PEMEX’s Business Plan 2017-2021
Motivation

The Business Plan hereby presented is somewhat unique for various reasons:

- On one hand, profitability is its guiding principle.
- On the other, PEMEX is a Productive State Enterprise (NOC) (regulated prices, supply guarantee, the State’s largest tax contributor, its deficit consolidates with the public sector, monopoly with asymmetric regulation, special fiscal regime, limited labor flexibility, among others).
- This plan is already being implemented, significant and tangible progress has been achieved.

The Business Plan intends to:

1. Inform society of PEMEX’s role in the Energy Reform.
2. Brief investors on PEMEX’s current financial situation and outlook.
3. Show potential partners areas of opportunity to invest in PEMEX.
4. Inform PEMEX’s workers of its vision and the path it will follow in the years to come.
Positioning for the Future: Challenge and Opportunity

The Short-term Challenge: Adjust cost structure and business strategy to a low oil price scenario
- Budget adjustment
- Austerity measures
- Fiscal discipline
- Budget control

The Historic Opportunity: Use all instruments and flexibility available from the Energy Reform
- Focus on strategic activities
- Alliances and joint ventures
- Operational efficiency and effectiveness
PEMEX at a Glance

Present along the entire value chain

- Pemex Exploration and Production
- Pemex Drilling and Services
- Pemex Industrial Transformation
- Pemex Logistics
- Pemex Ethylene
- Pemex Fertilizers
- Pemex International

Sales equivalent to Uruguay’s GDP

98°

Company FORTUNE 500

More than 70 Products Sold

- Oil producer
- Drilling company
- Refining company in the world
- Logistics company in the world by assets
- Producer of petrochemicals in Latin America
- Producer of phosphates in Latin America
- Trading company in the world
Agenda

- Financial Situation and Outlook
- Pemex Exploration and Production
- Pemex Industrial Transformation
- Pemex Logistics
- Pemex Ethylene
- Pemex Fertilizers
- Pemex Trading
- Safety and Sustainability
- Final Considerations
Increased access to financial markets and active liability management

Strengthening of the financial balance\(^1\)

Budget Adjustment

In 2017 PEMEX will achieve a primary surplus

Today PEMEX has stable finances

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1/ The financial balance considers the result from subtracting total expenses (including financing costs) from total revenues.
Like all other oil companies in the world, PEMEX reacted to the low oil price environment with a budget adjustment.

**Budget adjustment** of 100 billion pesos, approximately 20% of company's budget.


1/ For PEMEX it includes cuts in investment in the entire company, not only in Pemex Exploration and Production.
Financial Outlook: Budget Adjustment (2/3)

PEMEX will meet its 100 billion pesos Budget Adjustment and its financial targets.

Adjust portfolio to profitable investments: 6 billion pesos

- Halted production in wells where extraction cost was higher than 25 dollars per barrel.

Reassess investments without compromising future production using the tools and flexibility provided by the Energy Reform: 65 billion pesos

- Deep-water investment was cut by 13 billion pesos in 2016. That project is Trion which will be auctioned in December.
- Farm outs of Ayin-Batsil in shallow waters and Cárdenas-Mora and Ogarrio onshore fields will be tendered in April 2017, in Rounds 2.1 and 2.2, respectively.
- In Industrial Transformation, investments for the reconfiguration of refineries were reassessed to be carried out through joint ventures. For example, Tula's coker is being reconsidered through a tolling service contract in 2017.
Generate Efficiencies and Cost Reduction: 29 billion pesos

- The 28.9 billion pesos goal was exceeded. To date, the projection of savings for the end of the year is **35 billion pesos**.
Financial Outlook: Strengthening of the Financial Balance (1/2)

Federal Government Support Measures

- **Cash Flow Injection**
  MXN 73.5\(^1\) billion to reduce accounts payable to suppliers
  - As of October 2016, 142 of the 147 billion pesos have been paid, the rest have been scheduled for payment.
  - The projected accounts payable to suppliers for the end of the year is in accordance with the company’s size.

- **Fiscal Benefit**
  MXN 38.5\(^2\) billion to reduce financial deficit.
  - Reduces funding needs

- **Pension Liability Support**
  MXN 184\(^3\) billion
  - Complements one to one the savings in the pension liability reached by PEMEX.

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1/ 73.5 billion pesos comprised of 26.5 billion pesos of cash flow injection and 47 billion pesos budget liberalization for pension liabilities for 2016.
2/ Cost cap set at USD 6.1/b for shallow waters and at USD 8.3/b for onshore fields, to similar levels set on the previous fiscal regime and compared to current cost cap of 11.075% of the value of the hydrocarbons extracted. Considers 25 USD/b for the Mexican Crude Oil Basket.
3/ 184 billion pesos comprised of 137.2 billion pesos of non-tradable notes and 47 billion pesos for pension liabilities for 2016.
**Financial Outlook: Strengthening of the Financial Balance (2/2)**

- PEMEX’s pension reform **stopped the increase of pension liabilities.**
  - Starting in January 2016, new workers are incorporated into a financially sustainable individual accounts system.

