



## **Preliminary Results Presentation**

8<sup>th</sup> March 2017

**Cairn Energy PLC** 

### Value Creation Through Exploration Success and Commercialising Resources

Near term production and future development options

- > UK North Sea
  - Kraken and Catcher
- Norway
  - > Skarfjell

Significant growth opportunities

- Senegal
- > Atlantic Margin
- Barents Sea

# Funding flexibility

- Funded for strategic delivery and further growth:
  - Cash resources
  - > Undrawn facilities
  - Norwegian financing
  - FlowStream financing
- Indian dividends



### **Cairn Energy PLC**

### **Value Creation in Senegal**

Seven wells in three years;

two basin opening discoveries and five successful appraisal wells





#### **Cairn Energy PLC**

### **Production Base to Fund Future Exploration**

#### **Current Production Base**







### **Exploration** Richard Heaton



### **Creating Growth Through Exploration**

Emerging and Frontier Basins along the North Atlantic Margin

- Senegal
- > Morocco
- > Ireland

## Mature and Emerging Basins in UK and Norway

- Barents Sea
- Norwegian North Sea

## Significant acreage positions with technical and commercial value







### **Atlantic Margin – Ireland**

- Cairn awarded Licence Option (LO) 16/18 in the Atlantic Ireland Licencing Round in H1 2016
- Farm-in to a 70% WI and Operatorship in the adjacent LO 16/19 with Europa Oil & Gas with plans for 3D seismic (2017)
- Farm-in to a 30% WI in Frontier Exploration Licence (FEL) 2/14 in Southern Porcupine Basin with Providence Resources and Sosina
  - > One firm exploration well (2017)
  - Future option on Operatorship





### **Senegal Overview**

- Seven wells in three years; two basin opening discoveries and five successful appraisal wells
- > Third phase of drilling commenced January 2017
  - Programme will include appraisal well tests and interference testing
  - Activity will improve definition of field in terms of scale, connectivity and productivity

- > Exploration drilling will target further prospectivity in 2017
- Further block wide exploration potential ~500 mmbbls gross mean risked resource<sup>2</sup>
- Current SNE Contingent resource to be evaluated post current wells
  - > SNE 2C STOIIP > 2.7 billion bbls<sup>1</sup>
  - Current 2C recoverable resource 473 mmbbls<sup>1</sup>





#### **Exploration – Senegal**

### **Exploration Potential Within 30km of SNE**

- Large Block area ~7,100 km<sup>2</sup>
- > Significant untested prospectivity
- Multiple plays
- Prolific source rock, excellent reservoir development and good working seal
- New 3D seismic has improved ability to map traps along extension of SNE trend
- Shelf prospects similar to SNE; all shallow
   approximately 30 day wells
- Route to commercialisation with tie back potential to SNE Field Development





#### Exploration – Senegal, Prospects Within 30 km of SNE

### Vega – Regulus VR-1

- ~1,400m water depth
- ~5km from SNE discovery well
- > Two objectives
  - Exploration prospect: Gross consolidated prospective resources
    - Mean prospective resource >100 mmbbls
    - Consolidated geological chance of success 30%
  - > SNE Appraisal:
    - > Will intersect lower reservoirs
    - Targeted to confirm 1C resource

#### 2017 Prospect Focus



#### **Block Wide Prospectivity**



#### Schematic Cross Section Across Vega – Regulus





### Exploration – Senegal, Prospects Within 30 km of SNE

### SNE NORTH (Sirius)

- ~900m water depth
- ~15km from SNE discovery well
- > Two main targets
  - Gross consolidated prospective resource
    - Mean prospective resource >80 mmbbls

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Consolidated geological chance of success 67%

#### 2017 Prospect Focus



#### **Block Wide Prospectivity**



#### Schematic Cross Section Across SNE North





### Exploration – Senegal, Prospects Within 30 km of SNE

### FAN SOUTH

- ~2,175m water depth
- ~20km South West of SNE-3 well
- FAN SOUTH
  - > Gross consolidated prospective resource
    - Mean prospective resource > 110 mmbbls
- Consolidated geological chance of success 24%



#### **Block Wide Prospectivity**



#### Schematic Cross Section Across FAN South





#### **Exploration – Senegal**

### **SNE-5 Initial Results**

- > SNE-5 and SNE-6 in combination are designed to characterise the nature of the upper reservoirs
- Reservoir units, pressures and fluid boundaries match previous SNE wells
- Multiple samples of oil and gas recovered: similar quality to previous wells
- Drill Stem Testing (DST) 1A 18m perforated
  - Maximum rate 4,500 bopd stabilized rate 2,500 bopd on 40/64 choke, and 3,000 bopd on 56/64 choke – 24hr each test
- > DST 1B additional 8m perforated
  - Maximum rate 4,200 bopd: average stabilised rate 3,900 bopd on 64/64 choke





Gauges installed for observation

### Exploration – Senegal

### **Interference Test**

- SNE-5 and SNE-6
  - SNE-5 drilled, tested and gauges installed
  - Results in line with expectations
  - SNE-6 location being finalised utilising SNE-5 results
  - SNE-6 will be drilled and tested for up to ~10 days
  - Pressure pulse will be observed at SNE-5 and potentially SNE-3
- Results will determine and calibrate reservoir connectivity, potential for water flood and recovery factor
- Results will impact potential development wells design, number, placement and orientation





