Walking through PEMEX's resources and exploring new frontiers with the best partners

PEMEX Investor Day London – October 6, 2015

GUSTAVO HERNANDEZ-GARCIA
Director of Operations E&P

www.pemex.com
Content

- PEMEX’s Reserves
  - Migration Status
  - Farm-outs
  - Round One
  - Strategic Assets and New Developments
  - Collaboration and Association Agreements
  - Production Objectives
PEMEX maintains a substantial amount of reserves and prospective resources

Gas and oil basins

Billion barrels of oil equivalent

<table>
<thead>
<tr>
<th>Basin</th>
<th>Cum. Prod.</th>
<th>Reserves 1</th>
<th>Prospective resources</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1P</td>
<td>2P</td>
</tr>
<tr>
<td>Southeast</td>
<td>47.8</td>
<td>10.8</td>
<td>14.2</td>
</tr>
<tr>
<td>Tampico Misantla</td>
<td>6.3</td>
<td>0.7</td>
<td>4.0</td>
</tr>
<tr>
<td>Burgos</td>
<td>2.5</td>
<td>0.2</td>
<td>0.4</td>
</tr>
<tr>
<td>Veracruz</td>
<td>0.8</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Sabinas</td>
<td>0.1</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Deep water</td>
<td>0.0</td>
<td>0.1</td>
<td>0.4</td>
</tr>
<tr>
<td>Yucatán Platform</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>57.5</td>
<td>12.0</td>
<td>19.2</td>
</tr>
</tbody>
</table>

1 Reserves as of January 1, 2015. Includes permanent blocks only.
Round Zero: PEMEX’s Assignments

- Area: 34.7k mi$^2$ or 90k km$^2$
- 83% of Mexico’s 2P Reserves
- 21% of Mexico’s prospective resources
- Oil Production: 2.5 MMbd for 20.5 years

Source: SENER, CNH
Exploration Portfolio: 12 projects in 108 assignments

- Deepwater
  - Perdido Area
  - Holok (gas)
- Han
- Shallow waters
  - Alosa (gas)
  - Uchukil
  - Chalabil
  - Campeche Oriente
- Onshore
  - Llave (gas)
  - Cuichapa
  - Comalcalco
  - Pakal

Shale Oil & Gas

Non-conventional
Production Activities are Focused on 286 Fields

- Assignments (areas granted): 381
- In custody: 95
- Pemex E&P: 286
- Contractual Areas Under Migration: 22
- Pemex E&P – Potential for JVs: 264
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- PEMEX’s Reserves
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- Collaboration and Association Agreements
- Production Objectives
## Migration of Existing E&P Service Contracts

<table>
<thead>
<tr>
<th>First stage: 22 existing contracts</th>
<th>2P Reserves (MMboe)(^1)</th>
<th>Expected Investment(^{(a)}) (USD billion)</th>
<th>Fields</th>
</tr>
</thead>
<tbody>
<tr>
<td>First block</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>569</td>
<td>11.4</td>
<td>Poza Rica-Altamira and Burgos Assets</td>
</tr>
<tr>
<td>Second block</td>
<td>1,639</td>
<td>32.8</td>
<td>ATG and Burgos Assets</td>
</tr>
</tbody>
</table>

**1st block:** CIEP: Santuario, Pánuco, Magallanes, Ebano, Miquetla, Nejo, Altamira and Arenque  
*COPF: Misión and Olmos*

**2nd block:** CIEP: Amatitlán, Miahuapan, Pitepec, Humapa, Soledad, Tierra Blanca, San Andres and Carrizo  
*COPF: Cuervito, Pirineo, Fronterizo and Monclova*

**Target:** signing the first CEE in October

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Note: CIEP: Integral Contracts of Exploration & Production  
*COPF: Financed Public Work Contracts for Conventional Gas Burgos Basin*
## Migration of Existing E&P Service Contracts

**First migration block into CEE includes 9 contracts:**
- COPF Mision (*Tecpetrol, Grupo R*)
- CIEP Santuario, Magallanes, Arenque (*Petrofac)*
- CIEP Panuco (*Petrofac & Schlumberger*)
- CIEP Ebano & Miquetla (*Diavaz*)
- CIEP Altamira (*Cheiron*)
- COPF Olmos (*Lewis Energy*)