- The change in the pension regime consisted of:
  - A 5-year increase in the retirement age and seniority immediately for all white collar employees and for unionized workers with less than 15 years of service.

### Reduction of the un-funded Pension Liability

- Before the Reform: **1,488**
- Savings of the Reform and changes in discount rate and population: **209**
- After the Reform: **1,279**
- Treasury Contribution: **184**
- Un-funded Liability: **1,095**

### Annual Expenditures in Pensions

- Annual expenditure with Reform: **92,475** (year 2038)
- Annual expenditure without Reform: **75,354** (year 2038)

In 2038 a maximum saving in annual expenditure is reached for 17 billion pesos.

*Includes a 25 billion pesos reduction, additional to the 184 billion pesos of the savings from the Reform, due to changes in the discount rate and population base for the actuarial computation in 2015 after the Reform.*
Financial Outlook: Access to financial markets and active liability management

- The markets have responded positively.
- Decrease in the spread between PEMEX’s and Mexico’s sovereign bond by 148 basis points.

**PEMEX’s Bonds 5y in Dollars**

- **Historical maximum** -148bp
- **Basis points**
- **Yield to maturity (%)**
- **Source: Bloomberg**
## Financial Outlook: Access to financial markets and active liability management

### Most Important Emissions

<table>
<thead>
<tr>
<th>Month</th>
<th>USD Amount</th>
<th>Rate</th>
<th>Oversubscribed by</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>February</td>
<td>USD 5 Billion</td>
<td>6.5%</td>
<td>by 3.5 times</td>
<td>Ukrain with 50% - 60% of national emissions</td>
</tr>
<tr>
<td>March</td>
<td>USD 2.5 Billion</td>
<td>4.3%</td>
<td>by 2.7 times</td>
<td>Early stage of the EUR market's development</td>
</tr>
<tr>
<td>June</td>
<td>USD 380 Million</td>
<td>1.8%</td>
<td>by 1.0 times</td>
<td>Switzerland's success in the market</td>
</tr>
<tr>
<td>July</td>
<td>USD 760 Million</td>
<td>0.5%</td>
<td></td>
<td>Minimum nominal rate reached in any currency</td>
</tr>
<tr>
<td>October</td>
<td>USD 5.6 Billion</td>
<td>5.6%</td>
<td></td>
<td>First operation of this kind since 2007</td>
</tr>
</tbody>
</table>
Financial Outlook: Access to financial markets and active liability management

- During 2016, the average term of the debt portfolio increased by 1 year.
- PEMEX’s consolidated cash position was improved.
Financial Outlook: Scenarios with Realistic Premises and Conservative Assumptions

- The financial scenario for 2017 marks an inflection point in the trend:
  - Primary Surplus (first time since 2012) 8.4 billion pesos
  - Attainable Production Platform 1.944 million barrels per day
  - Conservative Price Projection 42 dollars per barrel

- Going forward we will focus on:
  - Accelerating the implementation of the Energy Reform
  - Profitability approach
  - Improvements in costs and efficiency

Short-Term

Medium-Term
Financial Outlook: Scenarios with Realistic Premises and Conservative Assumptions

**Realistic Premises**

Projected oil prices in line with Brent futures and adjusted for the Mexican Mix.

Increasing interest rates in accordance with the averages for the market’s futures.

Exchange rates used in the SHCP’s 2017 Economic Package.

**Conservative Assumptions**

Additional earnings from divestments are not taken into consideration.

Considers the same cost structure achieved in 2016. Going forward, increases in productivity are documented individually.

Liberalization of resources due to investments through partnerships will be destined to improve the company’s financial flows.

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**Price of Oil**

*(USD per Barrel)*

- **BRENT Futures**
  - 2017: 42
  - 2018: 48
  - 2019: 54
  - 2020: 55
  - 2021: 56

- **PEMEX**
  - 2017: 55
  - 2018: 56
  - 2019: 59
  - 2020: 60
  - 2021: 71

- **PETROBRAS**
  - 2017: 56
  - 2018: 57
  - 2019: 61
  - 2020: 71
  - 2021: 71

**Pemex Funding Costs**

*(Percentage)*

- **2017**: 5.2%
- **2018**: 5.4%
- **2019**: 5.5%
- **2020**: 5.6%
- **2021**: 5.6%

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*Source: Bloomberg (October), Company’s website and Pemex.*
• Pemex Exploration and Production:
  • Concentrates on assignments that are profitable after taxes.

