

# Mexico's Natural Gas Story

APERC Annual Conference 2019  
Rosanety Barrios Beltrán

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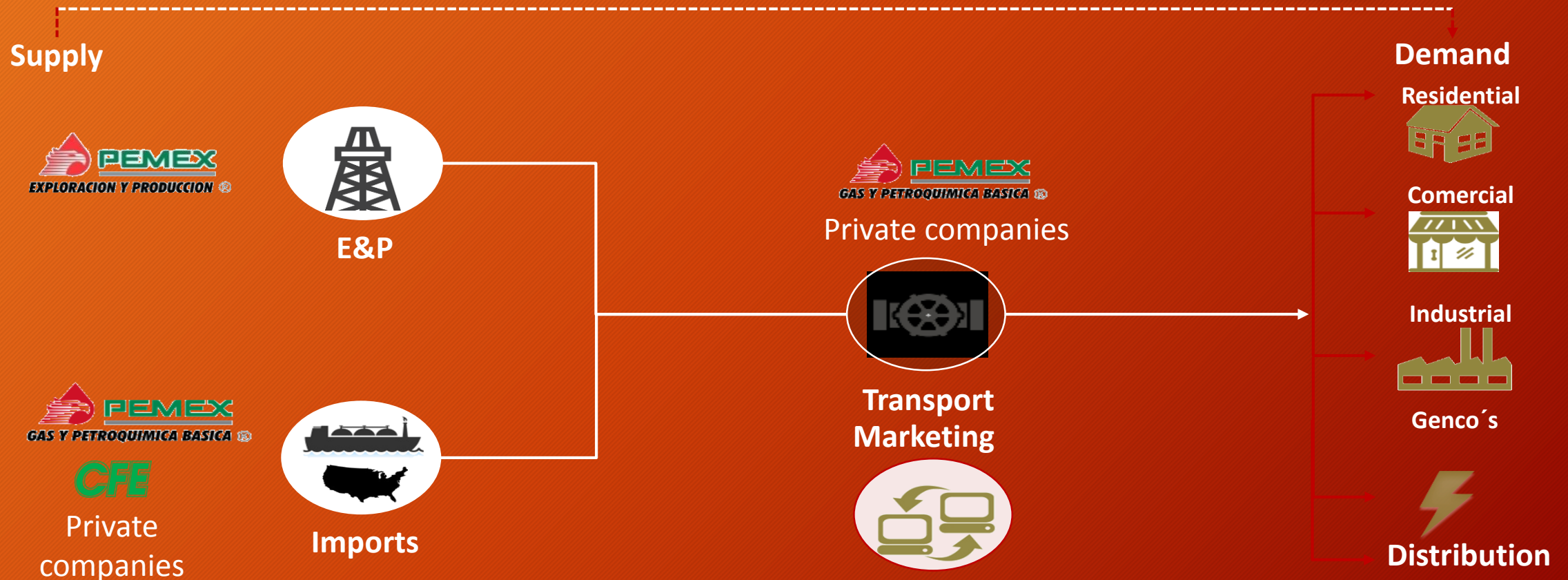
1. Mexico's natural gas crisis: how everything started
2. The strategy for energy security in natural gas: More infrastructure and competition along the value chain
3. The future for Mexico: Is self sufficiency possible?, If not, what's next?

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# Mexico's NG industry was partially opened to private investment in 1995, for transportation, marketing and distribution

