MEXICAN ENERGY REFORMS

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1. Brief history of the energy industry
2. Present situation
3. Scope of the reforms
After oil was discovered in Mexico, at the turn of the 20th century, Mexico became the second world largest producer, mainly through the participation of British and US companies.

In the 20’s, as a consequence of political unrest after the Mexican Revolution, both investment and production started to decline.

In the 30’s Mexico was the first country to impose royalties to oil production, but oil companies refused to pay them.

In 1938, after a long labor conflict, oil companies refused to abide to a supreme court ruling in favor of the unions. President Cardenas expropriated the oil companies and created Petroleos Mexicanos (PEMEX) as a state monopoly.

PEMEX maintained production contracts with US companies for several years, until they were definitely canceled in 1957 with a constitutional reform.
PEMEX has maintained since 1938 the monopoly for exploration and production of oil and gas, gas processing, oil refining and marketing and distribution of distillate products.

In the 70’s PEMEX became the largest offshore producer

PEMEX became a symbol of national pride and in the last 40 years has remained the major source of income for the Federal Government.

The paradigm worked well for Mexico for many years but it is no longer sustainable

In 1995 a constitutional amendment proposed by President Zedillo was approved by Congress opening transportation, storage, distribution and commercialization of natural gas to private participation.
During the first half of the 20th century several Canadian, European and US companies were established in the major cities of Mexico to participate in the expanding business of electric power generation and distribution.

In 1937 President Cardenas founded Comision Federal de Electricidad (CFE) to complement private investment in generation, transmission and distribution.

In 1960 President Lopez Mateos nationalized all Mexican power companies, and modified the constitution to establish power generation, transmission and distribution for the public service as a state monopoly.

Existing power companies operating at 50 cycles per second were grouped under CFE and those operating at 60 cycles per second, in Mexico City and surrounding states, were grouped under Luz y Fuerza del Centro (LFC), the old Mexican Light and Power Co.
In 1971 the national electrical system was unified to operate at 60 cycles per second.

In 1992 President Salinas modified the secondary legislation to allow private participation in power generation, in the following cases:

- Self supply, without limits to location or to the number of participants
- Independent power producers supplying energy to CFE
- Small production (<30MW) supplying energy to CFE
- Exports

In 2009 President Calderon dissolved LFC and transferred its operation to CFE.
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Along the last for decades PEMEX has concentrated its efforts mostly in oil production.

In the last decade 90% of PEMEX authorized budget was oriented to exploration and production, 8% to oil refining and the difference to gas processing and petrochemicals.

PEMEX subsidiary for exploration & production, PEP, is the largest company in Mexico and one of the most profitable companies in the world. Most of its profits are paid as taxes and royalties.

Fuente: Pemex
For more than 30 years PEMEX lived from the large oil reserves discovered in the 70's, without investing in the discovery of new reserves.

It is only in the last decade that the process has been reverted.

In 2012 PEMEX reached a restitution rate of reserves of 100%, but 1P reserves have fallen to only 10 years of production at the present rate.
## Present Situation – Upstream

<table>
<thead>
<tr>
<th>Oil Company</th>
<th>Country</th>
<th>Oil reserves (mmb)*</th>
<th>Type of company</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNPC</td>
<td>China</td>
<td>25,003</td>
<td>NOC</td>
</tr>
<tr>
<td>Exxon Mobil</td>
<td>United States</td>
<td>12,228</td>
<td>IOC</td>
</tr>
<tr>
<td>Petrobras</td>
<td>Brazil</td>
<td>10,804</td>
<td>NOC</td>
</tr>
<tr>
<td>BP</td>
<td>UK</td>
<td>10,585</td>
<td>IOC</td>
</tr>
<tr>
<td><strong>Pemex</strong></td>
<td>Mexico</td>
<td><strong>10,073</strong></td>
<td>NOC</td>
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<tr>
<td>Gazprom</td>
<td>Russia</td>
<td>9,742</td>
<td>NOC</td>
</tr>
<tr>
<td>Chevron</td>
<td>United States</td>
<td>6,455</td>
<td>IOC</td>
</tr>
<tr>
<td>Royal Dutch Shell</td>
<td>Holland/UK</td>
<td>6,048</td>
<td>IOC</td>
</tr>
<tr>
<td>Total</td>
<td>France</td>
<td>5,784</td>
<td>IOC</td>
</tr>
<tr>
<td>Statoil</td>
<td>Norway</td>
<td>2,389</td>
<td>NOC</td>
</tr>
<tr>
<td>Ecopetrol</td>
<td>Colombia</td>
<td>1,371</td>
<td>NOC</td>
</tr>
</tbody>
</table>

