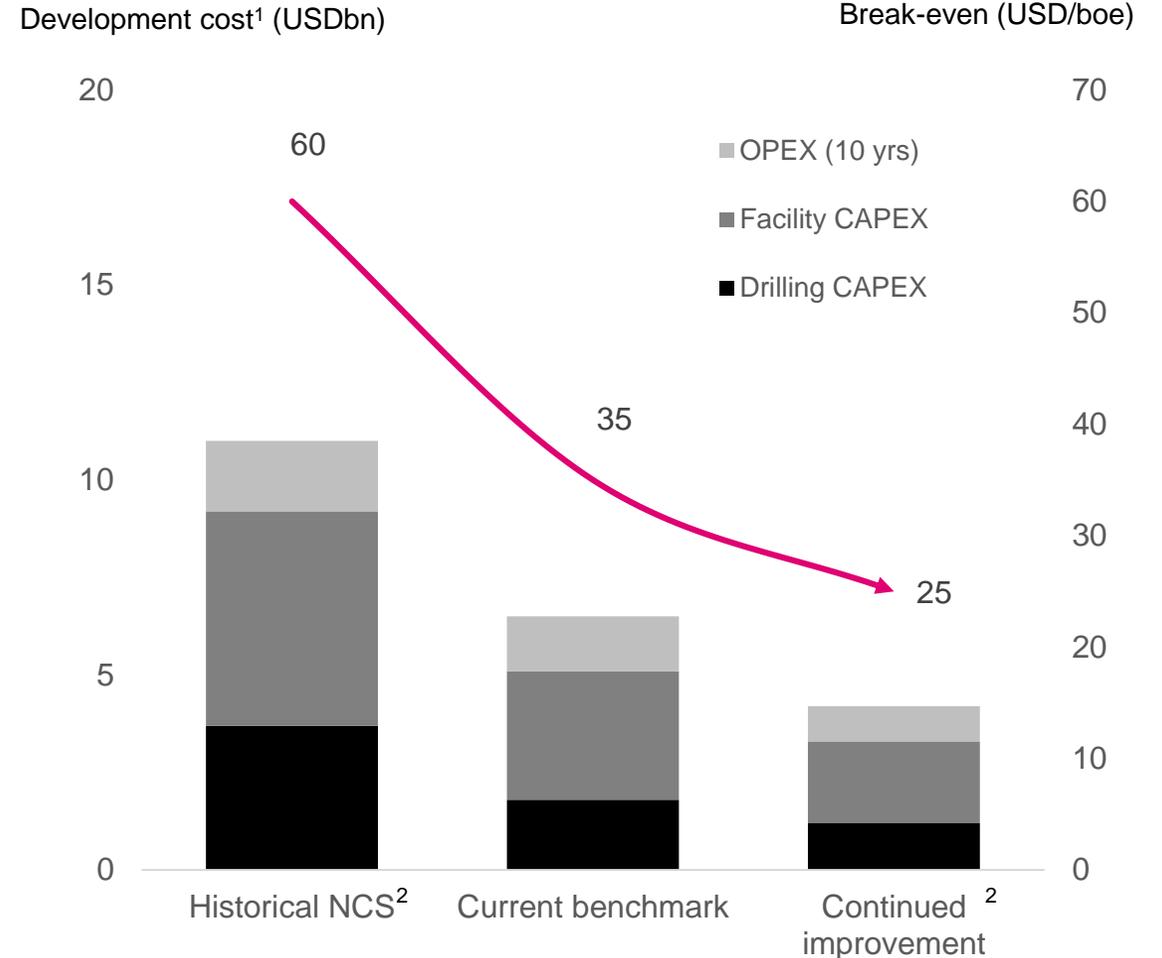


Target production cost below 7 USD/boe

Target full cycle break-even below 35 USD/bbl

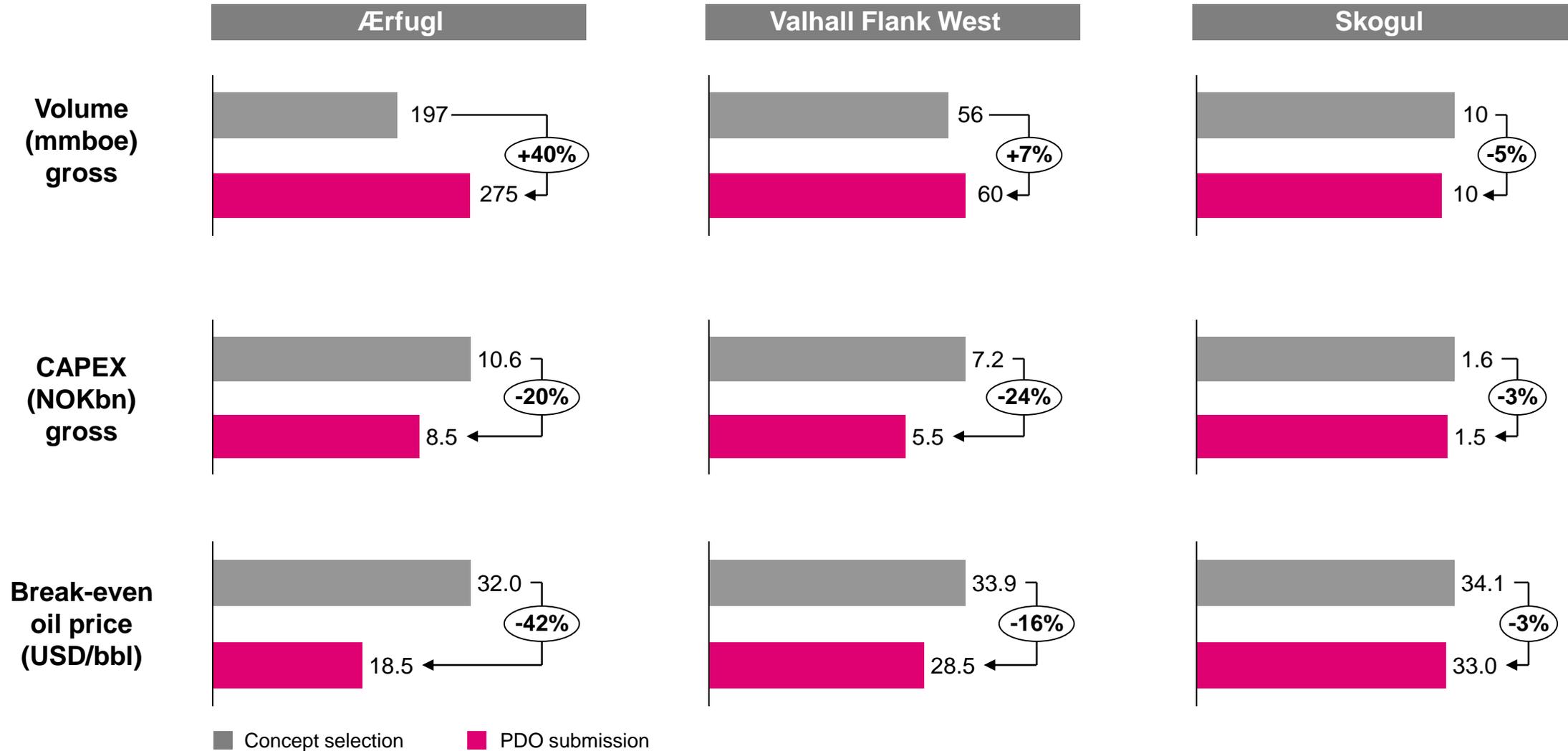


## Illustrative project economics (USD/boe)



CORPORATE STRATEGY

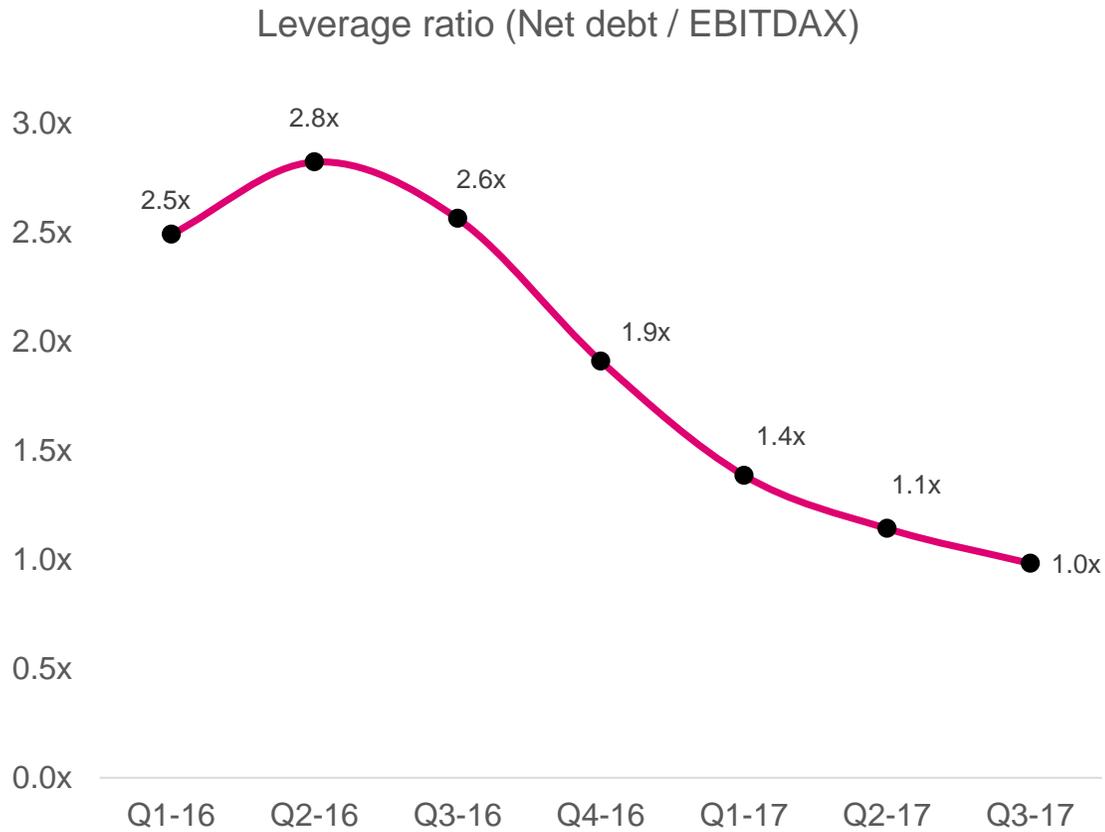
# Improvement program showing tangible results



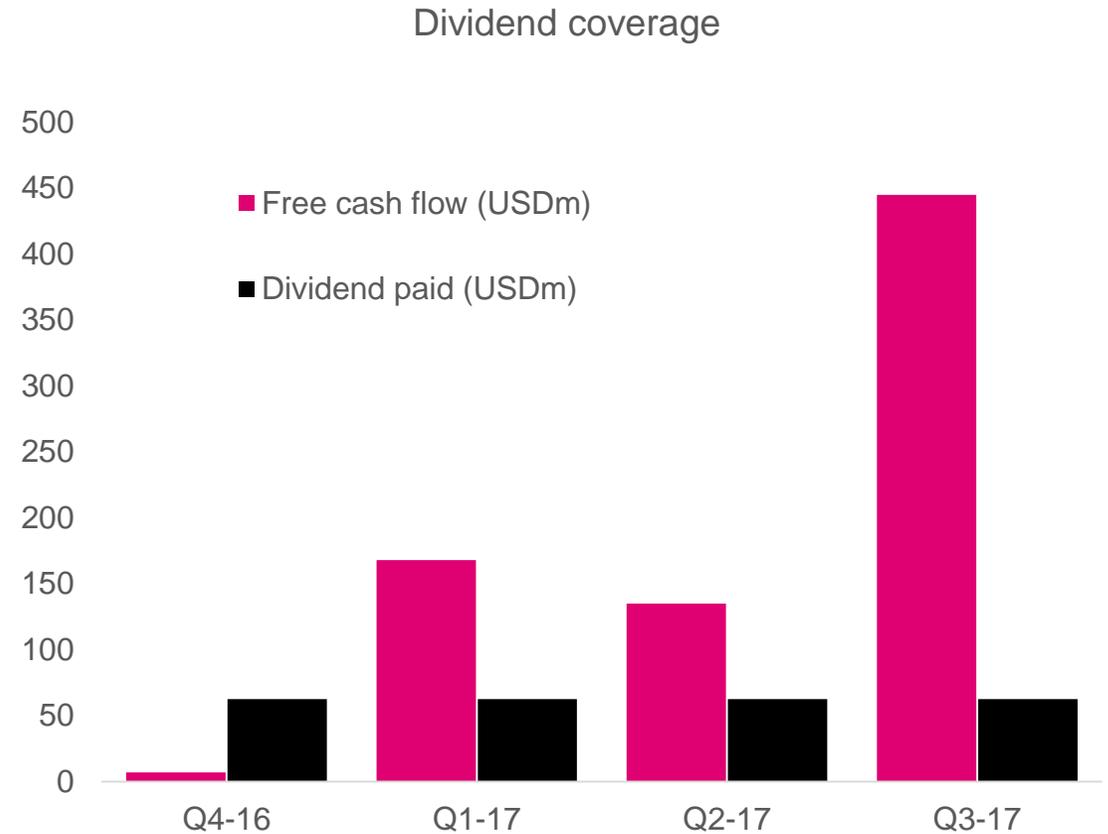
CORPORATE STRATEGY

# Robust balance sheet and strong dividend capacity

Rapid deleveraging over the past two years



3x dividend cover last four quarters



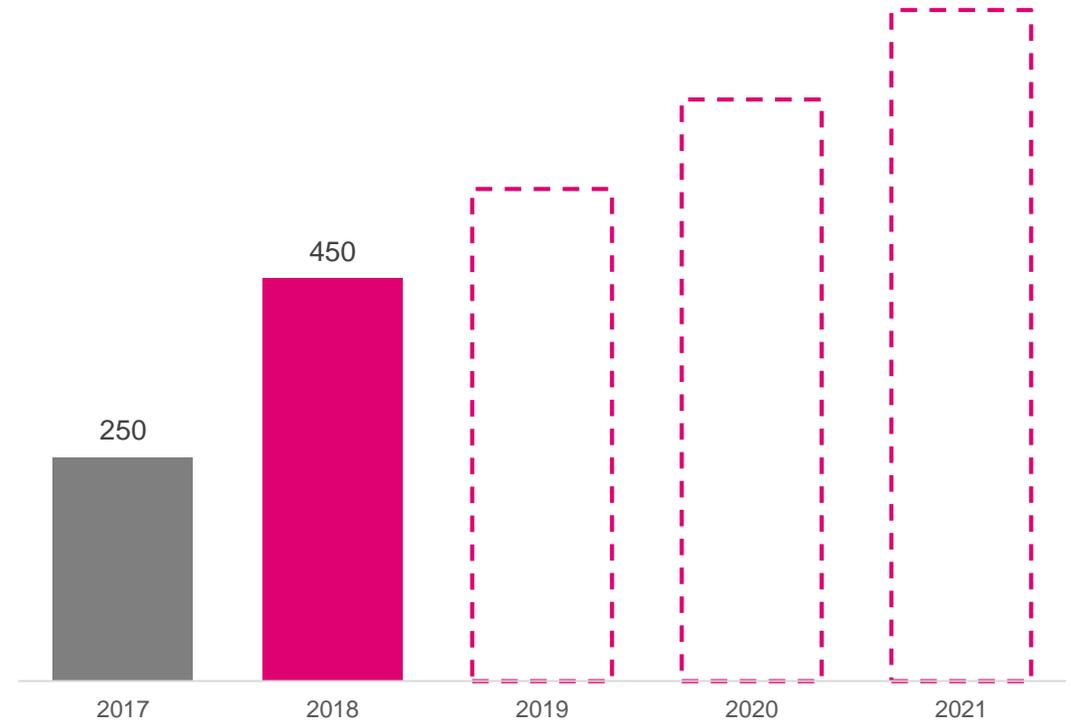
# Ambition to increase dividends in the coming years

## Rationale

- Robust balance sheet and strong cash flow generation
- Improvement program yielding better than expected results
- Break-even prices of 18 USD/bbl on average across portfolio for sanctioned projects\*
- Accelerated investment profile in coming years will result in improved cash flows post 2020
- Expecting to retain leverage ratio below 1.5x to 2021 based on current business plan

## Aker BP ambition for dividend payments (USDm)

The Board proposes that annual dividend increases to USD 450 million for 2018 with an ambition to increase by USD 100 million per year to 2021



# Efficient decision making and execution

Enabled by an entrepreneurial and flexible organization

**1 month**

From farm-down decision at Valhall/Hod to signed agreement

**3 months**

From Skarv well shut-in due to damaged X-mas tree to workover started with new rig

**8 months**

From project sanction to start-up of drilling at Tambar

**9 months**

Reduction in execution time of the Volund infill subsea scope

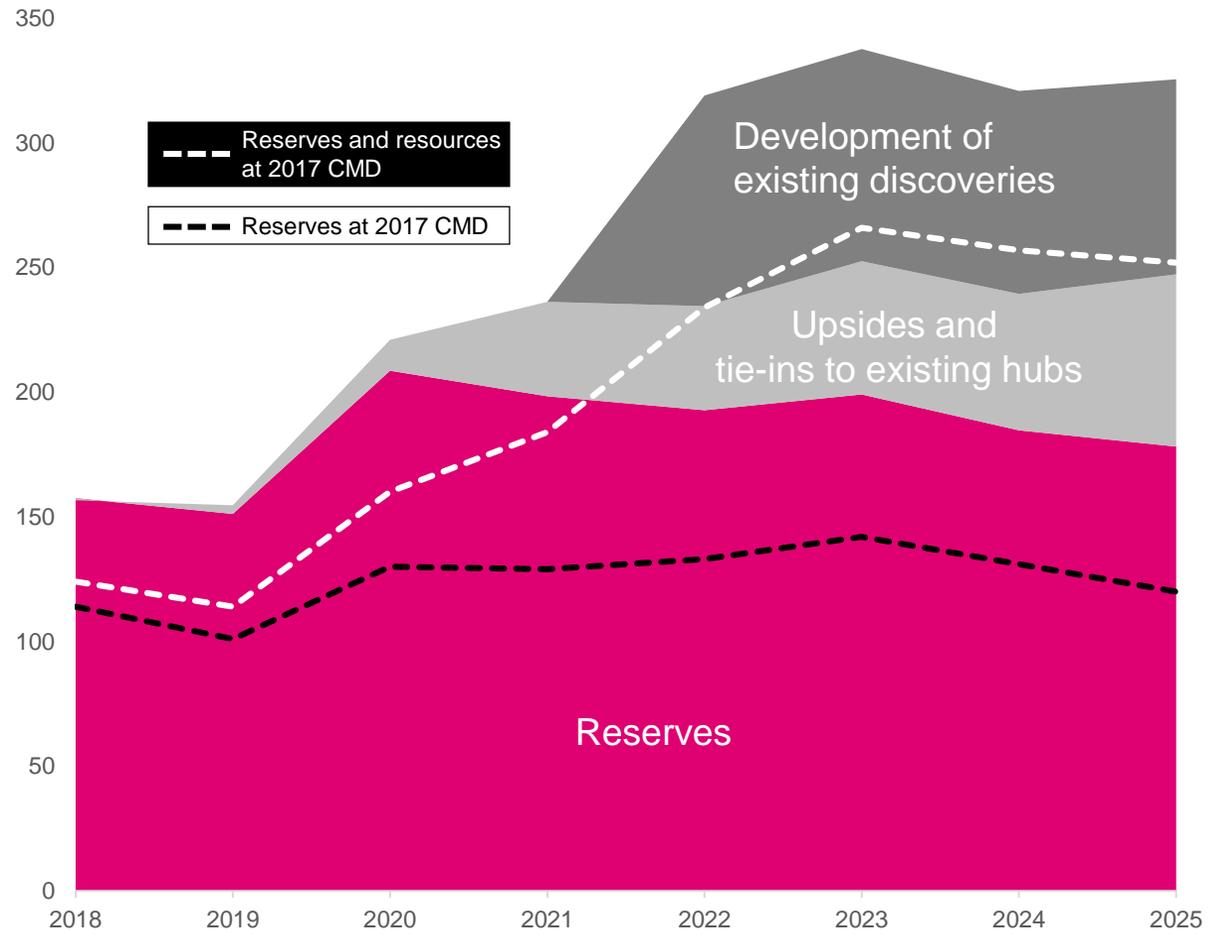


CORPORATE STRATEGY

# Profitable growth from existing portfolio

- **Strong production base of operated assets**
  - ~80% liquids / ~20% gas
  
- **Maximize resource utilization from existing hubs**
  - Data acquisition
  - New technology
  
- **Attractive portfolio with potential to reach production above ~330 mboepd from 2023 (13% CAGR from 2017) from existing discoveries**
  
- **High quality development projects with low break-evens**
  - Sanctioned project portfolio has a break-even of 18 USD/bbl\* (22 USD/bbl ex. Johan Sverdrup)

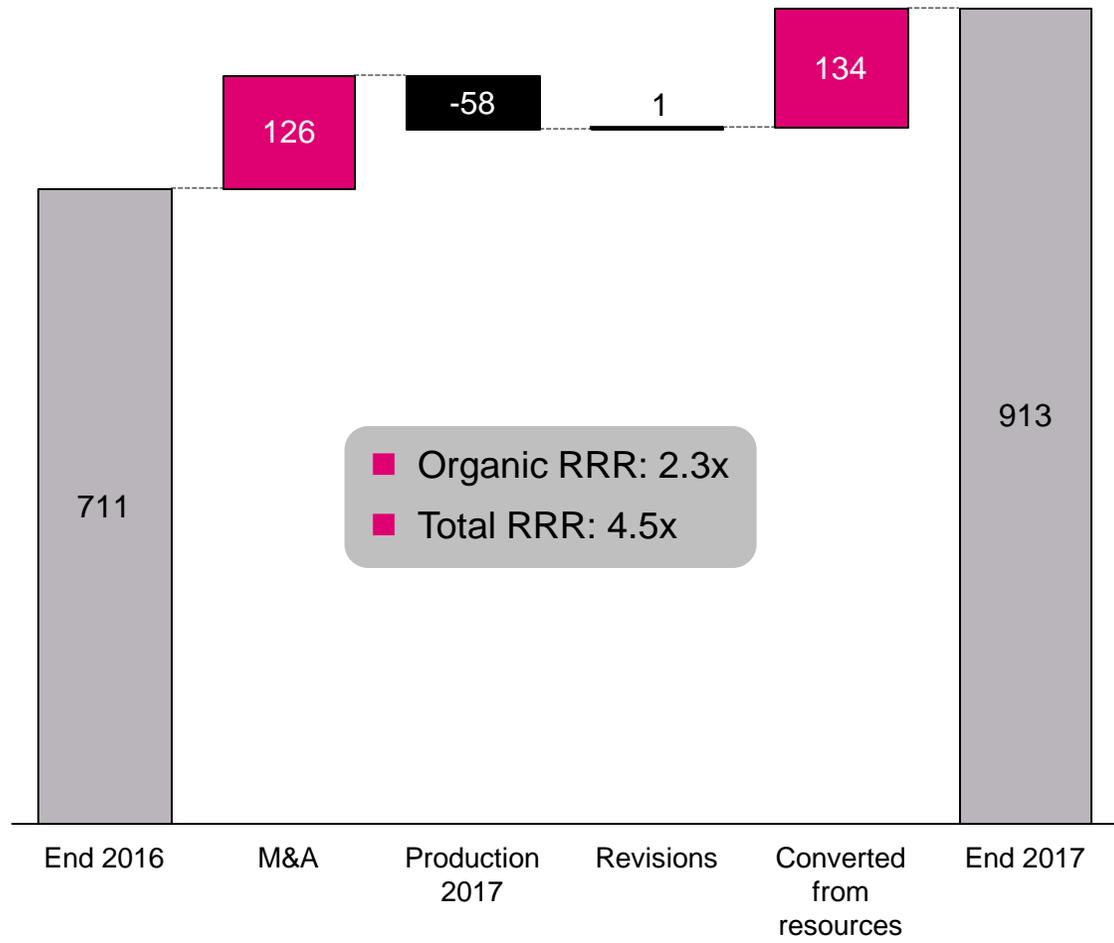
2018 CMD illustrative production potential, mboepd net



