Agenda

- Why Natural Gas?
- Supply Chain Overview
- Mexican Context and Opportunities
Why Natural Gas?

Abundant and reliable

Price competitive

Environmentally favorable

Competitive economy, end-customer’s welfare, and clean environment
The Shale Gas Revolution Created a Significant Cost‐Competitive Natural Gas Resource Base Accessible to Mexico

<table>
<thead>
<tr>
<th>Breakeven Price</th>
<th>$3/MMBtu or less</th>
<th>$4/MMBtu or less</th>
</tr>
</thead>
<tbody>
<tr>
<td>North American Natural Gas Resource Base(^1)</td>
<td>800 TCF</td>
<td>1,400 TCF</td>
</tr>
<tr>
<td># of years of production</td>
<td>26</td>
<td>45</td>
</tr>
</tbody>
</table>

Mexico 55 TCF of 3P (15 TCF proven, 15 TCF probable and 24 TCF possible), SENER 2015
Natural Gas is Cost Effective When Compared to Refined Products

Average prices of most common power generation fuels

- Distillate Fuel Oil
- Residual Fuel Oil
- Natural Gas
- Steam Coal

Source: EIA
The Environmental Footprint of Natural Gas is Favorable When Compared to Other Fossil-based Fuels

CO2 Emissions

Source: EIA
The Gas Supply Chain Changes Dependent Upon Diverse Factors

Other factors that influence supply chain choices include geopolitics, environmental footprint, and depth of downstream infrastructure.

Illustrative, Not to Scale
The Supply Chain of Natural Gas Delivered by Pipeline

**Upstream**
- E&P

**Midstream**
- Gas Processing
- Gas Transmission, Compression & Distribution
- Underground Storage

**Downstream**
- Industrial Applications
  - Transportation
  - Household use
  - Compression or liquefaction
The Supply Chain of LNG

- **Upstream**
  - E&P
  - Liquefaction

- **Midstream**
  - Shipping
  - LNG Storage & Regasification

- **Downstream**
  - Gas Transmission, Compression & Distribution
  - Underground Storage

- Gas Transmission,
  - Compression & Distribution

- **Upstream**
  - E&P
  - Liquefaction

- **Midstream**
  - Shipping
  - LNG Storage & Regasification

- **Downstream**
  - Gas Transmission, Compression & Distribution
  - Underground Storage
## Mexican Policy Reforms and Natural Gas

<table>
<thead>
<tr>
<th></th>
<th>Pre-first Opening</th>
<th>First Opening 1995s</th>
<th>2013-14 Energy Reform</th>
</tr>
</thead>
<tbody>
<tr>
<td>E&amp;P</td>
<td>PEMEX only</td>
<td>PEMEX only</td>
<td>✓</td>
</tr>
<tr>
<td>Liquefaction</td>
<td>N/A</td>
<td>N/A</td>
<td>✓</td>
</tr>
<tr>
<td>Gas Transmission &amp; Storage</td>
<td>PEMEX only</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Distribution</td>
<td>Few participants</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
Key Benefits of the Reform of 1995 (driven also by market needs)

Gas Transmission
- First wave of investments in long-haul pipelines
- Entry of new companies (IEnova, Transcanada, Fermaca)

Regasification
- 3 gasification facilities built

Distribution
- 26 distribution permits granted
- Gradual increase in access to natural gas by the residential sector
High domestic production scenario yields imports of ~3.9 bcf by 2029

Low domestic production scenario yields imports of ~6.6 bcf by 2029
## Anticipated Benefits of the 2013-14 Reform in Natural Gas

<table>
<thead>
<tr>
<th>E&amp;P</th>
<th>Gas Transmission &amp; Storage</th>
<th>Commercialization, Distribution, &amp; LNG</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Gradual increase in associated natural gas production</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Possible development of shale gas resources</td>
<td>• Massive investment in long-haul pipelines and competition among infrastructure providers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Gasification of the country</td>
<td>• Competition in the commercialization of natural gas (and price transparency)</td>
</tr>
<tr>
<td></td>
<td>• Increased import capabilities</td>
<td>• New distribution permits</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Selective LNG projects</td>
</tr>
</tbody>
</table>
Massive Investment in Pipeline Infrastructure

Current Mexican Infrastructure

~15,000 km-line

Mexican Infrastructure 2019+

~20,000 km-line

Source: SENER Outlook
Expected increase in import capabilities

Total ≈ 13.7bcfd

Source: EIA, SENER, CRE, PEMEX, CFE
ECA Liquefaction Project

- Inter-connects Mexico with LNG global markets
- Does not affect Mexico’s net gas balances
- Strengthens supply chain into Baja
- $7bn of investment with significant local economic and social benefits
- Positive to US E&P industry