• Pemex Industrial Transformation:
  • Partnerships in the operation of auxiliary activities and partnerships to configure refineries.
  • Operational and budgetary discipline and reliability.
  • Cost efficiency and gradual recognition of the opportunity costs in transportation prices

Financial Balance
(Billion pesos)

Consolidated Debt
(Billion pesos)
- Pemex Exploration and Production
- Aggressive farm out program: taking advantage of the opportunities provided by the Energy Reform.
- PEMEX develops fields that are profitable for the country and which, under the same fiscal conditions as private contracts, are profitable for PEMEX after taxes.
- The incremental income due to increased farm out production is shared between PEMEX and the Federal Government. The Federal Government increases its earnings in real terms compared to 2017 and PEMEX improves its cash flow.
Agenda

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Pemex Exploration and Production: Context

- Round 0 gave PEMEX 22.2 billion barrels of 3P reserves in 2016.
  - The Ministry of Energy successfully auctioned 528 million barrels in rounds 1.2 and 1.3.
  - The Trion field, currently undergoing the farm out process, has 500 million barrels of 3P reserves.
  - The fields that PEMEX will auction in rounds 2.1 and 2.2 have 444 million barrels.
- PEMEX went from being the 3rd biggest oil producer in the world in 2004 to the 8th in 2015.

<table>
<thead>
<tr>
<th>World ranking by oil production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil production in 2015</td>
</tr>
<tr>
<td>(Millions of barrels of oil per day)</td>
</tr>
<tr>
<td>Saudi Arabia</td>
</tr>
<tr>
<td>Shell</td>
</tr>
<tr>
<td>Rosneft</td>
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<tr>
<td>CNPC</td>
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<tr>
<td>KNPC</td>
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<tr>
<td>ONGC</td>
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<tr>
<td>PEMEX</td>
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<tr>
<td>ADNOC</td>
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<tr>
<td>Petrobras</td>
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</tbody>
</table>

1/ In 2015, PEMEX’s total hydrocarbons production totaled 3.3 million barrels of oil equivalent per day.
The Challenge is to replace Cantarell’s drop in production, stabilize production and eventually increase the platform in a profitable, safe and sustainable manner.

The opportunity is that with the Energy Reform, production and investments can be achieved through partnerships (farm outs).

PEMEX Oil Production
(Million barrels of oil per day)

PEP investment Evolution
(Billions of pesos (current))
**Pemex Exploration and Production: Strategy**

1. **Business Plan Scenario**
   - Focus on entitlements that are profitable for PEMEX.

2. **Farm-outs**
   - Aggressive farm out program that increases production by 15%.
   - PEMEX develops fields that are profitable for the country and which, under the same fiscal conditions as private contracts, are profitable for PEMEX after taxes.

3. **Improved Scenario**
   - The incremental income due to increased farm-out production is shared between PEMEX and the Federal Government. The Federal Government increases its earnings in real terms compared to 2017 and PEMEX improves its cash flow.

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**PEP’s Flows with PEMEX’s Total Debt**

- **Billions of Pesos**
- **2017** to **2021**

**Note:** PEP’S flows include all of PEMEX’s debt.

1/ Improved Scenario is constructed by adding Scenario 1 and Scenario 2.
The Business Plan scenario’s reserve incorporation goal is 1,100 million barrels of oil equivalent at 3P level from 2017 to 2021.

In case of additional resources, a **sustainable increase of 1,500 million barrels** is considered.

Reserves incorporation for 2017 in the incremental scenario considers bringing into operation 6 available exploration equipments.
As part of the Energy Reform, Pemex Drilling and Services Company was separated from Pemex Exploration and Production, a common practice in the international context.

**The challenge** is to transition from being a drilling and service company that solely worked for Pemex Exploration and Production to a company that is capable of competing in the market for other companies contracts.

**The opportunity** is that Pemex Drilling and Services has all the necessary tools required to succeed: assets and personnel with knowledge of Mexican fields.

- **It is the 8th onshore driller** in the world by its assets, with 25 thousand wells drilled and 75 years of experience in Mexico.
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Pemex Industrial Transformation: Context

- Six refineries in Mexico with a refining capacity of 1,640 thousand barrels per day and one in the United States in a joint venture with Shell.
- Nine gas processing centers.
- 15th refining company worldwide \(^1\).

Pemex Industrial Transformation: Context

- Pemex Industrial Transformation’s market is attractive:
  - Mexico is the 6th largest market in gasoline consumption, the 9th in natural gas and the 3rd in LPG.
  - **Good growth perspectives (2.5% yearly)**, that contrasts with mature markets where stagnation is expected.
  - With the **Energy Reform** prices will be gradually liberated and the private sector is now allowed to participate in the entire gas and oil product chain.

### Internal Sales 2015
(Billion dollars)

<table>
<thead>
<tr>
<th>Year</th>
<th>Gasolines</th>
<th>Natural Gas</th>
<th>Others 1/</th>
<th>Diesel</th>
<th>LPG</th>
<th>Gas L.P.</th>
<th>Turbosine</th>
<th>Fuel Oil</th>
<th>Aromatics and others</th>
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<td>2006</td>
<td>47.2</td>
<td>59.5</td>
<td>42.7</td>
<td>51.1</td>
<td>51.8</td>
<td>60.4</td>
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<td>2007</td>
<td>51.1</td>
<td>59.5</td>
<td>42.7</td>
<td>51.1</td>
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<td>60.4</td>
<td>63.3</td>
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<td>2008</td>
<td>51.8</td>
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<td>2009</td>
<td>60.4</td>
<td>59.5</td>
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<td>2010</td>
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<td>42.7</td>
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<td>2011</td>
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<td>2012</td>
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<td>2013</td>
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<td>51.1</td>
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</tbody>
</table>

1/ others: other gasolines, kerosene, fats, lubricants, among others.
2/ Aromatics and others: methanol, aromatics.

