Base and transformation

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Maximising the value of the base

- Optimising base decline
- Rigorously managing cash costs
- Enabled by our transformation agenda

**Cumulative production**

**Remaining hydrocarbons initially in place**

- Alaska
- Canada
- BPX Energy L48
- GoM
- Trinidad
- North Sea
- AGT
- North Africa
- Middle East
- India
- Asia Pacific
- Russia
- GoM
- Latin America
- Angola
- India
- North Africa
- AGT
- North Sea
- BPX Energy L48
- GoM
- Trinidad
- Alaska
- Canada

~2.4mmboed base production\(^2\)\(^3\)

<3% 2013-2018 managed base decline\(^2\)

~$7.2/boe unit production costs\(^2\)

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1. Upstream (excludes Rosneft and regions not currently producing). Year-end 2017 estimate, updated for significant movements in 2018
2. 2018 estimate
3. Includes BPX Energy; excludes major projects starting up in 2018. Total 2018 production estimate is ~2.5mmboed
Optimising base decline

Managed base decline¹

<table>
<thead>
<tr>
<th>Year</th>
<th>Managed Base Decline</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011-16</td>
<td></td>
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<tr>
<td>2012-17</td>
<td></td>
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<tr>
<td>2013-18</td>
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Guidance: 3 – 5%

Managed base decline performance achieved through:

- Improving operating efficiency
- Strong reservoir management
- System modelling and optimisation
- Improving wedge delivery

Base decline guidance now 3-5% excluding BPX Energy Lower 48

¹ 5 year compound annual decline rate
Optimising base decline – improving operating efficiency

Operating efficiency and plant reliability
Annual %

TARs\(^1\) – days and deferrals

Improving trend in mature region
North Sea performance %

(1) Turnarounds
Rigorously managing cash costs

**Production costs**

$/boe

- BP (excl Rosneft)
- Competitor range

<table>
<thead>
<tr>
<th>Year</th>
<th>BP (excl Rosneft)</th>
<th>Competitor range</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td></td>
<td></td>
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<tr>
<td>'14</td>
<td></td>
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<tr>
<td>'15</td>
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<td>'17</td>
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<td>2018 est</td>
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**2017 cash costs summary**

- BP costs (including labour, BPX Energy L48, gas trading)
- Operated by others (OBO)
- Third-party spend
- Other

(1) Includes fuel gas; Competitor Range: Exxon, Shell, Chevron, Total, Equinor and ENI
Management of cash costs

<table>
<thead>
<tr>
<th>Region</th>
<th>Description</th>
<th>Cost Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alaska</td>
<td>Field wide standardisation of instrumentation systems with a new commercial model</td>
<td>56% cost reduction</td>
</tr>
<tr>
<td>Gulf of Mexico</td>
<td>Aggregation of regional demand for data acquisition. Collaboration with supplier</td>
<td>40% cost reduction</td>
</tr>
<tr>
<td>Trinidad</td>
<td>Supplier collaboration on new technology and new commercial models for project</td>
<td>10% cost reduction</td>
</tr>
</tbody>
</table>

~75% cash cost savings sustainable
Rapid scale up of transformation in 2018

- **~1,000** transformation projects
- **Over 1,300** continuous improvement projects

**Agility**
- Nearly 3,000 people trained
- 100 scrum teams
- Up to 50% cycle time

**Mindset**
- Over 2,000 senior leaders through new development programme

**Digital**
- 7.5 petabytes now in proprietary data lake

**Plant Operations Advisor**
deployed in Gulf of Mexico and Angola

**Robotic inspection**
applying latest tech and machine learning
Base and transformation – what’s next?

- Transformation
- Mindset and agility
- Costs and efficiency
- Production toolkit
- Optimisation
- Automation
- Safety

Transforming how we work

Digitisation and collaboration