



# Mexican Energy Sector: Regulatory Update and Challenges

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Energy Regulatory Commission

- I.** 2005 Update
- II.** Energy Industry Challenges
- III.** CRE Strengthening
- IV.** Final Remarks

## I. 2005 Update

# 2005 highlights of the Mexican Natural Gas Industry



**1. Production → 4.63 bcfd**

**2. Consumption → 5.91 bcfd**

Power Generation	36%	Industry	22%
Pemex	40%	Other	2%

**3. Imports → 1.28 bcfd**

**4. Private investment allowed in transportation, storage and distribution**

**5. Exploration and Production reserved to state**

# Natural Gas permits granted by CRE



		July 2005
<b>Transportation</b>	Permits	141
	Length (miles)	7,545
	Est. Investment (MMusd)	2,036
<b>Distribution</b>	Permits	21
	Length (miles)	16,311
	Est. Investment (MMusd)	1438
<b>LNG</b>	Permits	5
	Capacity (MMm <sup>3</sup> )	1.5
	Est. Investment (MMusd)	3,102

Source: CRE

# 2005 Highlights of the Mexican Electricity Industry



## 1. Installed capacity → 50,676 MW

Thermal	67.1%	Nuclear	3.0%
Hydro	22.2%	Geothermal	2.1%
Coal	5.6%		

## 2. 2004 power generation → 205 TWh

## 3. National Transmission Grid → 57,622 miles (>115kV)

## 4. Strong presence of state-owned vertically integrated monopolies

	CFE	LFC	Other*
Generation	74.0%	1.7%	24.3%
Transmission	98%	2%	0%
Distribution	79%	21%	0%