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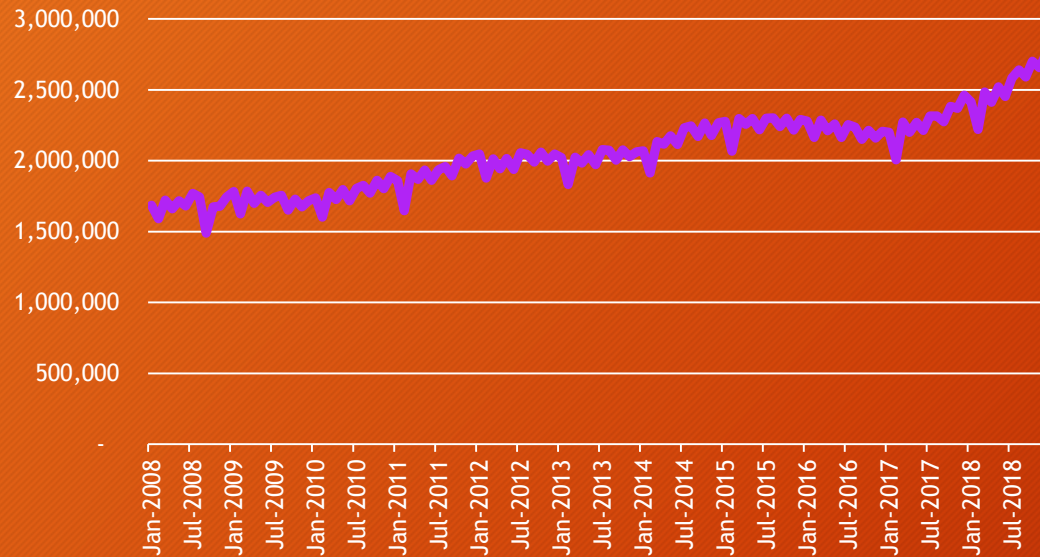


Source: México's Undersecretary of Hydrocarbons. White Books presentations 2018

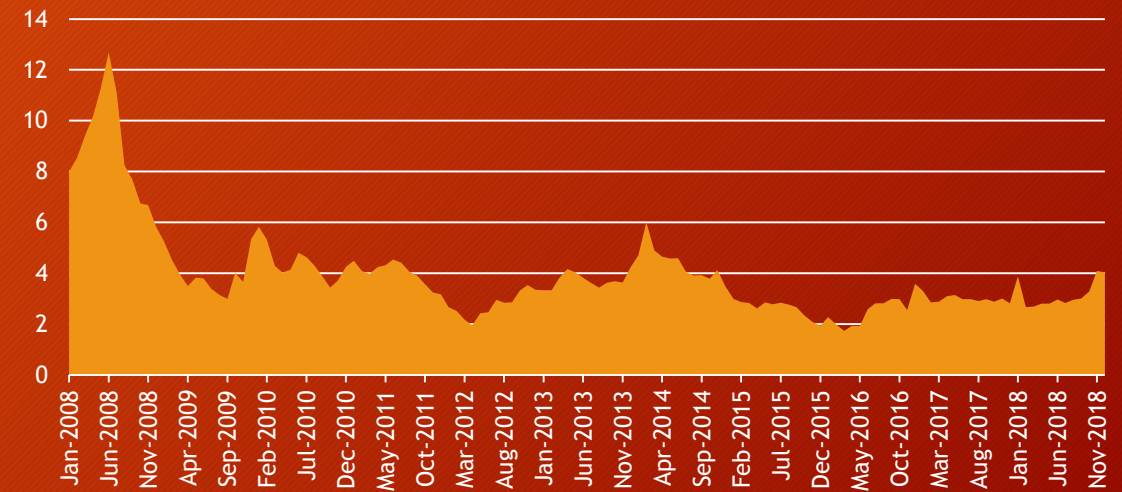
# USA shale gas revolution pushed down prices 68% between 2008 and 2018

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### U.S. Dry Natural Gas Production (MMcf)



