



# Half-Year Results Presentation

August 2017

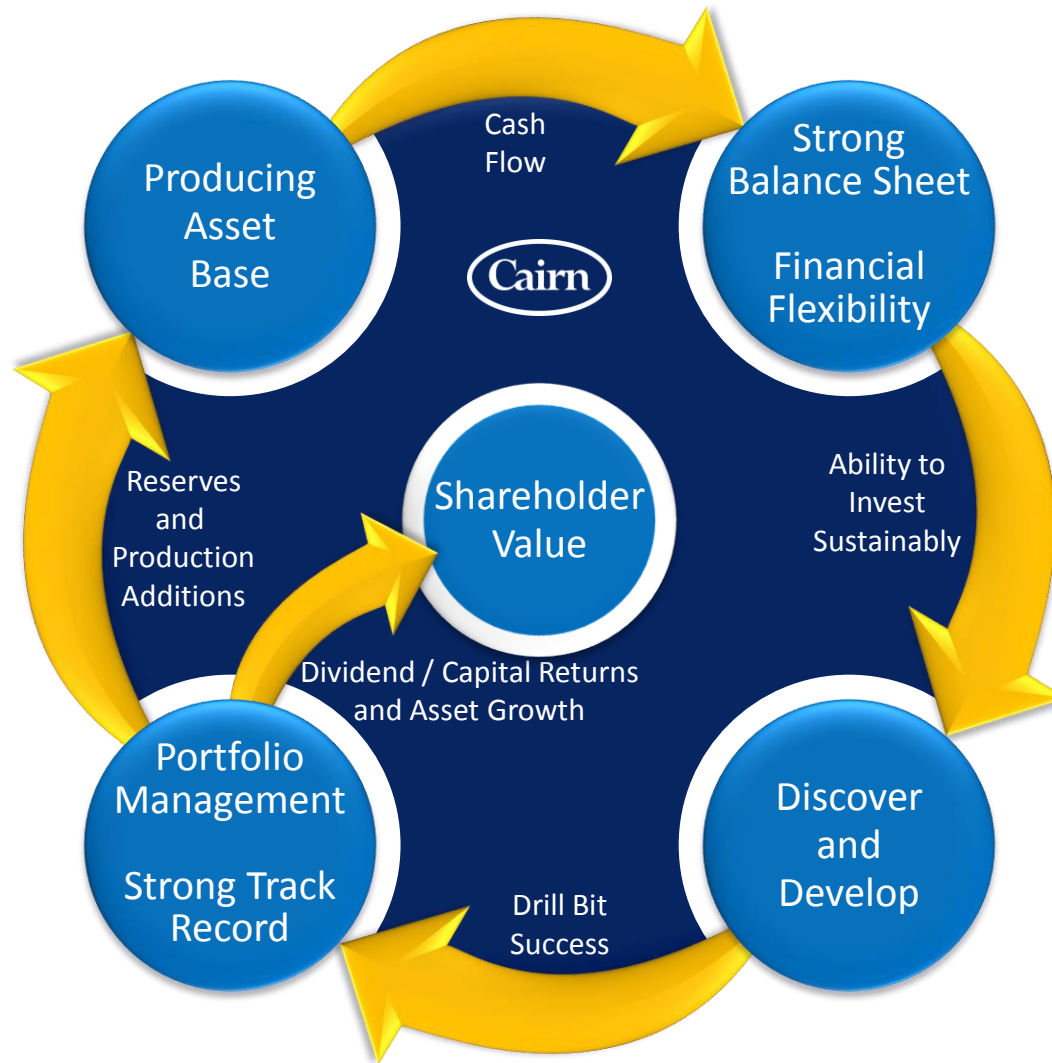
# Disclaimer

*These materials contain forward-looking statements regarding Cairn, our corporate plans, future financial condition, future results of operations, future business plans and strategies. All such forward-looking statements are based on our management's assumptions and beliefs in the light of information available to them at this time.*

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# Sustainable Value Creation



# Sustainable Value Creation Through Exploration Success and Commercialising Resources

## Production and Future Development Plans

### Production

- **Kraken**  
Balanced portfolio entering cashflow phase
- **Catcher**

### Future Developments

- **Skarfjell**
- **Senegal SNE**
  - Updated overall SNE 2C oil resource base to ~563 mmbbls\* with additional gas resources >1 TcF
  - Phased development of SNE field with focus on capital efficiency

## Significant Exploration Growth Opportunities



## Funding Flexibility

- **Funded** for strategic delivery and further growth

\* Resource estimates by ERC-Equipoise



# Finance and Commercial

James Smith



Cairn

# Financial Headroom to Deliver Balanced Business

## Strong balance sheet position: ~\$500m funding sources in H2 2017

- Cash at 30 June 2017: \$254m
- Reserve Base Lending Facility:  
Peak availability \$350m to \$400m, with ~\$210m expected availability at year end
- 2016 Norway tax receivable in 2017: \$29m

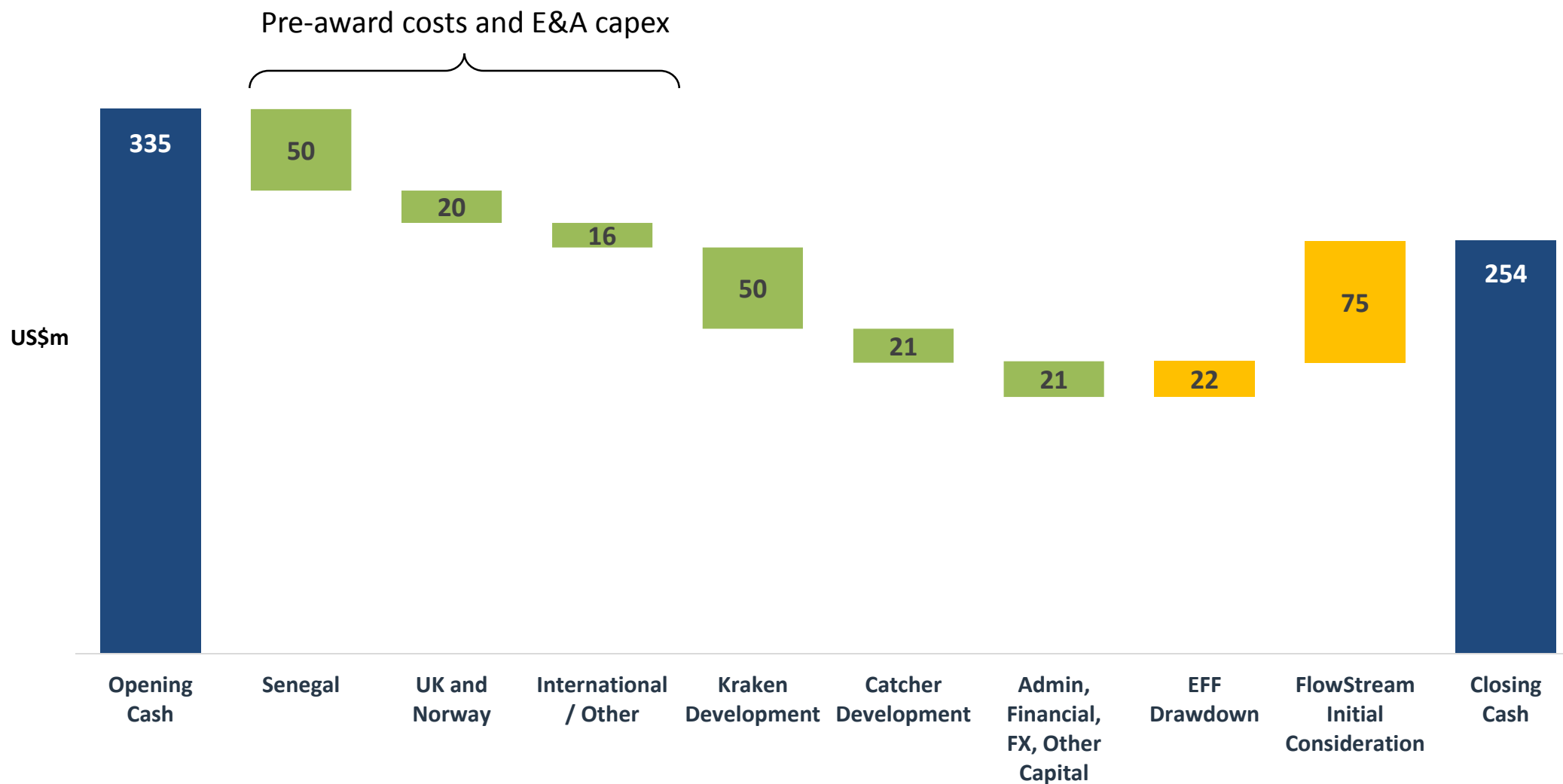
## H2 2017 capital guidance: ~\$260m in line with previous full year guidance