System operator is part of CFE

\* IPP, self-supply, Cogen

# Electricity permits granted by CRE

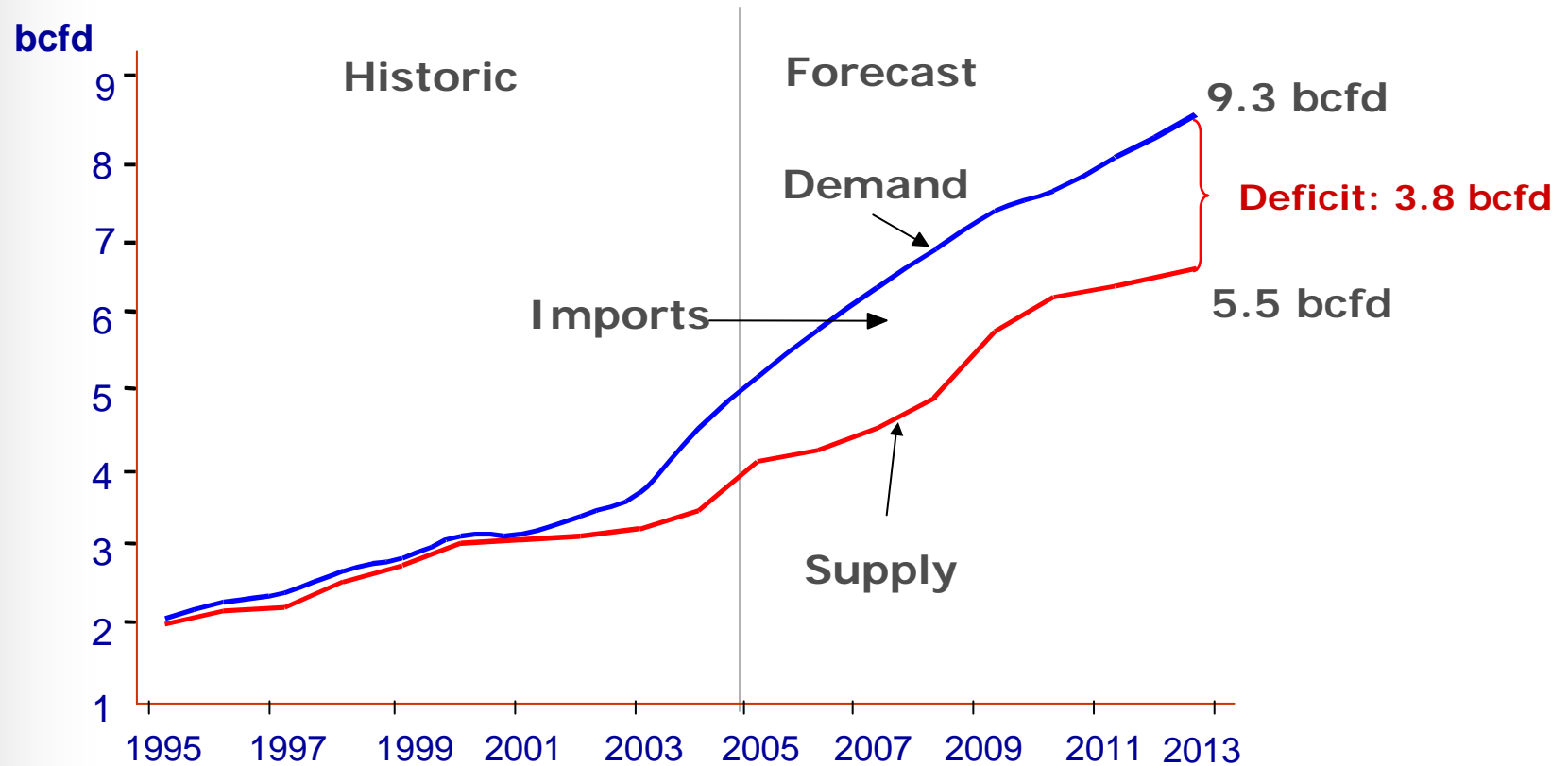


		Julio 2005
<b>Generation</b>	Permits	284
	Capacity (MW)	16,359
	Est. Investment (MMusd)	9,578
<b>Imports</b>	Permits	30
	Capacity (MW)	184
	Est. Investment (MMusd)	18
<b>Exports</b>	Permits	7
	Capacity (MW)	1,630
	Est. Investment (MMusd)	1,092

## II. Energy Industry Challenges

# Natural Gas Forecast

- During the next ten years, demand for Natural Gas is expected to grow by 5.8% annually, while supply is expected to increase at a rate of 2.5% per year



\*Source: Natural Gas Prospective, Ministry of Energy, Mexico 2004-2013

- To meet growing demand Mexico needs to increase production and further diversify imports

Source: Natural Gas Prospective, Secretariat of Energy, 2004-2013

# Challenges in Natural Gas



## Strategy

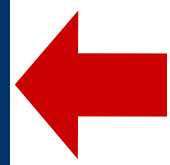
### Challenges

**Satisfy Domestic Demand**

**Promote conditions for efficient Price Determination**

**Improve Permitting Process and update Regulatory Framework**

**Achieve Open Access in PEMEX Pipelines**



Increase Domestic Production

- PEMEX Fiscal Regime
- Opening of non-associated natural gas E & P

Promote LNG Terminals

Increase pipeline interconnection infrastructure

# Challenges in Natural Gas



## Strategy

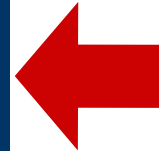
### Challenges

**Satisfy Domestic Demand**

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**Improve Permitting Process and update Regulatory Framework**

**Achieve Open Access in PEMEX Pipelines**



Increase Domestic Production

- PEMEX Fiscal Regime
- Opening of non-associates natural gas E & P

Promote LNG Terminals

Promote use of hedging schemes to mitigate volatility

Direct Federal subsidy to low income residential consumers

# Challenges in Natural Gas



## Strategy

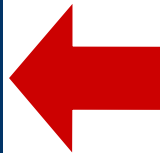
### Challenges

**Satisfy Domestic Demand**

**Promote conditions for efficient Price Determination**

**Improve Permitting Process and update Regulatory Framework**

**Achieve Open Access in PEMEX Pipelines**



**Simplify and modernize Regulations**

**Open hearings to address stakeholders concerns**

**Improve Federal / State / Local Government coordination**

# Challenges in Natural Gas



## Strategy

### Challenges

**Satisfy Domestic Demand**

**Promote conditions for efficient Price Determination**

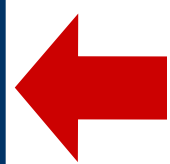
**Improve Permitting Process and update Regulatory Framework**