**Changes due to the Energy Reform**

- Energy Reform gets approved
- November: Implementation of Pemex’s EPS
- New competitors are incorporated
- January: L.P. Gas price becomes liberalised
- April: Gasoline and diesel prices begin price liberalisation
- Liberalised imports: January 16: L.P. Gas
- Commercialising for all brands in gas stations
• **The challenge** is to reverse the economic and operational losses of close to 100 billion pesos.
Impact of the Strategic Initiatives on the Financial Balance until 2025
(Billion pesos in cash flow)

Financial Balance 2025
(Equivalent to -96.3 in 2017)

-108.9

Partnerships

41.9

Safe and reliable operations

49.2

Transportation costs recognition and efficiency

36.2

Stolen Product

11

Result

29.4

- Auxiliary activities (hydrogen, water, etc.)
- Reconfiguring and operating refineries
- Timely attention to risk factors
- Revert the maintenance lag
- Dynamic prices
- Cost efficiency and recognition of import and transportation costs
- Pipeline custody
- Terminals
- Illicit markets
• The supply of hydrogen, vapor and electricity are critical aspects for operation reliability in refineries.

• PEMEX demands **8.8 thousand tons of vapor per hour**. If all of this vapor came from cogeneration, that would imply a generation capacity of 5 Gigawatts of electricity, close to 7% of the national capacity.

• **The challenge** is to design cogeneration projects in a way that maximizes value to PEMEX.

• **The opportunity** is that given the Energy Reform, these efficient co-generation plants can be created through partnerships with companies specialized in cogeneration.
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Pemex Logistics: Context

- Pemex Logistics was created by separating primary treatment, transport and storage of hydrocarbons and oil products from Pemex Exploration and Production and from Pemex Industrial Processing.
- According to the size of its assets and sales, **Pemex Logistics is the 5th largest Logistics company in the world**.
  - It has 17 thousand kilometers of pipelines, 89 storage facilities, 10 ports, 16 marine vessels, 520 rail cars and 1,485 trucks.

### Sales and EBITDA Benchmark

<table>
<thead>
<tr>
<th>Sales (millions of pesos)</th>
<th>EBITDA (millions of pesos)</th>
</tr>
</thead>
<tbody>
<tr>
<td>601,306</td>
<td>167,814</td>
</tr>
<tr>
<td>375,293</td>
<td>120,028</td>
</tr>
<tr>
<td>300,070</td>
<td>92,463</td>
</tr>
<tr>
<td>170,570</td>
<td>48,153</td>
</tr>
</tbody>
</table>

### Pemex Logistics’ infrastructure

- Terminals
- Treatment systems and primary logistics
- Pipelines
- Storage
Pemex Logistics: Challenge and opportunity

- **The challenge Pemex Logistics faces** is to become a competitive logistics company, and transform itself from being:
  
  - A company designed to serve a unique client (Pemex Exploration and Production or Pemex Industrial Transformation), without redundancies in its infrastructure and without facing competition.
  - Guaranteeing supply, without taking into account costs.
  - A service provider to only one company, without market orientation.

- **The opportunity** is to take full advantage of its infrastructure, knowledge, experience and possibility to associate with other companies in an open market with promising growth potential.

  - A logistics company with multiple clients.
  - A company that provides services in a profitable and competitive manner.
  - Regulated by the Energy Regulator Commission with maximum fees.
Pemex Logistics: Strategy

Financial Balance Projection (billions of pesos)

<table>
<thead>
<tr>
<th>Business Plan scenario</th>
<th>Financial Balance Projection</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>60</td>
</tr>
<tr>
<td>2018</td>
<td>65</td>
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<tr>
<td>2019</td>
<td>70</td>
</tr>
<tr>
<td>2020</td>
<td>75</td>
</tr>
<tr>
<td>2021</td>
<td>80</td>
</tr>
</tbody>
</table>

Element

<table>
<thead>
<tr>
<th>Impact</th>
<th>Initiative</th>
</tr>
</thead>
</table>
| 2.8    | • Cost reduction  
         | • Port efficiency  
         | • Operation reliability improvement in primary logistics |
| 3.9    | • Open season²/  
         | • 13 strategic storage nodes  
         | • 3 strategic transport projects through pipelines |
| 6.0    | • Consolidation in main business lines, avoiding losses in local distribution, tank cars, tank trucks and marine vessels |

Total: 12.7

2/ Pemex will free pipeline capacity and auction it in the market.
Agenda

• Financial Situation and Outlook

• Pemex Exploration and Production

• Pemex Industrial Transformation

• Pemex Logistics

• **Pemex Ethylene**

• Pemex Fertilizers

• Pemex Trading

• Safety and Sustainability

• Final Considerations
Pemex Ethylene: Context

- Pemex Ethylene is the second largest petrochemical firm in the country. It has two petrochemical complexes, Cangrejera and Morelos.

