Exploration
Maximizing new venture capture to enhance program

Kevin McLachlan
SVP Exploration
Enhancing exploration portfolio with new opportunities

> 1.5 Bboe risked potential added on core and growth areas since 2015

**Budget**

1.25 B$ per year

**Wells**

~35 per year in 2017-18

Main discoveries:
- **North Platte**
  - United States
- **Vaca Muerta**
  - Argentina
- **Owowo**
  - Nigeria
- **Polshkov**
  - Bulgaria, Greece
- **Block A6**
  - Papua New Guinea
- **Owowo**
  - Nigeria
- **Namibia**
- **Brazil**
- **French Guyana**
- **Namibia**
- **South Africa**
- **Namibia**
- **Brazil**
- **French Guyana**
- **Namibia**
- **South Africa**
Gulf of Mexico - Capturing new high potential prospects
Expanding from the core US Wilcox area with strong additions in recent bid rounds

- North Platte Lower Tertiary discovery
- Farmin with Chevron to capture 5 drill ready prospects

Entry in US-GOM Norphlet emerging play
- Ballymore drilling ongoing
- Additional prospects ready to drill

Strategic entry in offshore Mexico
- AMIs with strong partners
- 4 blocks awarded in 2016/2017 bid rounds
- First well planned on Perdido block 2 - 2018
Aruba to Foz do Amazonas
Preparing to test our key positions and prospects with giant and play opening prospects

<table>
<thead>
<tr>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aruba</td>
<td>Nasua, Tucano, Mutum explo wells</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Aruba**

1 well planned in 2018 targeting oil prospect

**French Guyana**

1 operated well in 2018-2019 targeting giant oil prospect with Nasua well

**Foz do Amazonas (Brazil)**

- 2 operated wells in 2019
- Targeting oil prospects on independent plays with Tucano and Mutum wells

Chasing further opportunities
Argentina – Unconventional Vaca Muerta Giant
Emergence of a world class shale play in mature Basins

A proven **world class giant** unconventional play
- **Resources** $> 1.4$ Bboe (100%)
- Multi-layer play
- All fluid types from dry gas, wet gas to oil
- Successful E&A 2010-2016

Maximizing **synergies** between **exploration** and current **developments**

**Excellent results** of Rincón La Ceniza & Aguada Pichana **development pilots**

**Moving forward for full field developments** with the sanction of Aguada Pichana Ph. 1
West Africa – Adding new strategic assets
Mauritania and Senegal – World class petroleum province

Mauritania and Senegal
• Capture of 4 blocks in high potential oil prone areas
• High reactivity from capture to wells
• Proven Cretaceous plays with DHI technology

Ivory Coast
• Azobe, a giant oil prospect

Large regional 3Ds ongoing: 20 000 km²
Southern Atlantic Margin
Namibia and South Africa – Near term drilling plans with follow on potential

South Africa: Block 11B/12B & South Outeniqua
High impact drill ready prospects and leads in frontier basins
- Re-enter and drill Brulpadda-1AX in 2018/19
- Further prospectivity with follow-up exploration
- 5 high quality DHI driven oil prospects

Namibia / South Africa: Orange basin
Early capture of emerging play concept
- Entry into 2 new blocks and TCP
- 3D seismic acquired in 1H 2017
- First well targeted in 2019
East Mediterranean and Black Sea
A new phase of exploration in proven and emerging plays

Bulgaria
• Polshkov 1 play opening oil discovery with follow on exploration drilling by end 2017

High impact wells
• Egypt: Tarif Deep-1 onshore and Neho Block offshore
• Cyprus: Block 6 captured, Block 11 small gas discovery

Greece: capture of block 2 for new carbonate play

Interested in Lebanon and South of Crete acreage
**Myanmar - Unlocking a new gas province**

Block A6 drilling and large follow on portfolio capture

<table>
<thead>
<tr>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discovery Q1-2016</td>
<td>Explo</td>
<td>3D</td>
<td>Explo wells</td>
</tr>
</tbody>
</table>

- **Block A6**
  - **High reactivity** from capture to discoveries
  - **Gas play opener** with Shwe Yee Htun-1 in Q1-2016, Phi Thit discovery in Q2-2017
  - Confirming **commerciality by 2019**
  - Total to become **operator, synergies** with existing facilities

**Prospects** on Blocks YWB, MD-2, MD-4 and MD-7 **being matured**

---

*A: DHI: direct hydrocarbon indication*
PNG a focus area
Expanding and Maturing Major onshore and offshore opportunities

<table>
<thead>
<tr>
<th>Year</th>
<th>Onshore</th>
<th>Offshore</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>1 Explo well</td>
<td>Acreage Capture PPL339</td>
</tr>
<tr>
<td>2018</td>
<td>PRL15/PPL339 – 2D</td>
<td>Acreage Capture 2016 PPL576</td>
</tr>
<tr>
<td>2019</td>
<td>1 Explo well</td>
<td>Acreage Capture PPL589</td>
</tr>
</tbody>
</table>

Onshore – Focus on Aure Fold Belt
- Antelope appraisal complete 2017
- Drilling Antelope South 2018-19
- Capture block PPL339, drilling in 2019

Offshore Eastern Papuan Plateau – Deepwater Frontier plays
- Capture two high potential blocks PPL576 and PPL589*
- Significant regional de-risking program
- Drilling giant prospect Mailu in PPL576 in 2018-19

* PPL589 pending final approvals
Transforming our Exploration Business

2017 – 2018 High impact exploration wells

Capturing significant positions with high potential in key play hotspots and focus areas

Rebuilt a strong, play focussed and diverse portfolio
- 110 high graded prospects
- >4 Bboe risked potential

Doing more with less within a budget of 1.25 B$/year
- > 35 wells year
- Resource adds >500Mboe/year
- Reduce G&A via exploration hubs

Significant improvement in exploration performance