- Catcher and Kraken developments
- Completion of five well Senegal exploration and appraisal programme
- Druid/Drombeg exploration well offshore Ireland
- Continuing to build out Norwegian and UK exploration portfolio

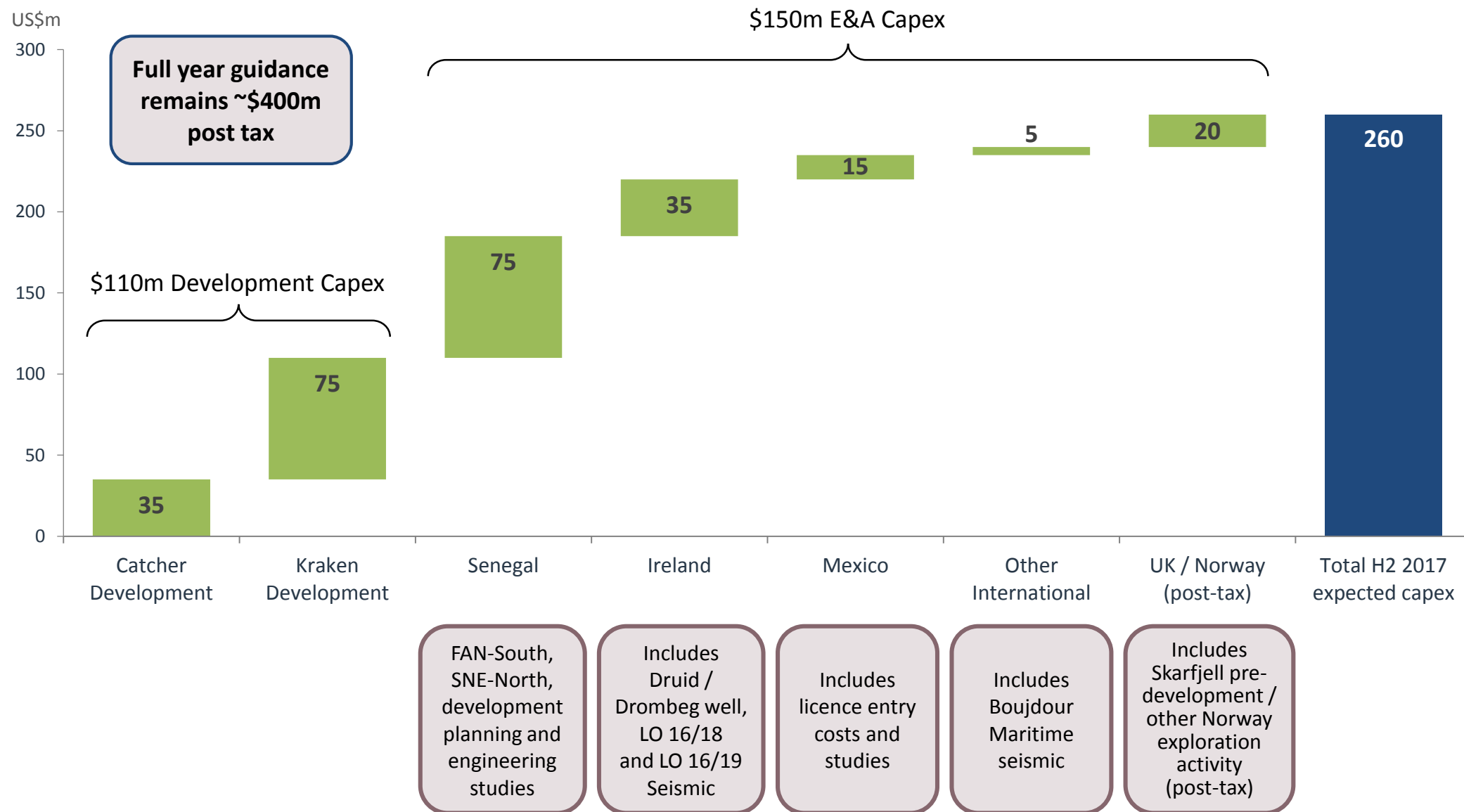
## India

- Business plan not dependent on Indian dispute resolution (International Treaty damages claim not less than \$1.1bn, current value of restricted shares \$824m plus \$105m unpaid dividends)

# H1 2017 Cashflow



# Planned Capex H2 2017

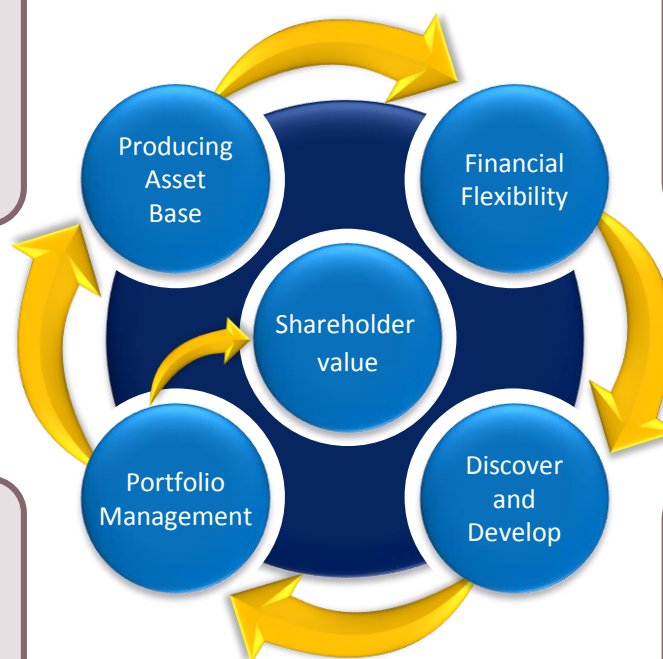




# Delivering a Sustainable Business

- First production from Kraken achieved
- Catcher on track
- Reaching capacity production of 25,000 bopd by H2 2018\*

- Continuing to add high quality, low breakeven new ventures to the exploration portfolio
- Strong track record of delivering returns to stakeholders by active portfolio management



- Focus on financial discipline, efficient capital allocation and low oil price breakeven projects
- Cash of \$254m as at 30 June 2017
- Reserve Base Lending Facility: peak availability \$350m to \$400m, with ~\$210m expected availability at year end

- Skarfjell development sanction H1 2018 with first oil targeted 2020
- Sustainable North Sea production of ~25,000 bopd
- Senegal exploitation plan submission in 2018 with first production targeted 2021 to 2023

\* Before deduction of FlowStream entitlement

# SNE Development Plans

## Phased Development Plans

- Phased development plan with focus on S500 reservoir to deliver first oil
- Initial target plateau production: 75,000 – 125,000 bopd
- Life of field development capex: ~\$12/boe (~60% development drilling)
- Capex to first oil: ~\$2.3bn (~16 wells pre-drilled)
- Work on project debt financing has commenced
- Production costs: ~\$7/bbl
- FPSO lease costs: \$3-7/bbl (depending on vessel selected)