* Proven reserves as of 01/01/2012

<table>
<thead>
<tr>
<th>Oil Company</th>
<th>Country</th>
<th>Gas reserves (mmmpc)*</th>
<th>Type of company</th>
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</thead>
<tbody>
<tr>
<td>Gazprom</td>
<td>Russia</td>
<td>678,493</td>
<td>NOC</td>
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<tr>
<td>CNPC</td>
<td>China</td>
<td>110,996</td>
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<tr>
<td>Exxon Mobil</td>
<td>United States</td>
<td>76,222</td>
<td>IOC</td>
</tr>
<tr>
<td>Royal Dutch Shell</td>
<td>Holland/UK</td>
<td>47,662</td>
<td>IOC</td>
</tr>
<tr>
<td>BP</td>
<td>UK</td>
<td>41,659</td>
<td>IOC</td>
</tr>
<tr>
<td>Total</td>
<td>France</td>
<td>30,717</td>
<td>IOC</td>
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<tr>
<td>Chevron</td>
<td>United States</td>
<td>28,683</td>
<td>IOC</td>
</tr>
<tr>
<td><strong>Pemex</strong></td>
<td>Mexico</td>
<td><strong>17,075</strong></td>
<td>NOC</td>
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<tr>
<td>Statoil</td>
<td>Norway</td>
<td>17,027</td>
<td>NOC</td>
</tr>
<tr>
<td>Petrobras</td>
<td>Brazil</td>
<td>12,412</td>
<td>NOC</td>
</tr>
<tr>
<td>Ecopetrol</td>
<td>Colombia</td>
<td>2,768</td>
<td>NOC</td>
</tr>
</tbody>
</table>
In the last three years, after a sharp declination of the supergiant Cantarell field, oil production has been stabilized around 2.5 MMBD.

Oil exports are down to 1.2 MMBD from a maximum of 2.0 MMBPD.

Natural gas production reached a maximum of 7.1 BCFD in 2010, and it is now down to 6.4 BCFD.

Demand has been growing at a rate of 5% per year and imports have reached 2.4 BCFD.
The last two refineries were built in the 70’s and only three of the six refineries have been modernized.

As a consequence of that, liquid fuel production has not been sufficient to satisfy the Mexican market.

We are importing more has 50% of the gasoline and more than 33% of the diesel.

Refining operation is not profitable.

PEMEX looses more then one billion dollars per year.

Fuente: Prospectiva de Petrolíferos 2012 SENER
Nota, Importaciones incluyen MTBE
The expansion of the electric grid has had a huge impact in the development of the country. More than 98% of the population is now connected to the electric grid. Mexico has 67,000 MW of installed capacity

- CFE 61%
- IPP’s 19%
- Self-supply 20%

Most domestic and agricultural tariffs are subsidized. The rest of the tariffs are higher than in the U.S. Non technical loses (theft) is very high in some urban areas. CFE is loosing money at a rate of 3 billion dollars per year.
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The Mexican State maintains the ownership of all hydrocarbons resources under Mexican soil.

The Mexican State maintains the exclusive right for exploration, development and production of oil and gas, but opens the possibility of doing so either through assignments granted directly to PEMEX or through contracts assigned through open bids to private companies, operating alone or in association with PEMEX.

Assignments will be granted by the Minister of Energy (SENER) whereas contracts will be signed by the Hydrocarbon National Commission (CNH).

All contract bids will be open, transparent, audited and the information will be available for public consultation.
There will be at least four possible types of contracts:
- Service contracts
- Profit sharing contracts
- Production sharing contracts
- Licenses subject to royalty payments

Both Pemex and private companies may report their expected benefits from assignments and contracts for financial and accounting purposes.

In a “round zero” PEMEX will be able to request SENER the areas of exploration and production fields that it wants to retain.