- It’s the only ethylene oxide producer in Mexico, it has a 32% share in the national polyethylene market and a 36% share in the monoethyleneglycol (MEG) market.

### Raw Material

- Ethane
- Natural Gas
- Propylene

### Workplace

- Cangrejera
- Morelos

### Facility

- **Cangrejera**
  - Ethylene
  - Low density polyethylene
  - Ethylene oxide
  - Auxiliary services (water, steam, electricity)

- **Morelos**
  - Ethylene
  - High density polyethylene (Asahi y Mitsui)
  - Linear low density polyethylene
  - Ethylene oxide
  - Glycol
  - Acrylonitrile
  - Auxiliary services (water, steam, electricity)

- **Refrigerated Ethylene Terminal**
  - Storage
  - Liquefaction and vaporization
  - Pumping for exportation

- **44% PMV**
  - Chlorine – Sosa
  - Ethylene
  - Vinyl chloride

- **Assistance Laboratory**
  - Mexican Petroleum Institute / Pemex Ethylene

### Main uses

- Bags and packaging
- Polyester
- Antifreeze
- Piping
- Ethoxylate
- Storage
- Ethylene handling
- Piping
- Industrial use
- Technical assistance to clients
Pemex Ethylene: Challenge and Opportunity

- **The challenge** is to increase operative reliability and ensure the provision of raw materials.
- **The opportunity** is that Pemex Ethylene can become a profitable company with attractive margins with a reliable provision of raw materials.
  - The value chain for ethylene increases the raw material’s value (ethane) between 12 and 20 times.

### Raw Material
- Take full advantage of ethane through storage.

### Administrative Actions
- Increase labor productivity and close non-profitable businesses.

### Associations in Secondary Services
- Carry out associations in the provision of nitrogen and oxygen, water treatment and electricity and steam through cogeneration.

---

**Initiatives’ annual cash flow**

- **1.1 Optimum ethane**
- **.97 Services outsourcing**
- **1.4 Administrative and commercial management**
- **1.3 Raw materials**

---

![Graph showing annual cash flow from 2017 to 2021](image-url)
Agenda

• Financial Situation and Outlook
• Pemex Exploration and Production
• Pemex Industrial Transformation
• Pemex Logistics
• Pemex Ethylene

• Pemex Fertilizers
• Pemex Trading
• Safety and Sustainability
• Final Considerations
The fertilizer industry was privatized in 1991 in a fragmented manner. The ammonia production plants, which are an essential input, remained in Pemex. As a consequence, the cost of raw material surged, competitiveness eroded and fertilizer production fell.

In 2014 and 2015 Pemex acquired Agro Nitrogenados and Fertinal.

The challenge is to restructure these companies to maximize their value.

The opportunity is that PEMEX is able to integrate ammonia to the value chain and guarantee the supply of gas increasing the value of the integrated business.
Agenda

• Financial Situation and Outlook
• Pemex Exploration and Production
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• Pemex Fertilizers

• Pemex Trading

• Safety and Sustainability
• Final Considerations
Pemex International (PMI): Challenge and opportunity

- In terms of traded volume **PMI is the 7th largest trader in the world**, with 2.2 million barrels traded per day.
- **The challenge** is to transform itself from an exclusive trader for PEMEX into a global and competitive trader.
- **The opportunity** is that it will now be able to provide trading services for third parties both in Mexico and internationally, with PEMEX as its main client.

### Trading Houses Ranking

*By traded volume of oil and oil products, 2015*

<table>
<thead>
<tr>
<th>Company</th>
<th>Traded Volume (Mbpd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitol Group</td>
<td>6.6</td>
</tr>
<tr>
<td>Lukoil Oil Company</td>
<td>4.5</td>
</tr>
<tr>
<td>Noble Group</td>
<td>3.3</td>
</tr>
<tr>
<td>Trafigura Group PTE. LTD.</td>
<td>3.2</td>
</tr>
<tr>
<td>Glencore International</td>
<td>2.8</td>
</tr>
<tr>
<td>Gunvor Group</td>
<td>2.5</td>
</tr>
<tr>
<td>PMI Trading Limited (incluye crudo PMI CIM)</td>
<td>2.2</td>
</tr>
<tr>
<td>Mercuria Energy Group</td>
<td>2.0</td>
</tr>
<tr>
<td>Cargill</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Note: Integrated Oil Companies are excluded, since it’s not possible to separate downstream commercial activity and trading activity. Source: companies’ web pages.
Agenda

- Financial Situation and Outlook
- Pemex Exploration and Production
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- Pemex Logistics
- Pemex Ethylene
- Pemex Fertilizers
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- Final Considerations
PEMEX has an absolute commitment to its workers’ safety

* Reference indicator utilized internationally to account for the number of disabling injuries in a certain period, for every million man-hours exposed to risk.