**Second migration block considers the remaining existing contracts:**
- CIEP Tierra Blanca, San Andres (*IHSA-Alfa*)
- CIEP Amatitlán (*Lukoil*)
- CIEP Miahuapan (*Vitol*)
- CIEP Pitepec (*La Latina*)
- CIEP Humapa (*Halliburton*)
- CIEP Soledad (*Baker*)
- COPF Cuervito, Fronterizo (*Petrobras-Teikoku-Diavaz*)
- COPF Pirineo (*MPG*)
- COPF Monclova (*GPA Energy*)
- CIEP Carrizo (*Schlumberger*)

Note: CIEP: Integral Contracts of Exploration & Production (Service Contract on a fee per barrel basis)
COPF: Financed Public Work Contracts for Conventional Gas Burgos Basin fields (Service Contract on a fee per mmmscf basis)
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- Production Objectives
PEMEX has considered some blocks (production fields) assigned in Round Zero that could be reboosted through a Farm-out process. This might include bringing experience, technical/financial capabilities in order to maximize the value in each field by:

- Increasing production
- Increasing the recovery factor or
- Increasing the EUR

The bidding process to select the right partner for PEMEX will be conducted by the National Hydrocarbons Commission (CNH).
17 Fields Considered for Farm-outs

1st Phase – Shallow water oil fields
2nd Phase – Shallow water extra heavy oil fields
3rd Phase – Onshore fields
4th Phase – Deepwater oil and gas fields
### Farm-outs

**Assets considered for partnership with PEMEX**

<table>
<thead>
<tr>
<th>Asset group</th>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mature onshore</strong></td>
<td>Rodador</td>
<td>▪ Onshore fields producing for more than 10 years</td>
</tr>
<tr>
<td></td>
<td>Ogarrio</td>
<td>▪ Require secondary recovery and improved recovery methods</td>
</tr>
<tr>
<td></td>
<td>Cárdenas – Mora</td>
<td>▪ Access to capital to accelerate hydrocarbons recovery</td>
</tr>
<tr>
<td></td>
<td>Samaria (Tertiary)</td>
<td></td>
</tr>
<tr>
<td><strong>Mature offshore (shallow waters)</strong></td>
<td>Bolontikú</td>
<td>▪ Shallow water fields</td>
</tr>
<tr>
<td></td>
<td>Sinán</td>
<td>▪ Producing fields for more than 10 years</td>
</tr>
<tr>
<td></td>
<td>Ek (UOJ)</td>
<td>▪ Require secondary recovery and improved recovery methods</td>
</tr>
<tr>
<td></td>
<td>Balam (UOJ)</td>
<td>▪ Access to capital to accelerate hydrocarbons recovery</td>
</tr>
</tbody>
</table>
## Farm-outs

### Assets considered for partnership with PEMEX

<table>
<thead>
<tr>
<th>Asset group (Approximate location)</th>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Extra-heavy oil** | Ayatsil | - Shallow water fields close to the Ku-Maloob-Zaap complex  
- Extra-heavy oil in the range of 6.5 to 13.5° API.  
- Ayatsil field under development. First production in the 4Q-2014 |
| | Tekel | Non-associated gas fields located southward the Mexican GOM  
- Water depth lower than 2,000 meters  
- Undeveloped fields  
- Close to the Lakach field, the first Mexican gas field developed in deepwater |
| | Utsil | Light oil fields located at the Perdido Area in deepwater of the Mexican GOM  
- Water depth greater than 2,500 meters  
- Undeveloped fields |
| **Deepwater gas** | Kunah | Non-associated gas fields located southward the Mexican GOM  
- Water depth lower than 2,000 meters  
- Undeveloped fields  
- Close to the Lakach field, the first Mexican gas field developed in deepwater |
| **Deepwater oil** | Trión | Light oil fields located at the Perdido Area in deepwater of the Mexican GOM  
- Water depth greater than 2,500 meters  
- Undeveloped fields |
| | Exploratus |  |
| | Maximino |  |
## Farm-outs

<table>
<thead>
<tr>
<th>Second Stage: Farm-outs</th>
<th>2P Reserves (MMboe)¹</th>
<th>Expected Investment³ (USD billion)</th>
<th>Fields</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mature fields</td>
<td>691</td>
<td>4.0</td>
<td>Ogarrio, Rodador, Cárdenas-Mora &amp; Samaria (Onshore)</td>
</tr>
<tr>
<td></td>
<td>770</td>
<td>9.2</td>
<td>Bolontikú, Sinán, Ek &amp; Balam (Shallow Offshore)</td>
</tr>
<tr>
<td>Extra-heavy crude oil</td>
<td>750</td>
<td>10.9</td>
<td>Ayatsil-Tekel-Utsil (Shallow)</td>
</tr>
<tr>
<td>Deepwater (gas)</td>
<td>296</td>
<td>8.1</td>
<td>Kunah &amp; Piklis</td>
</tr>
<tr>
<td>Deepwater Perdido Area</td>
<td>1,007²</td>
<td>27.0</td>
<td>Trión, Exploratus &amp; Maximino</td>
</tr>
</tbody>
</table>