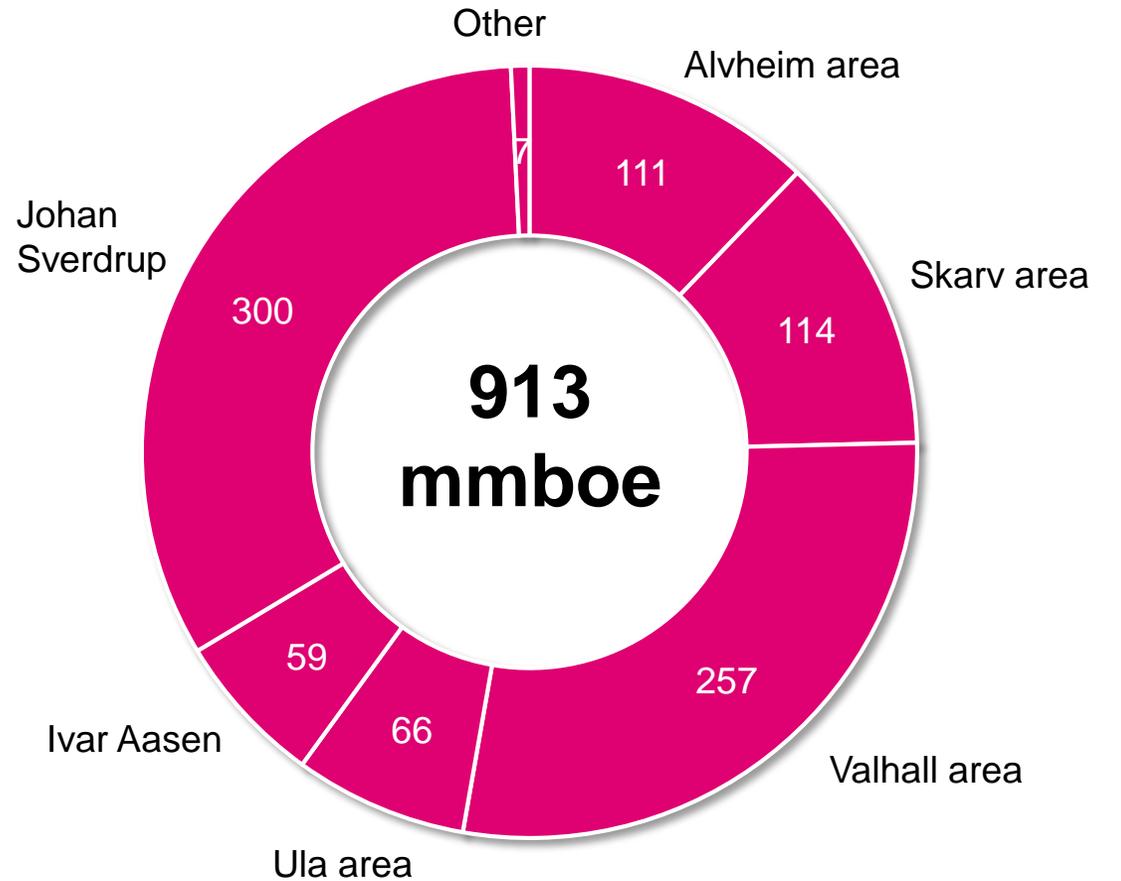
CORPORATE STRATEGY

# Year-end 2017 preliminary 2P reserves of 913 mmboe

Development in 2P reserves (mmboe)



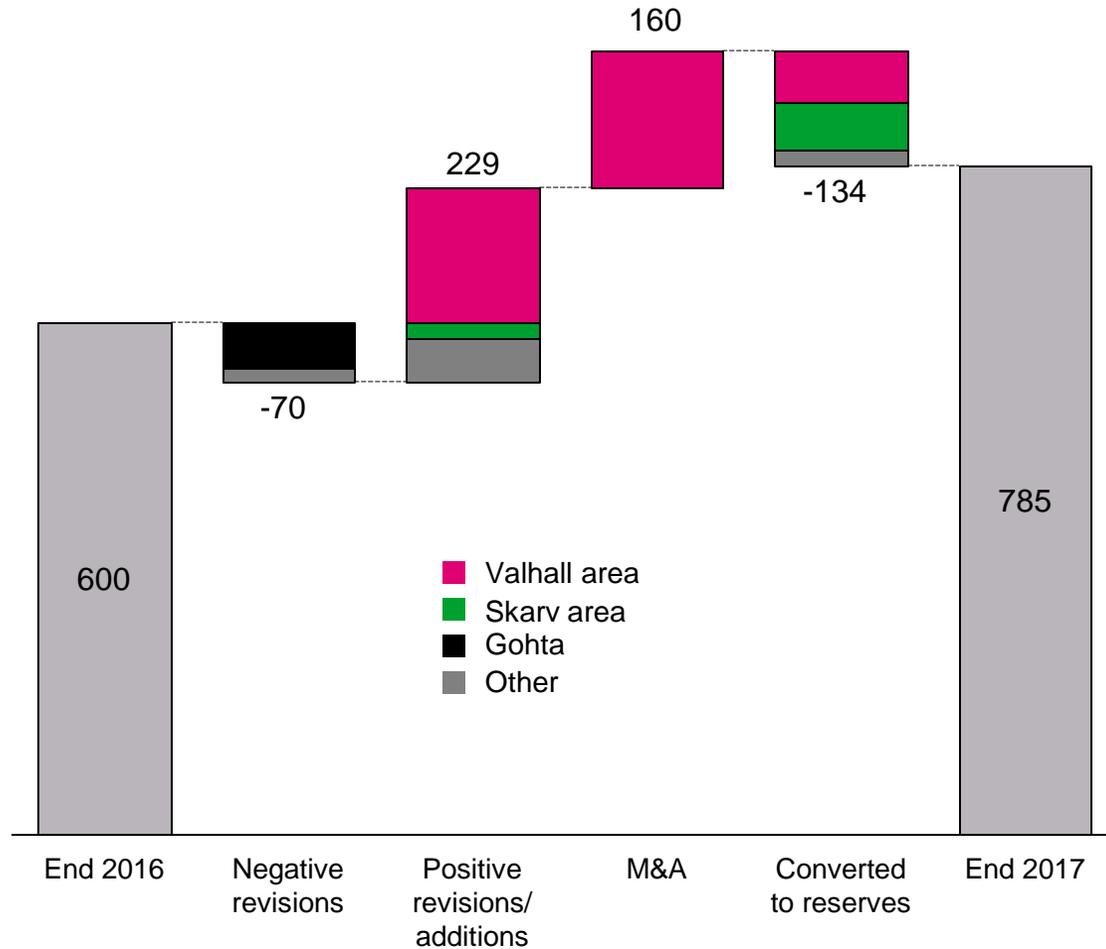
Proven & probable reserves (2P), end 2017\*



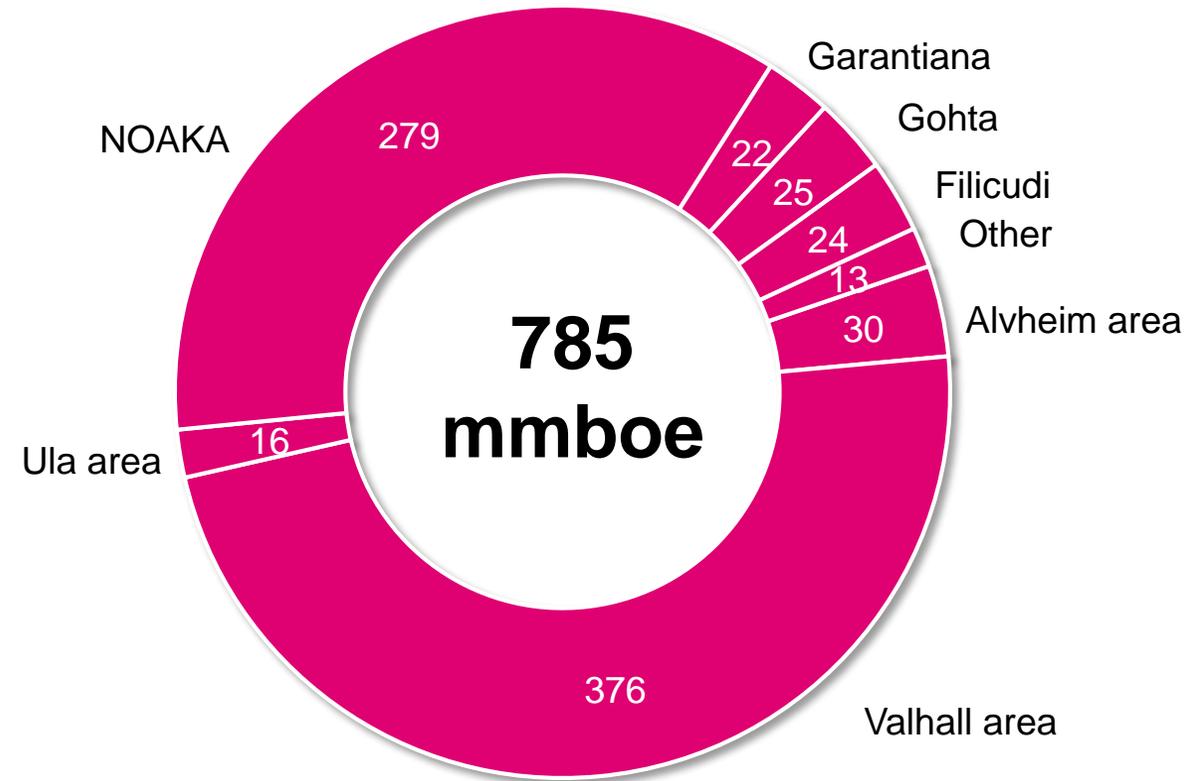
CORPORATE STRATEGY

# More than 300 mmboe added to the resource hopper in 2017

Development in 2C contingent resources (mmboe)



Preliminary year-end 2017 2C contingent resources\*



CORPORATE STRATEGY

# Ambition to grow through further M&A

## Building on a strong M&A track record

 <p>Acquisition of Norwegian subsidiary for a cash consideration of USD 2.1 billion (2014)</p>	 <p>Merger between Det norske and BP's Norwegian subsidiary, creating Aker BP (2016)</p>	 <p>Acquisition of Norwegian subsidiary for a cash consideration of USD 2.0 billion (2017)</p>
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

### Targeting new opportunities:

- Financially accretive
- Operated assets
- Predominantly liquids
- Upside potential

 <p>Acquisition of Norwegian subsidiary for USD 75 million (2015)</p>	 <p>Acquisition of Norwegian subsidiary for USD 120 million (2015)</p>	 <p>Acquisition of license portfolio in Norway, incl. NOK 45 million (2016)</p>	 <p>Acquisition of license portfolio in Norway (2016)</p>	 <p>Acquisition of license portfolio in Norway (2016)</p>
----------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------

## CORPORATE STRATEGY

# A focused portfolio on the NCS



### Skarv / Ærfugl

Solid base performance and area upside potential



### Alvheim area

High production efficiency and low operating cost



### Ivar Aasen

Production ramp-up and IOR opportunities



### Johan Sverdrup

World class development with break even price below 25 USD/bbl\*



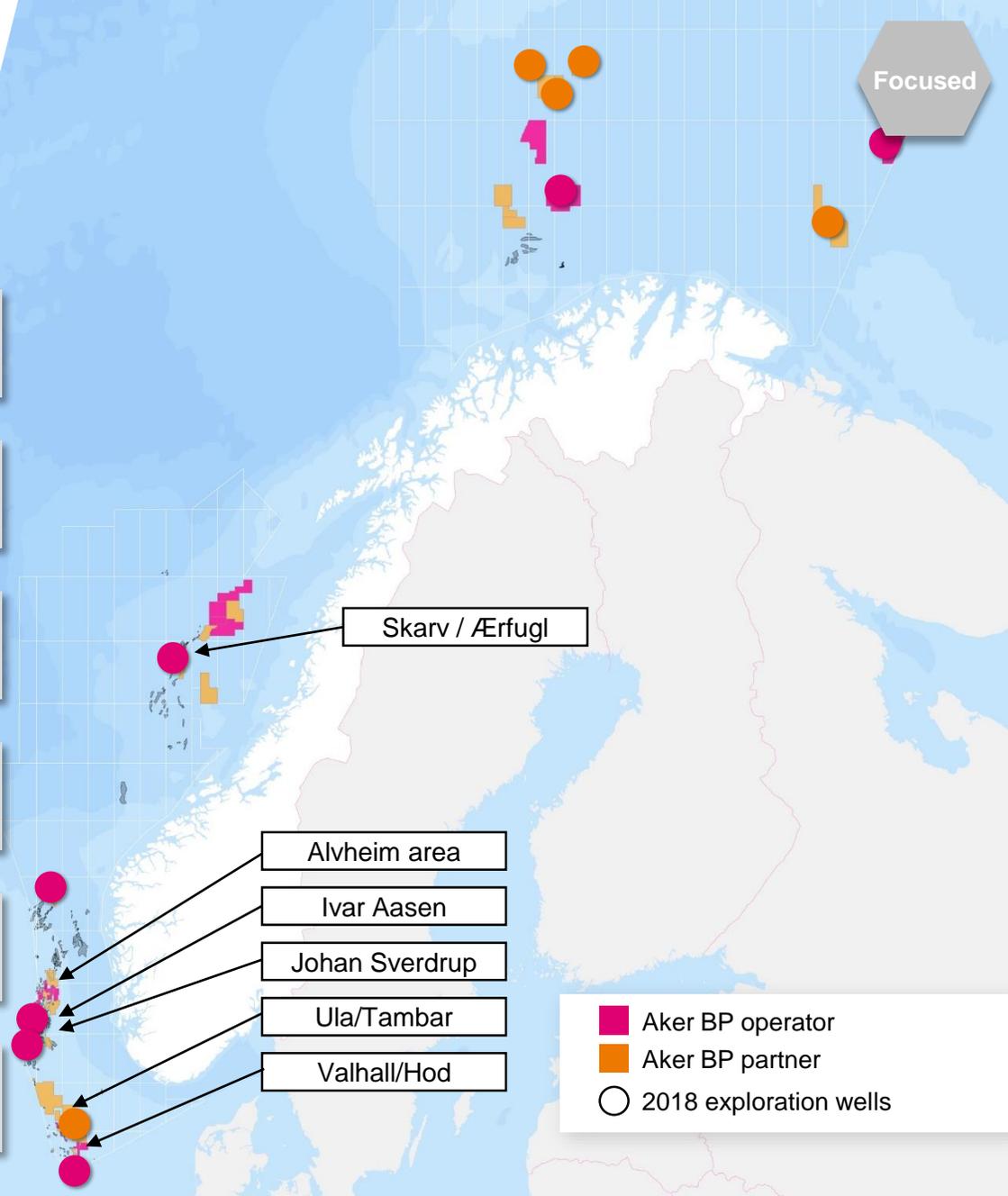
### Ula/Tambar

Late life production with significant upside potential



### Valhall/Hod

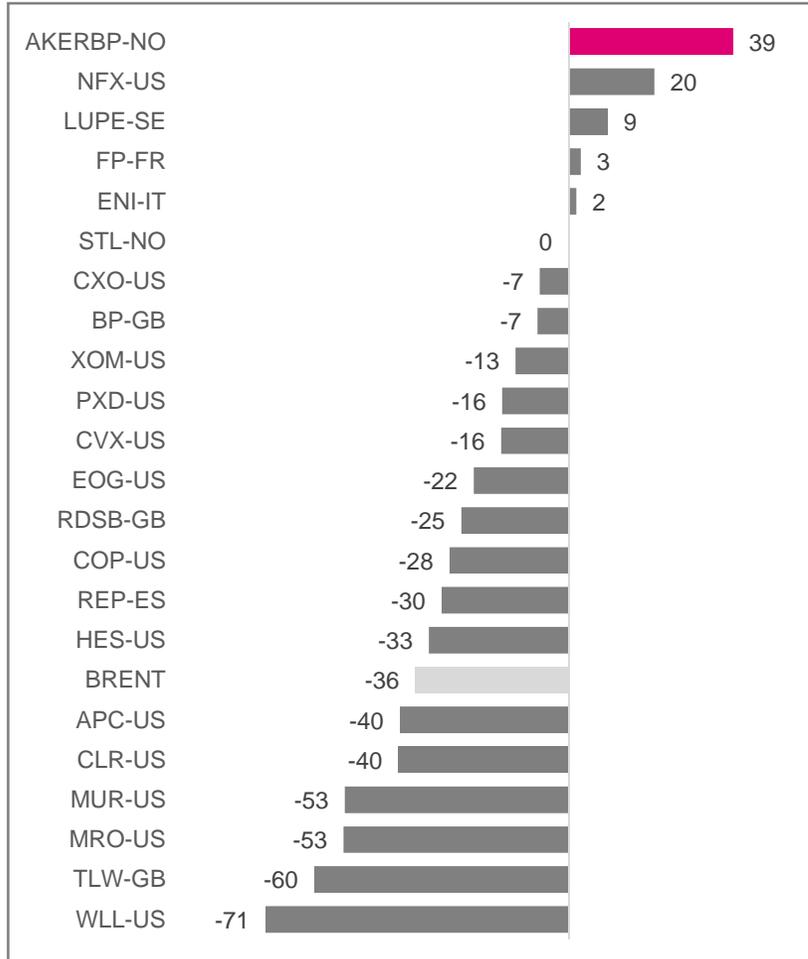
1 billion barrels produced, ambition to produce additional 1 billion barrels



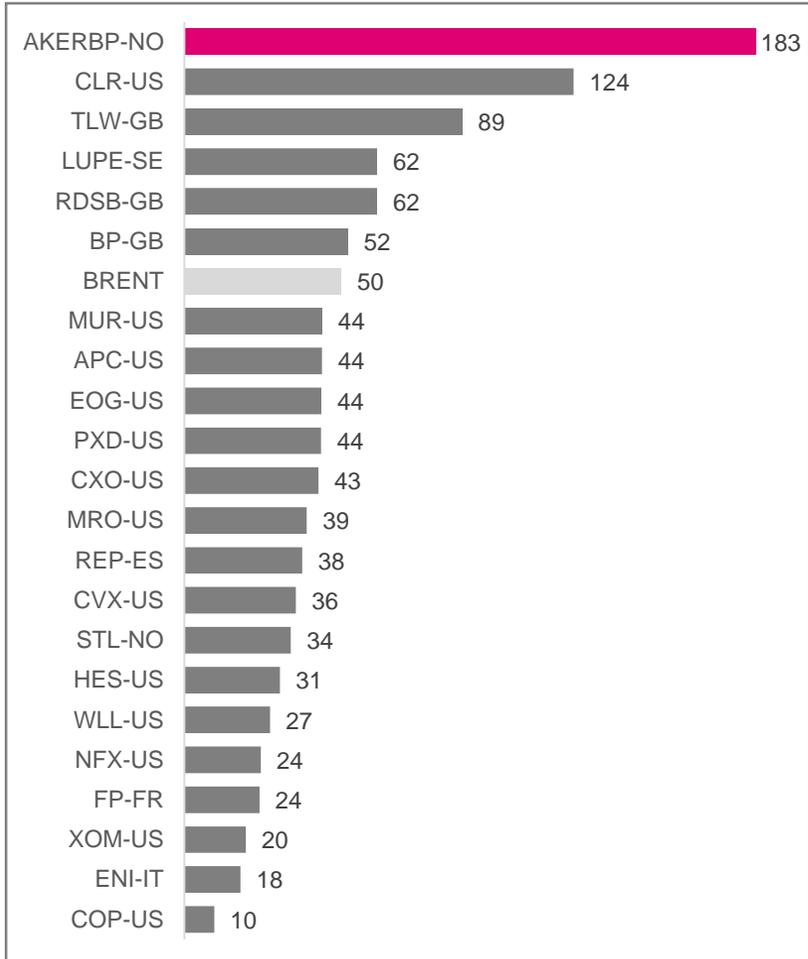
CORPORATE STRATEGY

# Delivered superior shareholder return\* last three years

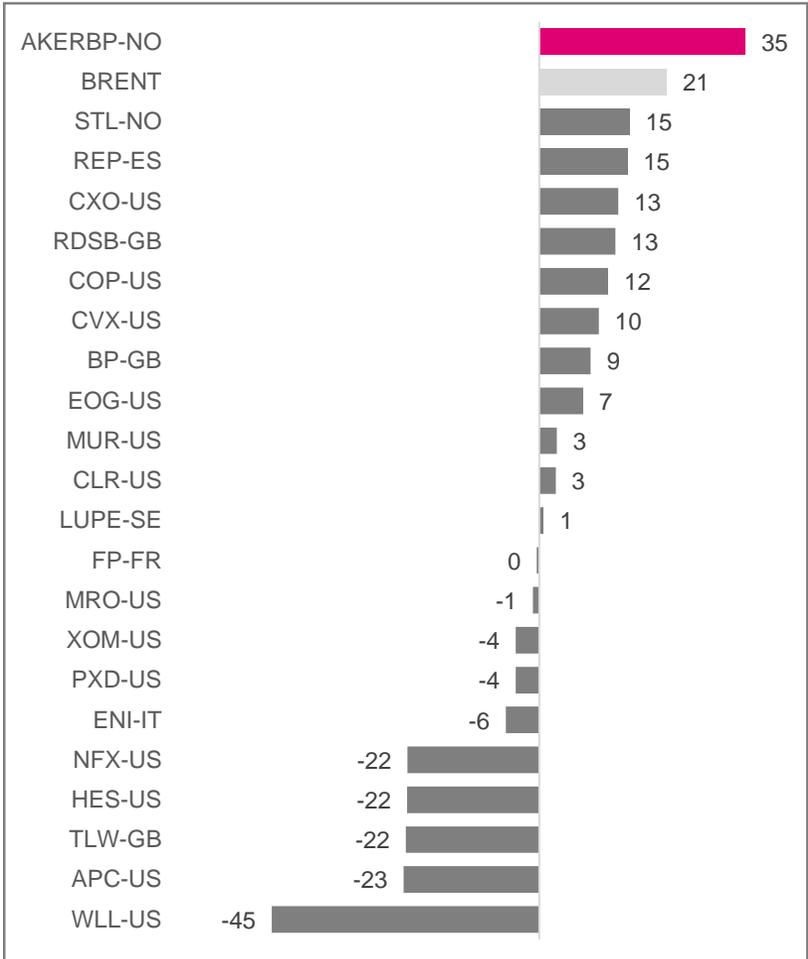
2015



2016



2017



# Execute

**Karl Johnny Hersvik**  
Chief Executive Officer



## EXECUTE

# Alvheim Area status

Operated, ~65%\* working interest

- **2017 production of 70.9 mboepd net to Aker BP**
  - Increased compared to previous year due to new wells at Viper-Kobra and Volund infills
- **High operational efficiency with well embedded continuous improvement culture**
- **Drilling of Volund and Boa infills in 2017**
- **PDO submitted for Skogul**
- **More infill wells being matured to arrest the production decline and minimize unit production cost**

---

License:	PL203, PL088BS, PL036C, PL036D, PL150, PL340
----------	----------------------------------------------

---

Discovery year:	1998
-----------------	------

---

End 2017 2P reserves (net):	111 mmboe
-----------------------------	-----------

---

Production start:	2008
-------------------	------

---

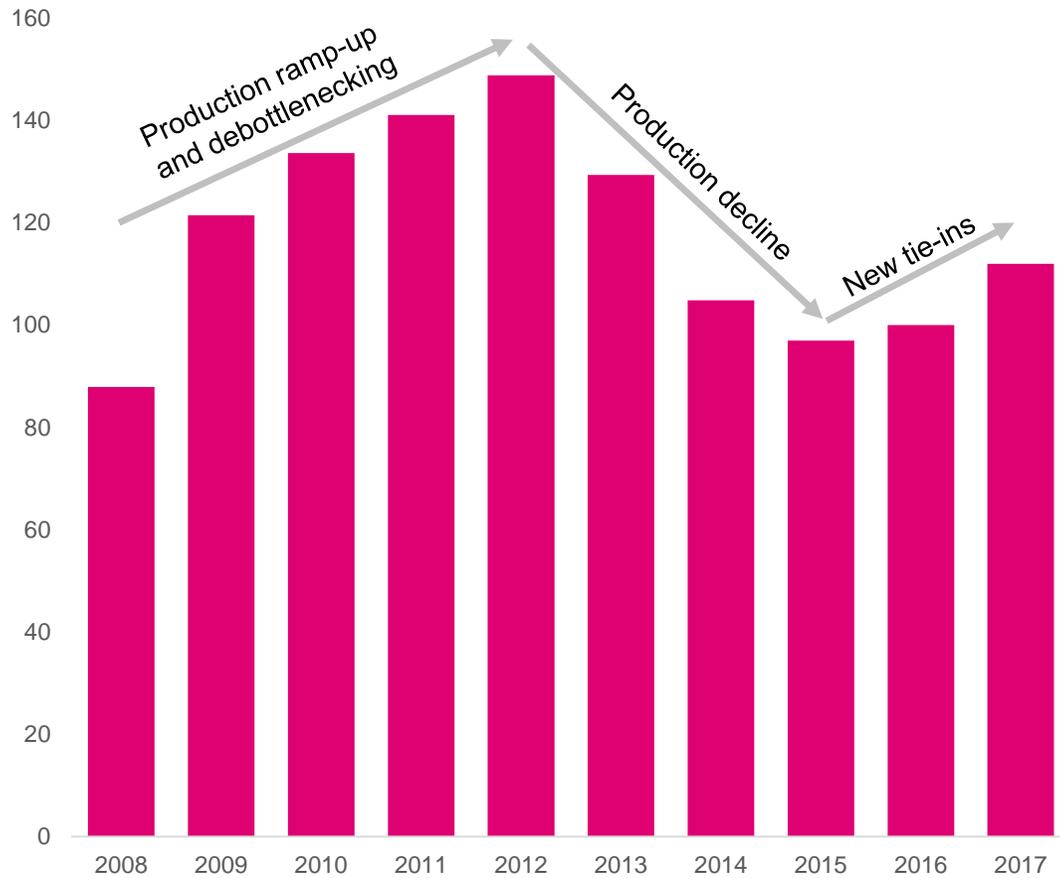
Partners:	ConocoPhillips, Lundin, Point (PL340), Statoil (PL036D), PGNiG (PL036D)
-----------	-------------------------------------------------------------------------

