Natural Gas Markets Overview

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Pemex Gas Information Manager
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International Gas Markets Overview
Natural Gas Prices

Quotes
Actual Prices as of May 29th 2013
Previous Year as of Apr 18th 2012
USD/MMBtu

- **Nymex Henry Hub**
  - Actual: $4.15/2.16
  - Previous Year: $4.19/2.16

- **So Cal**
  - Actual: $4.10/1.82

- **UK NBP**
  - Actual: $9.82/9.12

- **Italian PSV**
  - Actual: $10.71/11.09

- **Germany EGT**
  - Actual: $10.10/9.44

- **Dutch TTF**
  - Actual: $9.99/9.32

- **Japón**
  - Actual: $14.25/16.65

- **India**
  - Actual: $14.00/16.40

- **Corea del Sur**
  - Actual: $14.25/16.80

- **Reynosa**
  - Actual: $6.37/2.24

Source: Pemex Gas and Basic Petrochemicals (Pemex Gas) based on information from the Platts International Gas Report.
NYMEX, front month, closing prices and futures

Jun08 – July 15 (USD/MMBtu)

*Blue line is “front month”.
Red line is the Nymex forward curve

Source: Pemex Gas based on information from markets
In the last decades, the profile of fuel supply has changed significantly; nuclear and natural gas have increased their shares on world energy supply. By the other side, the oil share has decreased until one third of total supply.

**1973**
6,107 Mtoe

- Natural gas: 16%
- Nuclear: 0.9%
- Hydro: 1.8%
- Biofuels and waste: 10.5%
- Other*: 0.9%
- Coal / Peat: 24.6%

**2010**
12,717 Mtoe

- Natural gas: 21.4%
- Oil: 31.4%
- Nuclear: 5.7%
- Hydro: 2.3%
- Biofuels and waste: 10.0%
- Other*: 0.9%
- Coal / Peat: 27.3%

* Other includes geothermal, solar, wind, heat, etc.

Source: Key World Statistics 2012, IEA
The world natural gas demand for the new policies scenario in the WEO, shows a major growth in the power generation sector, as well as in the industry sector.

Source: World Energy Outlook 2012 for illustrative purposes only.
The natural gas supply, in the new policies scenario, shows a compound average annual growth rate of 1.7%.

Natural gas production in the New Policies Scenario (bcm)

<table>
<thead>
<tr>
<th>Year</th>
<th>China, Rusia, US</th>
<th>Rest of the world</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>1,356</td>
<td>3,284</td>
</tr>
<tr>
<td>2015</td>
<td>1,488</td>
<td>3,616</td>
</tr>
<tr>
<td>2020</td>
<td>1,631</td>
<td>3,943</td>
</tr>
<tr>
<td>2025</td>
<td>1,719</td>
<td>4,268</td>
</tr>
<tr>
<td>2030</td>
<td>1,854</td>
<td>4,610</td>
</tr>
<tr>
<td>2035</td>
<td>1,974</td>
<td>4,955</td>
</tr>
</tbody>
</table>

Annual Growth Rate
- China, Rusia, US: 7.8%
- Rest of the world: 8.6%

Source: World Energy Outlook 2012 for illustrative purposes only.
It is estimated that shale gas reserves are 5,768 billion cubic feet (BCF)*, where Mexico ranked fourth after China, the U.S. and Argentina.

Distribution of shale gas reserves in the world

Shale production growth in the US

Source: "Natural Gas Strategy for Mexico" by the Ministry of Energy of Mexico, November 2011. *Results from a study of 32 countries.
The development of non-conventional sources will increase its share beyond 50% of total production in countries like the United States, China, Canada, Australia, and India.

Unconventional gas production in leading countries
In the New Policies Scenario, 2035

Source: World Energy Outlook 2012 for illustrative purposes only.
Pemex Gas & Mexico Natural Gas Market
Mexico Industrial Ranking by Income, 2012

Total Income

<table>
<thead>
<tr>
<th>Company</th>
<th>Total Income (Millions of dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pemex</td>
<td>85,319.0</td>
</tr>
<tr>
<td>Pemex Refinery</td>
<td>40,764.5</td>
</tr>
<tr>
<td>América Móvil</td>
<td>30,209.2</td>
</tr>
<tr>
<td>Wal-Mart De México</td>
<td>20,699.0</td>
</tr>
<tr>
<td>Power Company</td>
<td>16,904.1</td>
</tr>
<tr>
<td>Cemex</td>
<td>15,138.7</td>
</tr>
<tr>
<td>Femsa</td>
<td>15,080.0</td>
</tr>
<tr>
<td>Pemex Gas y Petroquímica Básica</td>
<td>13,211.4</td>
</tr>
<tr>
<td>General Motors De México</td>
<td>11,485.8</td>
</tr>
<tr>
<td>Telcel</td>
<td>10,937.0</td>
</tr>
</tbody>
</table>

Pemex Gas is the eighth largest corporation in Mexico, ranked by income level.

Energy trade in 2012 topped $65 billion and accounted for 13% of the $494 billion in overall trade between the countries.

1. Refineries in the United States process significant amounts of imported Mexican heavy crude oil.
2. In the Mexican gas sector, local & foreign companies can participate on storage, transportation and distribution.
3. An integrated and growing network of northern cross-border natural gas pipelines.