¹ MMboe – million barrels of oil equivalent
² 3P reserves
³ Expected investment associated to production of 2P reserves, preliminary estimates

Source: Pemex E & P
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>km²</td>
<td></td>
<td>1P</td>
<td>2P</td>
<td>3P</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MMboe</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shallow waters</td>
<td>Bolontikú-Sinán Ek-Balam</td>
<td>217</td>
<td>631</td>
<td>338</td>
<td>770</td>
</tr>
<tr>
<td>Extra heavy oil</td>
<td>Ayatsil-Tekel-Utsil</td>
<td>142</td>
<td>0</td>
<td>403</td>
<td>750</td>
</tr>
<tr>
<td>Onshore</td>
<td>Samaria, Ogario, Cárdenas-Mora, Rodador</td>
<td>461</td>
<td>557</td>
<td>600</td>
<td>691</td>
</tr>
<tr>
<td>DW Gas</td>
<td>Kunah-Piklis</td>
<td>89</td>
<td>0</td>
<td>0</td>
<td>296</td>
</tr>
<tr>
<td>DW Perdido</td>
<td>Maximino Trión-Exploratus</td>
<td>131</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>1,040</td>
<td>1,188</td>
<td>1,341</td>
<td>2,507</td>
<td>3,842</td>
</tr>
</tbody>
</table>
PEMEX’s Reserves
Migration Status
Farm-outs
Round One
Strategic Assets and New Developments
Collaboration and Association Agreements
Production Objectives
First bid call: 14 Exploratory blocks offered and two awarded
   Two blocks awarded to Sierra Oil & Gas, Talos Energy and Premier Oil

Second bid call: 5 Production blocks comprising 9 fields
   Block 1 awarded for 3 fields to ENI International
   Block 2 awarded for 1 field to Pan American Energy LLC and E&P Hidrocarburos y Servicios
   Block 4 awarded for 2 fields to Fieldwood Energy LLC and Petrobal

Third bid call: 25 onshore fields offered
   Contracts to be awarded in December 15, 2015
   Burgos area (8 fields), Northern Region (5 fields), Southern Region (12 fields)

Fourth bid call: Deepwater blocks and extra heavy shallow water blocks, to be launched in October 2015

Fifth bid call: Will include non-conventional blocks (launch date still TBD by SENER)
## Round One

<table>
<thead>
<tr>
<th>Expected Investment (USD Billion)</th>
<th>Fields</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Deepwater</td>
</tr>
<tr>
<td>1,591&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Perdido Area</td>
</tr>
<tr>
<td>3,222&lt;sup&gt;1&lt;/sup&gt;</td>
<td>South Gas basin</td>
</tr>
<tr>
<td>2,678&lt;sup&gt;2&lt;/sup&gt;</td>
<td>Aceite Terciario del Golfo Asset</td>
</tr>
<tr>
<td>8,927&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>1,104&lt;sup&gt;2&lt;/sup&gt;</td>
<td>Pit, Pohp, Alak, Kach &amp; Kastelan</td>
</tr>
<tr>
<td>724&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>142&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Sabinas basin</td>
</tr>
<tr>
<td></td>
<td>Chicontepec &amp; non-conventional</td>
</tr>
<tr>
<td></td>
<td>Onshore, shallow water &amp; extra-heavy crude oil</td>
</tr>
<tr>
<td></td>
<td>Non-conventional gas</td>
</tr>
</tbody>
</table>

Potential Annual Investment (2015-2018): USD 8.5 billion

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1) Prospective resources  
2) 2P reserves  
Source: Pemex E & P
Round One

Round 1
1st Bid call
14 Exploratory blocks

Shallow waters
Round One

Round 1
2nd Bid call
9 Extraction fields into 5 contracts

Shallow waters
Round One

Round 1
3rd Bid call
25 Extraction fields

8 Burgos fields
5 Northern fields
12 Southern fields
Content

PEMEX’s Reserves
Migration Status
Farm-outs
Round One
Strategic Assets and New Developments
Collaboration and Association Agreements
Production Objectives
Aggressive Agenda