---

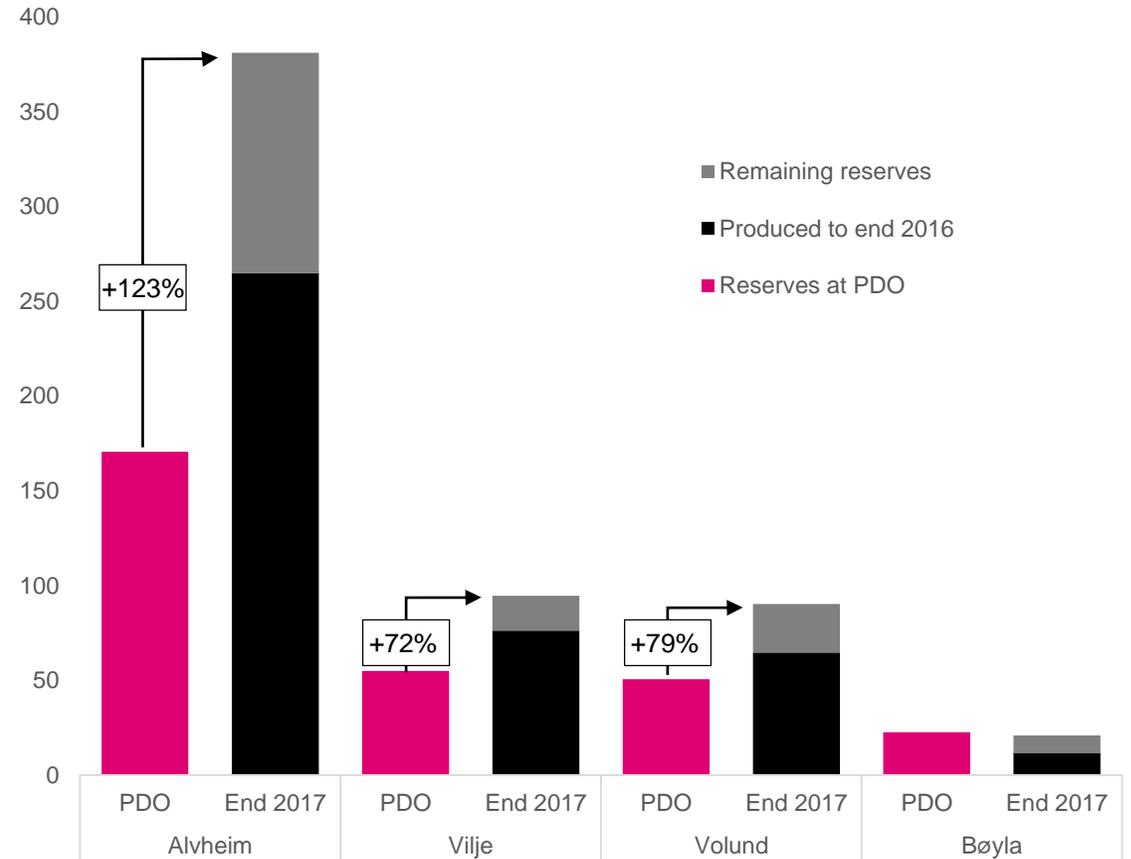


# The Alvheim FPSO production and Alvheim area reserves

Alvheim FPSO historical production (mboepd gross)



Reserves vs. PDO (2P gross), mmboe



## EXECUTE

# Alvheim – Maximizing area recovery

### ■ Development of discoveries in the area

- Skogul (2020), Gekko/Kobra East (2021), Caterpillar (2021)

### ■ Near-infrastructure exploration

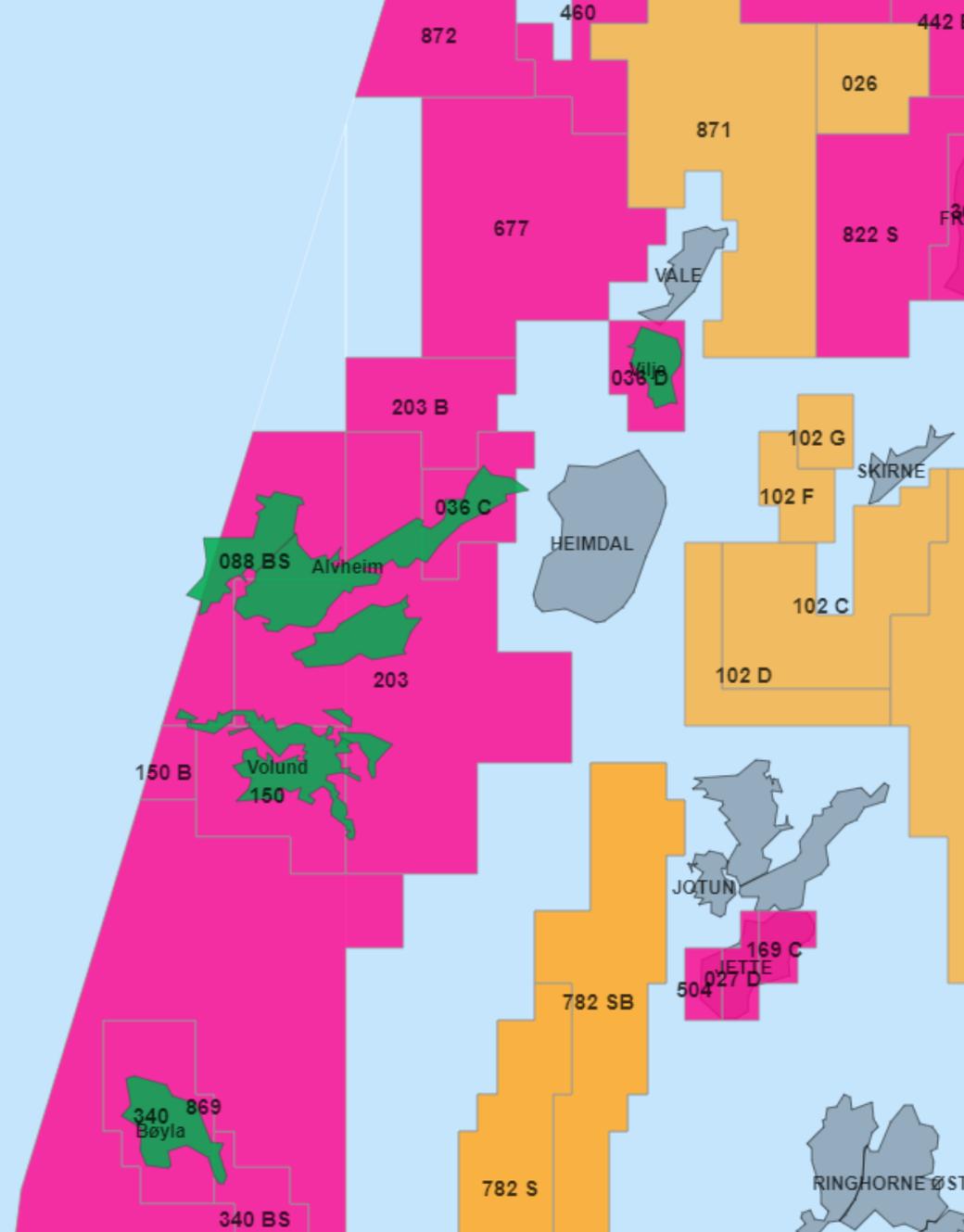
- Frosk, Rumpetroll, Deep Alvheim
- New exploration prospects being matured

### ■ Late-life gas blowdown

- Kameleon, Gekko

### Priorities

- Safe and reliable operations
- 4D seismic
- Infrastructure debottlenecking



## EXECUTE

# Valhall & Hod status

Operated, 90% working interest

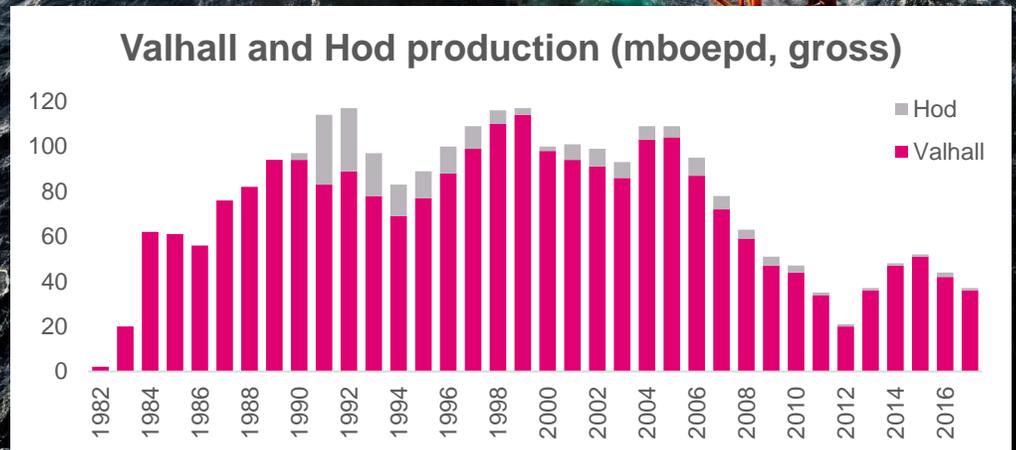
### ■ 2017 performance

- Production 34.7 mboepd (net)
- Stable opex/boe due to cost reductions

### ■ Driving improvement and growth

- Drilling new wells from IP platform
- Plugging abandoned wells
- Two wireline crews performing well interventions
- Valhall Flank West PDO submitted
- Maturing further infill projects

License:	PL006B, PL033, PL033B
Discovery year:	1975
2P reserves per end-2017:	257 mmboe net
Production start:	1982
Partners:	Pandion



## EXECUTE

# Valhall Flank West PDO submitted

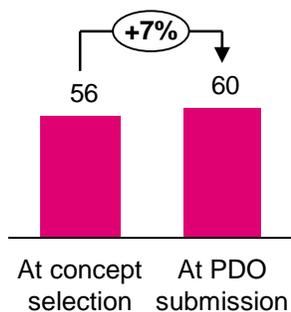
### ■ Tie-back to Valhall field center

- Unmanned wellhead platform
- Six production wells
- Six additional well slots allowing for future expansion

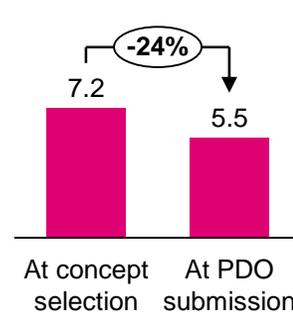
### ■ Robust economics

- 2P reserves 60 mmboe gross / 54 mmboe net
- CAPEX NOK 5.5 billion gross (USD 0.7 billion net)
- Production start Q4-2019 (accelerated from 2021)
- Peak production ~30 mboepd (gross)
- Breakeven oil price of 28.5 USD/bbl

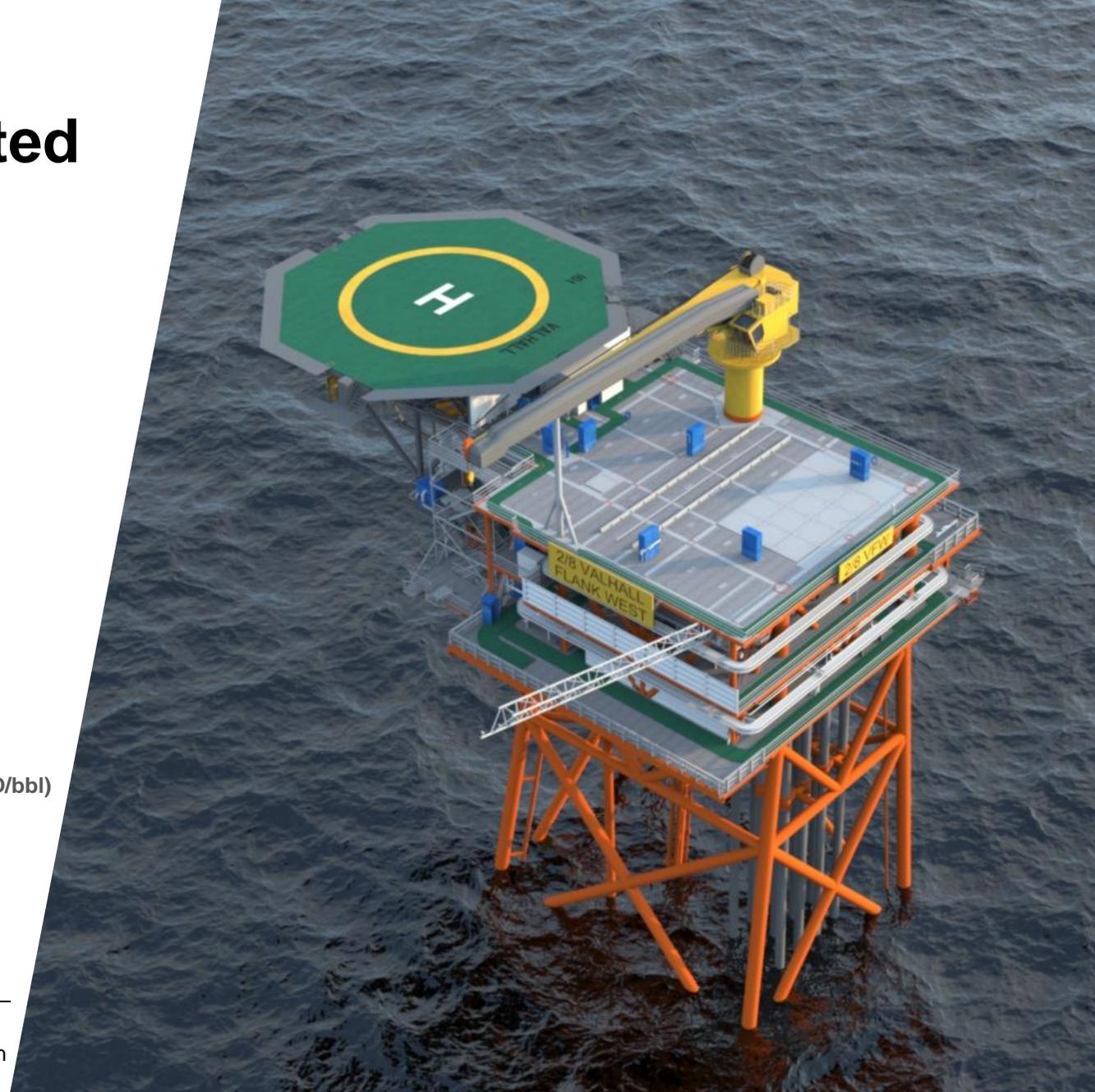
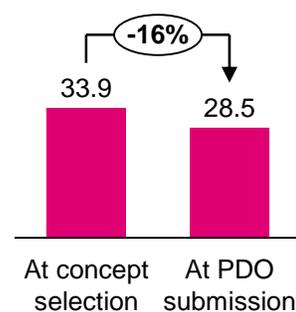
Reserves gross mmboe



CAPEX gross NOKbn



Break-even oil price (USD/bbl)

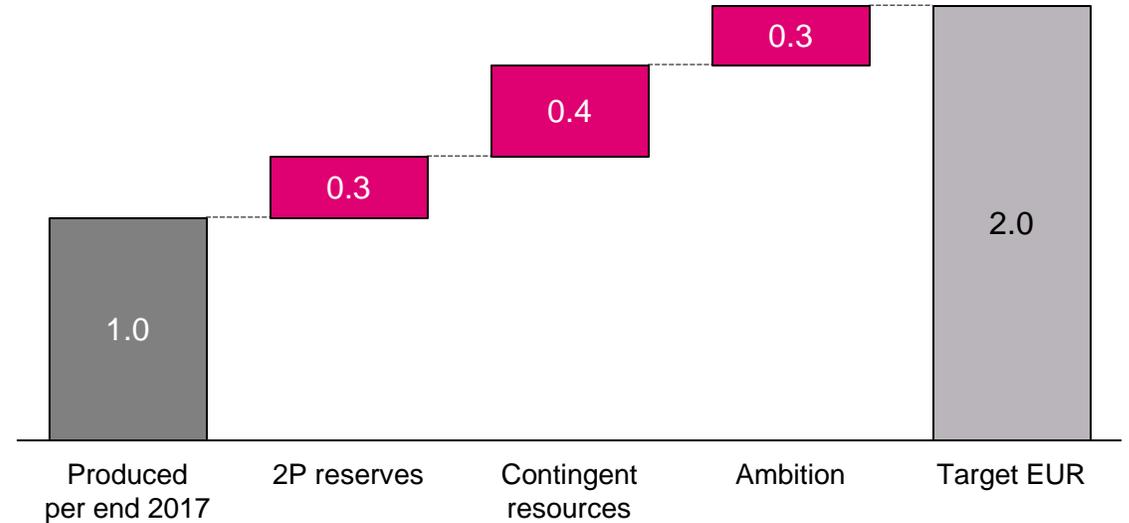


## EXECUTE

# Valhall & Hod outlook

- **Valhall is a giant oil field with huge potential**
  - Initial in-place volume (HCIIP) ~4 billion boe
  - Produced ~1 billion boe to date
  - Current 2P reserves indicate ~30% recovery rate
- **Ambition to produce another 1 bn boe from the area**
  - Drilling more and 'smarter' wells
  - Improved reservoir monitoring and modeling = better decisions
  - Fishbones technology
  - Water injection
  - Several digitalization projects initiated
- **Future opportunities identified**
  - Valhall Flank West PDO submitted
  - Flank North water injection
  - Flank South infill wells
  - Hod redevelopment
  - Lower Hod formation

Valhall & Hod gross resource base (bn boe)



## Fishbones technology



Source: <http://fishbones.as>

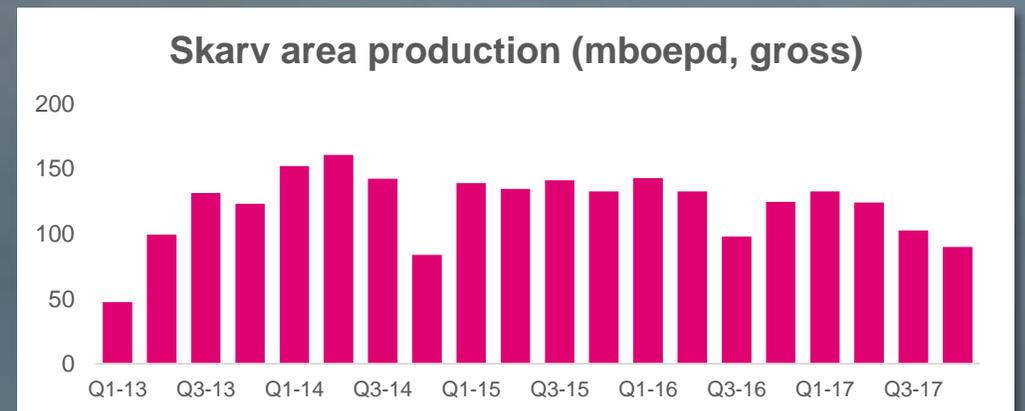
## EXECUTE

# Skarv Area status

Operated, 23.84% working interest

- 2017 production of 26.7 mboepd (net)
- Skarv FPSO is anchored to the seabed and has one of the world's largest gas processing plants offshore
- Field developed with subsea wells tied back to Skarv FPSO from five sub-sea templates
- Transport solution:
  - 80 km long 26" line to Åsgard Transport System
  - Shuttle tanker loading of oil for direct transport to the market
  - Ability to process third party gas

License:	PL159, PL212, PL212B PL262
Discovery year:	1998
End 2017 2P reserves (net):	114 mmboe
Production start:	2013
Partners:	Statoil, DEA, PGNiG



# PDO submitted for Ærfugl

## ■ Two phased subsea tie-back to Skarv FPSO

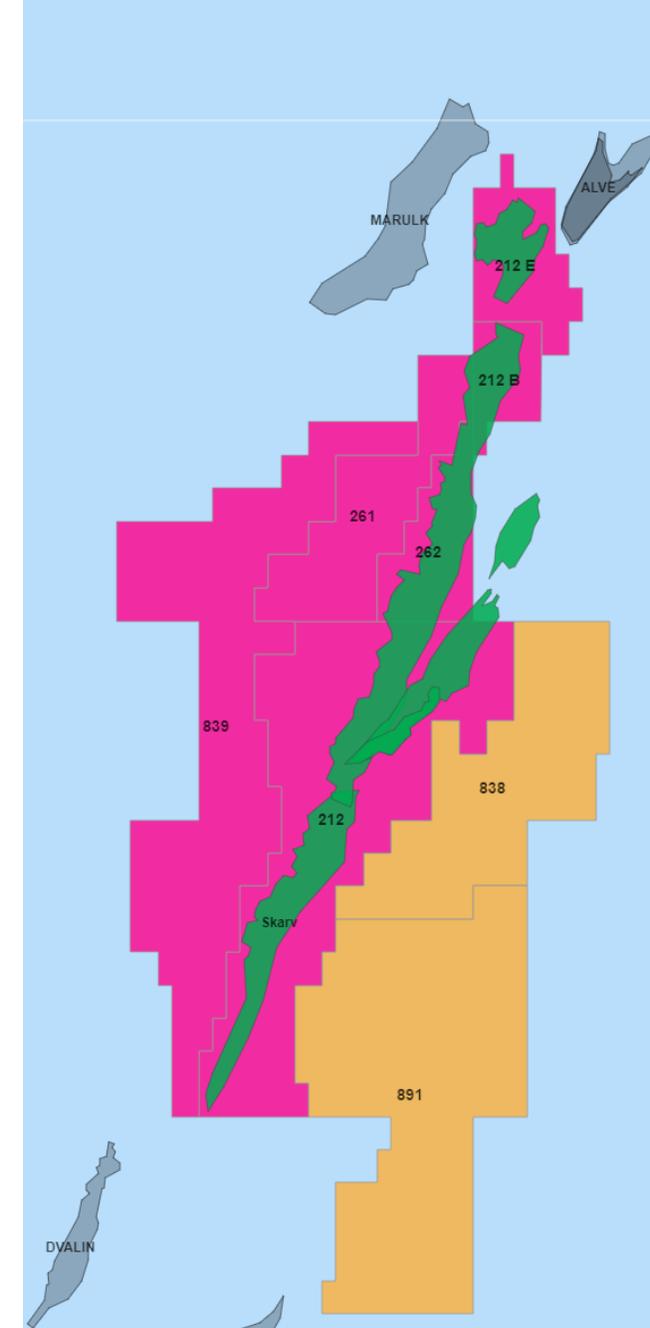
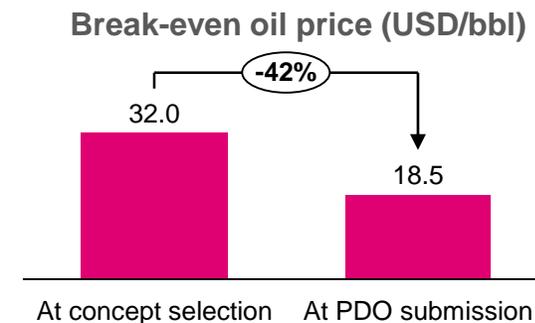
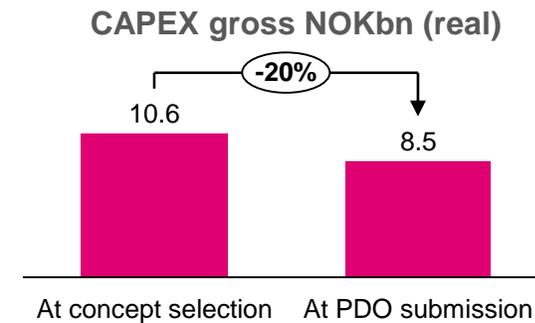
- 275 mmboe gross reserves
- Gross CAPEX of NOK 8.5 bn (NOK 4.5 bn for phase 1)
- Phase 1: Three new wells tied into the Skarv A template
- Peak production of ~100 mboepd for both phases
- Estimated first gas 2020

## ■ Technology driven project

- Electrically trace heated pipe-in-pipe to prevent hydrate formation and improving production efficiency
- Hybrid Vertical X-mas Tree (VXT) increasing flexibility by allowing for direct wellbore access and reducing future intervention costs

## ■ Attractive economics and significant improvements

- Break-even of 18.5 USD/boe for the full-field development
- Significant increase in reserves
- Material reduction in CAPEX primarily related to D&W cost
- Alliance model selected following competitive tendering