### Henry Hub Natural Gas Spot Price (Dollars per Million Btu)

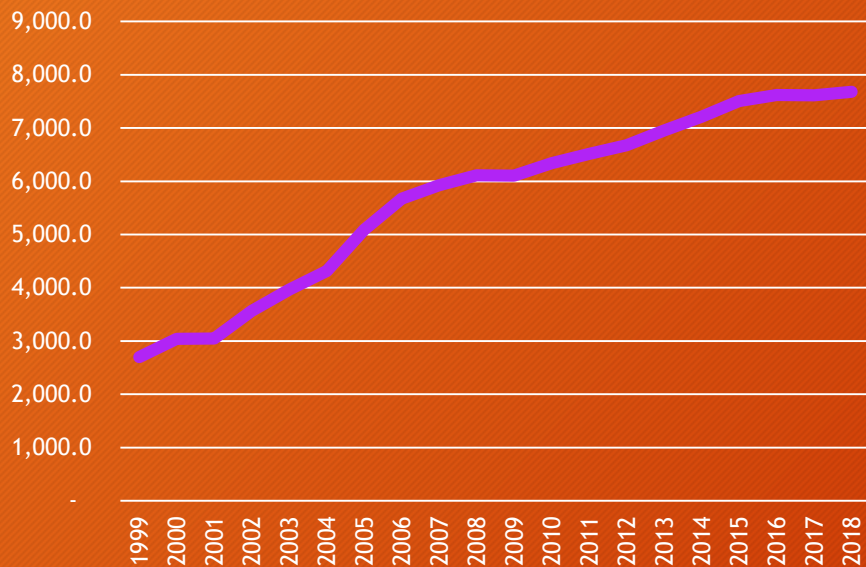


Source: US Energy Information Administration

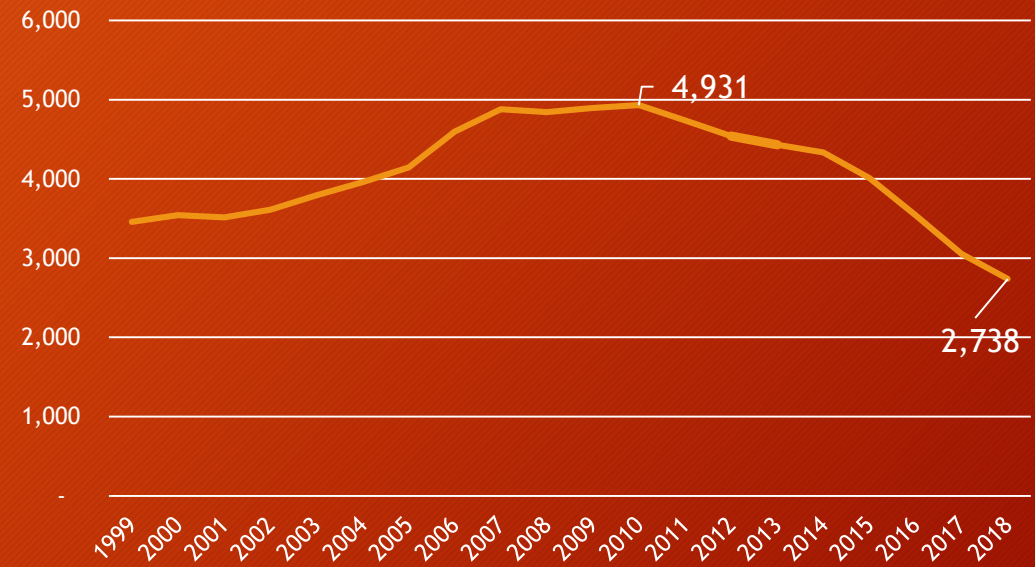
# Low prices boosted Mexico's demand while domestic production dropped

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México. Nat Gas demand (BCFD)



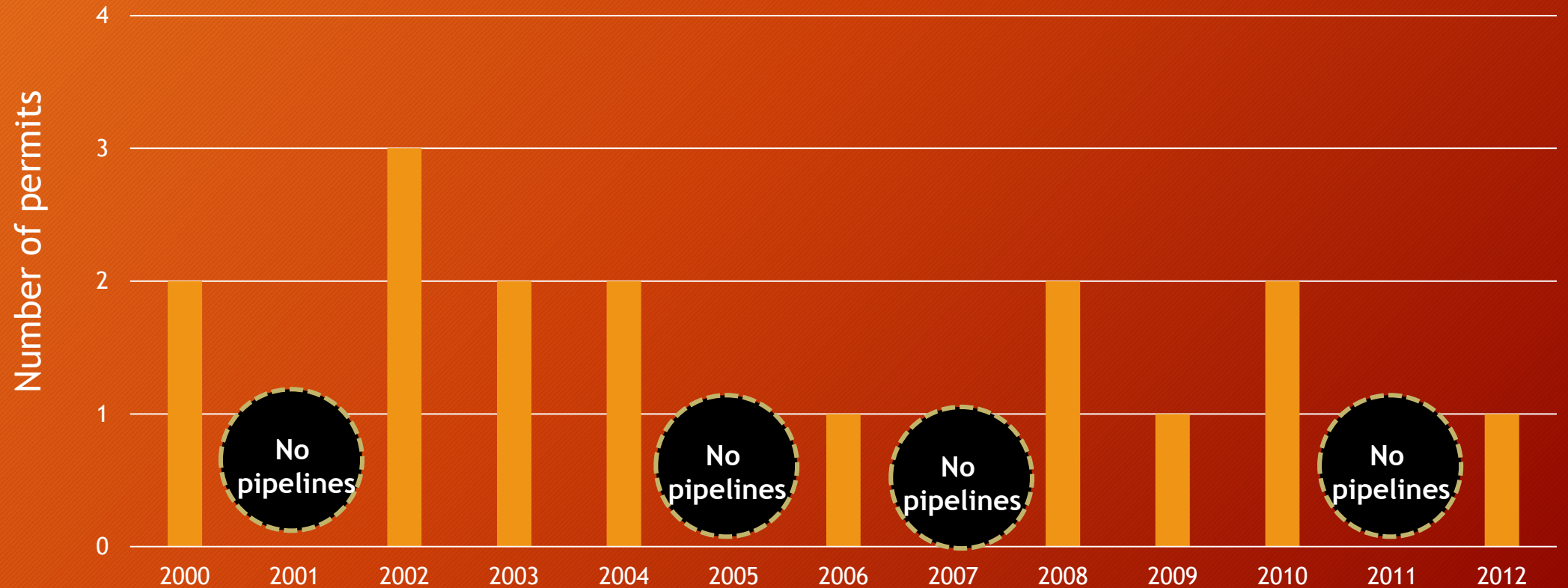
Mexico's dry gas production (BCFD)



