Projects

June 2016

Quad 204, North Sea
Glen Lyon FPSO in tow
## 2014 – 2016 Major projects start-ups

<table>
<thead>
<tr>
<th>2014</th>
<th>2015</th>
<th>2016</th>
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</thead>
<tbody>
<tr>
<td>✔ Chirag Oil</td>
<td>✔ Kizomba Satellites Phase 2</td>
<td>✔ In Salah Southern Fields</td>
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<tr>
<td>✔ Mars B</td>
<td>✔ Greater Plutonio Phase 3</td>
<td>✔ Thunder Horse Water Injection</td>
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<td>✔ NaKika Phase 3</td>
<td>✔ Western Flank A</td>
<td>✔ Point Thomson</td>
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<td>✔ Atlantis North Expansion Phase 2</td>
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<td>✔ Angola LNG</td>
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<td>✔ CLOV</td>
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<td>In Amenas Compression</td>
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<td>✔ Sunrise Phase 1</td>
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<td>✔ Kinnoull</td>
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**Top quartile schedule predictability**

**Top quartile first year operability performance**
### Major projects growth to 2020

**BP net production from new major projects**

<table>
<thead>
<tr>
<th>Year</th>
<th>2016</th>
<th>2017</th>
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<tr>
<td><strong>In Salah Southern Fields</strong></td>
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<td><strong>Thunder Horse Water Injection</strong></td>
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<tr>
<td><strong>Quad 204</strong></td>
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<tr>
<td><strong>Clair Ridge</strong></td>
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<td><strong>Juniper</strong></td>
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<td><strong>Persephone</strong></td>
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<td><strong>KhazzanTrain 3</strong></td>
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<td><strong>India Gas Projects</strong></td>
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<td><strong>Tangguh Train 3</strong></td>
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<td><strong>Snadd</strong></td>
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<td><strong>Trinidad Compression Project</strong></td>
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**Delivering 800mboed of new production by 2020**

**2018-2020**

- **Culzean**
- **Shah Deniz 2**
- **West Nile Delta – Giza/Fayoum/Raven**
- **Western Flank B**
- **Angelin**
- **Atoll Phase 1**
- **Block 18 Platina**
- **KhazzanTrain 3**
- **India Gas Projects**
- **Tangguh Train 3**
- **Snadd**
- **Trinidad Compression Project**
North Sea

Quad 204
- New FPSO to extend life of Schiehallion field (BP ~36%)
- 14 new wells, 53 existing wells
- Peak production ~ 120 mboed, gross
- Project ~ 90% complete with start-up planned early 2017
- FPSO arrived safely from Korea with installation West of Shetland in progress

Clair Ridge
- 2nd phase of the giant Clair field development (BP ~29%)
- New production, accommodations and drilling facilities
- Peak production ~ 100 mboed, gross
- Project ~ 85% complete with 2017 start-up planned
- All production modules are installed offshore and progressing with hook-up and commissioning
Oman Khazzan: **10.5 tcf of gross recoverable gas resources**

- **Acreage:** 3,700 km²
- **Production plateau:** 1.5 bcf/d by 2020
- **Ph1 Facilities (2 trains):** ~70% complete
  - ~30 wells drilled
  - 2017 start-up on track and on budget
- **Khazzan Train3 and 125 wells with 2020 start-up**
- **BP technology enabled step change in well targeting and productivity**
Two projects expected to develop 5tcf of gas resources, gross (BP ~83%)

- 21 total development wells
- Peak production ~ 290 mboed, gross

**Taurus/Libra**
- Production through BG’s Burullus facilities
- Facilities ~ 55% complete with 2017 start-up planned
- 9 wells total – all drilled and completions started
- First subsea tree successfully installed

**Giza/Fayoum/Raven**
- Deepwater long-distance tie backs to shore
- Existing Rosetta plant to be modified for Giza/Fayoum and integrated with a new onshore plant for Raven
- Facilities ~ 10% complete with 2019 start-up planned
- 12 wells total - 3 drilled to top of reservoir
New normally unmanned platform will produce gas from Corallita and Lantana fields (BP 70%)\(^1\)

- First subsea development for bpTT, 5 subsea wells
- Production capacity of 590 million standard cubic feet per day
- Peak production ~95mboed gross
- Project ~75% complete with planned 2017 start-up
- Platform on track for installation early 2017 with offshore hook up and commissioning to follow
- 5 wells drilled with completions in progress, to be completed by end of 2016

\(^1\) 100% owned by BP Trinidad and Tobago which is owned by BP (70%) and Repsol (30%)
Shah Deniz is BP’s largest ever gas discovery with 40tcf of gas in place (BP ~29%)

- 2 offshore platforms and onshore processing and compression facilities
- 26 total development wells
- South Caucasus pipeline expansion
- Also includes two new pipelines, the Trans Adriatic Pipeline (BP 20%) and the Trans Anatolian Gas Pipeline (BP 12%)
- Peak production ~ 370 mboed, gross
- Project ~ 70% complete with 2018 start-up planned
- 9 wells drilled, onshore and offshore facilities are progressing as planned
Enhancing project execution

“…your efforts are clearly setting you up ahead of your peers to thrive in the current market and take advantage when the market picks up…” IPA Director

- Leveraging our global execution model
- Implementing supplier-led solutions to simplify and standardize
- Simplifying requirements and eliminating excess
- Working more efficiently with contractors

BP Relative performance has improved according to IPA

<table>
<thead>
<tr>
<th>Quartile</th>
<th>Reservoir</th>
<th>Facilities</th>
<th>Wells</th>
<th>Schedule Predictability</th>
<th>Cost Predictability</th>
<th>1st year operability</th>
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<tbody>
<tr>
<td>1st</td>
<td>2015</td>
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Input metrics - FEL
Output metrics
Optimizing pre-FID projects

- **We have around 40 projects in the pipeline for post-2020 start-up**
  - Balance of resource types and a range of development types
  - Global portfolio with significant exposure to low development cost regions

- **Centralized project creation – ‘Global Concept Development’**
  - Single team ensuring consistency in approach - ‘value over volume’
  - Deep expertise, integrating BP with supplier-led solutions to create highly competitive projects
  - Maximize benefits of standardization through re-use of industry proven solutions
  - Adhering to our hurdle rates - mid teens returns for new greenfield projects at $60
Summary

- **High-quality and material project portfolio to underpin growth to 2020 and beyond**
  - 4 major project start-ups achieved year-to-date, another on-track for start-up before year-end
  - 500 mboed of new net capacity by end-2017
  - 800 mboed of new net production by end-2020, ~85% under construction or already operating
  - Value over volume: current project portfolio margins 35% better than our current base assets
  - Deep portfolio – only do the best when they are optimized and ready to execute

- **Global execution model improving project optimization and execution**
  - IPA benchmarks BP project performance as first quartile on five of the six key metrics
  - Partnering with suppliers to simplify, standardize and reduce costs
  - Capturing accelerated deflation in the supply chain as we time our investment decisions