Source: U.S. Energy Information Administration based on Mexico's online tariff information system (SIAVI).
Natural Gas Value Chain in Mexico

Supplies

Production
- Associated gas
- Non-associated gas
- Condensates
- Sweetening & Sulfur Recovery
- Liquids Recovery
- Fractionation

Trasportation

Storage

Distribution
- Marketing

Public Sector
- Private and Public Sector
- Private sector
Mexico's total supply of national natural gas is complemented with the imports of the power generation company (state owned) and by private corporations.

Source: Pemex Gas based on historic information.

*Preliminary data
Natural Gas Sales 2012
5,676 million cubic feet/day

Oil-Gas Industry consumption: E&P, Refinery, Petrochemical, and Gas sectors. (PEMEX)

Power Generation 40%
Industrial, Commerce, Residential 24%

Composition of Natural Gas Sales 2006-2012
percent of total delivery

<table>
<thead>
<tr>
<th>Year</th>
<th>Oil-Gas Industry consumption</th>
<th>Power Generation</th>
<th>Industrial, Commerce, Residential</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>35%</td>
<td>23%</td>
<td>42%</td>
</tr>
<tr>
<td>2007</td>
<td>35%</td>
<td>25%</td>
<td>40%</td>
</tr>
<tr>
<td>2008</td>
<td>34%</td>
<td>26%</td>
<td>41%</td>
</tr>
<tr>
<td>2009</td>
<td>36%</td>
<td>23%</td>
<td>41%</td>
</tr>
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<td>35%</td>
<td>25%</td>
<td>39%</td>
</tr>
<tr>
<td>2011</td>
<td>36%</td>
<td>24%</td>
<td>40%</td>
</tr>
<tr>
<td>2012</td>
<td>36%</td>
<td>24%</td>
<td>36%</td>
</tr>
</tbody>
</table>

(Million cubic feet)
5,116 5,331 5,369 5,367 5,509 5,571 5,676

Petróleos Mexicanos (PEMEX) is the main consumer of natural gas in México.

Power sector is the most dynamic; has raised its demand from 871 MMcfd in 2000 to over 2,000 MMcfd in 2012.

* It is relative to the sales from Pemex Gas. Do not include demand covered from other corporations.

Source: Pemex Gas based on historic information.
Prospective Natural Gas Supply by Type of Activity

(Million cubic feet /day)

Source: Pemex Gas based on information from “Prospective Natural Gas Market 2012 - 2026” by the Ministry of Energy of Mexico.
Prospective Natural Gas Demand in Mexico

(Million cubic feet/day)

Source: Pemex Gas based on information from “Prospective Natural Gas Market 2012 - 2026” by the Ministry of Energy of México.
Demand Covered by National Production

(% Percent)

Year: 2004 - 2018

Actual:
- 2004: 84.2%
- 2005: 89.8%
- 2006: 91.2%
- 2007: 92.8%
- 2008: 91.7%
- 2009: 92.2%
- 2010: 90.3%
- 2011: 85.9%
- 2012: 80.9%

Prospective:
- 2013: 69.5%
- 2014: 68.7%
- 2015: 69.0%
- 2016: 69.1%
- 2017: 71.2%
- 2018: 75.2%

Source: Pemex Gas based on information from "Prospective Natural Gas Market 2012 - 2026" by the Ministry of Energy of México.
The current administration is acting in short, medium and long term, taking advantage of the opportunity provided by the North American Energy Market evolution, driving the strategy of natural gas supply, which primarily includes the following activities:

**Short-term**
Increase LNG imports through the ports of Manzanillo and Altamira in 2013 until late 2014.

**Medium-term**
Increase transportation capacity by interconnections at the Mexican-USA border with the states of Tamaulipas and Chihuahua.

**Long term**
Development of major Pipelines.
JODI-Gas database
Open government

- Transparency
- Results
- Accountability
- Credibility and
- Knowledge-sharing

Federal Institute for Access to Public Information

Instituto Federal de Acceso a la Información Pública*
Transparency International in its 2008 Report on Revenue Transparency of Oil companies and gas producing branded Petróleos Mexicanos as the best state oil company in Latin America regarding disclosure of:

a) Payments to Government (duties)
b) Financial Operations
c) anti-corruption programs

Such reports allow PEMEX to compare their practices with other companies and improve the diffusion and access to information based on international best practices.
Mexico, Ministry of Energy and Pemex are fully committed with the agreements expressed in the G20 Finance and Central Bank Deputies Meeting celebrated on 4th & 5th November 2012 at Los Cabos, México about improving the progress on the JODI-Gas database.

Pemex Gas and Basic Petrochemicals is a major player in the natural gas market in México, however, there are other participants (i.e. the state owned power company and private companies), so it is the Ministry of Energy of Mexico that coordinates the information to be publish in the JODI-gas database.
• The world natural gas market will face significant changes:

  ❑ Countries that were importing a few years ago are expected that will become exporters.

  ❑ The composition of energy supply sources will continue to change by the consumption of safer and cleaner fuels.

• This new dynamic in the global gas market will foster the international gas trade.

• The management of useful, flexible and timely data is vital.

• JODI-Gas database will help to make projects less expensive and less time consuming resulting in a better allocation of resources for the world economy.
Gracias
Terima Kasih
Thank you