Source: Natural Gas Prospective 2018-2032. Ministry of Energy. México

# Pemex integration and regulated prices acted as a barrier for competition in trading and new infrastructure

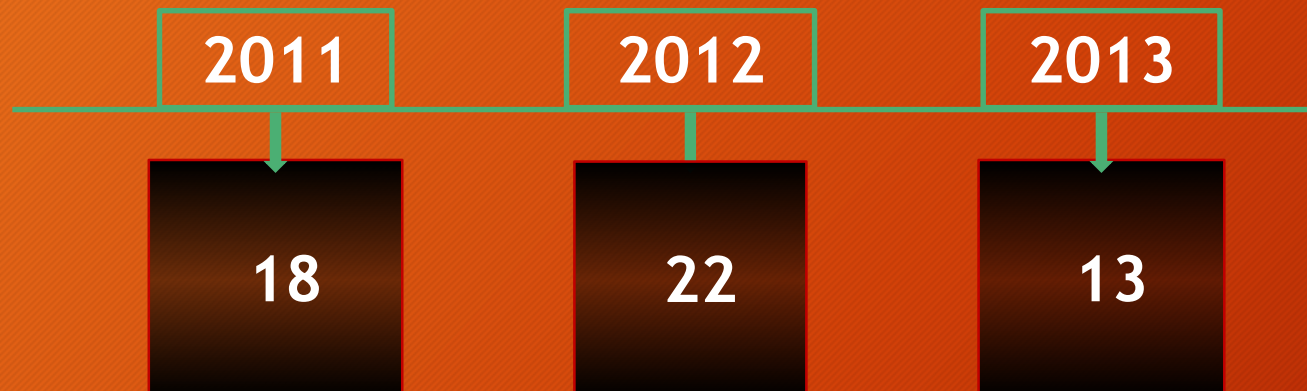
Pipeline permits granted by regulator (CRE)



Source: México's Undersecretary of Hydrocarbons. White Books presentations, 2018

15 years after the opening, Mexico faced 53 supply shutdowns in 3 years, due to curtailments

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BANCO DE MÉXICO

Mexico's Central Bank calculated that shutdowns represented 0.3 points of GDP in 2013



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# Step 1: Increase pipeline infrastructure to access the cheapest gas in the world

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Source: México's Undersecretary of Hydrocarbons. White Books presentations, 2018