**Achieve Open Access in PEMEX Pipelines**

Implement open access regulation

Introduce further regulations to reduce PEMEX market Power

Promote competition in Natural Gas Trading



# Not Associated Natural Gas Investments

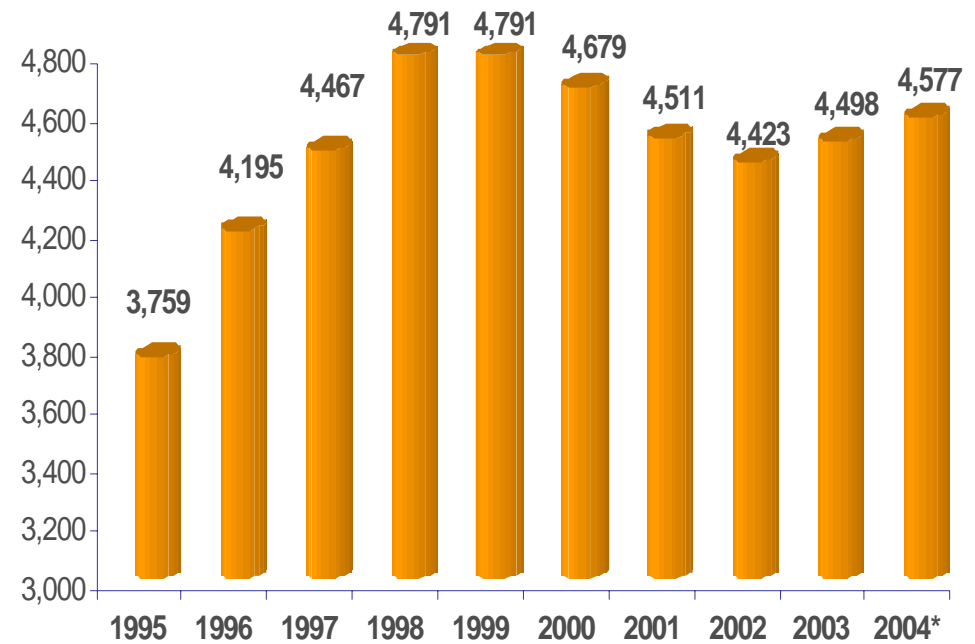


Record Investments in E&P have reverted the decreasing trend in production, but have not been enough to meet national demand