## Stable Fiscal Terms

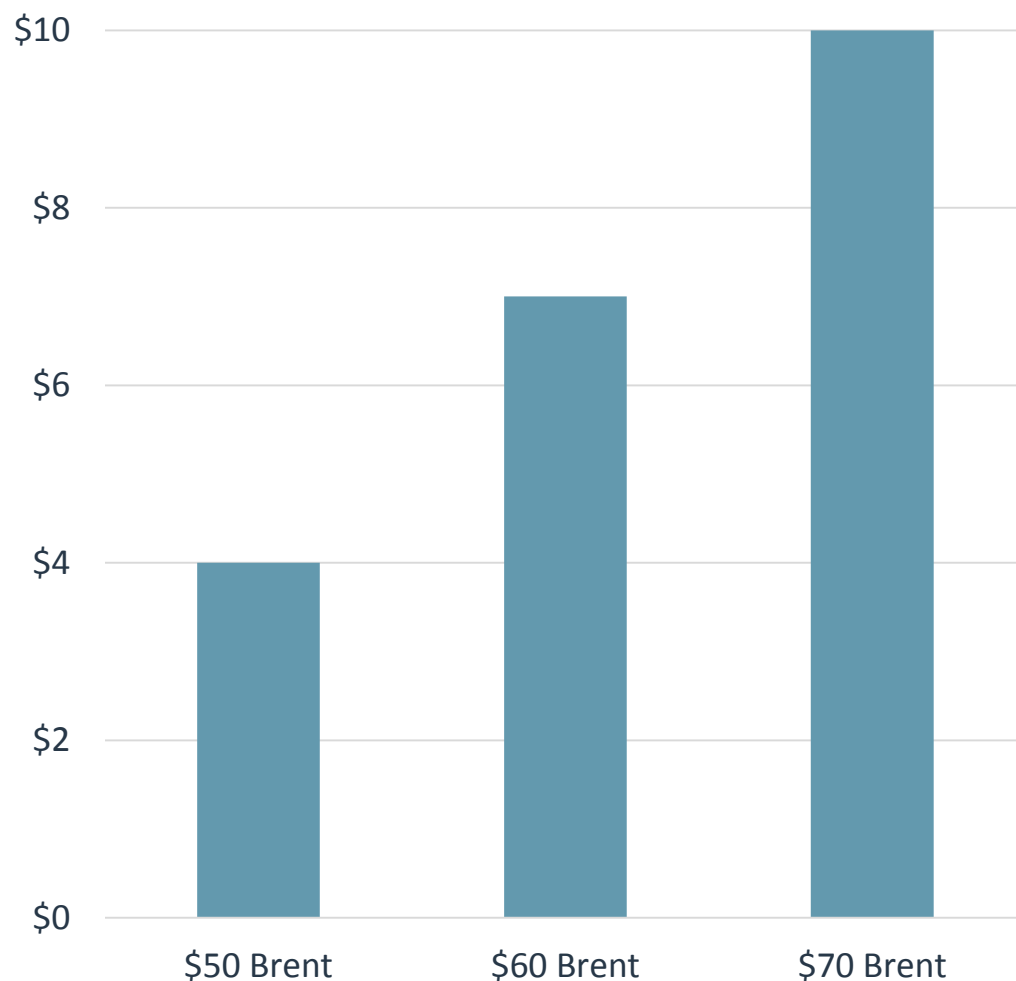
- Senegal direct participation via Petrosen:
  - 10% carried E&A participation
  - Option to increase to 18% paying interest for development phase
- Established production sharing contract (PSC)
- 75% maximum cost recovery
- Sliding scale of government production share, depending on production levels

SNE Production	Government Share
0 – 50,000 bopd	15%
50,000 – 100,000 bopd	20%
100,000 – 150,000 bopd	25%
150,000 – 200,000 bopd	30%
200,000+ bopd	40%