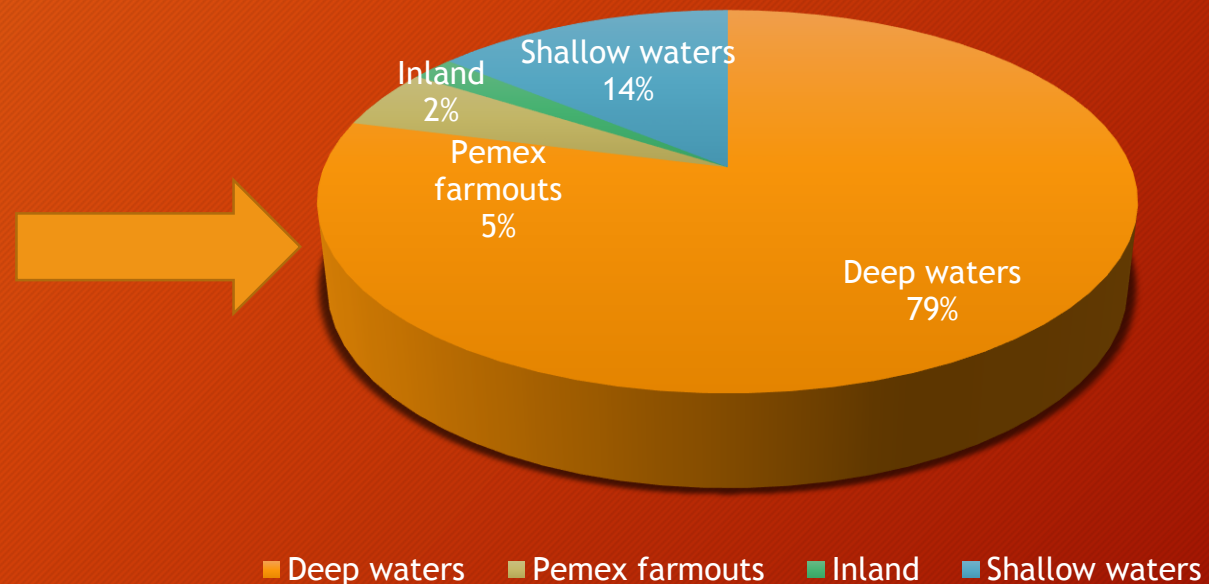
# Step 2: Opening the value chain attracted the best companies in the world

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## Achievements in E&P:

- 11 bidding rounds
- 107 contracts awarded
- 161 billion dollars of investment
- 73 new companies from 20 countries
- 71% average royalty for Mexican State in shallow waters
  - 60% for deep waters

## México. Expected investments



# Step 3: Create markets and encourage competition

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- Market prices for natural gas began in July, 2017



- Open access to infrastructure:  
Pemex pipelines were transferred to the new ISO: Cenagas  
Cenagas held its first open season in July, 2017



- Symmetric information:  
Cenagas digital table  
CRE publishes prices  
SENER publishes linepack, imports, national production

## Step 4: Storage

- Should create a strategic reserve of 45 bcf (5 days of demand)
- Requires a bid process for the utilization of a deployed field
- The winner should operate the storage facility
- The cost of the project should be amortized between all transportation users
- It should be the first step in order to develop commercial storage



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# Current policy adjustments

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- All bid rounds (E&P, power generation and transmission), have been suspended, as well as Pemex farmouts
  - Fracking has no Presidential support
  - Storage policy has also been suspended, even though the ISO (Cenagas) has said they could develop a project directly with Pemex
- Imports dependence is a valid concern
  - Pemex needs significant capital, more than can be met by a public budget
  - CFE cannot meet renewable targets on its own



