Advantaged gas portfolio and growth

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Advantaged gas

- Belief in gas
- Balanced portfolio
- Strong growth and quality
- Broad and integrated capability throughout gas value chains

~1.2mmboed 2018 production\(^1\)  |  ~80tcf gas resources\(^2\)  |  ~50% total Upstream production

(1) Total production for gas producing regions  (2) Includes BP’s share of reserves of equity-accounted Upstream entities. Proved reserves year end 2017 estimate, and non-proved resources year end 2017 estimate updated for significant movements in 2018.
Balanced gas portfolio

**Domestic pricing**
Oman, Egypt gas, Russia, India

**Hub pricing**
Algeria, Azerbaijan (Shah Deniz gas), BPX Energy gas

**International LNG**
Australia, Indonesia, Mauritania & Senegal, Trinidad

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(1) Total production for gas producing regions
Strong growth and quality

Gas production\(^1\)

- Managed base
- Major projects
- E&A options

12 bcfd

LNG volumes

- Equity base
- Equity opportunity
- Merchant base
- Merchant opportunity

35 mtpa

(1) Total production for gas producing regions
Underpinning growth and basin leadership

Bubble size = 2025 operating cash flow

- **Alaska**
  - Alaska LNG (2030)

- **BPX Energy**
  - Lower 48

- **Mauritania & Senegal**
  - Tortue Phases 1-3
  - Yakaar Teranga
  - BirAllah

- **Trinidad**
  - Cassia Compression
  - Angelin
  - Matapal (Savanah)
  - Juniper Follow-on
  - Cypre (Macadamia)

- **Argentina**
  - Vaca Muerta

- **Azerbaijan**
  - Shah Deniz 2 ramp-up
  - Shah Deniz Compression

- **Oman**
  - Khazzan Ph2

- **UAE**
  - ADGAS

- **North Africa**
  - West Nile Delta Giza/Fayoum & Raven
  - Maadi Hub
  - Satis

- **Russia**
  - Kharampur (Turonian)

- **Indonesia**
  - Tangguh Expansion

- **India**
  - KG D6 R-series
  - KG D6 Satellites
  - KG D6 D55

- **Australia**
  - Lambert Deep
  - South Goodwin
  - Browse

- **Argentina**
  - Vaca Muerta

Growth options

- Bubble size = 2025 operating cash flow
- BP LNG
- Joint venture entities

(1) Estimates based on BP planning assumptions
Broad capability – gas value chain optimisation

**Global LNG**

- Diversified supply of equity and merchant LNG
- Geographic and price exposure balance
- Building markets: Brazil, India, China, other Asia

<table>
<thead>
<tr>
<th>2018</th>
<th>~200</th>
<th>spot cargos traded in 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>5</td>
<td>regas plants in US, UK, China, Italy and Spain</td>
</tr>
<tr>
<td>13 ships</td>
<td>13 ships</td>
<td>7 current + 3 on order + 3 charter</td>
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<tr>
<td>2017</td>
<td>2017</td>
<td>CWC/World Gas Awards outstanding contribution to the industry</td>
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</tbody>
</table>

**Gas and Power**

- Trading
- Operations
- Origination
- Analytics
- Integrated marketing

<table>
<thead>
<tr>
<th>2018</th>
<th>&gt;20bcf/d</th>
<th>natural gas marketed in North America</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>&gt;4mmboed</td>
<td>NGLs traded globally</td>
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<tr>
<td></td>
<td>~50TWh/yr</td>
<td>wholesale power marketed</td>
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<td></td>
<td>2017</td>
<td>Energy Risk Awards outstanding contribution to the industry</td>
</tr>
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<td></td>
<td>2018</td>
<td>natural gas house of the year</td>
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Broad capability – delivering complex projects

**Tangguh LNG**

- Located at a remote site in Bintuni Bay, West Papua, Indonesia with 2 LNG trains producing 7.6mtpa
- Operator across the LNG value chain from wellhead to market, with 5 other partners and multiple LNG buyers
- Existing LNG trains started up in 2009 and are expected to deliver 1,000th cargo by January 2019
- Tangguh Expansion will add another 3.8mtpa making the facility the largest gas producer in Indonesia – on track for 2020 start-up

**Southern Gas Corridor**

- Shah Deniz – world class reservoir in the Caspian, Azerbaijan with up to 40tcf of gas initially in place
- 3,500km pipeline infrastructure linking Caspian to Europe transiting 6 countries
- Started up with delivery of gas in July 2018 into Turkey
- Trans Adriatic Pipeline (TAP) portion and further ramp-up on track for 2020 start-up into Europe
Mauritania & Senegal

Material position in a world class hydrocarbon basin
- ~50,000km² of acreage across 7 blocks
- 50-100tcf estimated gas in place
- Competitive near-shore LNG to Europe
- Phased development options

Greater BirAllah
- 12-60tcf GIIP¹
- 2019 appraisal programme

Tortue
- ~15tcf recoverable resource
- Near-shore LNG
- Phased development
  - Phase 1 ~2.5mtpa by 2022
  - Full field development ~10mtpa

Yakaar Teranga
- 10-25tcf GIIP¹
- 2019 appraisal programme

¹ Gas initially in place