1. Reduce CAPEX on oilfield services suppliers & contractors
   • Supply chain optimization
   • Leverage technology

2. Improve cash flow¹
   • Improve working capital
   • Reduce / restructure debt¹
   • Supplier stability

3. Market reassessment
   • Divest non-core assets
   • Acquire complementary assets ‘on cheap’

4. Retain core talent
   • Review headcount
   • Revisit outsourcing tactics

5. Re-assess long-term strategy
   • Coherence with capabilities
   • JVs / contract reviews

¹ Includes tax elements

Source: Strategy& research
New Discoveries are Improving Our Portfolio

Area of Blocks awarded in Round Zero
Midstream Services

- Commercial leadership
  - Competitiveness of tariffs
  - Long term alliances
- Operational excellence
  - Reliable operations
  - Asset efficiency
- Facilities growth
  - Network optimization
  - Upgrading
- Organizational culture
  - Competences
  - Talent

Support Structure

- Gathering & Transportation
- Hydrocarbon Treating
- Storage

Value Added Services
- Blending
- Measurement
- Balance
- Trading strategy

Business Lines
Content

- PEMEX’s Reserves
- Migration Status
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- Strategic Assets and New Developments
- **Collaboration and Association Agreements**
- Production Objectives
Collaboration and Association Agreements

This strategy is aimed to exchange technical knowledge, information, experience and practice, regarding oil & gas opportunities

<table>
<thead>
<tr>
<th>Activities</th>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Upstream</strong></td>
<td>• Cooperation in academic, scientific, technical and business areas, related to deepwater projects, revitalization of mature fields, offshore extra-heavy oil fields, and others upstream activities</td>
</tr>
<tr>
<td></td>
<td>• Exchange of experiences and best practices through visits, conferences and workshops</td>
</tr>
<tr>
<td></td>
<td>• Evaluation and cooperation regarding national and international business opportunities of mutual interest</td>
</tr>
<tr>
<td><strong>Natural Gas and Midstream</strong></td>
<td>• Identification and analysis of possible joint cooperation opportunities on the development of natural gas processing, transportation and storage projects, as well as liquefaction and regasification facilities</td>
</tr>
<tr>
<td></td>
<td>• Exchange of experiences and best practices through visits, conferences and workshops</td>
</tr>
<tr>
<td></td>
<td>• Evaluate areas of common interest and cooperation related with the marketing and trading of products in international markets</td>
</tr>
<tr>
<td></td>
<td>• Develop exchange programs of specialists through training programs</td>
</tr>
</tbody>
</table>
### Collaboration and Association Agreements

<table>
<thead>
<tr>
<th>Activities</th>
<th>Objectives</th>
</tr>
</thead>
</table>
| **Safety & Environmental** | • Exchange of best practices related to industrial safety and workplace health  
• Exchange experiences and best practices on the development and use of technology to reduce greenhouse emissions and on sustainability initiatives |
| **Human Capital** | • Cooperating and exchanging knowledge and experiences on the design and creation of learning and training programs that encourage human capital specialization, facilitating exchanges of professionals, technicians and specialists including study visits on agreed matters of interest, as well as exchange of best practices on talent management  
• Organizing joint conferences, seminars, workshops, meetings, training sessions, outreach and educational programs  
• Facilitating the relationship amongst representatives of academia, industry and government to promote best practices and technical solutions to matters of common interest to the Parties; engaging in such other activities as the Parties consider appropriate |

• MOUs and CAs are a non-binding intent and are not intended to create, nor shall it be deemed to create, any legally binding obligations enforceable between the parties
## Collaboration and Association Agreements

<table>
<thead>
<tr>
<th>Upstream</th>
<th>General Purpose Agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BG GROUP</td>
</tr>
<tr>
<td></td>
<td>bp</td>
</tr>
<tr>
<td></td>
<td>Chevron</td>
</tr>
<tr>
<td></td>
<td>JGMC</td>
</tr>
<tr>
<td></td>
<td>Repsol YPF</td>
</tr>
<tr>
<td></td>
<td>SeaBird Exploration</td>
</tr>
<tr>
<td></td>
<td>Total</td>
</tr>
</tbody>
</table>

| MOUs      | Aeronautics Rocketdyne    |
|          | bp                        |
|          | EG Petrotrono             |
|          | Galp Energia              |
|          | Mitsui & Co., Ltd.        |
|          | Total                     |

| Collaboration Agreements | Bridas                   |
|                         | ITERA                    |
|                         | Noble Energy             |

| Cooperation & NDA Agreements | British Council          |
|                              | Enbridge                 |
|                              | Energy Transfer          |
|                              | Kinder Morgan            |
|                              | Montera Energy           |
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- Production Objectives
### Monthly Crude Oil Production