## EXECUTE

# Skarv area outlook

### Focus areas

- **Improvement program targeting Skarv FPSO production cost < 7 USD/boe when Ærfugl reaches plateau**
- **Step-up in exploration activity to appraise attractive area resource potential and utilize significant spare oil capacity**
  - Drilling of Kvitungen Tumler prospect in Q1 2018
  - Follow-on exploration drilling in 2019
- **Maturing near-field and infill drilling opportunities to increase oil production and optimize production**
  - Processing of 4D seismic shot in summer of 2017
  - Reservoir work ongoing on Gråsel discovery
  - Assessing completion techniques to increase recovery in low-permeability Tilje formation
- **Re-instate production from shut-in wells**
  - One well successfully re-completed (on stream in Dec. 2017)
  - Firming up plans for re-completion two wells in 2018



## EXECUTE

# Ula / Tambar status

Operated, ~80%\* working interest

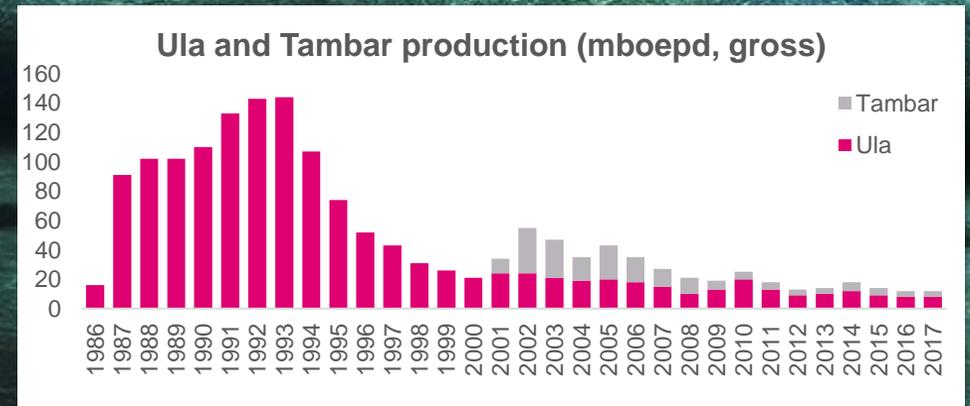
### ■ 2017 performance

- Production 8.4 mboepd (net)
- High unit production cost

### ■ Ongoing activities to improve productivity and cost

- Drilling two new Tambar wells
- Oda development ongoing

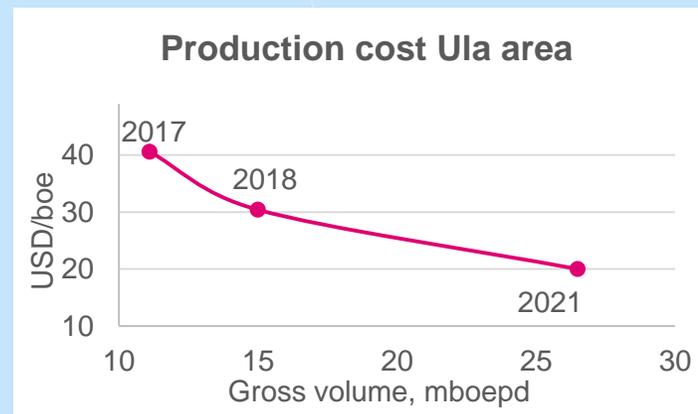
License:	PL019, PL019B, PL065, PL300
Discovery year:	1976
Production start:	1986
2P reserves per end-2017:	66 mboe net
Partners:	Aker BP (80%), Faroe Petroleum (20%)



## EXECUTE

# Ula / Tambar outlook

- **Tambar (55%) re-development underway**
  - Two new production wells
  - New gas lift module
  - Drilling started in October 2017 – first oil in 2018
  - Will improve understanding of the reservoir
- **Oda (15%) development underway**
  - Subsea tie-back to Ula
  - Est. CAPEX NOK 5.4 billion
  - First oil expected in 2019
- **Tambar and Oda provides strong synergies**
  - Increased volumes will drive down unit cost
  - Improves availability of injection gas
  - Provides capacity for more WAG-wells in Ula
- **Evaluating further opportunities**
  - More infill wells at Ula and Tambar
  - Expand use of WAG/injection
  - Appraisal of Ula North and Ula Triassic
  - Near-field exploration



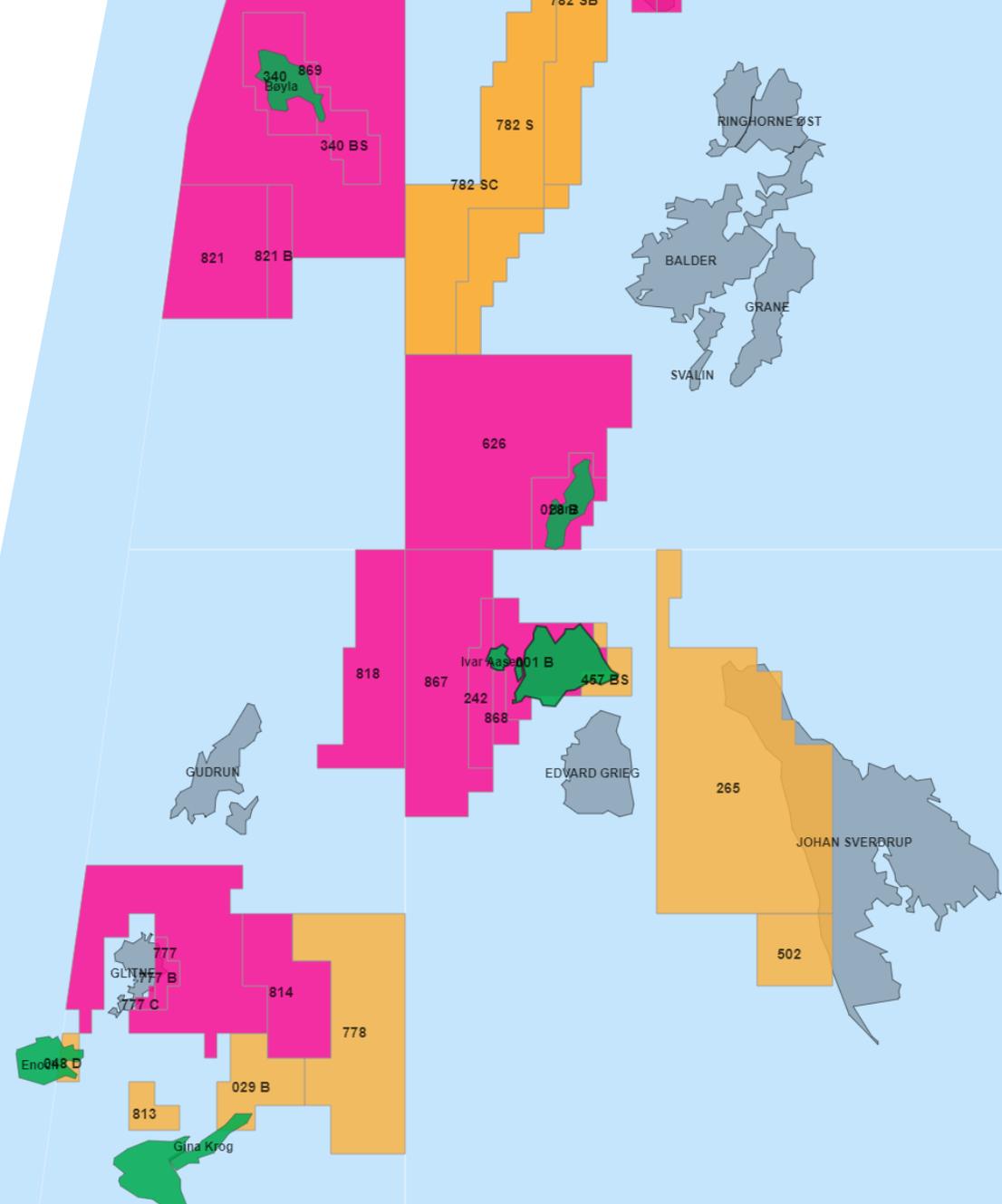
## EXECUTE

# Ivar Aasen and Hanz status

Operated, ~35%\* working interest

- 2017 production of 18.1 mboepd (net)
- First oil from Ivar Aasen on December 24, 2016
  - Successful start up with production according to agreed delivery commitment to Edvard Grieg
- Achieved excellent production performance with high uptime during first year of production
- Development scope in PDO completed
- Plateau production reached in Q4-2017, one year ahead of plan

License:	PL001B, PL242, PL457, PL338 (Unit), PL028B (Hanz)
Discovery year:	2008
End 2017 2P reserves (net):	59 mmboe
Production start:	2016
Partners:	Statoil, Spirit Energy, Wintershall, VNG, Lundin, OKEA



## EXECUTE

# Ivar Aasen outlook

### Aker BP's laboratory for operational improvements

- Drilling of two water injectors in 2018
- Hanz appraisal well planned in 2018
- Area infill drilling opportunities identified, first IOR/infill campaign planned for 2019
- Maturing near-by exploration prospects
- Optimize use of onshore control room to reduce costs and optimize production
- Ivar Aasen to serve as a laboratory for operational improvements across the Aker BP portfolio
- Drive down operation cost by application of technology, digitalization and lean work processes
- Power from shore from 2022



## EXECUTE

# MMO activity to prolong field life



### Ula

- Oda tie-in to Ula
- Ula Power
- Ula lifeboat project



### Tambar

- Tambar Artificial Lift



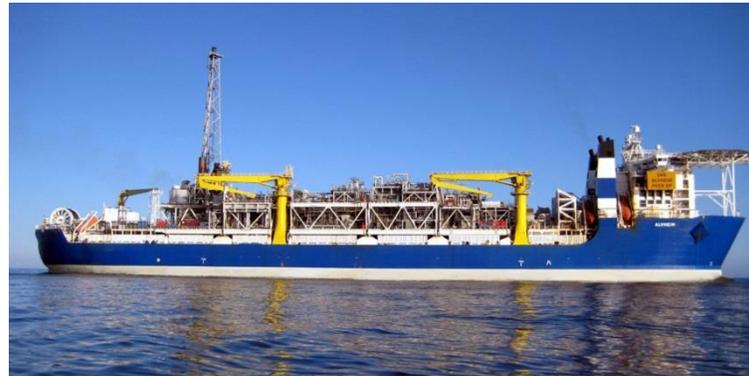
### Valhall & Hod

- Topside modifications for tie-in of Flank West platform
- Flank North water Injection



### Skarv/Snadd

- Turret modifications for Snadd tie-back
- Topside scope - methanol pumps, scale inhibitor package, electrical modifications for flowline heating



### Alvheim

- Prepare for new subsea tie-ins including Boa infills and Skogul



### Ivar Aasen

- Digitalization projects including remote operations
- Hanz tie-in (non-sanctioned)

EXECUTE

# 5 operated rigs in 2018



Maersk Interceptor



Transocean Arctic



Valhall Drilling Platform



Maersk Invincible



Deepsea Stavanger



# Improve

Per Harald Kongelf  
SVP Improvement



IMPROVE

# Improvement is a strategic imperative

Aker BP is running a comprehensive improvement program to maximise flow efficiency and remove waste

Reorganising the value chain  
with strategic partnerships  
and alliances



Be at the forefront for  
digitizing E&P

Value chain based on a shared  
LEAN understanding,  
toolbox and culture



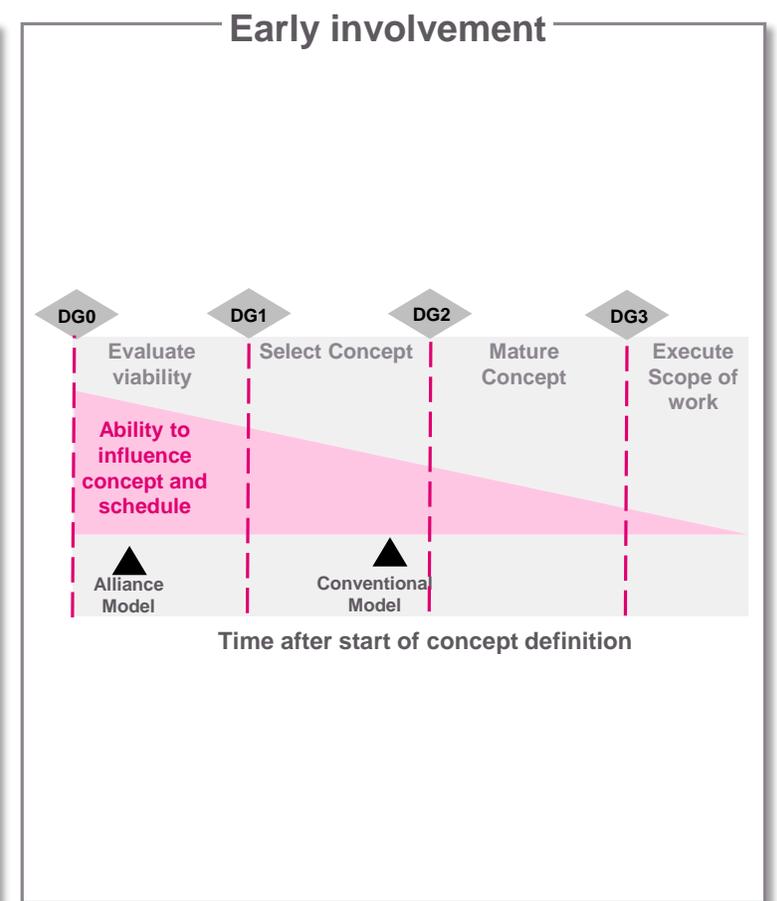
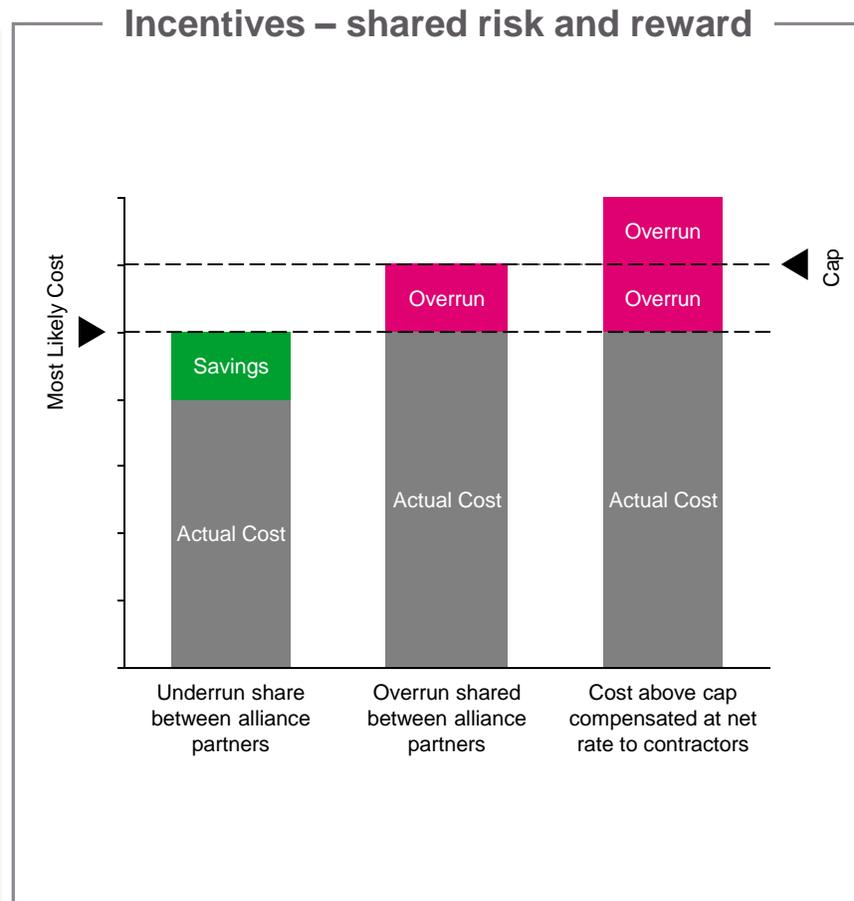
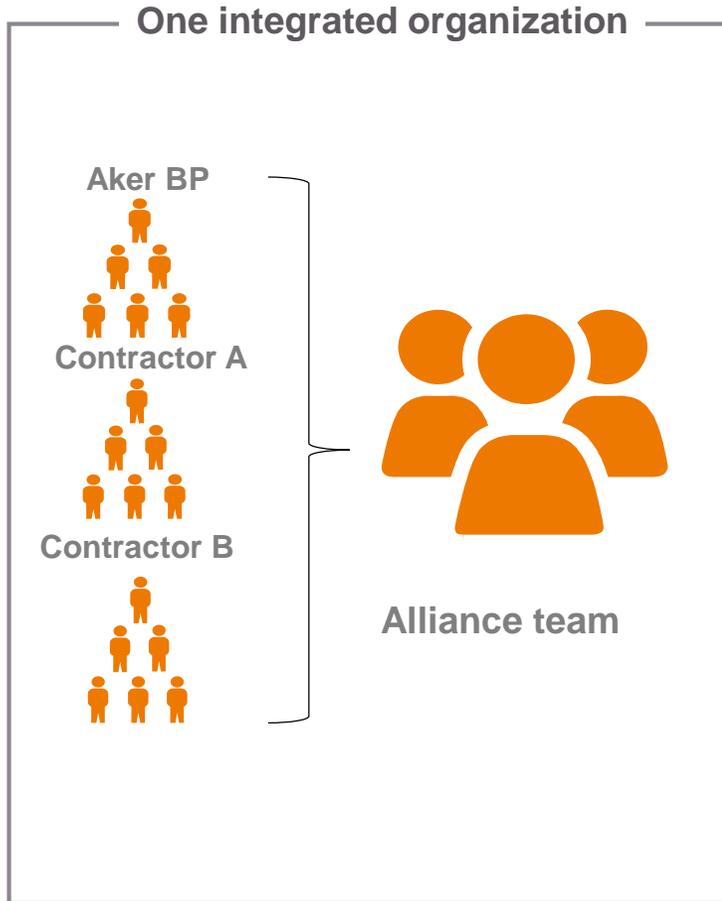
Flexible business model  
ready for growth and volatility

# The problems with traditional supplier relationships

	Alliance	Traditional
 <b>Time horizon</b>	Long-term	From project to project
 <b>No. of suppliers</b>	Minimum sufficient	Several
 <b>Risk sharing &amp; Incentives</b>	Aligned incentives and shared upside and downside risk	Dis-aligned incentives, no risk sharing
 <b>Team Organization</b>	Integrated team, empowered team, <i>“best person for the job”</i>	Separate organizations with interfaces and hand-overs
 <b>Geography</b>	Co-location of teams	Many teams in separate locations
 <b>Leadership</b>	Trust-based leadership	Control and transaction based
 <b>Documentation</b>	Minimum sufficient	Large documentation (control culture and tailor make)
 <b>Improvement</b>	Common improvement language based on Lean	Separate, uncoordinated improvement initiatives
 <b>Standardization</b>	Repetition and re-use	Tailor-make

IMPROVE

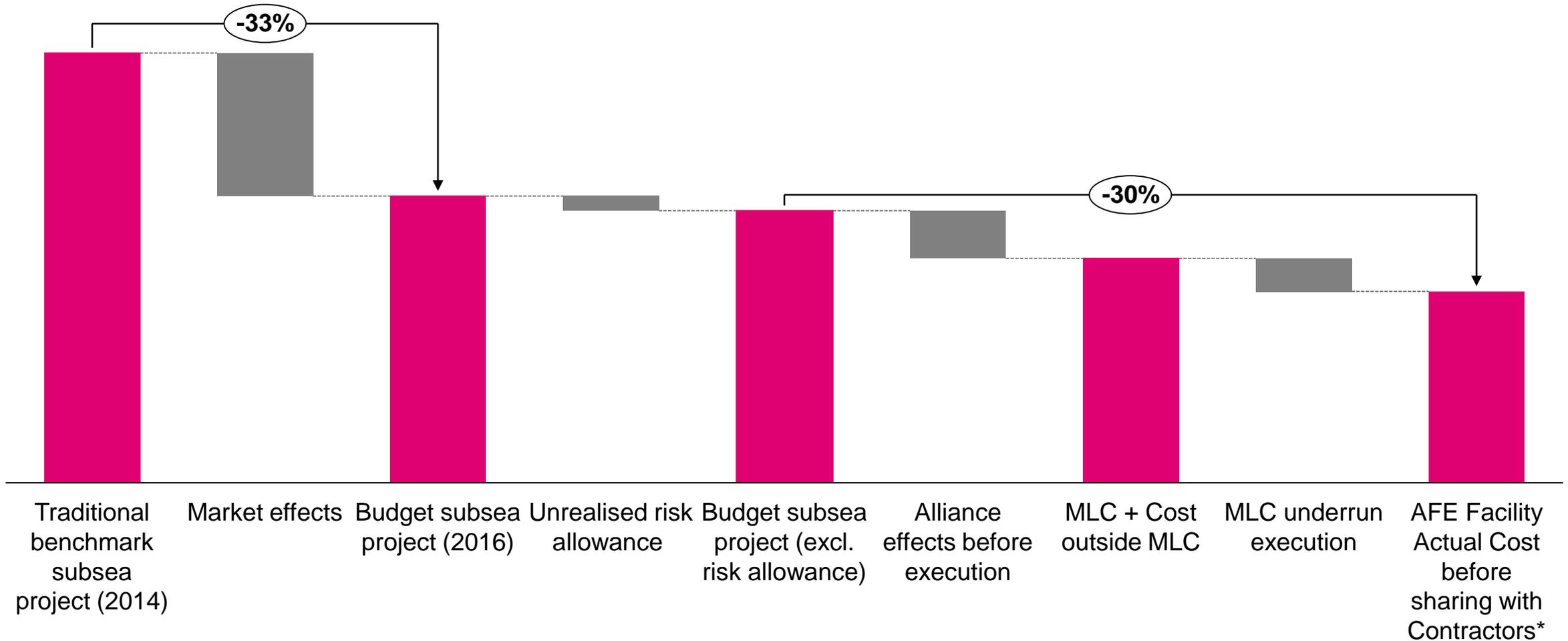
# Alliance principles



IMPROVE

# Alliance delivery: Volund infill project

The first project completed by the subsea alliance – delivered 30% below target

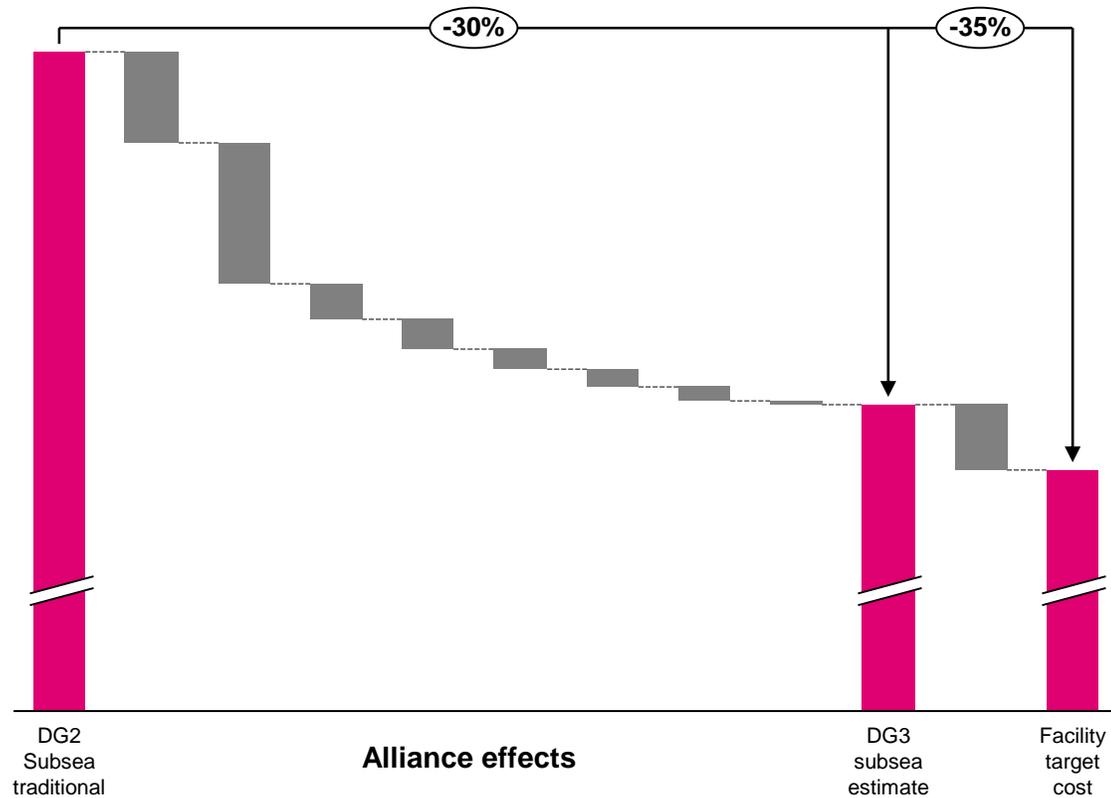


IMPROVE

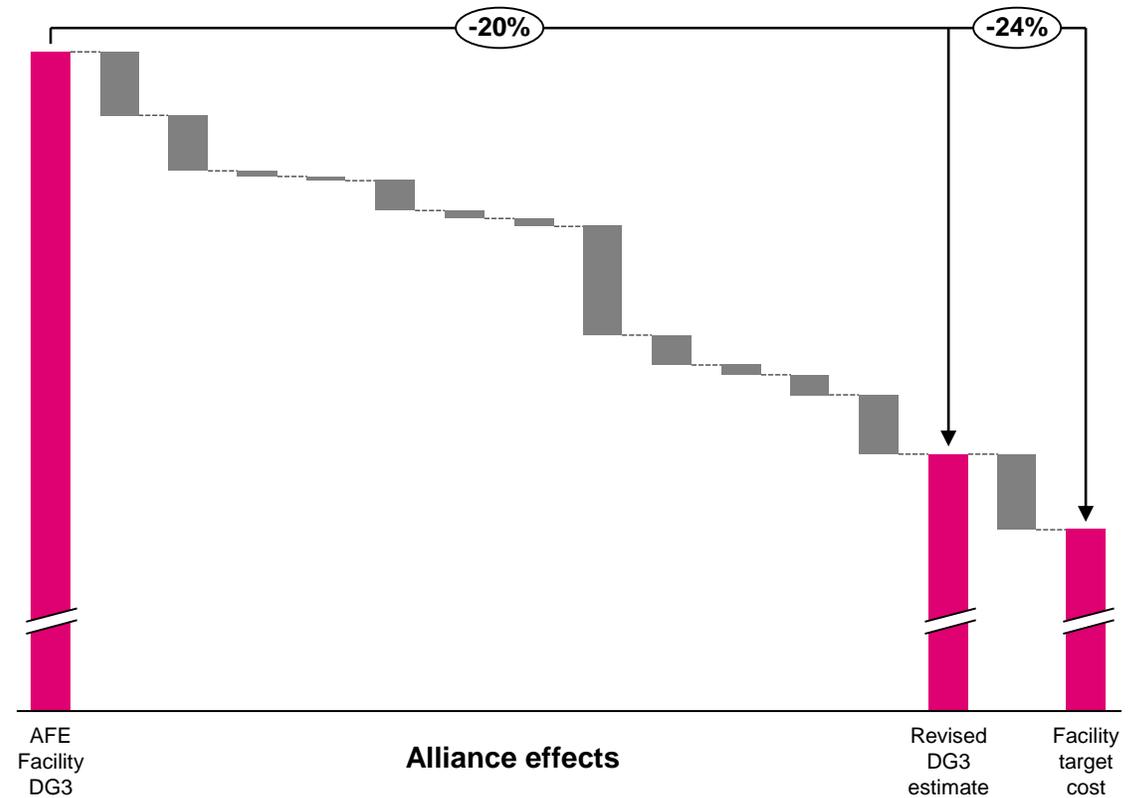
# The alliance model continues to deliver