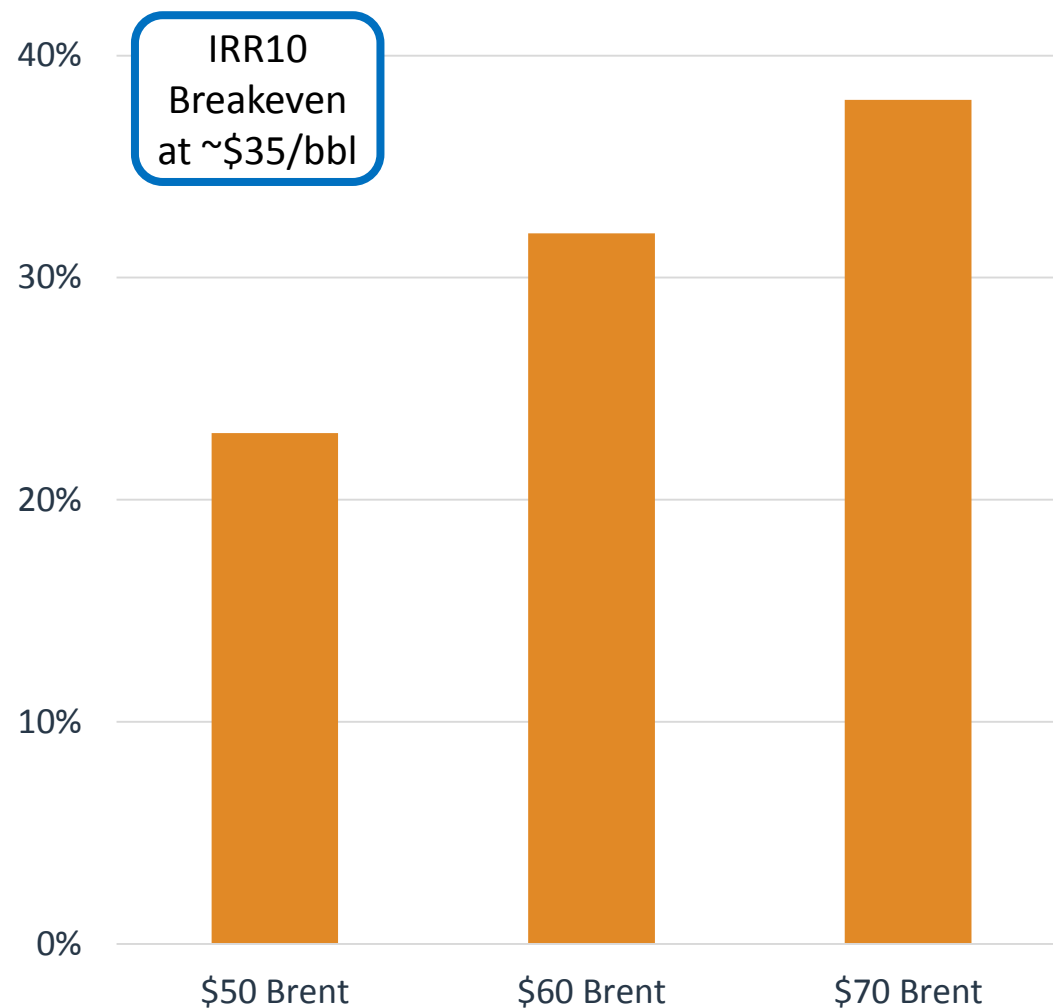
- 30% corporation tax

# SNE Project Returns

SNE Project NPV/boe at FID



SNE Project Unlevered IRRs at FID





# Development and Production

Paul Mayland



Cairn



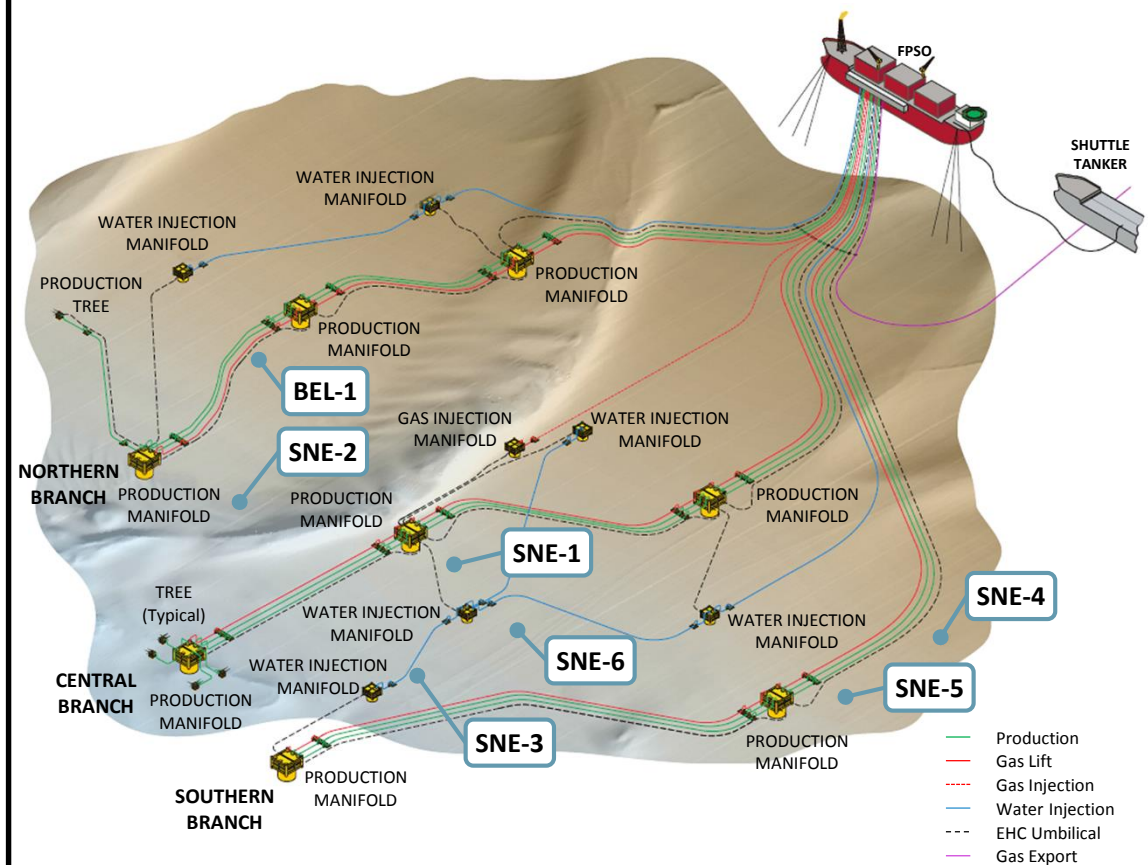
# SNE Development

Aligned approach to develop Senegal's oil resources

## Development Philosophy

- JV principles for SNE development:
  - Economically robust project with low breakeven
  - Standardised, field proven equipment and suppliers
  - Guided by international standards
  - Attracts international project finance
- These principles result in the JV pursuing:
  - A phased development concept
  - Consideration of re-deployment of suitable FPSO vessels versus conversion / new-build
  - Scalable subsea infrastructure
  - ...which should drive lower capex to first oil and lower overall project breakeven
- Expressions of interest (EOI) have been sought and received from contractors and Operators for subsea and FPSO

## SNE Full Field Development Schematic





# SNE Development

## Development Phases

- Initial target plateau: 75,000 – 125,000 bopd; 1 – 2 mmbbls FPSO oil storage
- Initial well count: up to 25 wells (oil producers, water and gas injectors)

## Oil Resources

### First Phase up to 240 mmbbls

Phase 1  
Development  
S500 Lower  
Reservoirs  
+ S400 Upper  
Reservoirs  
Core area

### Subsequent Phases

Additional  
Wells S400  
Upper  
Reservoirs  
Expansion

S400  
Additional  
Areas  
Further  
Subsea  
infrastructure  
+ Wells

## Gas Resources

Associated Gas  
0.3 Tcf

Non Associated Gas  
1 Tcf

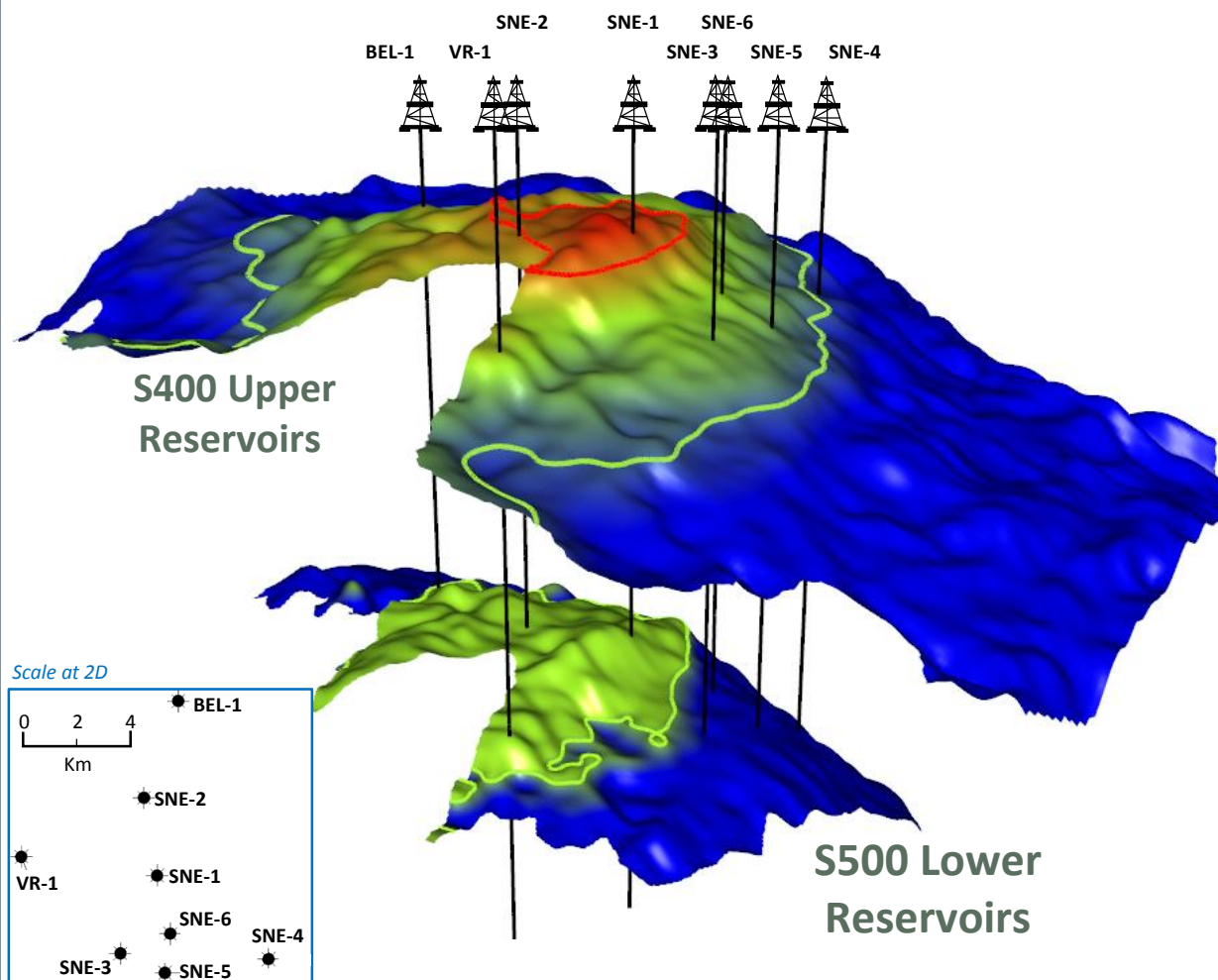
# SNE Development

## SNE Field Characterisation

- Water depth (WD) 650 - 1,400 metres
- Following discovery well, seven further penetrations have been completed on SNE
- Eight DSTs\* completed in four separate wells (SNE-2, SNE-3, SNE-5 and SNE-6)
- Two distinct reservoir horizons
  - S400 Upper reservoirs
  - S500 Lower reservoirs
- Comprehensive data (including re-processed 3D seismic) allows accurate reservoir and fluid description
- Environmental baseline survey complete
- Ongoing geotechnical survey to gather metocean and seabed data

