Long range & challenging tiebacks – eliminating the umbilical

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Buoyant Production Technologies
Introduction

Buoyant Production Technologies (BPT) is a subsidiary of Crondall Energy Consultants Ltd. focused on technology development.

BPT has developed Floating NUI technology products offering low lifecycle cost to support marginal fields.

This presentation introduces a NUI Power, Control and Communication Buoy as a means of enabling long-distance and challenging subsea tiebacks.
Background to Floating NUI

- Complexity
- Function
  - Distance, Utility requirements, Processing requirements

Throughput: kBoe/day

- MARGINAL FIELDS WITH NO DEVELOPMENT SOLUTION

[Diagram showing complexity and function with throughput values]
Background to Floating NUI

Floating NUI Power Buoy
subsea tieback support

Floating NUI Production Buoy
standalone production
Floating NUI

- Patented and novel floating facility design, IP owned by BPT;
- Designed for **NUI operations**, remote control and infrequent maintenance;
- Lloyds Register Approval in Principal (AiP);
- Lifecycle cost savings relative to traditional alternatives:
  - Digitally enabled NUI operations drive a **low OPEX**;
  - Compact minimal facilities achieves a **low CAPEX**.
Floating NUI: - subsea tieback support
Floating NUI application

Traditional tieback challenges
- Host constraints (space, upgrade CAPEX)
- Umbilical constraints (cost, availability)
- Distance (power transmission)
Floating NUI application

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Power & Control Buoy
- No umbilical is required from the host
- No utilities are exported from the host
- Brownfield modifications are minimised
Industry opportunity

Oil price uncertainty
• Reduced finance for new production facilities

Environmental challenges
• Focus on Carbon footprint

Mature industry
• Reducing exploration potential around existing hubs
• Decommissioning of facilities and pipelines can strand tieback prospects

Subsea tiebacks are attractive:
• Reduced capital requirements for new production
• Lower Carbon footprint than standalone facilities
• Shorter project schedule

If we can extend the economic and technical range of tiebacks
• Extend the life of host facilities and export pipelines
• Maximise economic recovery
• Minimise the industry carbon footprint
Power Buoy features

**Topsides:**
- Power generation (50kW – 15+MW)
- Chemical injection
- Switchgear
- Communication

**Hull:**
- Fuel & chemical storage
- Semi-taut mooring system

**Dynamic umbilical:**
- Well control, power, chemicals

Range of power demands
Benign or Harsh metocean
70m + water depth
Tieback CAPEX – utilising umbilical

Low Power

High Power

CAPEX vs Distance (km)

- Umbilical
Tieback CAPEX: - power buoy vs umbilical
Benefits: - Power buoy vs umbilical

CAPEX reductions for longer tiebacks (20-25 km upwards)

Reduce offshore vessel operations for installation and abandonment
- Carbon footprint
- Environmental footprint (trenching and burial)
- ABEX

Simplified host interface
- Reduce host brownfield modification risk
- Overcome host space constraints
- Reduce host contracting & commercial challenges
Conclusion

A wellsit Power & control buoy can expand the **range & functional capabilities** of a subsea tieback

Potential outcomes:
- Unlock tiebacks challenged by distance or technical issues
- Minimise tieback impact on host facility
- Supercharge a hub strategy
Further details:

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