Selected projects currently being worked by the Subsea Alliance (subsea scope only)

### Valhall Flank West



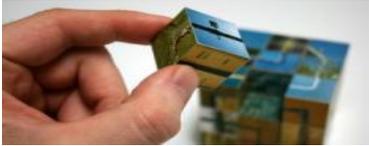
### Skogul



IMPROVE

# Digitalization opens up for massive improvements

## Big data & analytics



Instant analysis of large data sets to identify new patterns

## Cloud computing/storage



Highly scalable, variable-cost storage & processing on demand

## Collaborative technology platforms



Employee engagement and collaboration enabled by digital platforms and communities

## Virtual reality



Interact more naturally with digital devices and services

## Real-time communication and tracking



Every asset, equipment, employee always connected

## 3D scanning



Analyses of real-world object or environment to collect data on its shape / appearance

## Additive manufacturing



Print objects & parts on demand with increasing precision, and range of materials

## Mobile connectivity & AR



Virtual telepresence to remove the need for on-site humans and omnipresent mobile devices

## Unmanned aerial vehicles



Autonomous, low-cost vehicles able to perform complex tasks and remove human presence

## Sensors



Low cost, low power, connected sensors capturing spatial and environment information

## Robotics & automation



Intelligent robots take on complex assignments

## Cyber security

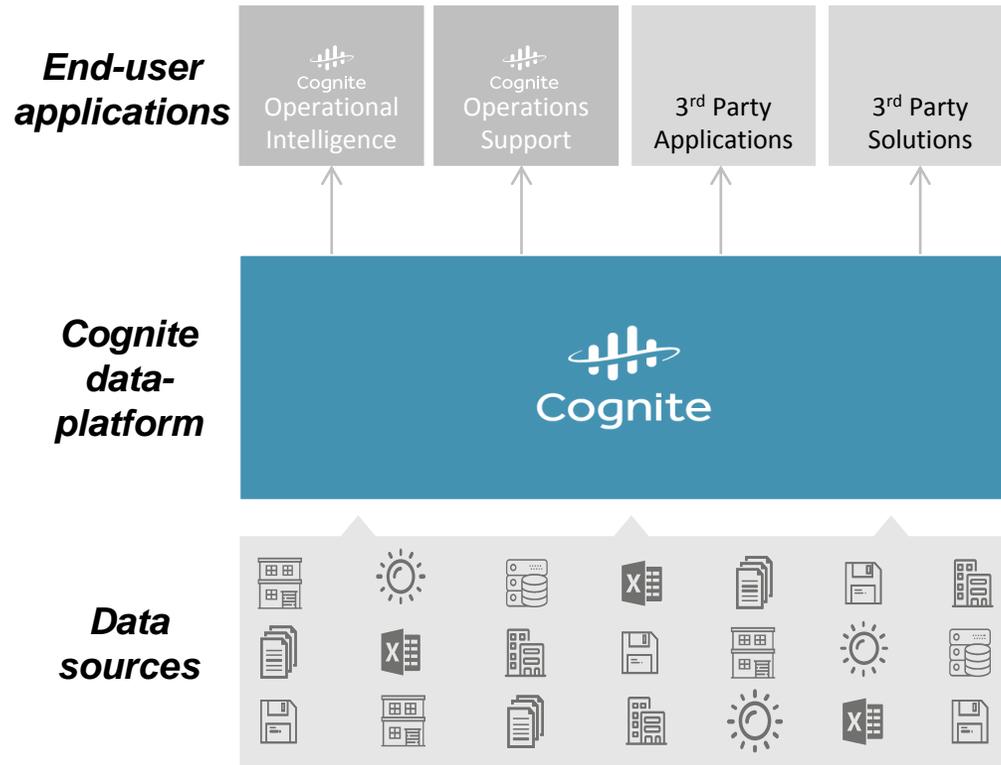


Protecting system integrity is a "must-have"

IMPROVE

# It all starts with data

Aker BP has established a data platform in cooperation with Cognite



## ■ Design criteria for the data platform

- Open architecture
- Scalable, flexible and robust
- Cloud-based

## ■ Data feed established from ~200.000 sensors

- Live data from all Aker BP's installations
- Complete historic data

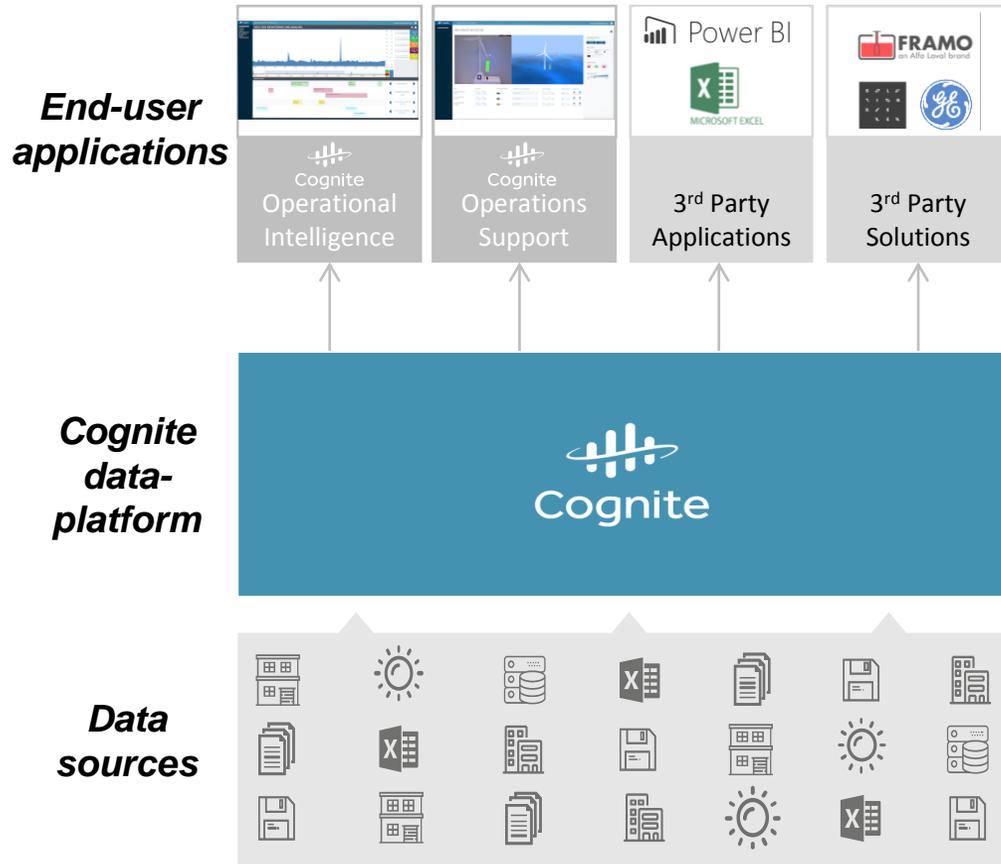
## ■ About Cognite

- Norwegian IT company
- Strategy: Develop world-class horizontal industrial data platform, making data a strategic asset in the industrial's own terms
- Aker BP is Cognite's first customer and has 10% ownership

IMPROVE

# Digitalization in Aker BP

Developing use cases on the data platform...



...and progressing key digital initiatives



# IMPROVE The Framo story

## Sharing operational data with equipment manufacturer

- Framo is a leading supplier of pumping systems
- Framo is using Ivar Aasen as a case for exploring remote operations with live data access (free of charge) through the Cognite system
- The purpose is to develop diagnostic capability and to identify further improvements on its equipment packages for future projects

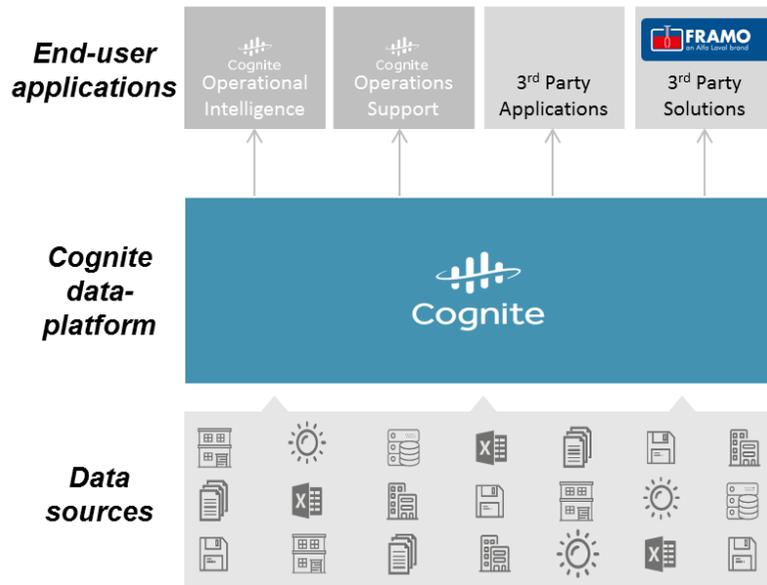


Illustration source: Framo website

## IMPROVE

# Supporting offshore operations using tablets and AR

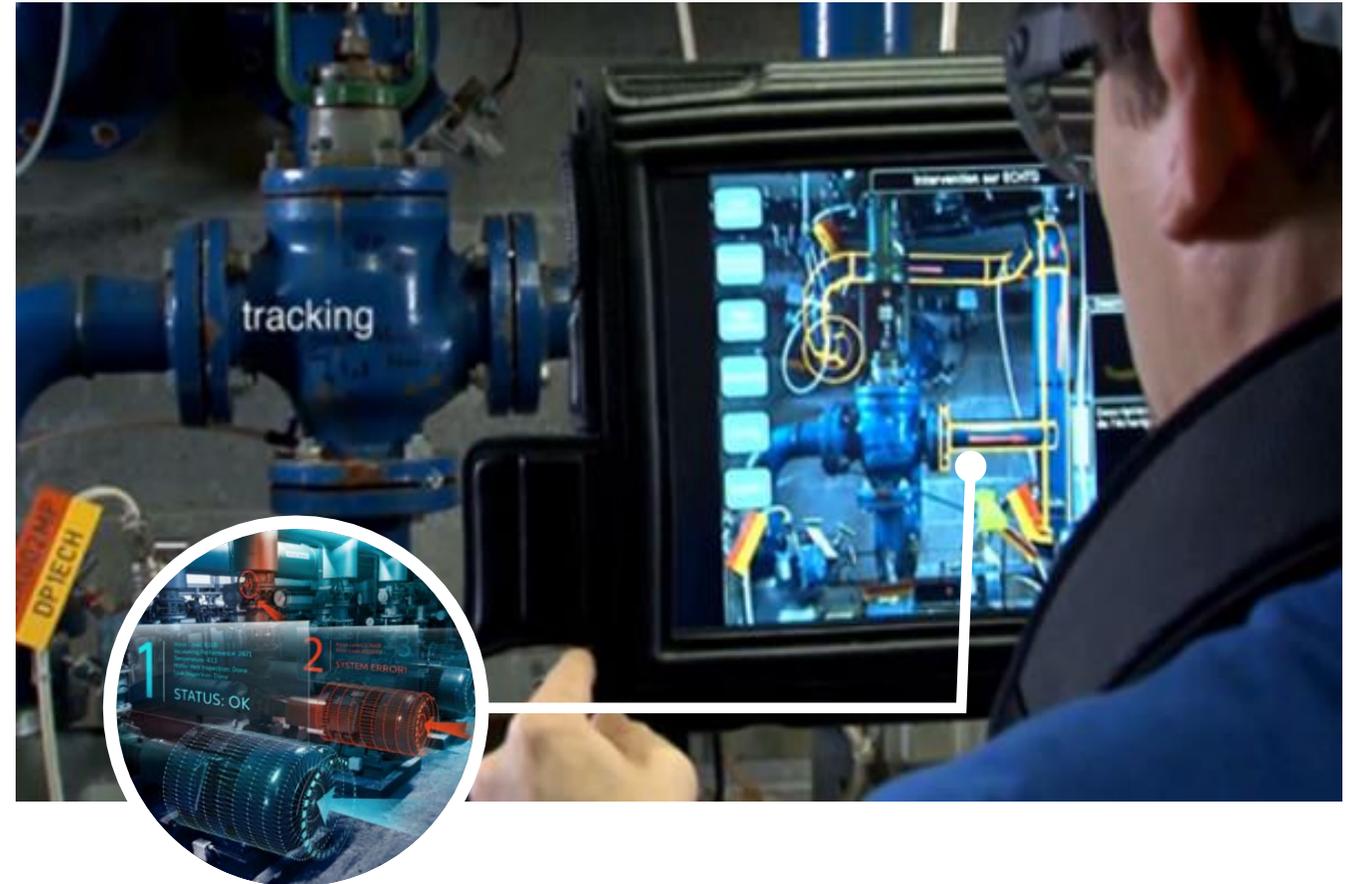
## Cognite Operations Support

### ■ Current features

- Computer vision to read equipment tags
- Live sensor data feed
- Locate failing equipment in interactive 3D model
- Shows all relevant information available

### ■ Roadmap for more functionality

- Interactive P&IDs
- Additional information sources continuously added
- Navigation on walk path to equipment
- Augmented reality to overlay equipment data
- Expert support live video feed on tablet
- Work order process integrated into portable device
- Maintenance planning optimization (timing and walking routes)
- Capture images of equipment to enable time lapse of critical equipment
- Update 3D model based on scans from application

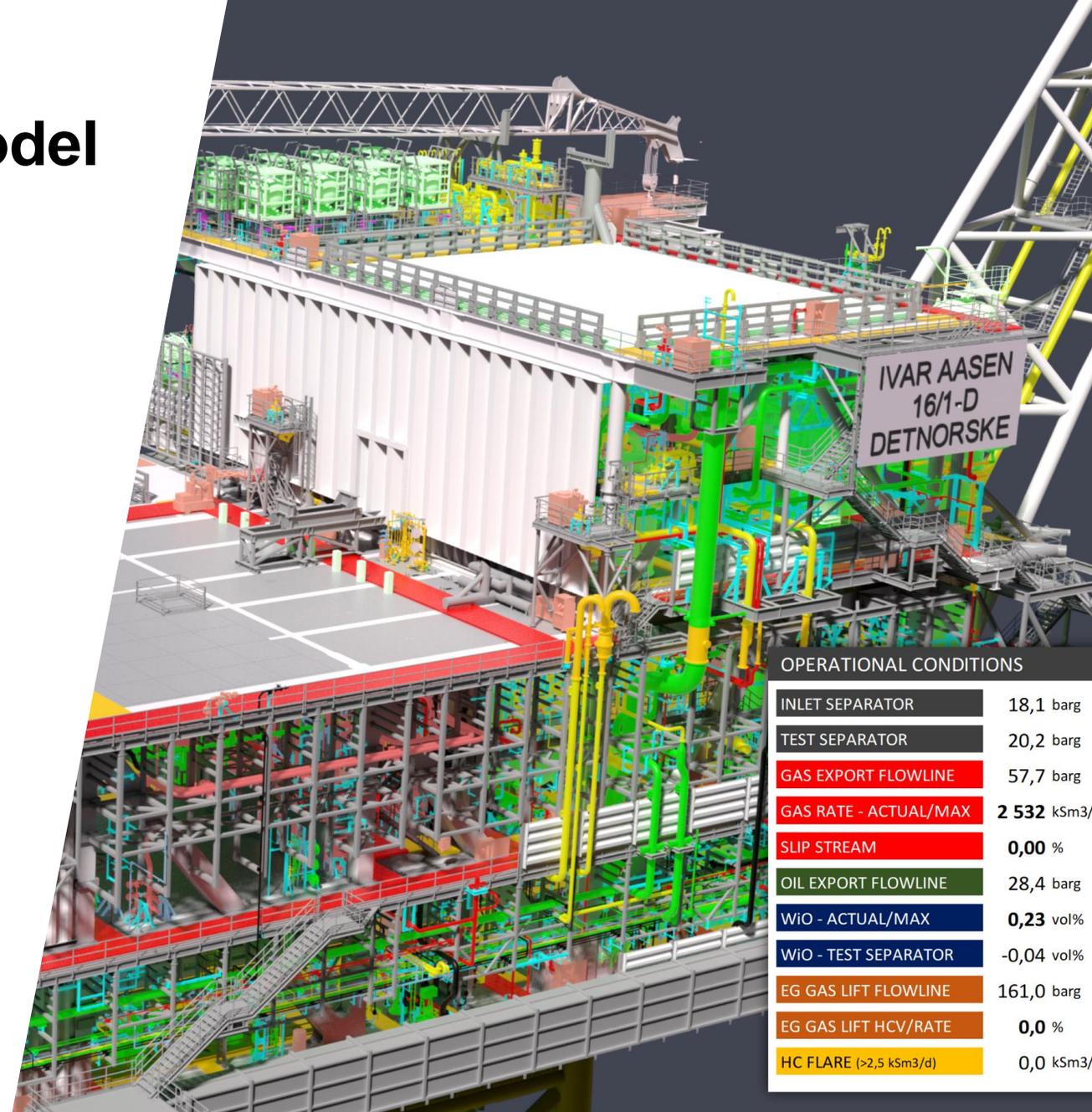


IMPROVE

# Ivar Aasen digital operations model

Aker BP's laboratory for developing the digital oil field

- Digital twin based on live data from the Cognite data platform
- Digital tools, e.g. Cognite Operations Support
- Integrate OEMs in operations, e.g. Framo
- Predictive maintenance based on machine learning on top of Cognite platform
- Automation of repetitive tasks
- New business models for sourcing products and services
- Remote operations to reduce waste and increase quality



# IMPROVE PUSH – Digital project execution

- Joint collaboration between Aker Solutions and Aker BP where the objective is to radically improve the way offshore projects are engineered
- Developing digital tools to reduce execution time by 25 percent and reduce costs from discovery to operations
- Initial focus on front end and platform solutions
- PUSH will ultimately provide a digital red thread from engineering to operations
  - Generate 3D digital twin of the platform
  - Accessing historical data and drawings: Re-using design properties and information to save engineering cost
- PUSH is currently being tested and implemented in the NOAKA project
  - Master equipment list for concept studies
  - Automated topside weight estimation
  - Automated generation of topside 3D layouts

Accelerating the transition to fully digitized field development projects



# Data liberation and sharing will improve NCS competitiveness

## Current state

*High degree of rework in subsurface projects and limited ability to benchmark performance of equipment and assets*

- Inaccessible data in a world of silos
- Poor quality and not standardized formats
- Locked in applications
- Specialized systems not using open source limit open innovation
- Limited sharing, and “internal data” below critical mass



## Desired state

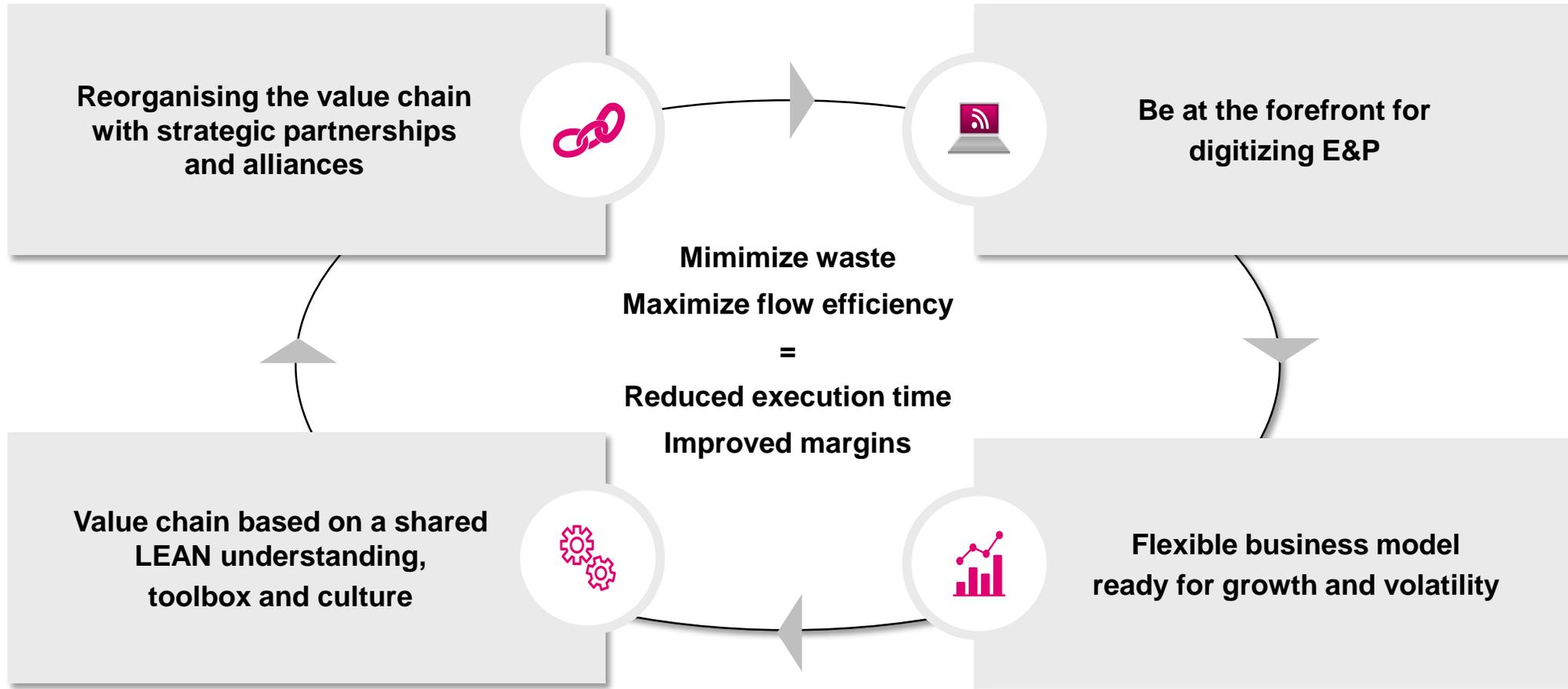
*Faster maturation of subsurface projects and faster learning enabled by industry benchmarks*

- All data consumable with open API standards feasible for big data analytics
- Separation of data and applications
- Sharing of data across the value chain and between peers
- Open source software
- Sharing of workflows

IMPROVE

# Improvement is a strategic imperative

Aker BP is running a comprehensive efficiency improvement program



# Q&A

# Grow

**Karl Johnny Hersvik**  
Chief Executive Officer

**Gro Gunleiksrud Haatvedt**  
SVP Exploration



GROW

# Johan Sverdrup development on track

## ■ Project progressing according to plan:

- Construction was close to 80% complete by end 2017
- Drilling platform modules integrated on barge in Norway
- Riser platform modules ready for transport to Norway in February
- 9 water injectors pre-drilled and completed