\* Including interference test

## SNE Reservoir Schematic



# SNE Development

## Reservoir and Oil Quality

- Good correlation of gross reservoir packages
- Connectivity in S400 upper reservoirs demonstrated by interference test in a clearly preferred orientation
- DST in S500 lower reservoir confirms expected good inter-well connectivity
- Water flood planned for both sets of reservoir
- Crude quality suitable for major refinery markets in Africa, Europe and US, and expected to attract strong pricing

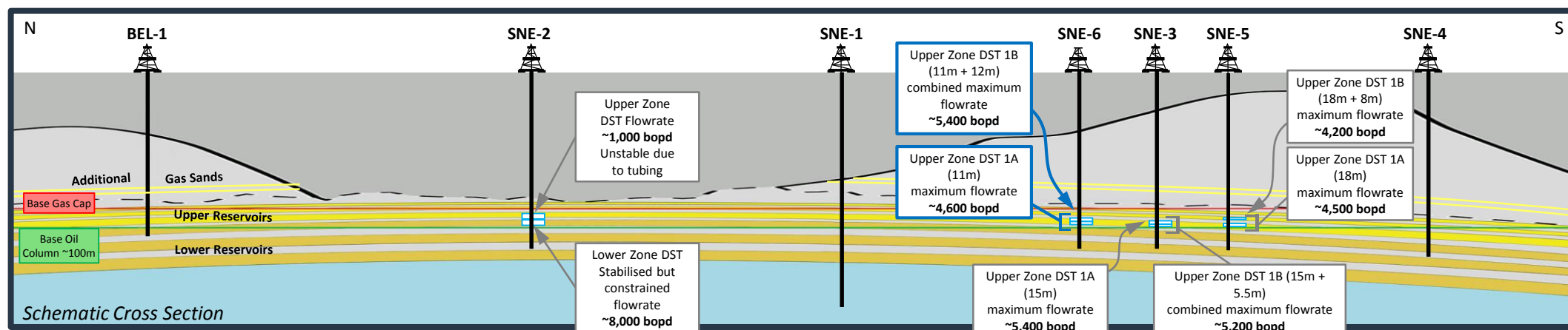
## Updated Gross Contingent Resources\*

Contingent Resource (mmbbls)			
May 2016	1C 274	2C 473	3C 906

Contingent Resource (mmbbls)			
August 2017	1C 346	2C 563	3C 998

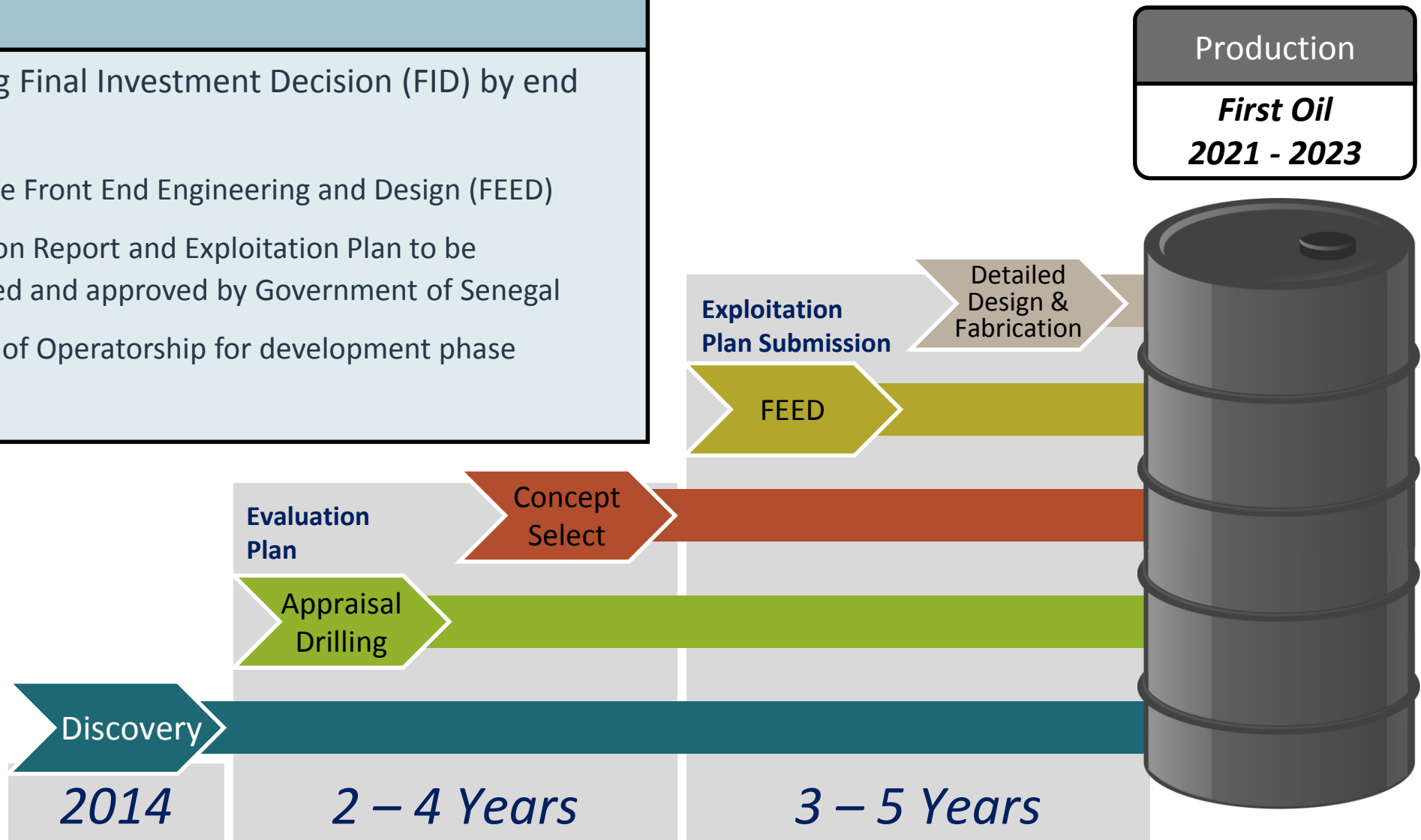
\* Resource estimates by ERC-Equipoise



# SNE Development

## Timeline

- Targeting Final Investment Decision (FID) by end 2018:
- Complete Front End Engineering and Design (FEED)
- Evaluation Report and Exploitation Plan to be submitted and approved by Government of Senegal
- Transfer of Operatorship for development phase



## Production Base – Kraken and Catcher

### **Kraken** – EnQuest 70.5% (Operator), Cairn 29.5%

- First oil achieved late Q2 2017, currently commissioning first processing train (40,000 bopd capacity)
- 17 wells drilled and completed to date; 9 producers and 8 injectors available
- Plateau production 50,000 bopd (net to Cairn ~15,000 bopd)



*Armada Kraken FPSO*

### **Catcher** – Premier 50% (Op), Cairn 20%, Mol 20%, Dyas 10%

- FPSO mechanically complete and undergoing commissioning in Singapore
- 12 wells (eight producers and four injectors) have been drilled to date, above expectations in terms of deliverability
- Progressing to hook up and first oil by year end<sup>1</sup>
- Plateau production 50,000 bopd (net to Cairn 10,000 bopd) opportunity to increase to 60,000 bopd being investigated by Operator