**Investments**  
(USD million)



**Natural Gas Production**  
(Mcf/d)

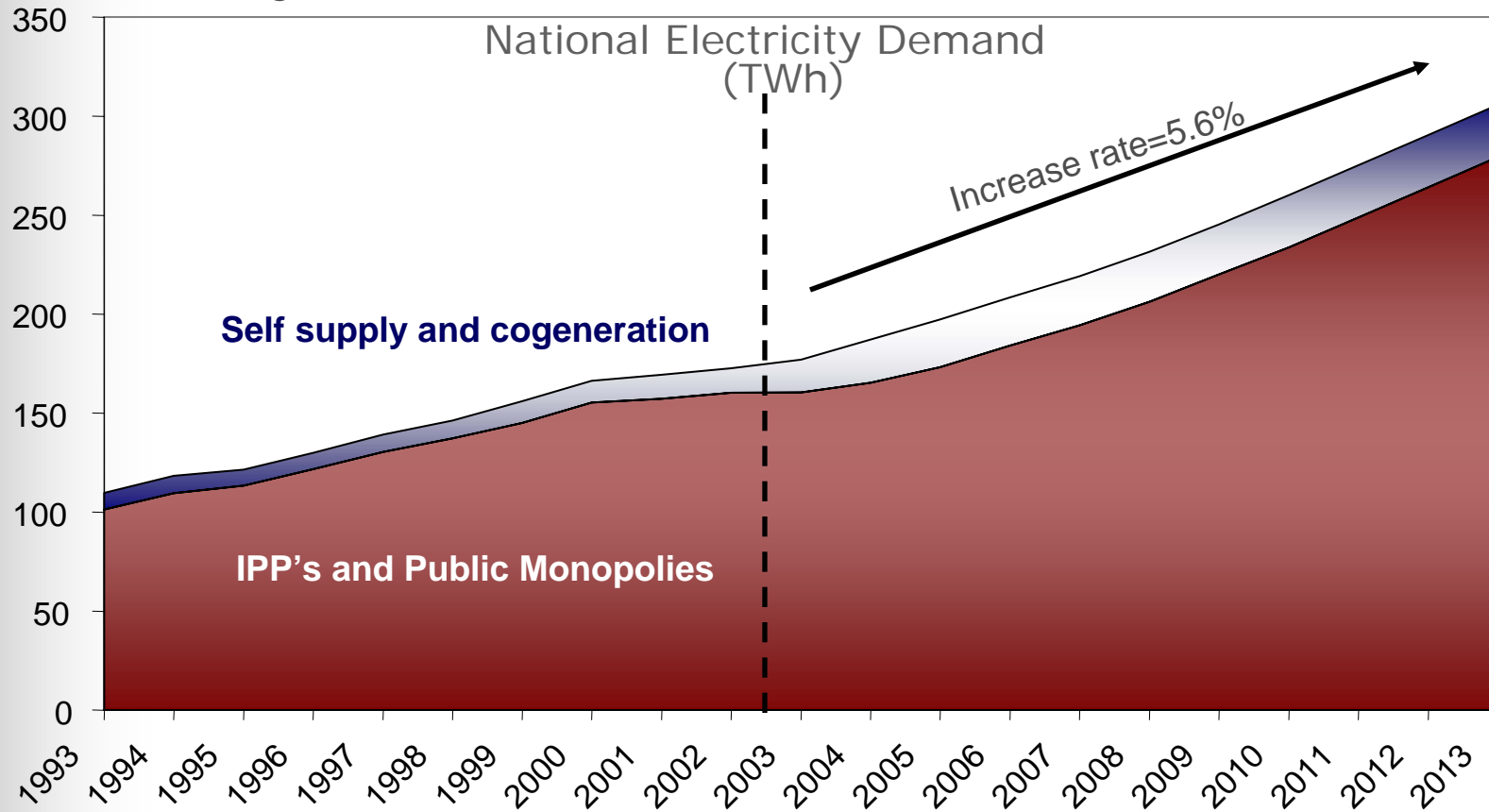


Source: Pemex, Direction of Corporate Finance and Oil Indicators, 2003

# Electricity Forecast



**Power demand is expected to grow by 5.6% per year over the next ten years**

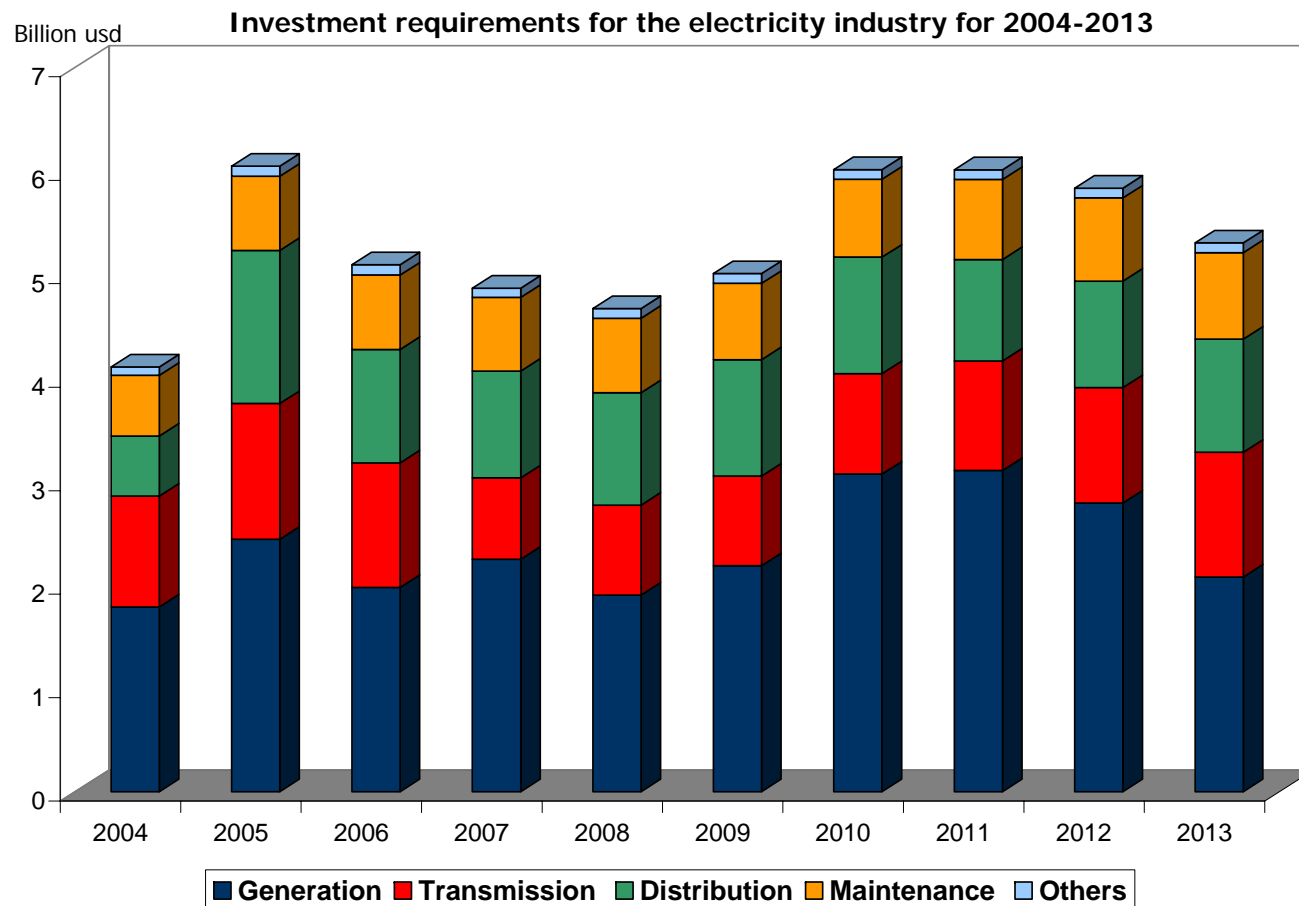


Source: Electricity Prospective, Secretariat of Energy, 2004-2013

# Investment Requirement for the Power Industry for 2004-2013



**To satisfy demand, the Power Industry will require investments of more than USD 52 billion over the next ten years**



Source: Electricity Prospective, Secretariat of Energy, 2004-2013

# Challenges in Electricity



## Strategy

### Challenges

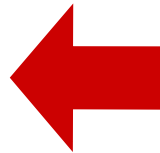
**Satisfy Domestic Demand**

**Efficient Prices**

**Power Quality**

**Power Dispatch**

**Promote Renewable sources**



Promote private investment in generation that do not require Government financial back up

Sufficient Transmission and Distribution infrastructure

Develop more power interconnections

# Challenges in Electricity



Strategy

## Challenges

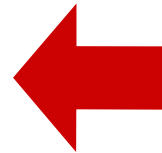
**Satisfy Domestic Demand**

**Efficient Prices**

**Power Quality**

**Power Dispatch**

**Promote Renewable sources**



Strengthening of CRE to give it the mandate to set economically-efficient electricity tariffs

# Challenges in Electricity



Strategy

## Challenges

**Satisfy Domestic Demand**

**Efficient Prices**

**Power Quality**

**Power Dispatch**

**Promote Renewable sources**

Strengthening of CRE to give it the mandate to set Power Quality Regulation