#### Yearly Average (Mbd)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Cantarell</th>
<th>ATG</th>
<th>Rest of fields*</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>3,383</td>
<td>2,136</td>
<td>27</td>
<td>1,220</td>
</tr>
<tr>
<td>2005</td>
<td>3,333</td>
<td>2,035</td>
<td>27</td>
<td>1,271</td>
</tr>
<tr>
<td>2006</td>
<td>3,256</td>
<td>1,801</td>
<td>27</td>
<td>1,428</td>
</tr>
<tr>
<td>2007</td>
<td>3,076</td>
<td>1,490</td>
<td>27</td>
<td>1,559</td>
</tr>
<tr>
<td>2008</td>
<td>2,792</td>
<td>1,040</td>
<td>27</td>
<td>1,725</td>
</tr>
<tr>
<td>2009</td>
<td>2,601</td>
<td>685</td>
<td>27</td>
<td>1,889</td>
</tr>
<tr>
<td>2010</td>
<td>2,577</td>
<td>558</td>
<td>41</td>
<td>1,978</td>
</tr>
<tr>
<td>2011</td>
<td>2,553</td>
<td>501</td>
<td>53</td>
<td>1,999</td>
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<tr>
<td>2012</td>
<td>2,548</td>
<td>454</td>
<td>69</td>
<td>2,025</td>
</tr>
<tr>
<td>2013</td>
<td>2,522</td>
<td>440</td>
<td>66</td>
<td>2,016</td>
</tr>
<tr>
<td>2014</td>
<td>2,429</td>
<td>375</td>
<td>49</td>
<td>2,005</td>
</tr>
<tr>
<td>2015</td>
<td>2,263</td>
<td>283</td>
<td>42</td>
<td>1,938</td>
</tr>
</tbody>
</table>

**Notes:**


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*ATG* stands for Abkatún-Pol-Chuc, and *Rest of fields* includes various fields such as Ku-Maloob-Zaap, Litoral de Tabasco, and others.
Monthly Gas Production

Yearly Average (MMcfd)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Cantarell</th>
<th>ATG</th>
<th>Rest of fields*</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>4,573</td>
<td>789</td>
<td>35</td>
<td>3,749</td>
</tr>
<tr>
<td>2005</td>
<td>4,818</td>
<td>761</td>
<td>35</td>
<td>4,022</td>
</tr>
<tr>
<td>2006</td>
<td>5,356</td>
<td>718</td>
<td>35</td>
<td>4,603</td>
</tr>
<tr>
<td>2007</td>
<td>6,058</td>
<td>945</td>
<td>35</td>
<td>5,078</td>
</tr>
<tr>
<td>2008</td>
<td>6,919</td>
<td>1,629</td>
<td>52</td>
<td>5,238</td>
</tr>
<tr>
<td>2009</td>
<td>7,031</td>
<td>1,455</td>
<td>79</td>
<td>5,497</td>
</tr>
<tr>
<td>2010</td>
<td>7,020</td>
<td>1,252</td>
<td>85</td>
<td>5,683</td>
</tr>
<tr>
<td>2011</td>
<td>6,594</td>
<td>1,075</td>
<td>112</td>
<td>5,407</td>
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<tr>
<td>2012</td>
<td>6,385</td>
<td>1,004</td>
<td>149</td>
<td>5,232</td>
</tr>
<tr>
<td>2013</td>
<td>6,370</td>
<td>1,007</td>
<td>167</td>
<td>5,196</td>
</tr>
<tr>
<td>2014</td>
<td>6,532</td>
<td>1,121</td>
<td>150</td>
<td>5,261</td>
</tr>
<tr>
<td>2015</td>
<td>6,430</td>
<td>1,308</td>
<td>145</td>
<td>4,977</td>
</tr>
</tbody>
</table>

Future Growth Depends on Efficient Implementation of the Energy Reform

Oil Production (Mbd)

Onshore

Offshore

Historic Projection

2.26 MMbd

2.6 MMbd

Farm-Out Partners
Farm-Out PEMEX
Exploration
Non-conventional
New discoveries

Onshore


2,600
2,000
1,000
0

2,600 MMbd
2,260 MMbd

0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.05

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