** Estimate to the end of 2016.

*** The international reference is obtained from the mean index of companies who are part of the International Oil and Gas Producers (IOGP).
Environmental protection and sustainable development are a priority for PEMEX

**Action lines 2016-2021**

- Cogeneration in diverse process centers.
- Reduction of gas burning in assets in shallow water, by rehabilitating compression modules.
- Energy consumption optimization in Refineries.

- Integral water management in refineries.
- Increase in water reuse of over 60% for 2021.

- Integration of the Ecological Corridor “JATUSA” (2,500 hectares): parks Jaguaroundi and Tuzandépetl and the swamp of Santa Alejandrina.
- Strengthening of programmes for restoration, management and conservation of ecosystems in the swamps of Centla and sensible areas in Tabasco.
Agenda

- Financial Situation and Outlook
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- Pemex Ethylene
- Pemex Fertilizers
- Pemex Trading
- Safety and Sustainability
- Final Considerations
Final Considerations

- PEMEX has tackled the short run challenges with determination and today has stable finances.
  - Budget adjustment (costs reductions and outlook of investments)
  - Strengthening of financial balance (Federal Government transfers and pensions reform)
  - Increased access to financial markets and active debt management
  - Primary surplus in 2017.

- PEMEX has begun to harness the historic opportunity that the Energy Reform provides:
  - The first farm-outs are already in process, both in deep and shallow waters, as well as in onshore fields.
  - There is a plan to accelerate this process in the future.
  - Gasoductos de Chihuahua was successfully divested.*

- With all these actions, using realist scenarios and conservative assumptions, PEMEX will return to financial equilibrium by 2019/2021 and stabilize its debt.

* (1.1 billion dollars)
## Annex. Business Opportunities: Exploration & Production

<table>
<thead>
<tr>
<th>Projects</th>
<th>Year</th>
<th>Scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trion</td>
<td>2017</td>
<td>Farmout</td>
</tr>
<tr>
<td>Ogarrio</td>
<td>2017</td>
<td>Farmout</td>
</tr>
<tr>
<td>Cárdenas-Mora</td>
<td>2017</td>
<td>Farmout</td>
</tr>
<tr>
<td>Ayín-Batsil</td>
<td>2017</td>
<td>Farmout</td>
</tr>
<tr>
<td>Ayatsil-Tekel-Utsil</td>
<td>2017</td>
<td>Farmout</td>
</tr>
<tr>
<td>Chicontepec</td>
<td>2017</td>
<td>Farmout</td>
</tr>
<tr>
<td>7 onshore assignments (North &amp; South regions)</td>
<td>2017</td>
<td>Farmout</td>
</tr>
<tr>
<td>6 shallow water assignments (North region)</td>
<td>2018</td>
<td>Farmout</td>
</tr>
<tr>
<td>64 onshore assignments (North &amp; South regions)</td>
<td>2018</td>
<td>Farmout</td>
</tr>
<tr>
<td>86 non-associated gas assignments (Burgos &amp; Veracruz)</td>
<td>2018</td>
<td>Farmout</td>
</tr>
<tr>
<td>Integrated Exploration and Production Contracts</td>
<td>2017</td>
<td>Incentivized service contract</td>
</tr>
<tr>
<td>Misión &amp; Altamira pipelines</td>
<td>2017</td>
<td>Dilution</td>
</tr>
<tr>
<td>Atasta corridor and Dos Bocas maritime terminal</td>
<td>2017</td>
<td>Dilution</td>
</tr>
<tr>
<td>Litoral de Tabasaco Processing Center</td>
<td>2017</td>
<td>Dilution</td>
</tr>
<tr>
<td>Treatment of sour wet gas with high nitrogen content</td>
<td>2017</td>
<td>Service contract</td>
</tr>
<tr>
<td>Offshore compression</td>
<td>2017</td>
<td>Service contract</td>
</tr>
<tr>
<td>Offshore and onshore oil dehydration</td>
<td>2017</td>
<td>Service contract</td>
</tr>
<tr>
<td>Offshore and onshore water treatment</td>
<td>2017</td>
<td>Service contract</td>
</tr>
</tbody>
</table>
### Annex. Business Opportunities: Drilling & Services