*BW Catcher FPSO*

<sup>1</sup> Operator estimate



# Exploration

Eric Hathon



Cairn



# Creating Growth Through Exploration

## Growing and Diversifying the Portfolio

### Focused on Key Value Drivers in Exploration

- **Mature basins**
  - UK/Norway North Sea and Norwegian Sea
- **Emerging basins**
  - Senegal, Barents Sea, Mexico
- **Frontier basins**
  - Ireland, Morocco

### Enhancing Portfolio Mix – Critical Success Factors

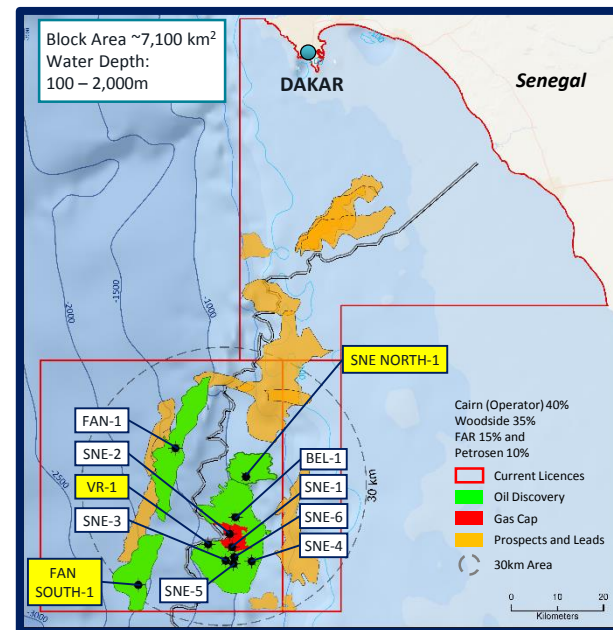
- Clear path to commerciality
- Acceptable commercial, subsurface and above ground risk
- Minimise cycle time to first production
- Operatorship and outstanding strategic partners



# Atlantic Margin - Senegal

## Third Phase of Exploration Drilling Commenced 2017

- VR-1 exploration target on SNE appraisal well to test deeper carbonate play
  - Oil shows in tight formation
- FAN SOUTH-1 follow on to FAN-1 basin discovery
  - Recovered 31° oil from lower Cretaceous, upper Cretaceous wet
  - Net reservoir below pre-drill estimate, assessing potential
- SNE NORTH-1 Northern test of SNE field play
  - Discovery separate accumulation to SNE
    - Gas and Condensate in S400 reservoir
    - Oil in S500 reservoir below oil-water contact at SNE
    - Demonstrates potential for additional finds in basin



# Remaining Exploration Potential Around SNE

## Sangomar Deep Offshore Block

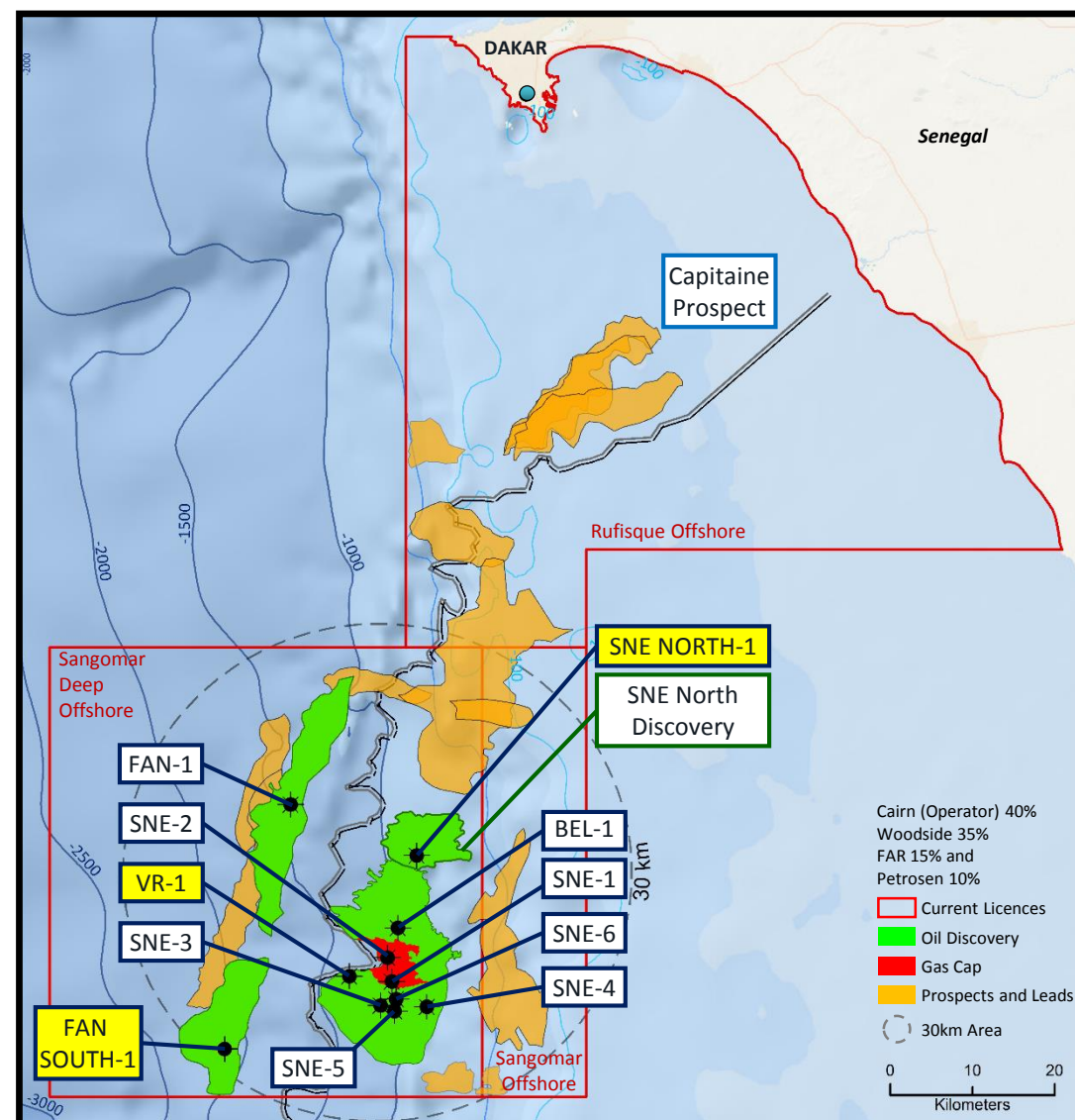
- SNE NORTH-1 40 – 80 mmboe (mean – P10) Gross Mean Contingent Resource
- Additional potential 65 – 130 mmboe (mean – P10) Gross Mean Prospective Resource
  - Requires stratigraphic trap element to north
  - Target for future appraisal

## Rufisque Offshore Block

- Maturing leads on newly processed 3D seismic
- Capitaine prospect most attractive to-date
  - Regional focus for hydrocarbons
  - Impact resource potential in shallow water
- Would require standalone development

## Sangomar Offshore Block

- Multiple leads being matured
- Within 30 km tie back distance of SNE
  - Lower commercial threshold