## ■ Costs continue to come down

- Phase 1 CAPEX estimated at NOK 92 billion (nom.) with break-even oil price below 20 USD/boe
- Full field CAPEX estimated at NOK 132 – 147 billion (nom.) with break-even oil price below 25 USD/boe

## ■ The project aims to deliver PDO for phase 2 in the second half of 2018

Drilling platform heavy lift at Klosterfjorden

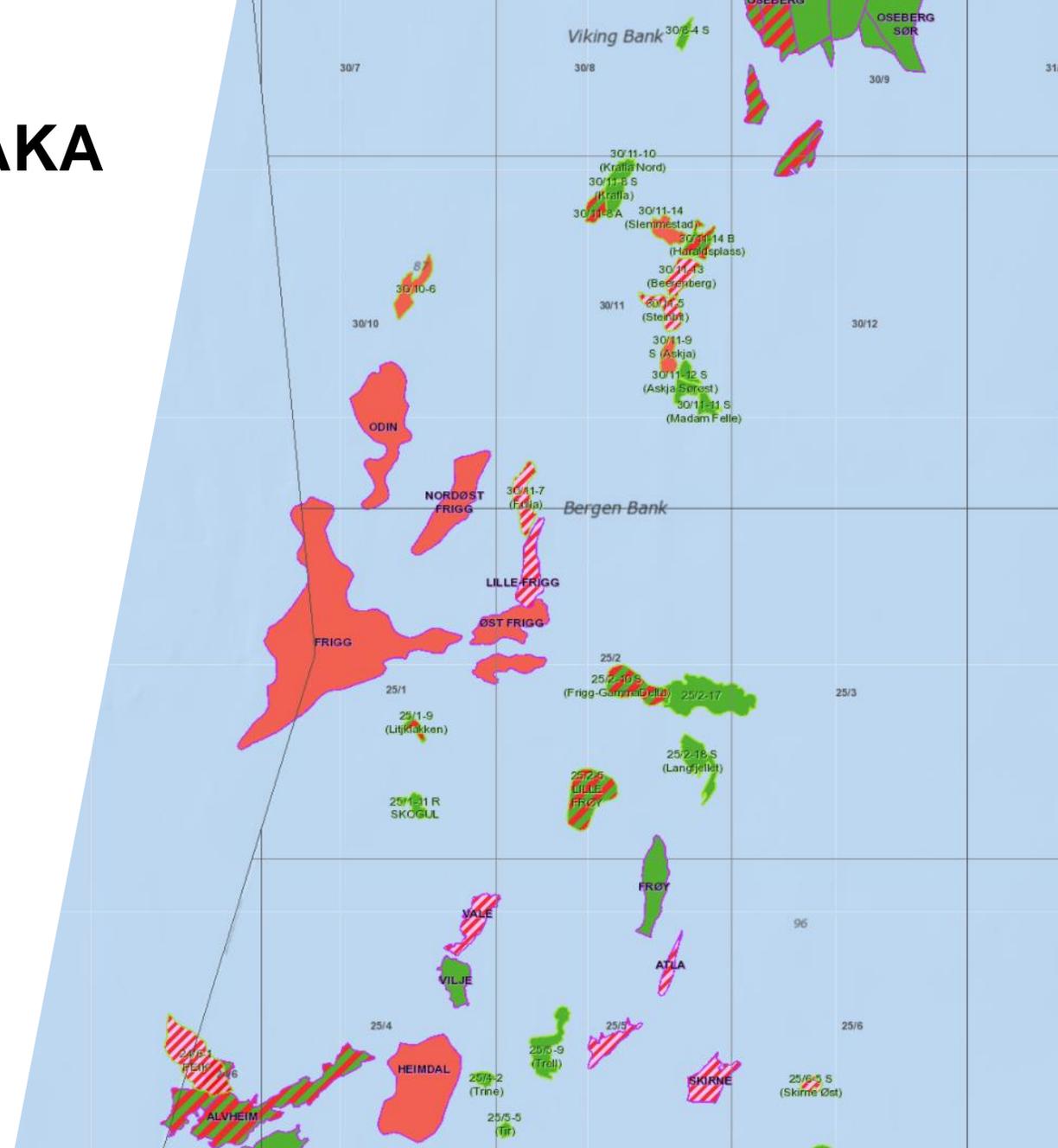


Photo: Arne Reidar Mortensen/Statoil

GROW

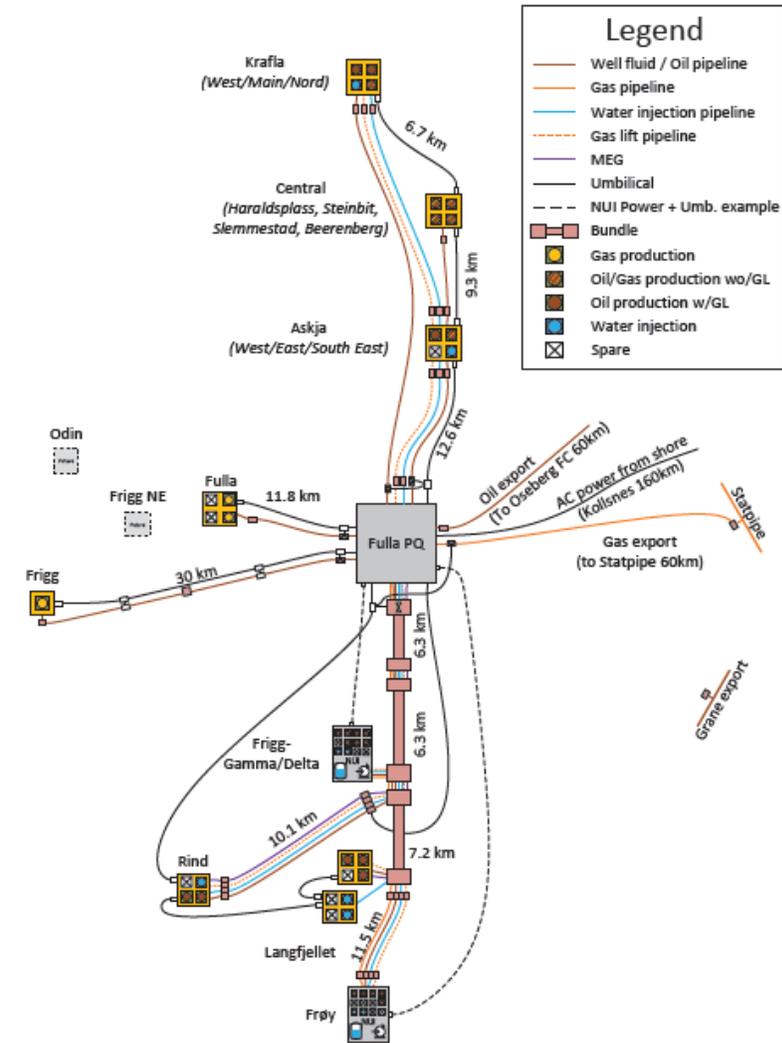
# Targeting an area solution for NOAKA

- Statoil, LOTOS and Aker BP have agreed to establish an area forum to evaluate a joint area development for North of Alvheim\* and Krafla/Askja (NOAKA)
- Two area solutions to be evaluated;
  - PQ alternative with a field hub with processing platform in the middle of the area
  - UPP x 2 alternative with two unmanned processing platforms, one in Krafla/Askja area and one in the North of Alvheim area
- Gross resources in the area estimated to be in excess of 500 mmboe
  - Including tie-in from Frigg and Rind
- Concept selection targeted for Q1-18



# Aker BP assessment of NOAKA

- **Maturing of selected concept towards DG2 should be based on concept that facilitates for highest area resource recovery**
- **The NOAKA area is prospective with a lot of possible future tie-ins from exploration prospects**
  - Unrisked exploration resources in the area is estimated to about 400 mmboe
  - PQ alternative will include a processing platform located centrally in the area within effective reach of existing and new discoveries
- **The PQ alternative have an acceptable break-even price and high value creation**
  - Low risk development with PQ platform based on conventional design and proven technology
  - Area fields developed as subsea or unmanned wellhead platforms with tie-back to the PQ platform
  - Power to be supplied from shore

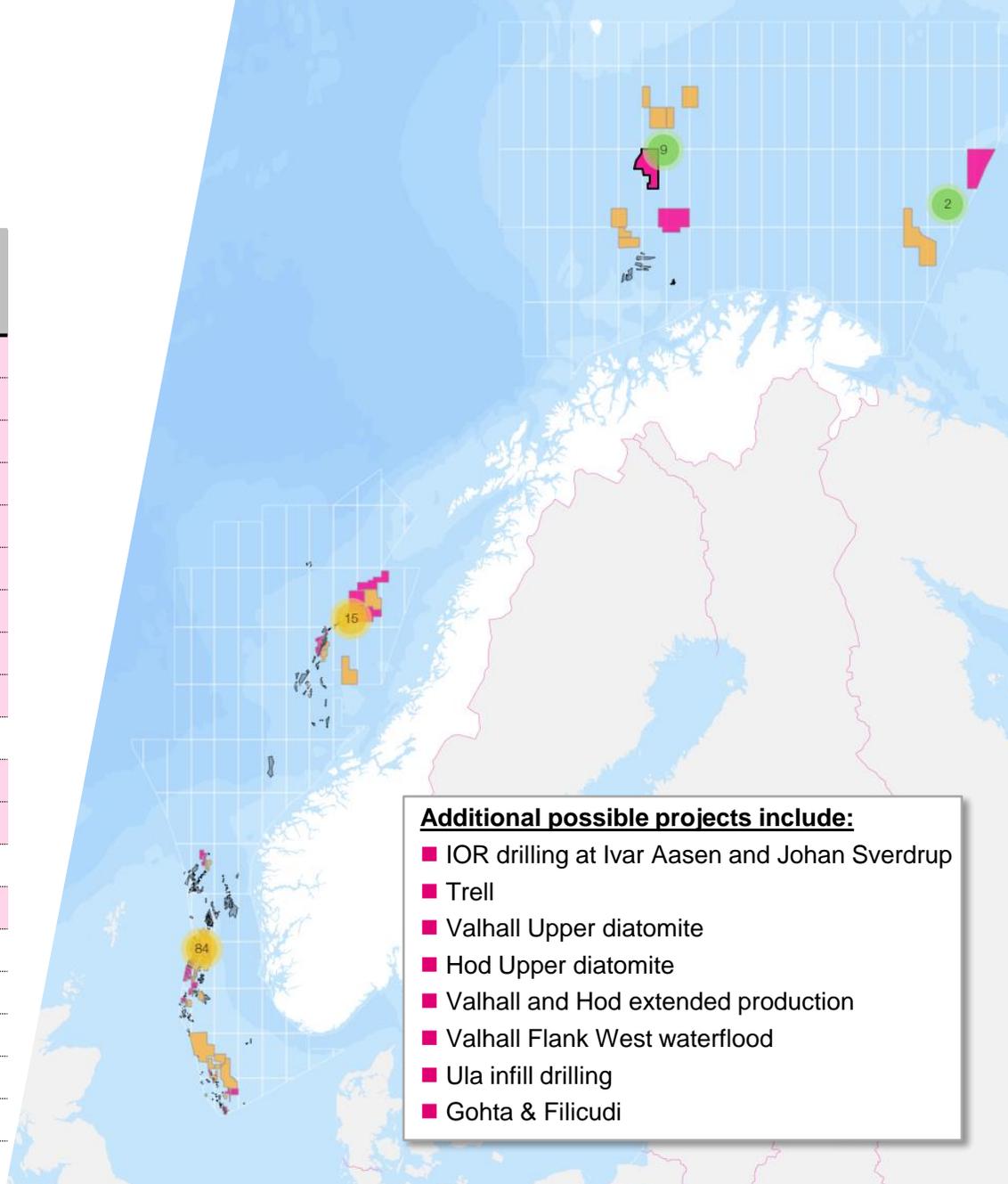


# Project inventory provides flexibility

Project	Operator	Aker BP Equity	Gross mboe	Plateau production (gross)	Est. first oil/gas
Valhall IP wells	Aker BP	90.0%	54	~12 mboepd	2018
Boa infills 2017	Aker BP	57.6%	15	~8 mboepd	2018
Tambar development	Aker BP	55.0%	26	~10 mboepd	2018
Kameleon infill South	Aker BP	65.0%	5	~6 mboepd	2018
Johan Sverdrup	Statoil	11.6%	2 594	~660 mboepd	2019
Oda	Centrica	15.0%	47	~30 mboepd	2019
Ula WAG from Tambar/Oda	Aker BP	80.0%	15	~7 mboepd	2019
Valhall Flank North injector	Aker BP	90.0%	7	~2 mboepd	2019
Valhall Flank West	Aker BP	90.0%	60	~30 mboepd	2019
Valhall Flank South infill	Aker BP	90.0%	14	-	2019
Skogul	Aker BP	65.0%	10	~13 mboepd	2020
Ærfugl	Aker BP	23.8%	275	~108 mboepd	2020
Valhall Lower Hod	Aker BP	90.0%	65	-	2020
Hanz	Aker BP	35.0%	18	~21 mboepd	2021
Gekko/Kobra East	Aker BP	65.0%	35	-	2021
Caterpillar	Aker BP	65.0%	9	-	2021
Garantiana	Statoil	30.0%	73	-	2022
NOAKA*	Aker BP	Various	279	-	2022
Hod re-development	Aker BP	90.0%	71	-	2022

■ 2P reserves

□ Best estimate contingent resources



# Creating the leading explorer



## **ENSURE**

long term reserve replacement and value creation



## **ESTABLISH**

new core areas



## **DISCOVER**

250 mmboe net to Aker BP in 2016 - 2020



## **CONTINUOUS**

positioning for significant additional discoveries



## **IMPROVE**

data quality and technology to create a competitive edge



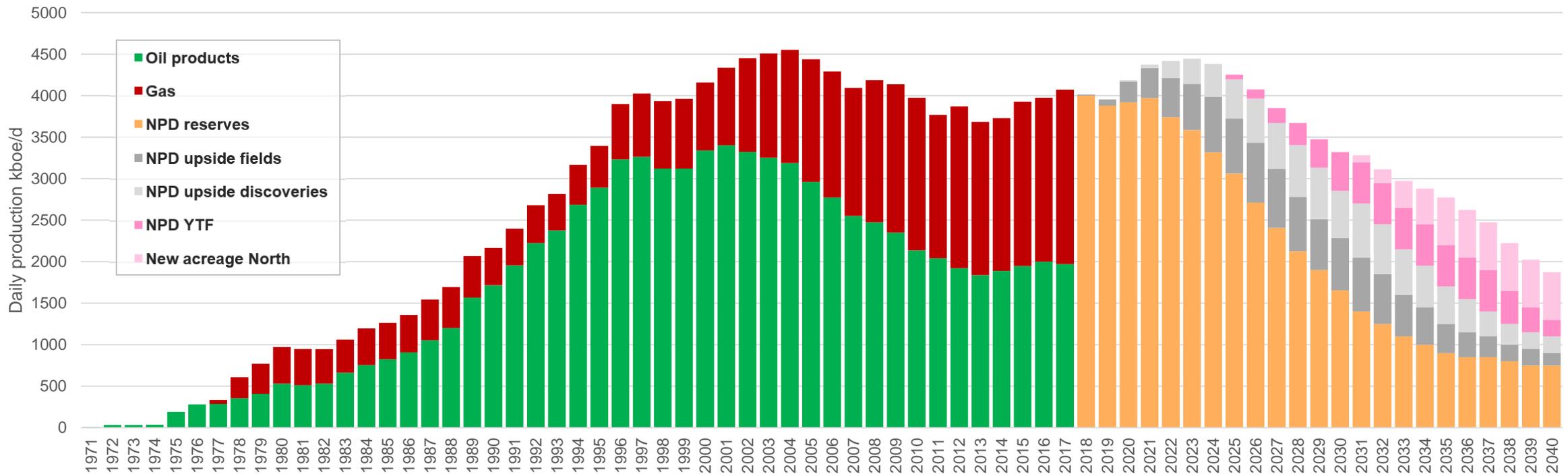
# NCS production stable to 2025 – then what?

## Decline after 2025 – possible to mitigate?

- Postponement to 2025 by upsides in fields and discoveries
- Yet to Find in known basins and unopened basins

## NCS robust in several demand scenarios

- Offshore less hit by global peak demand than unconventional
- Based on cost curve, NCS more competitive than other offshore



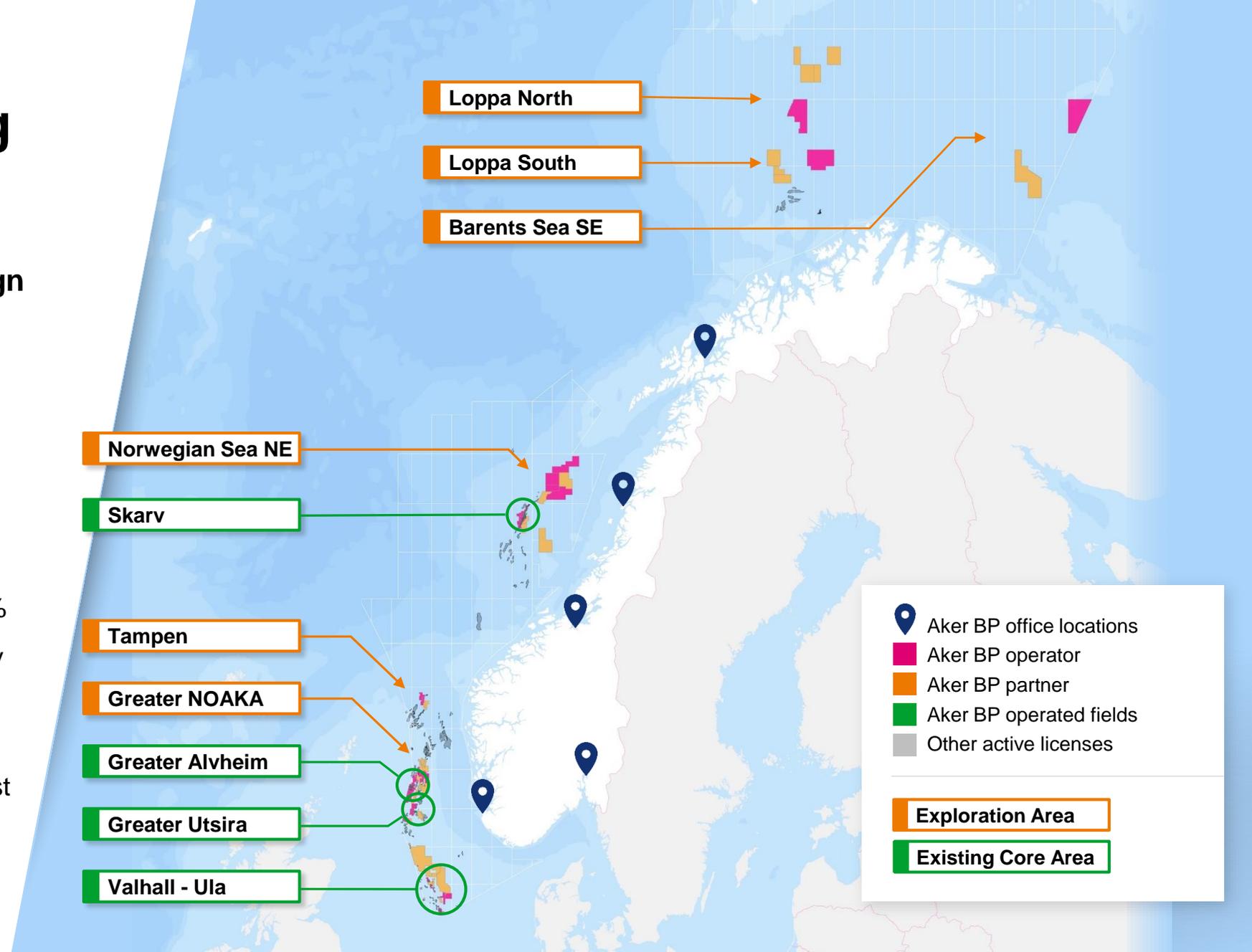
# Exploration thriving on the NCS

## Aker BP 2018 exploration campaign

- Skewed towards frontier prospects
- 12 exploration wells
- Risked pre drill estimates ranging from 50 – 150 mmbcfe net to Aker BP

## Trends

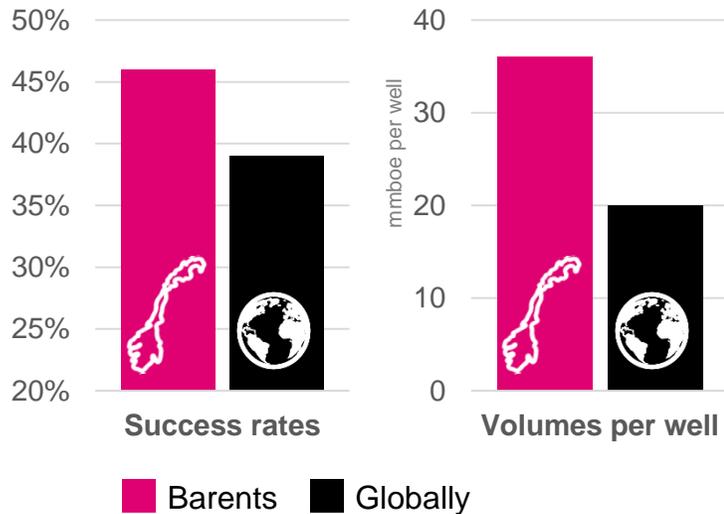
- Exploration well cost reduced by ~50 %
- Development cost reduced significantly
- Increased area of influence for cluster developments
- Digitalisation will further strengthen cost reduction trend



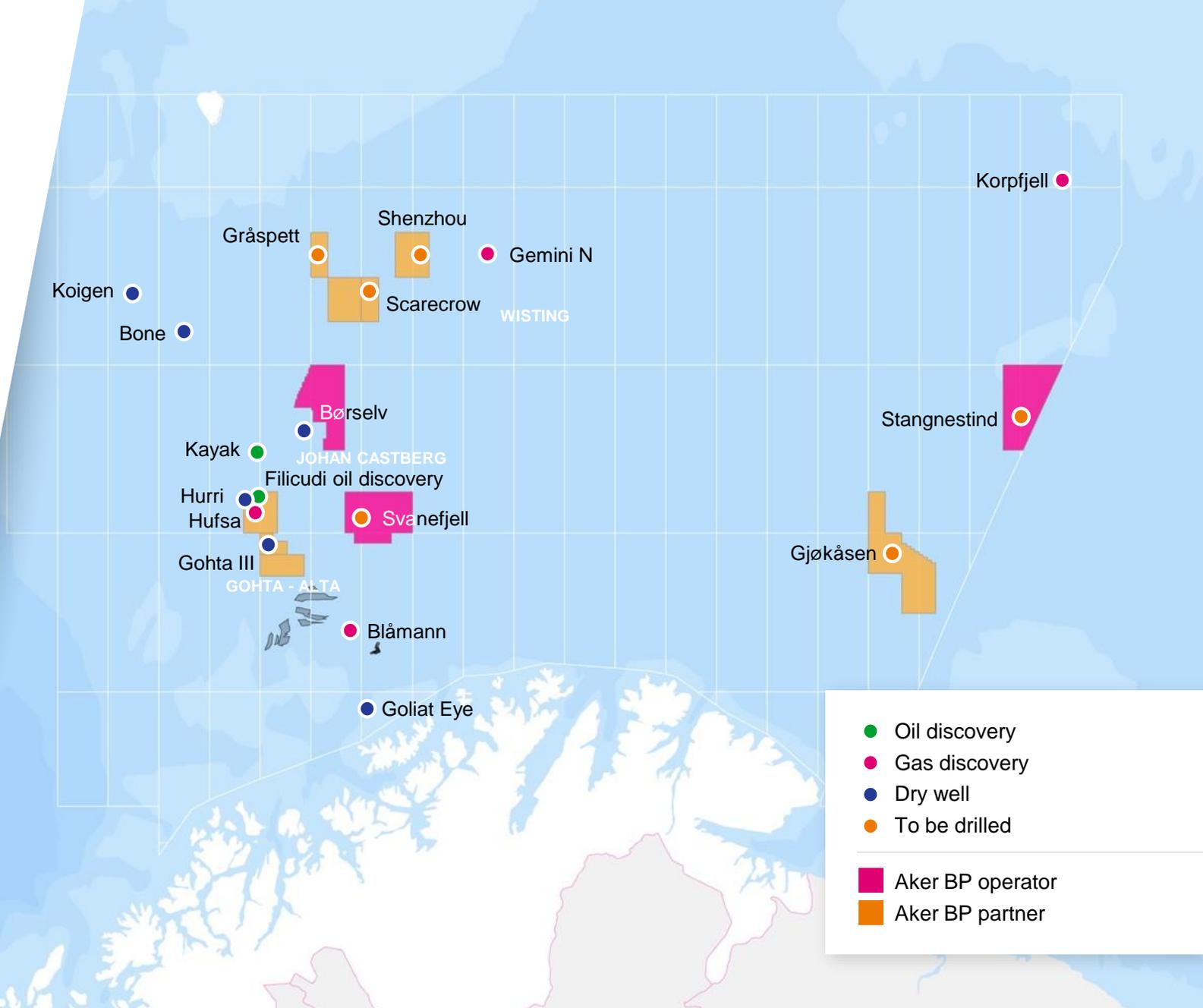
# Barents Sea: A long term game

- Disappointing exploration wells in 2017
- Continued exploration on new plays/areas in 2018