<table>
<thead>
<tr>
<th>Projects</th>
<th>Year</th>
<th>Scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Co-investment to acquire marine drilling equipment (jack ups)</td>
<td>2019-2020</td>
<td>Joint venture</td>
</tr>
<tr>
<td>▪ Acquisition and overhaul of drilling equipment and wells</td>
<td>2017-2019</td>
<td>Joint venture</td>
</tr>
<tr>
<td>▪ Acquisition and overhaul of wells’ service units (entry logs, flexible pipes, cementing and steel line)</td>
<td>2017-2020</td>
<td>Joint venture</td>
</tr>
<tr>
<td>▪ Complementary service and execution capacity</td>
<td>2017-2018</td>
<td>Joint venture</td>
</tr>
<tr>
<td>▪ Entry logs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Cementing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Drilling fluids</td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Directional drilling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Equipment maintenance</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Projects</th>
<th>Year</th>
<th>Scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coker Partnership in Tula</td>
<td>2017</td>
<td>“Tolling”</td>
</tr>
<tr>
<td>Partnership to improve operations and/or reconfigure:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Tula (phase II)</td>
<td>2017</td>
<td>Capital partner + Operating partner</td>
</tr>
<tr>
<td>- Salamanca and Salina Cruz</td>
<td>2017-2018</td>
<td></td>
</tr>
<tr>
<td>Partnerships for UBA Diesel plants in refineries</td>
<td>2017</td>
<td>Contract (investment + operation + maintenance)</td>
</tr>
<tr>
<td>Partnerships to improve performance and streamlining</td>
<td>2017</td>
<td>Multiple: capital partner/ operator/ Service contract</td>
</tr>
<tr>
<td>Oil supply to increase returns</td>
<td>2017</td>
<td>Supply contract</td>
</tr>
<tr>
<td>Residual and sub-product retirement contract (fuel oil, coke and asphalt)</td>
<td>2017</td>
<td>Long-term contract</td>
</tr>
<tr>
<td>Humid gas supply to increase CPG load (Burgos CPG and south-east CPG)</td>
<td>2017</td>
<td>Supply contract</td>
</tr>
<tr>
<td>Hydrogen supply for refineries</td>
<td>2017</td>
<td>Service contract</td>
</tr>
<tr>
<td>Waste water and black water treatment</td>
<td>2017</td>
<td>(investment + operation + maintenance)</td>
</tr>
<tr>
<td>Sulfur recovery in refineries</td>
<td>2017</td>
<td></td>
</tr>
<tr>
<td>Humid sour gas nitrogen removal</td>
<td>2019</td>
<td></td>
</tr>
<tr>
<td>Co-generation in refineries and gas processing centers</td>
<td>(to be defined)</td>
<td></td>
</tr>
</tbody>
</table>
## Annex. Business Opportunities: Cogeneration & Services

<table>
<thead>
<tr>
<th>Projects</th>
<th>Electric Power (MW)</th>
<th>PEMEX Consumption</th>
<th>Water Vapor (t/h)</th>
<th>Estimated Investment (MMUSD)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Capacity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nuevo Pemex Cogeneration Plant</td>
<td>300</td>
<td>300</td>
<td>800</td>
<td>-</td>
</tr>
<tr>
<td>Salamanca External Project</td>
<td>373</td>
<td>0</td>
<td>662</td>
<td>-</td>
</tr>
<tr>
<td>Cactus</td>
<td>633</td>
<td>29</td>
<td>480</td>
<td>877</td>
</tr>
<tr>
<td>Nuevo Pemex Third Train</td>
<td>262</td>
<td>0</td>
<td>140</td>
<td>288</td>
</tr>
<tr>
<td>Tula</td>
<td>444</td>
<td>267</td>
<td>1,150</td>
<td>489</td>
</tr>
<tr>
<td>Cadereyta</td>
<td>525</td>
<td>135</td>
<td>850</td>
<td>638</td>
</tr>
<tr>
<td>Salina Cruz</td>
<td>436</td>
<td>120</td>
<td>800</td>
<td>569</td>
</tr>
<tr>
<td>Minatitlán</td>
<td>541</td>
<td>90</td>
<td>800</td>
<td>405</td>
</tr>
<tr>
<td>La Cangrejera</td>
<td>512</td>
<td>102</td>
<td>899</td>
<td>747</td>
</tr>
<tr>
<td>Morelos</td>
<td>516</td>
<td>89</td>
<td>788</td>
<td>785</td>
</tr>
<tr>
<td>Measurement and Regulation Stations</td>
<td>102</td>
<td>0</td>
<td>0</td>
<td>172</td>
</tr>
</tbody>
</table>
## Annex. Business Opportunities: Fertilizers

<table>
<thead>
<tr>
<th>Projects</th>
<th>Year</th>
<th>Scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Cosoleacaque Petrochemical Complex: Long-term natural gas supply.</td>
<td>2017</td>
<td>A 150 MMcfd contract subscription is in process of consolidation. Additional 60 MMcfd to guarantee the supply of four ammonia plants.</td>
</tr>
<tr>
<td>• Cosoleacaque Petrochemical Complex: Conclude pending overhauls.</td>
<td>2017</td>
<td>Service contract</td>
</tr>
</tbody>
</table>
# Annex. Business Opportunities: Ethylene