# Atlantic Margin – Ireland

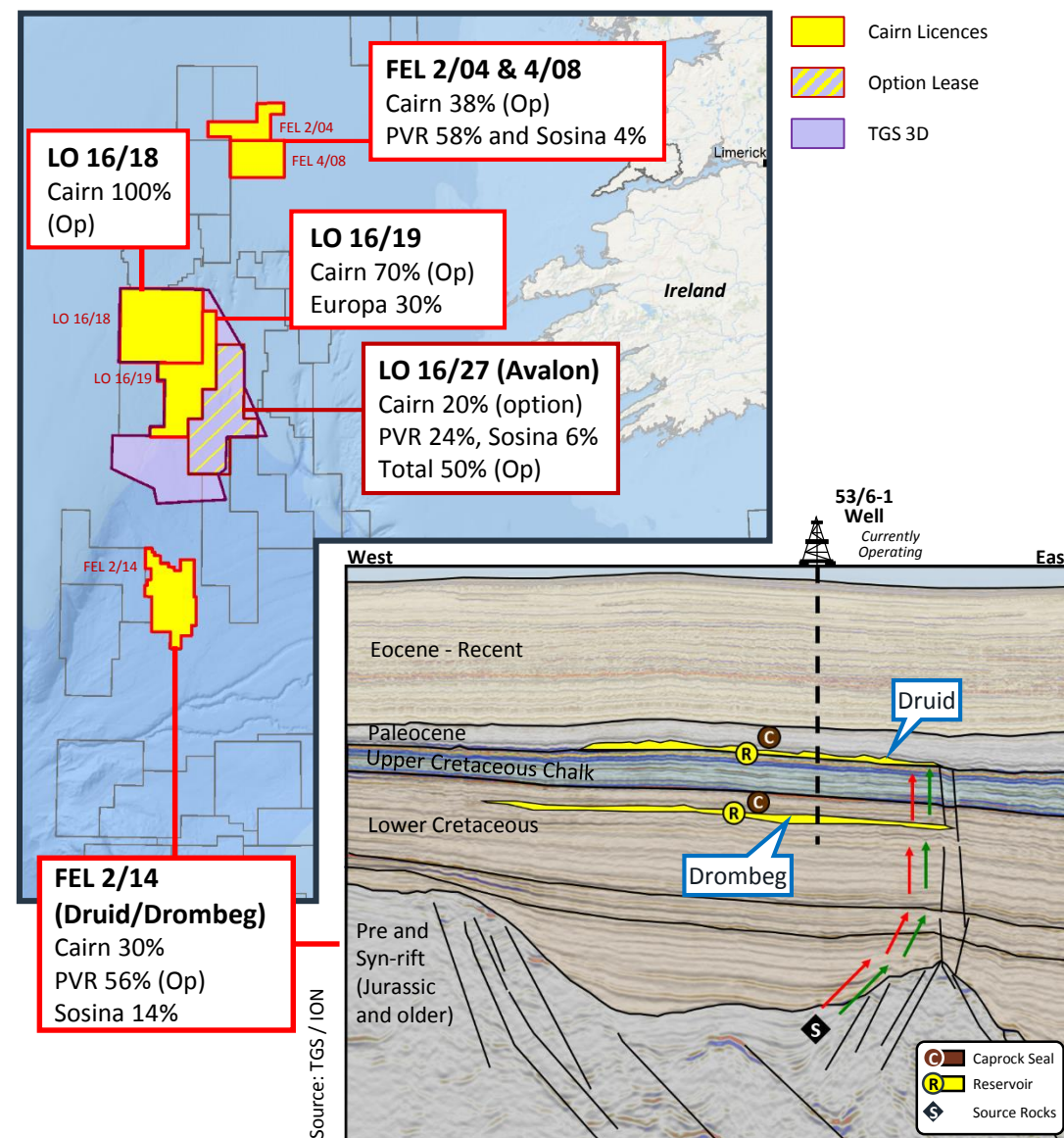
## Growing Acreage Position in the Porcupine Basin

### Interest in >4,000 km<sup>2</sup> in 5 licences

- Awarded LO 16/18 in 2016 bid round
- Farmed in to LO 16/19
- Option to acquire 20% WI in LO 16/27
- Farmed in to FEL 2/14 (Druid/Drombeg)
  - 53/6A Well (Druid / Drombeg) drilling
    - Druid target penetrated – good porous reservoir
    - Drilling ahead to Drombeg target
- Participant in TGS Multi-Client 3D covering 5,400 km<sup>2</sup>

### Multiple Play Types

- Tertiary Deepwater Fan and Channel prospects
- Cretaceous Fan and Channel Prospects
- Jurassic Tilted Fault Block and Truncation Trap Prospects