Barents Sea still above global exploration average:



Source: NPD/ Woodmac, 2006-2017



- Oil discovery
- Gas discovery
- Dry well
- To be drilled

---

- Aker BP operator
- Aker BP partner

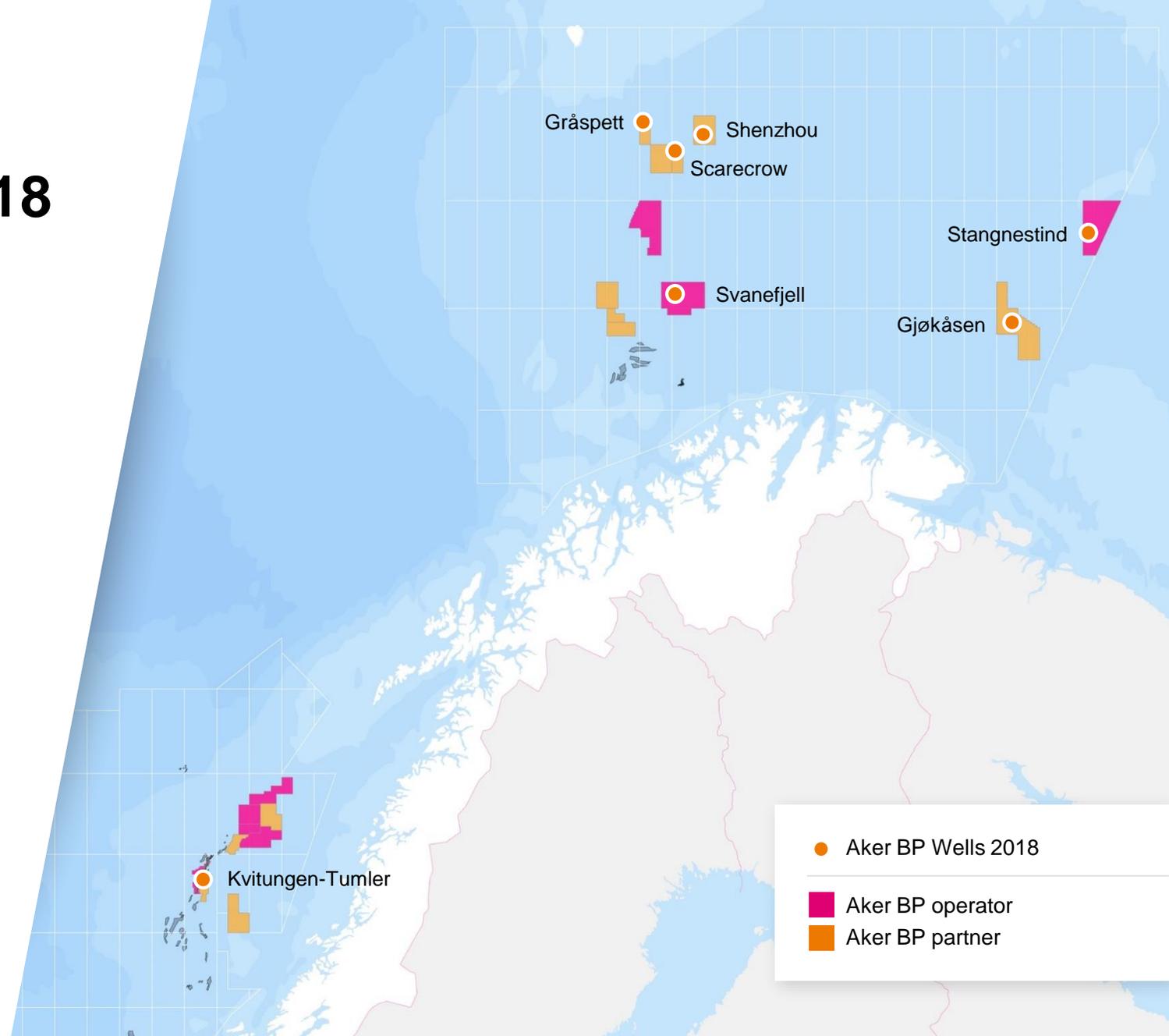
# Northern areas - Exploration campaign 2018

## Barents Sea

- Stangnestind megaclosure, new play
- Svanefjell possible high-impact well
- Four partner wells, diversified targets

## Skarv

- Kvitungen Tumler – potential high value creation



# North Sea: Increasing value of producing assets - Establishing new fields

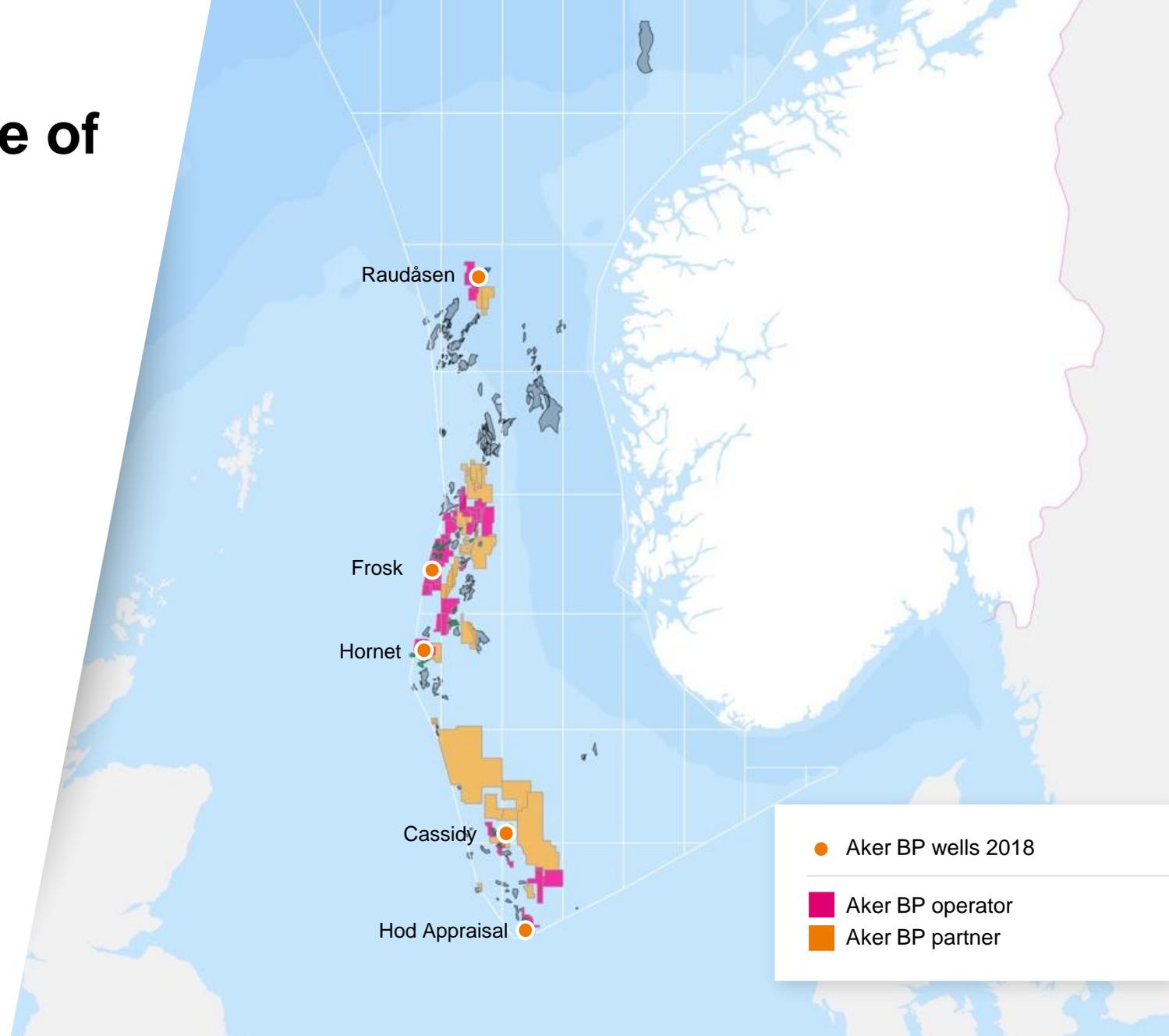
## Twofold Exploration task:

**1** Deliver high value volumes to Aker BP production hubs

- Alvheim
- Ula
- Valhall

**2** Reveal hydrocarbon accumulations to establish new core areas

- Sleipner Area – possible new hub
- Raudåsen
- Possible new APA 2017 well

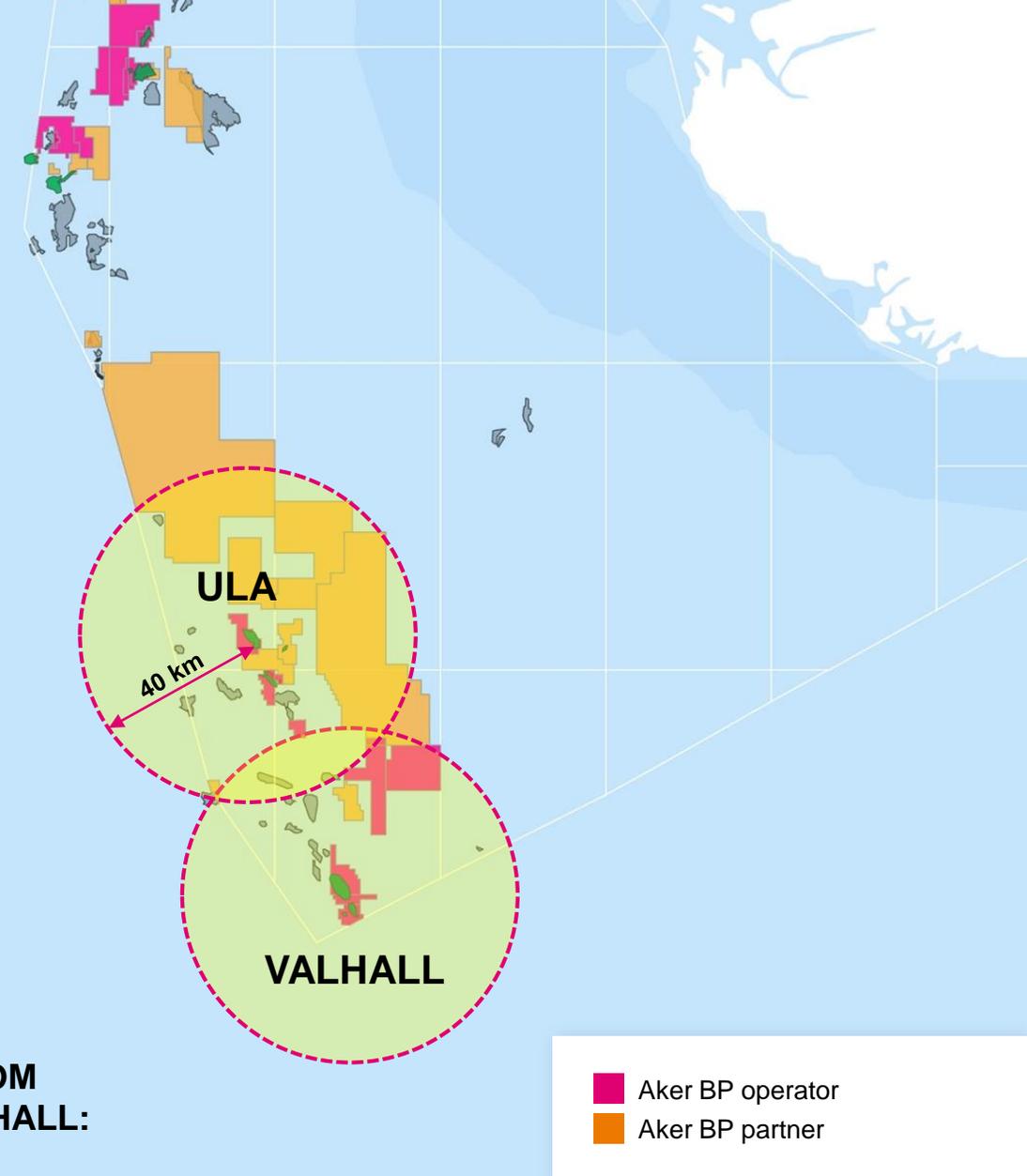


# The producing assets – how to create high value

## Exploration within tie-in radius to producing assets

- Even small discoveries close to existing fields create large values
- Require unified seismic data sets covering the entire area of interest
- Invested USD 10 million in new 3D data in southern North Sea (out of total USD 50 million)
- Value creation example:  
Minimum economic field size near Ula is 5 mmboe

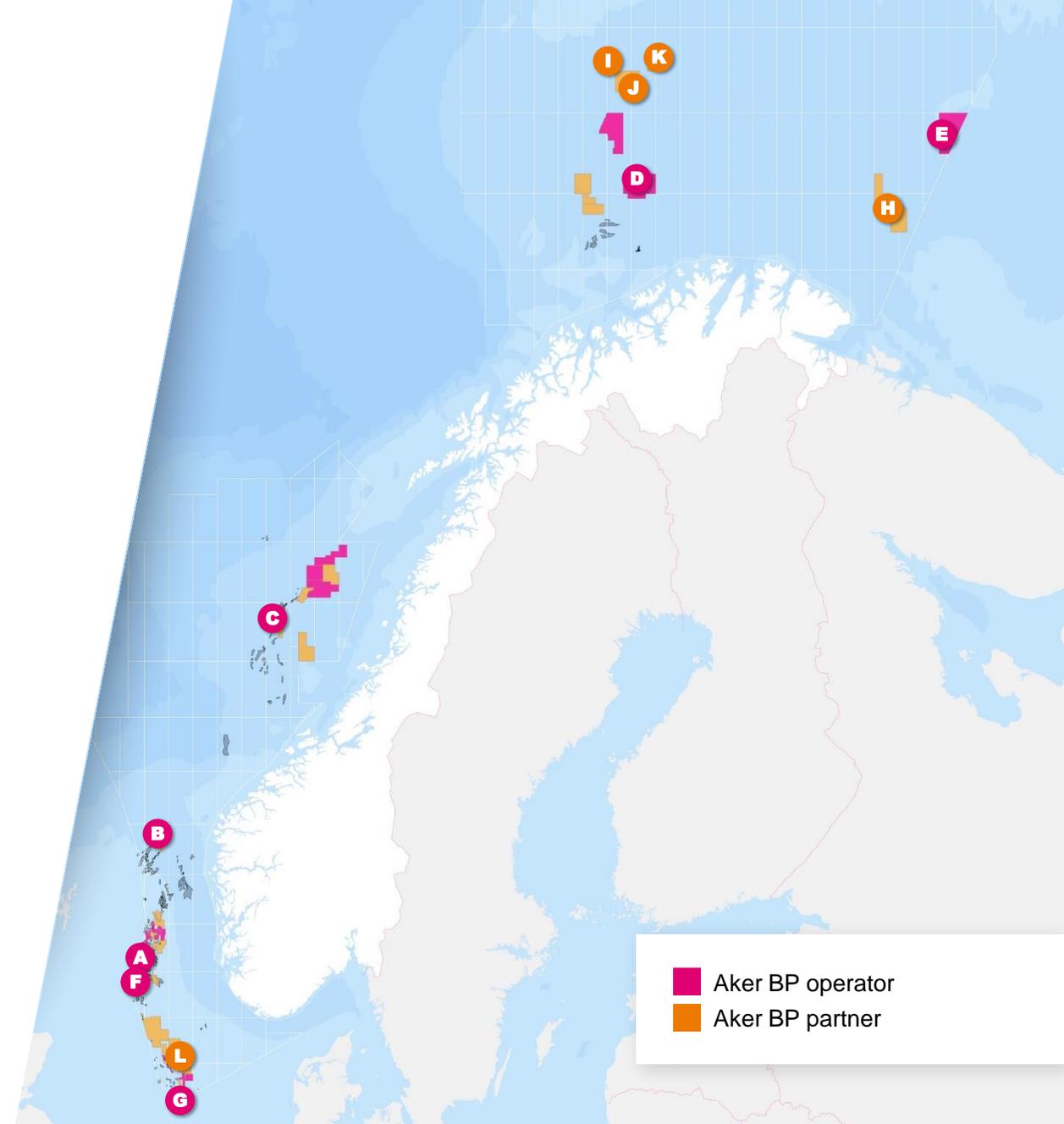
### EXAMPLE FROM ULA AND VALHALL:



# Summary 2018 exploration wells

License	Prospect name	Operator	Aker BP share	Pre-drill mboe*	Time	
PL340	Frosk	Aker BP	65 %	3 - 21	Q1	<b>A</b>
PL790	Raudåsen	Aker BP	30 %	9 - 74	Q1	<b>B</b>
PL839	Kvitungen Tumler	Aker BP	24 %	37 - 269	Q1	<b>C</b>
PL659	Svanefjell	Aker BP	50 %	17 - 331	Q2	<b>D</b>
PL858	Stangnestind	Aker BP	40 %	30 - 190	H2	<b>E</b>
PL777	Hornet	Aker BP	40 %	17 - 166	Q4	<b>F</b>
PL033	Hod Appraisal	Aker BP	90 %	-	Q4	<b>G</b>
PL857	Gjøkåsen	Statoil	20 %	26 - 1427	Q3	<b>H</b>
PL721	Gråspett	DEA	40 %	32 - 263	Q4	<b>I</b>
PL852	Scarecrow	Spirit	40 %	83 - 245	Q4	<b>J</b>
PL722	Shenzhou	Statoil	20 %	40 - 295	Q4	<b>K</b>
PL405	Cassidy	Spirit	15 %	5 - 48	Q4	<b>L</b>

\* Preliminary volume span (gross)



# Finance

**Alexander Krane**  
Chief Financial Officer

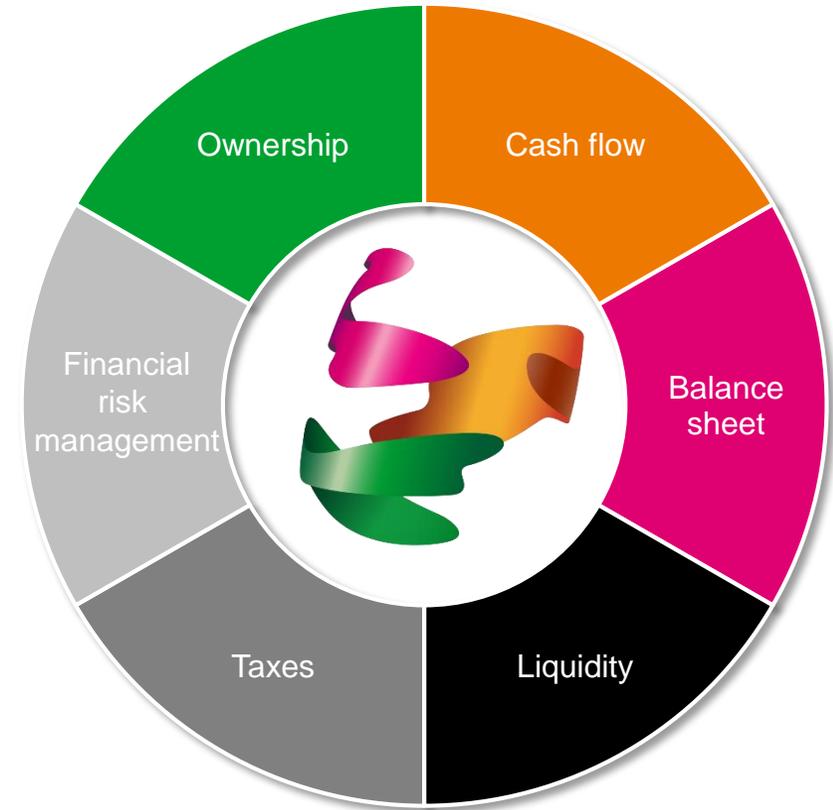


# Funding our business

- Strong cash flow generation in the years to come
- USD 2.9 billion in liquidity provides capital flexibility
  - Attractive organic reinvestment opportunities
  - Inorganic growth opportunities
- Strong support from principal owners Aker ASA (40%) and BP plc (30%)
- Credit rating obtained in 2017

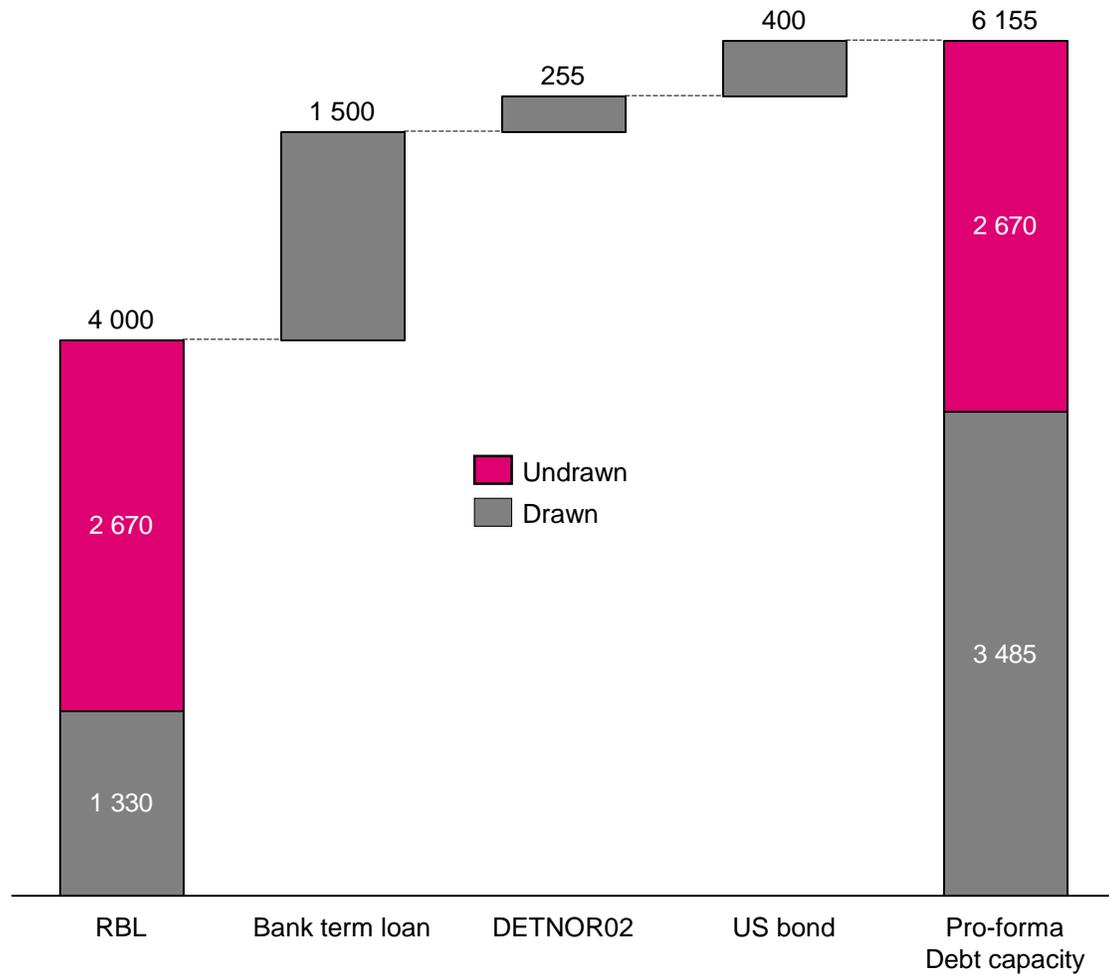


## Financial strengths

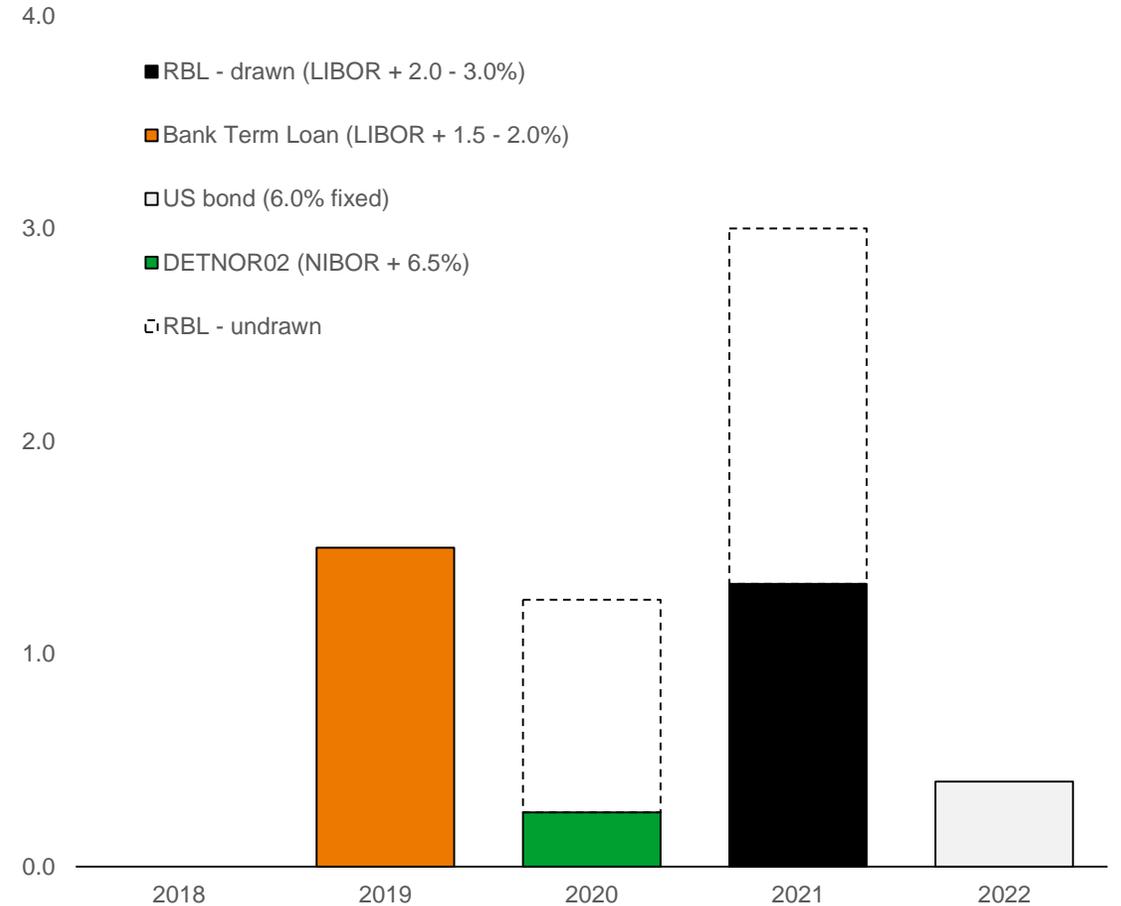


# Debt structure

Pro-forma Q4-17 debt capacity and drawings (USDm)