<table>
<thead>
<tr>
<th>Projects</th>
<th>Year</th>
<th>Scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction of a propane cracker and a glycol plant</td>
<td>2018-2019</td>
<td>Joint venture</td>
</tr>
<tr>
<td>Overhaul of polyethylene plants</td>
<td>2017</td>
<td>Co-investment with third parties</td>
</tr>
<tr>
<td>Moreleos and Cangrejera water treatment plants overhaul</td>
<td>2017</td>
<td>Services with third parties</td>
</tr>
<tr>
<td>Replacement of steam turbines for gas turbines through cogeneration</td>
<td>2018</td>
<td>Services with third parties</td>
</tr>
<tr>
<td>Modernization of industrial gases supply</td>
<td>2017</td>
<td>Services with third parties</td>
</tr>
<tr>
<td>Overhaul of the ethylene oxide plant at Cangrejera</td>
<td>2019</td>
<td>Co-investment with third parties</td>
</tr>
</tbody>
</table>
## Annex. Business Opportunities: Logistics

<table>
<thead>
<tr>
<th>Projects</th>
<th>Year</th>
<th>Scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water management capacity increase and crude oil stabilization</td>
<td>2017-2018</td>
<td>Service contracts (Investment + operation + maintenance)</td>
</tr>
<tr>
<td>Storage infrastructure construction</td>
<td>2017-2020</td>
<td>Operator partner contributing with current assets</td>
</tr>
<tr>
<td>Discharge speed improvement and product management capacity</td>
<td>2017-2018</td>
<td>Service contracts (Investment + operation + maintenance)</td>
</tr>
<tr>
<td>Auto tanks</td>
<td>2017</td>
<td>Participation with third parties</td>
</tr>
<tr>
<td>Railroad transportation</td>
<td>2017</td>
<td>Participation with third parties</td>
</tr>
<tr>
<td>Local pipes distribution</td>
<td>2018</td>
<td>Participation with third parties</td>
</tr>
<tr>
<td>Vessel repair</td>
<td>2017</td>
<td>Participation with third parties</td>
</tr>
<tr>
<td>Open-season</td>
<td>2017</td>
<td>Joint ventures</td>
</tr>
<tr>
<td>Progreso-Cancún pipeline construction</td>
<td>2017-2018</td>
<td>Operator partner contributing with current assets</td>
</tr>
<tr>
<td>Tuxpan-Tula oil pipeline conversion</td>
<td>2017-2018</td>
<td>Joint ventures</td>
</tr>
<tr>
<td>Offer of current infrastructure of the Reynosa, Cadereyta and Nuevo Laredo corridor</td>
<td>2017-2018</td>
<td>Operator partner contributing with current assets</td>
</tr>
<tr>
<td>Utilization of idle capacity of Logistics seaports through its modernization</td>
<td>2017-2018</td>
<td>Operator partner contributing with current assets</td>
</tr>
<tr>
<td>Recovery of reliability levels primary infrastructure logistics</td>
<td>2017-2020</td>
<td>Operator partner contributing with current assets</td>
</tr>
<tr>
<td>Projects</td>
<td>Year</td>
<td>Action</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Increase oil deliveries from the Pacific coast</td>
<td>2017–2018</td>
<td>Establish strategies to place additional oil through collaborative relations</td>
</tr>
<tr>
<td>Restore Istmo supply to clients on the west coast of the United States of America.</td>
<td>2017</td>
<td>Restore clients on the west coast of the United States of America.</td>
</tr>
<tr>
<td>Find new opportunities in South American markets (Colombia and Brasil)</td>
<td>2017–2018</td>
<td>Explore new markets</td>
</tr>
<tr>
<td>Create gasoline, oil fuel and petrol mixtures</td>
<td>2018–2020</td>
<td>Rent sufficient storage space to perform the mixtures</td>
</tr>
<tr>
<td>Hire tank truck distribution from the North American Gulf Coast</td>
<td>2017–2020</td>
<td>Optimize logistical hiring</td>
</tr>
<tr>
<td>Hire long term vessels under Time Charter and COA (Contract of Afreighment) instead of Spot to minimize logistical costs</td>
<td>2017–2020</td>
<td>Explore hiring opportunities</td>
</tr>
<tr>
<td>Develop businesses in markets other than Mexico (Caribbean, Latin America and Asia)</td>
<td>2017–2020</td>
<td></td>
</tr>
<tr>
<td>Commercialize state hydrocarbons</td>
<td>2017</td>
<td></td>
</tr>
</tbody>
</table>
## Annex. Pension System Modifications

<table>
<thead>
<tr>
<th>Modifications for workers that joined PEMEX before the Energy Reform</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unionized</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Before the Energy Reform</th>
<th>After the Energy Reform</th>
</tr>
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<tr>
<td></td>
<td>More than 15 years of service</td>
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</tbody>
</table>

- **More than 15 years of service**
- **Less than 15 years of service**

55 years old and 25 of antiquity with 80% of salary
(increasing 4% each year until reaching 30 years of antiquity)
or
35 years of antiquity regardless of age with 100% of salary

<table>
<thead>
<tr>
<th>White Collar</th>
</tr>
</thead>
</table>

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55 years old and 25 of antiquity with 80% of salary
(increasing 4% each year until reaching 30 years of antiquity)
or
35 years of antiquity regardless of age with 100% of salary

- **White Collar**

- **Unionized**

- **By August 2021. It is foreseen that retirement by age requisites will be standardized according to the appropriate federal law.**