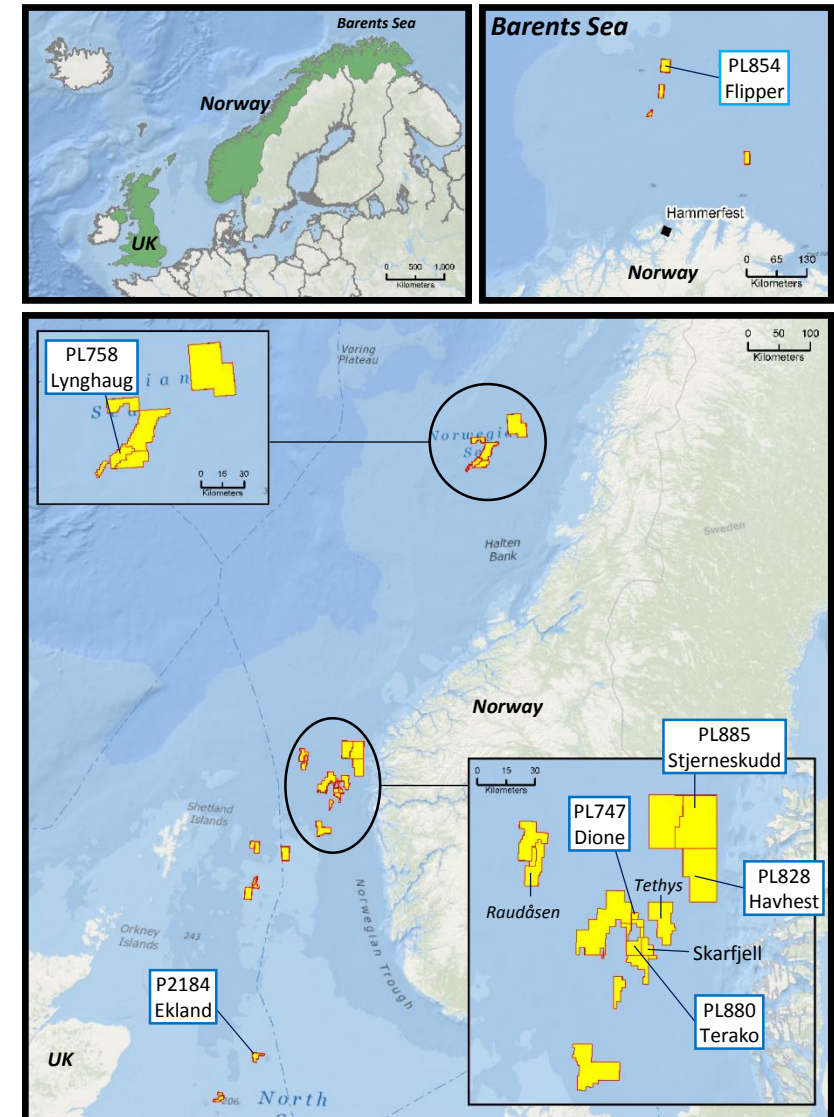




# Norway – Material Drilling Campaign

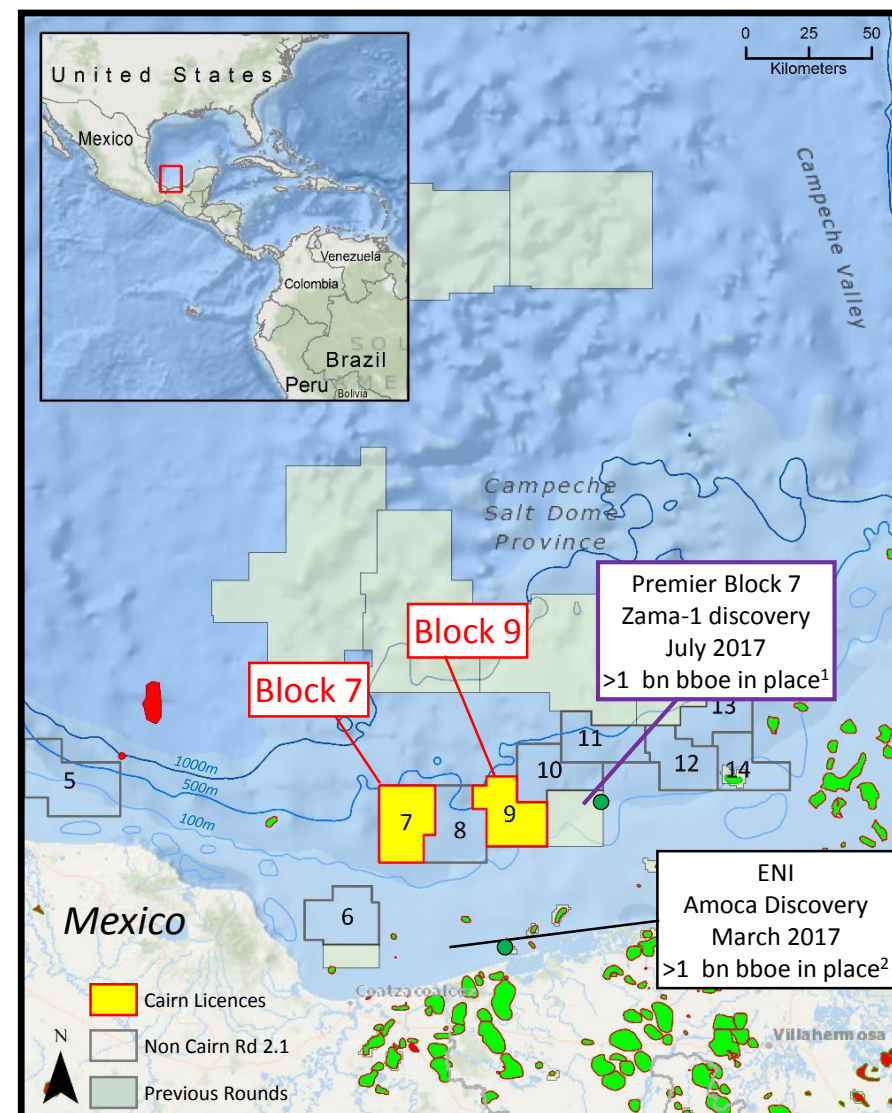
- Extensive portfolio across a variety of plays in UK and Norway
- Core areas:
  - Barents Sea
  - Norwegian Sea
  - Norwegian North Sea
- Pre qualified as Operator in Norway
- Plan to drill up to 10 wells in 2017 / 2019<sup>1</sup>
- Targeting ~1.2 billion boe gross unrisked resource
- Averaging ~120 mmboe/well at 15% - 60% WI (avg 35% WI)

<sup>1</sup> Subject to partner approval



# Atlantic Margin Mexico

- Entry into highly prolific, oil-prone Sureste basin
  - Under-explored relative to U.S. Gulf of Mexico
  - Shallow water (wd 100-500m)
  - ~50 billion boe produced to date in basin
  - >12.5 billion boe prospective resources yet to find
- Successfully secured top two blocks in Round 2.1
  - Block 7: ENI (45% operator), Cairn (30%), Citla (25%)
  - Block 9: Cairn (65% operator), Citla (35%)
- >1 billion boe gross unrisked resource across two blocks
- Multiple 3D seismic-supported prospects
- Offsetting world class oil discoveries
- Anticipate exploration drilling 2019 – 2020
  - Two wells committed per block



<sup>1</sup> Premier estimates <sup>2</sup> Eni estimates

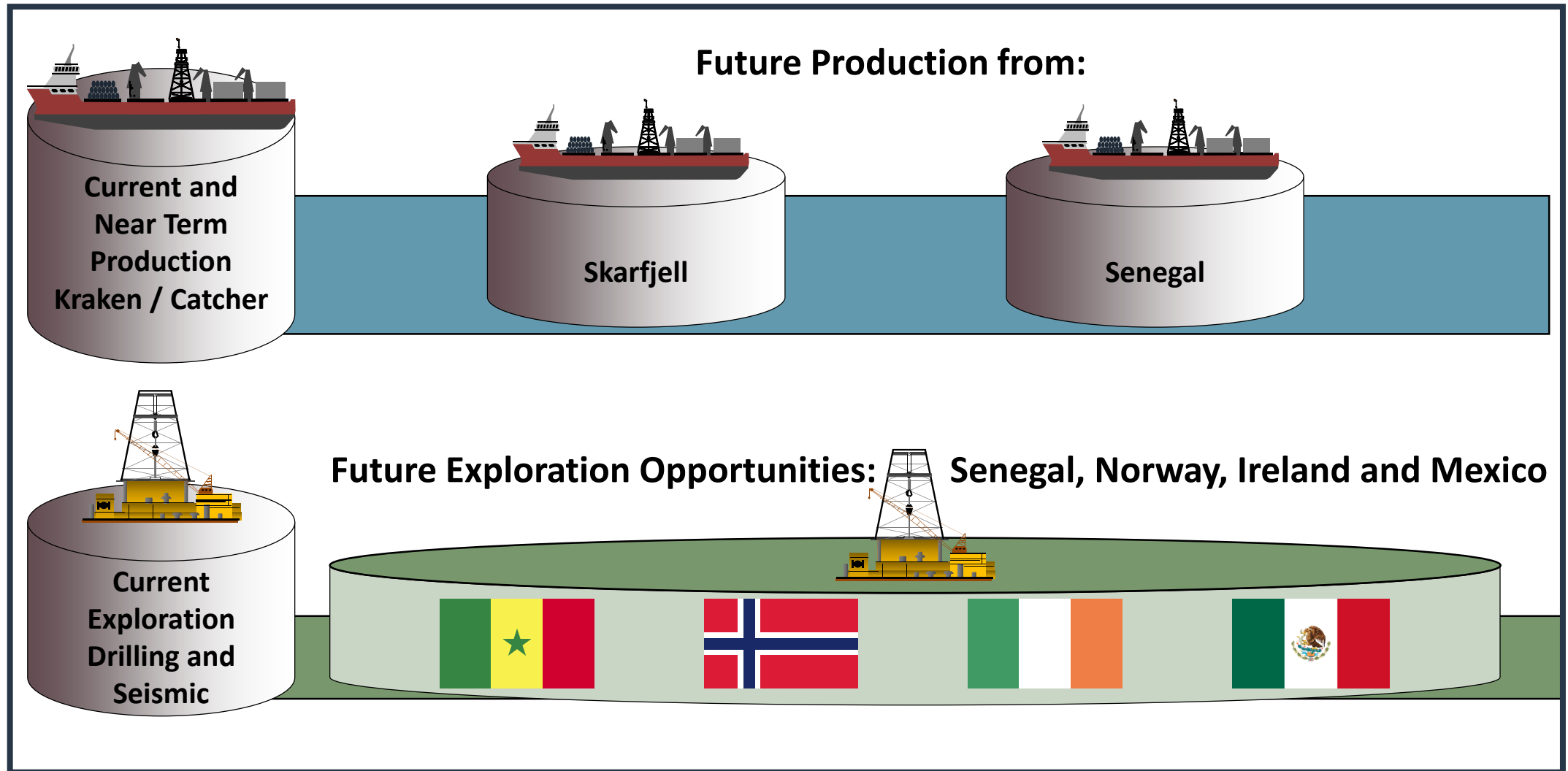


# Conclusion

Simon Thomson



# Active Programme Across Balanced Business



# Value Creation Through Exploration Success and Commercialising Resources

**Production and  
Future Development Options**

**Significant  
Growth Opportunities**

**Funding Flexibility**



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