SENER’s decision will be based on PEMEX’s technical, financial and execution capabilities.
Private companies will be able to participate in gas processing and in petroleum refining

Participants will require a permit from the Minister of Energy

Transportation, storage, commercialization and final sale to the public of oil and refined products will also be open to private participation

Participants will require a permit from the Energy Regulatory Commission (CRE)

CRE will establish under what conditions open access to storage and transportation infrastructure is required

CRE will establish the terms and conditions for the sale of oil, natural gas and distillate products until effective competition is established.
SCOPE OF REFORM – OIL AND GAS - DOWNSTREAM

- Private companies will be able to participate in gas processing and in petroleum refining.
- Participants will require a permit from the Minister of Energy.
- Storage, transport, distribution, commercialization and final sale of oil and refined products will also be open to private participation.
- Participants will require a permit from the Energy Regulatory Commission (CRE).
- CRE will regulate open access to storage and transport infrastructure and will establish the terms and conditions for the sale of oil, natural gas and distillate products until effective competition is established.
- Within twelve months a new public entity called Natural Gas Control Center (CENAGAS) will be established.
- It will be responsible of the operation of the interconnected natural gas pipeline and storage system.
- PEMEX will transfer to CENAGAS all its natural gas transportation assets as well as all its contracts, including the contracts for capacity on all interconnected pipelines, both in Mexico and in the US.
Transmission and distribution will be maintained as state monopolies, but the Ministry of Energy will be able to celebrate contracts with private companies to expand, maintain and/or operate some of the systems.

Generation is now fully open to private investors and all generating companies, public or private, will have open access to the national transmission system and will be able to participate in the new electric market on equal terms.

The Ministry of Energy will establish the conditions that CFE must comply for the full legal separation of generation, transmission and distribution divisions.

A new public entity will be created (CENACE) to dispatch the generating units in terms of economic merit, control the transmission system, and operate the electric market.

Obligations to all participants in the electric market in terms of clean energies and reduction of GHG emissions will be establish in the new legislation.

New legislation will promote the use of clean energy sources for electric power generation and will regulate access to geothermal energy sources.
**Scope of Reform – Public Companies and Regulating Bodies**

- **PEMEX** and **CFE** will have a new character as Productive Public Enterprises.
  - They will have greater autonomy and will be taken out of the federal budget,
  - They will be able to associate with other enterprises, both in Mexico and abroad.

- The National Hydrocarbons Commission (CNH) and the Energy Regulatory Commission (CRE) will be strengthened.
  - Their technical and managerial autonomy will now have constitutional level,
  - They will have budgetary self-sufficiency,
  - Commissioners will be appointed by the Senate

- **CNH** will perform public biddings and will sign oil and natural gas exploration and production contracts.

- **CRE** will now regulate storage, transport and distribution of oil, gas and distillate products as well as terms of first hand sales. It will determine wheeling tariffs for transmission and distribution grids and approve the rules under which CENAGAS and CENACE will operate.
The role of the Ministry of Energy will be strengthened, so it can:

- define Mexico’s energy policy,
- grant or cancel assignments to PEMEX,
- select the areas that should be subject to exploration or production contracts,
- define the type of contract that is most suitable for each specific case,
- instruct CNH to conduct open bids for exploration and production
- grant permits for gas processing and petroleum refining activities,
- plan the expansion of the power sector,
- determine the legal separation that CFE must undertake for its generation, transmission and distribution activities,
- monitor the efficient operation of the electric market, and
- determine minimum requirements for clean energies and for reduction of GHG emissions in power generation.
The Mexican Oil Fund for Stabilization and Development will be created to manage oil and gas revenue.

The Fund will be used to secure Mexico’s financial stability, and to assign resources for long-term savings, a universal pension fund system and needed infrastructure for national development.

The Fund will be a public trust managed by Mexico’s Central Bank.

The reform will introduce new mechanisms for transparency and accountability.

Legislation will establish procedures to determine minimum levels of national integration in procurements, assignments and contracts granted to public and private companies.

Private investors will be required to develop local suppliers.
NEXT STEPS

- **2014**
  - PEMEX proposal Round Zero
  - Secondary Legislation

- **Ago**
  - Upstream regulation
  - Natural gas regulation

- **Sept**
  - Round Zero resolution

- **Dic**
  - Start-up of CENAGAS & CENACE

- **2015**
  - Electric market start-up

- **June**
  - First upstream licitation
  - CFE & PEMEX operating as Productive Enterprises
THANK YOU

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