# Challenges in Electricity



Strategy

## Challenges

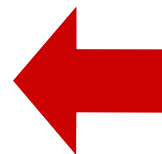
**Satisfy Domestic Demand**

**Efficient Prices**

**Power Quality**

**Power Dispatch**

**Promote Renewable sources**



Strengthening of CRE to give it the mandate to approve generation dispatch rules

# Challenges in Electricity



Strategy

## Challenges

**Satisfy Domestic Demand**

**Efficient Prices**

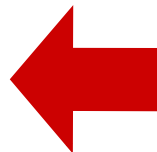
**Power Quality**

**Power Dispatch**

**Promote Renewable sources**

Implement regulations to foster renewable sources of energy:

- Energy Bank and capacity payments



### III. CRE Strengthening

**Several bills aimed at strengthening CRE have been submitted to Congress. Although they vary in scope and depth, most of them concur in granting CRE the following additional mandates:**

- Electricity Tariff Determination
- Approve Terms & Conditions for electricity transmission, distribution and supply services
- Publish rules for the system operation and dispatch
- Surveillance of the System Operation

## IV. Final remarks

## Final Remarks

- Despite being an energy rich country, Mexico imports large amounts of natural gas and other fuels
- To satisfy demand, it is necessary to:
  - Promote investment in E&P
  - Find new schemes to complement public investment with private investment
  - Promote sufficient pipeline and LNG infrastructure
- The CRE aims at maintaining an updated and efficient Regulatory Framework that provides certainty to investment and protects consumer interests

***[www.cre.gob.mx](http://www.cre.gob.mx)***