Debt maturity profile (USDbn)



# Tax regime supportive of growth

## NCS tax system and implications for Aker BP

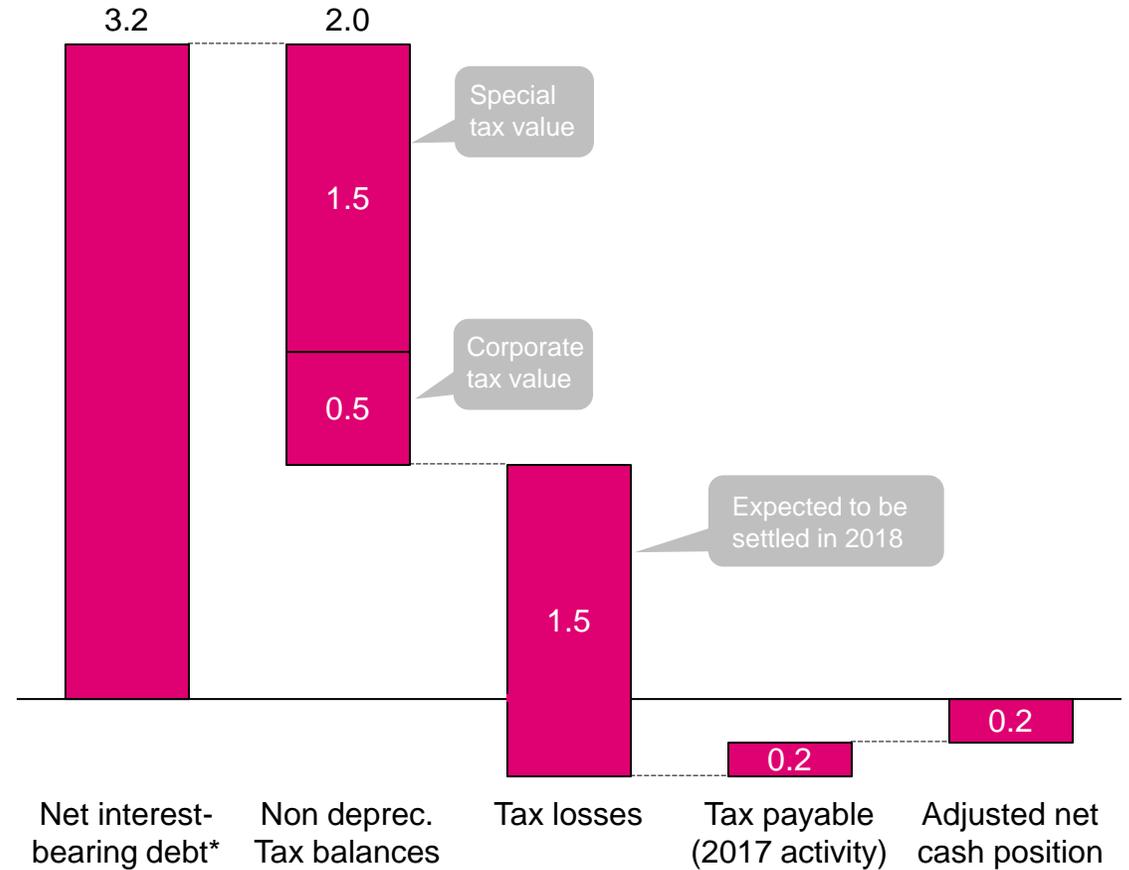
### ■ Key attractions of the NCS tax system

- ~90% of investments recovered over 6 years
- OPEX, exploration and decommissioning costs 78% immediate tax recovery
- Financial costs recovered ~50%\*\*
- Full tax recovery under all scenarios
  - If not in tax position, losses accumulated
  - Losses refunded if petroleum activities discontinued

### ■ Aker BP considerations

- Gearing considered relative to tax receivable
  - Current debt position more than covered by tax receivable
- Tax balances expected to increase going forward due to organic capex program

## Tax-adjusted net debt (USDbn) prelim. end 2017



(Numbers may not add due to rounding )

# Financial risk management

## Hedging

- **Hedging policies in place to mitigate foreign exchange and commodity risks**
- **Foreign Exchange**
  - Aker BP is a USD-company and is mainly exposed to investments, operating costs in NOK and tax balances nominated in NOK
- **Commodities**
  - Policy to secure up to ~30% of production volume (100% of after-tax value)
  - Loss of production insurance covered after 45 days at net USD 50/bbl
- **Interest rate**
  - Of total gross debt, 22%\*\* is at fixed rate

## Overview of current commodity hedges

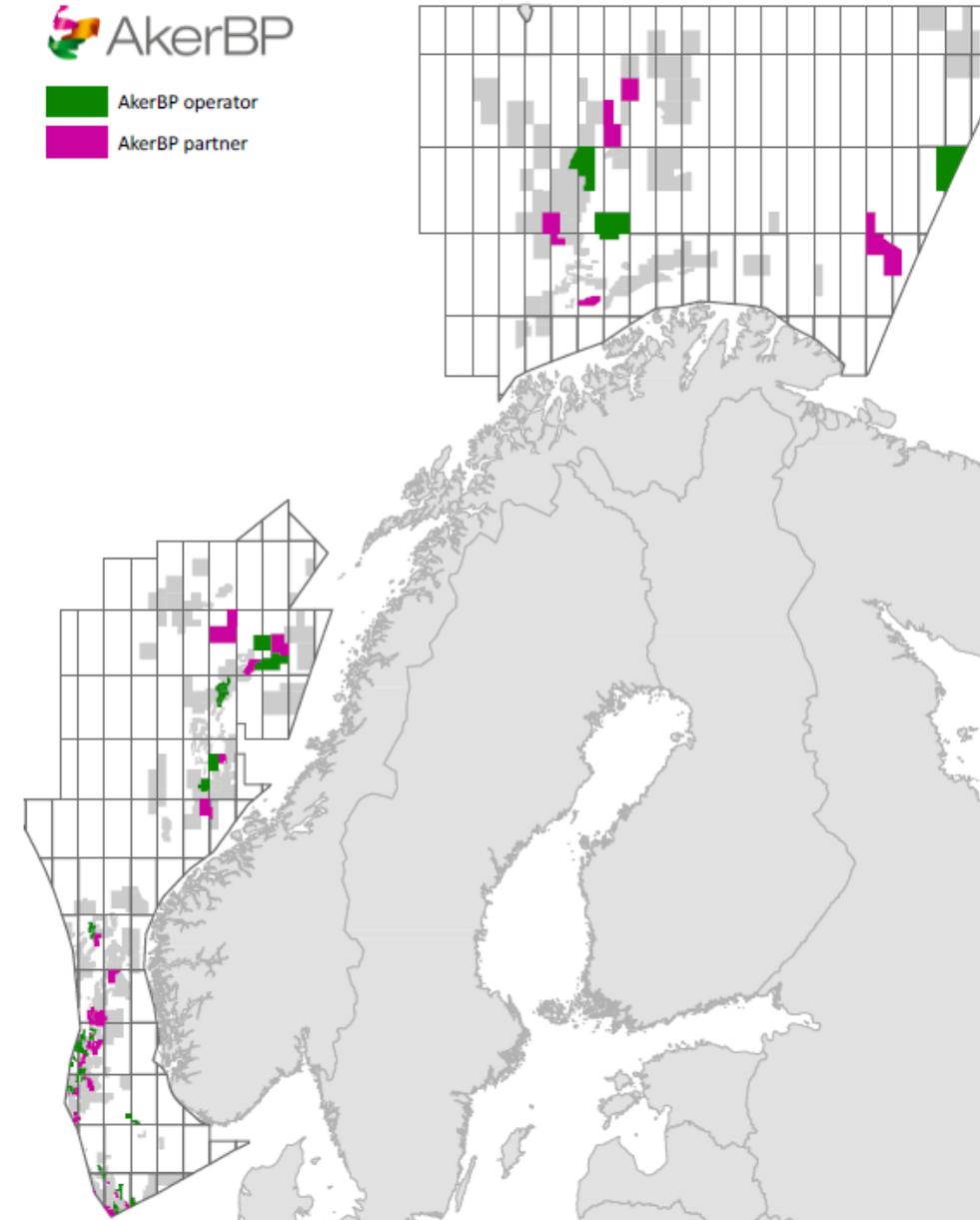
Commodity Hedges	2018	2019 →
% Hedged of total oil production	20%	-
Put option strike price	USD 50-60/bbl	-
Cost of hedge (weighted average, pre-tax)	USD 1.82/bbl	-

# FINANCE

## 2018 guidance

Item	2018 guidance
2018 Production	155 – 160 mboepd
2018 Production cost	USD ~12 per boe
2018 CAPEX	USD ~1.3 billion
2018 EXPEX	USD ~350 million
2018 decommissioning expenditures	USD ~350 million

*Note: Guidance based on USD/NOK 8.0*

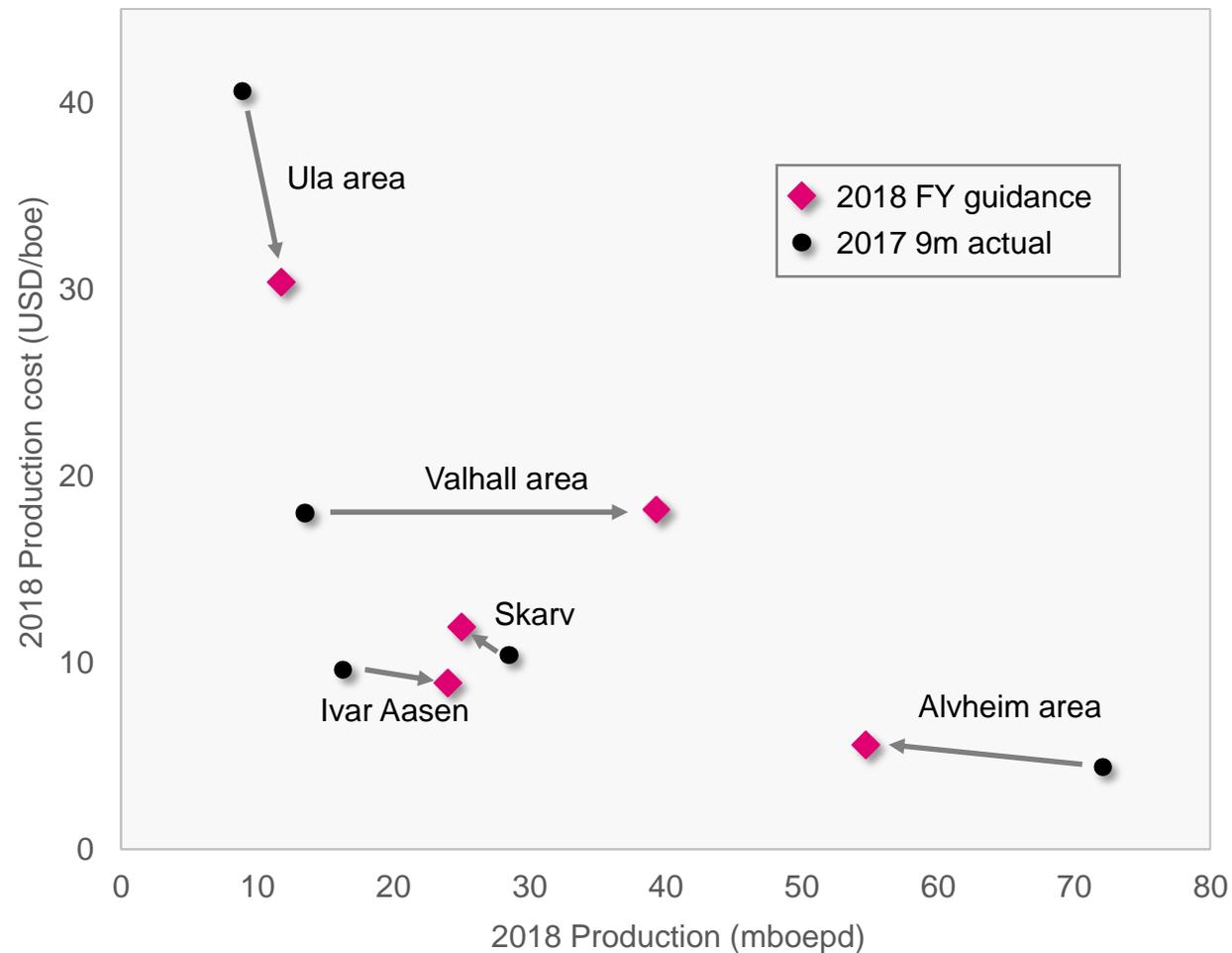


# 2018 guidance - production and production cost

## Key activities

- **2018 production expected between 155 – 160 mboepd**
  - 80% liquids / 20% gas
- **2018 production cost expected to average ~12 USD/boe**
  - Including tariffs and transportation costs
- **Aim to reduce unit costs across the portfolio**
  - Cost reduction
  - Investments to increase production

Comparison of operated hubs, 2018 vs 2017 (9m)



# 2018 guidance - CAPEX

## Key activities

### ■ Alvheim area

- Drilling Kameleon infill South and Volund sidetrack North
- Skogul: Construction of subsea systems and flowlines

### ■ Valhall area

- IP drilling program (3 wells)
- Flank West: Detailed engineering and start-up of construction
- Flank North water injection: drilling of one well

### ■ Ula area

- Tambar and Oda development, Ula power project

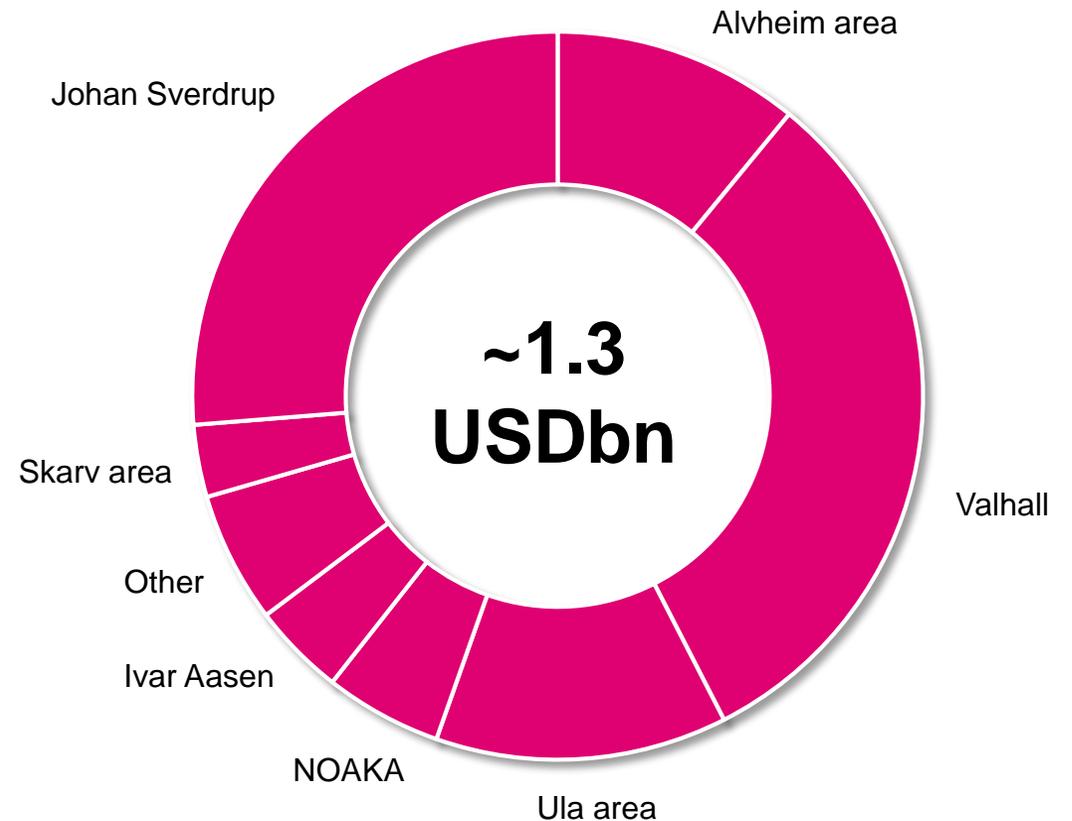
### ■ Skarv area

- Ærfugl: Fabrication of subsea production systems, control cables and flowlines

### ■ Johan Sverdrup

- Offshore installation of platforms and steel jackets
- Construction of the first process platform and living quarter
- Installation of oil and gas export pipelines and power cable
- Engineering and procurement for Phase 2

## Split by main project

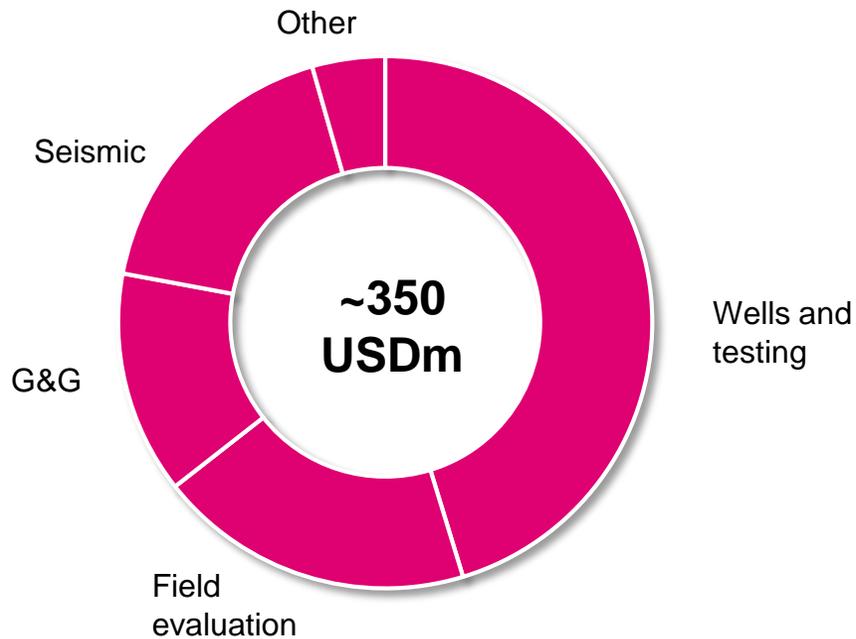


Assumes USDNOK = 8.0

# 2018 guidance – EXPEX and Decommissioning

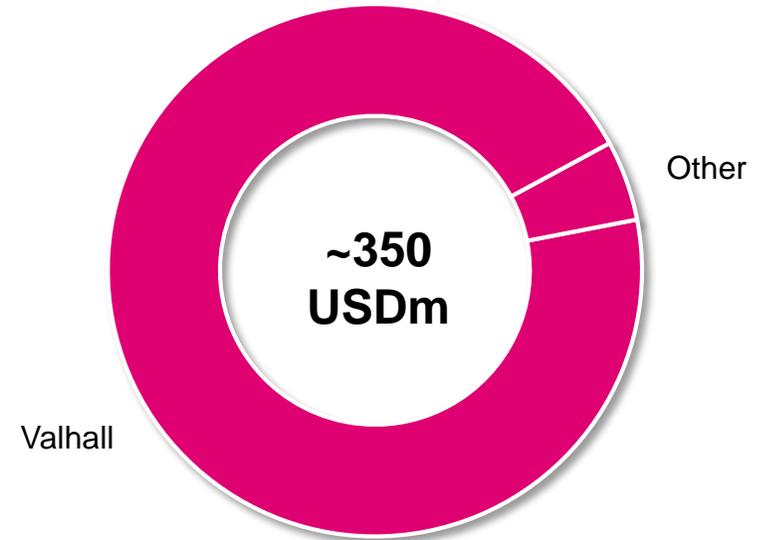
## Exploration expenditures

- Drilling of 12 exploration wells (7 operated)
- Field evaluation costs (NOAKA, Hod redevelopment)
- Seismic acquisition on/near existing acreage
- Area fees and other exploration costs



## Decommissioning expenditures

- Continuous P&A activity on Valhall until 2020
- Decommissioning program for legacy assets (Varg, Jette) and Ula area



Assumes USDNOK = 8.0

# Cash flow outlook 2018

- 2018 cash flow illustration based on mid-point of production guidance range
- Tax losses from Hess Norge expected to be settled in 2018
- Total investments (CAPEX, EXPEX, DECOM) of USD 2.0 bn equalling 35 USD per boe of estimated 2018 production
- Cash cost (pre-tax) of USD 16 per boe
- Cash break-even in 2018 at a realized hydrocarbon price of approximately USD 29 per boe before dividends

## Illustrative 2018 break-even prices

Realized Hydrocarbon Price (USD/boe)	50	60	70	80
Production cost (USD/boe)	(12)	(12)	(12)	(12)
Other OPEX (USD/boe)	(1)	(1)	(1)	(1)
Financial cost (USD/boe)	(3)	(3)	(3)	(3)
Cash taxes (USD/boe)	(4)	(8)	(12)	(16)
<b>Netback (USD/boe)</b>	<b>30</b>	<b>36</b>	<b>42</b>	<b>48</b>

CAPEX (USD/boe)	(23)	(23)	(23)	(23)
EXPEX (USD/boe)	(6)	(6)	(6)	(6)
Decommissioning expenditures (USD/boe)	(6)	(6)	(6)	(6)
<b>Investments (USD/boe)</b>	<b>(35)</b>	<b>(35)</b>	<b>(35)</b>	<b>(35)</b>

<b>Tax refund (USD/boe)</b>	<b>26</b>	<b>26</b>	<b>26</b>	<b>26</b>
-----------------------------	-----------	-----------	-----------	-----------

<b>Free cash flow (ex. working capital) (USD/boe)</b>	<b>21</b>	<b>27</b>	<b>33</b>	<b>39</b>
-------------------------------------------------------	-----------	-----------	-----------	-----------

<b>Cash flow break-even before dividends (USD/boe)</b>	<b>29</b>
--------------------------------------------------------	-----------

<b>Cash flow B/E post dividends (USD/boe)</b>	<b>37</b>
-----------------------------------------------	-----------

Assumes USDNOK = 8.0

# Concluding remarks

**Karl Johnny Hersvik**  
Chief Executive Officer



## CONCLUDING REMARKS

# Aker BP investment case

### ■ Well positioned to be profitable across the market cycles

- Purely operating on the NCS: Low political risk and attractive fiscal regime
- Strong balance sheet and capital flexibility: USD 2.9 billion in liquidity
- Robust investment program with average break-even of 18 USD/bbl\*
- Substantial cash generation and growing dividends

### ■ Extensive improvement agenda to strengthen long-term competitiveness

- Reorganizing the value chain with strategic partnerships and alliances
- Aim to be an industry reference for digital project execution
- Focus on flow efficiency to substantially reduce execution time

### ■ Strong platform for future growth

- Materially oil-weighted portfolio (~80% liquids): 2P reserves of 913 mmboe and 2C contingent resources of 785 mmboe at year-end 2017
- Potential to reach 330 mboepd in 2023 (13% CAGR)
- Proven M&A track record – targeting further selective inorganic growth



## CONCLUDING REMARKS

# Priorities going forward



# Q&A



[www.akerbp.com](http://www.akerbp.com)