### **Developments and Operations** Paul Mayland



#### **Developments – Senegal**

### **Planning for Development**

- Significant performance improvement demonstrated on SNE-5 well during drilling and testing phases
- > Aim to incorporate into development well planning and design
- Woodside Petroleum Ltd entered Joint Venture (JV) in 2016 bringing additional well, FPSO development and operating experience
- > JV Support for FPSO solution with subsea wells; overall contract strategy in development
- Geotechnical seabed survey across SNE area and further metocean data gathering planned 2017





#### **Developments – Senegal**

### **Planning for Development – Timeframe**

- Results of remaining exploration and appraisal will determine overall development plan including capital phasing and level of resources to be translated to reserves on Final Investment Decision (FID)
- Concept select expected to be finalised in 2017 allowing Evaluation Report to be prepared for submission

Production *First Oil* 

From 2018 the JV plans to submit the FID Exploitation Plan and subsequently take FID Detailed 2C resources currently guide to a Design & **Exploitation** plateau production rate Fabrication Plan Submission of 100,000 - 120,000 bopd FEED Drilled SNE-2, SNE-3, BEL-1, Drilled Concept Evaluation SNE-4 SNE-5 Select Plan Planned SNE-6 Q4 2014 **Appraisal** Discoveries Currently FAN-1, SNE-1 Operating VR-1 Discovery 2014 3-5 Years 2-4 Years 2021 - 2023



### **Cairn's UK Projects in Context**

#### Development projects ranked by size, including current status





### **Future Production Base - Kraken**

- Target first oil Q2 2017<sup>1</sup> (Operator EnQuest)
- Plateau production 50,000 bopd (Net to Cairn ~15,000 bopd)
- Drilling and completion activity going well; anticipate having 7 producers and 6 injectors for start-up
- Transocean Leader remains in field adding further well capacity
- All subsea equipment installed ready for first oil
- ~\$700mm<sup>1</sup> of gross project capex savings compared to sanction estimate (~22% lower)





<sup>1</sup> Operator estimate



### **Future Production Base - Catcher**

- Farget first oil Q4 2017<sup>1</sup> (Operator Premier)
- Plateau production 50,000 bopd (Net to Cairn 10,000 bopd)
- 4 Catcher, 2 Burgman and 2 Varadero wells successfully drilled and completed; reservoir quality and productivity / injectivity met or exceeded expectations
- FPSO progressing well in Keppel yard in Singapore
- ~\$650mm<sup>1</sup> of gross project capex savings compared to sanction estimate (~29% lower)
- Laverda licence extended as possible future tie back development





<sup>1</sup> Operator estimate

### **Potential Future Production – Skarfjell**

- Production potential 50,000 bopd (Net to Cairn 10,000 bopd)
  - > Light oil development in 380m water depth
  - Expected recovery<sup>1</sup> 60-140 mmboe
- Field Operated by Wintershall
- Concept select: subsea tie back to nearby
   Gjøa platform
- FEED commenced with objective of FID being achieved on or before Q1 2018
- Quad 35 is a core area for Cairn where it holds multiple licences and expects to participate in 1-2 exploration wells in 2017



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#### <sup>1</sup> Operator estimate

### **Finance** James Smith



#### Finance

### **Financial Headroom to Deliver Balanced Business**

- > Strong execution throughout 2016, significant cost savings delivered
- Enhanced sources of financing
- Supporting exploration programme in Senegal and additional new venture opportunities
- Moving into cashflow phase in 2017 will further strengthen Group funding position to support a sustainable investment programme
- ➢ Key catalysts over next 12 − 18 months:
  - > Plateau production from North Sea (Kraken, Catcher)
  - > Skarfjell FID
  - Senegal exploitation plan
  - Further exploration and new ventures

## Finance **2016 Cashflow**





#### Finance

### Capex to End 2017





#### Finance

### **Sources of Funding**

| Cash at 31 December 2016           | ≽ \$335m  |
|------------------------------------|---|
| Reserve Based Lending<br>Facility  | <ul> <li>Peak availability \$350m to \$400m</li> <li>Availability by end 2017 ~\$210m</li> <li>\$175m Letter of Credit / Guarantee tranche</li> </ul>   |
| 2016 Norway tax receivable in 2017 | ⋟ \$26m   |
| Exploration Finance Facility       | <ul> <li>\$60m (NOK 500m) working capital facility to borrow against future Norwegian exploration tax refunds</li> <li>\$20m forecast tax refund from 2017 expenditure</li> </ul>                           |
| FlowStream                         | <ul> <li>\$75m cash proceeds</li> <li>4.5% Kraken stream receivable by FlowStream, only recourse is to production interest</li> <li>Stepping down to 1.35% after FlowStream achieve a 10% IRR</li> </ul>    |
| CIL dividends                      | ⋟ \$51m   |
| Operating cashflow                 | <ul> <li>Q2 Kraken first oil, expect 2017 operating cashflow of ~\$90m at \$52/bbl forward curve</li> <li>Catcher first oil late 2017</li> <li>2018 ramp up to production plateau of 25,000 bopd</li> </ul> |



### Summary Simon Thomson



### **Strategic Delivery**

Near term production and future development options

> Significant growth opportunities

### **Funding flexibility**





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