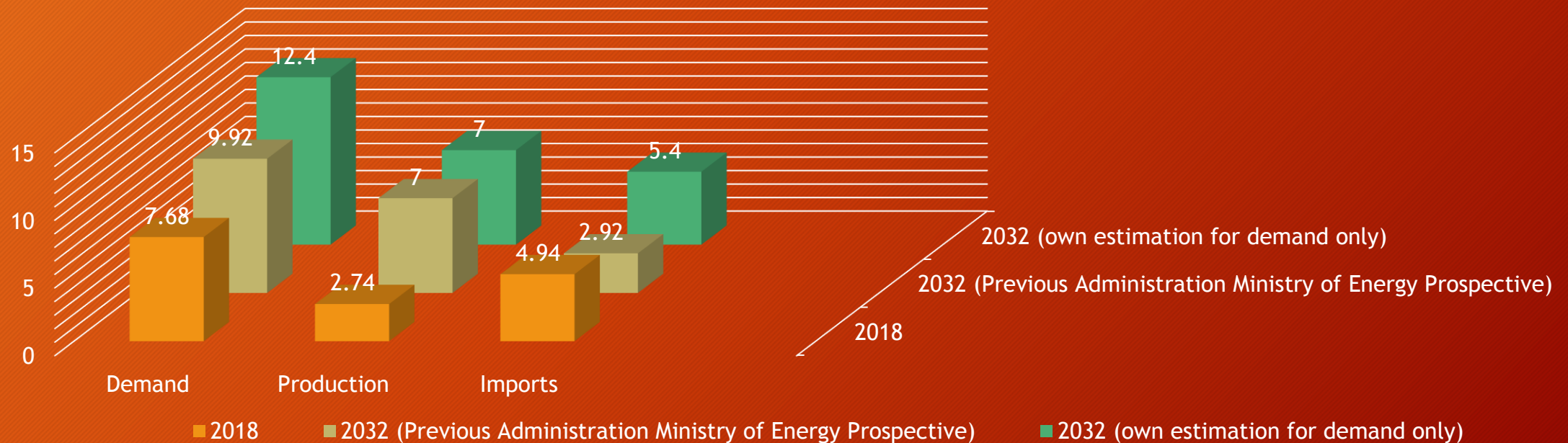
GDP growth target has been set in 4%



We need natural gas

# Even in the best case scenario, demand will be higher than production for the next 15 years

Mexico. Current and expected demand, production and imports.  
(BCFD)

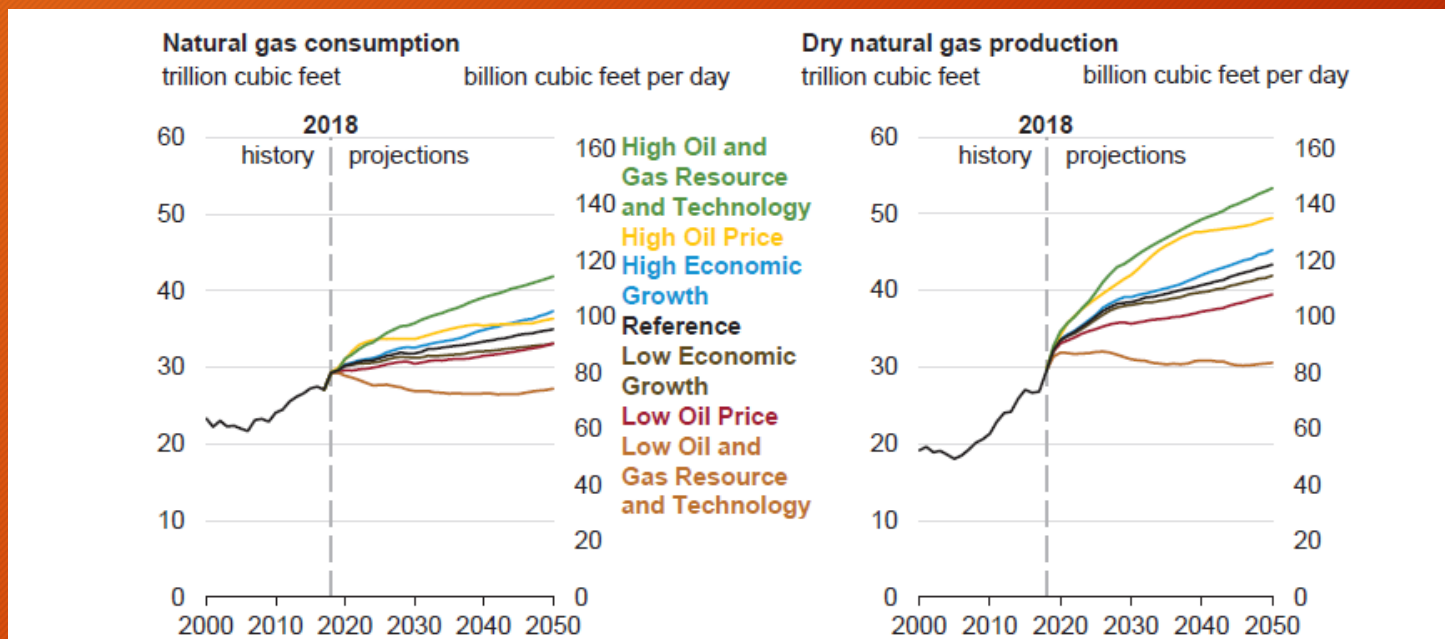




# Therefore, USA production is crucial for México

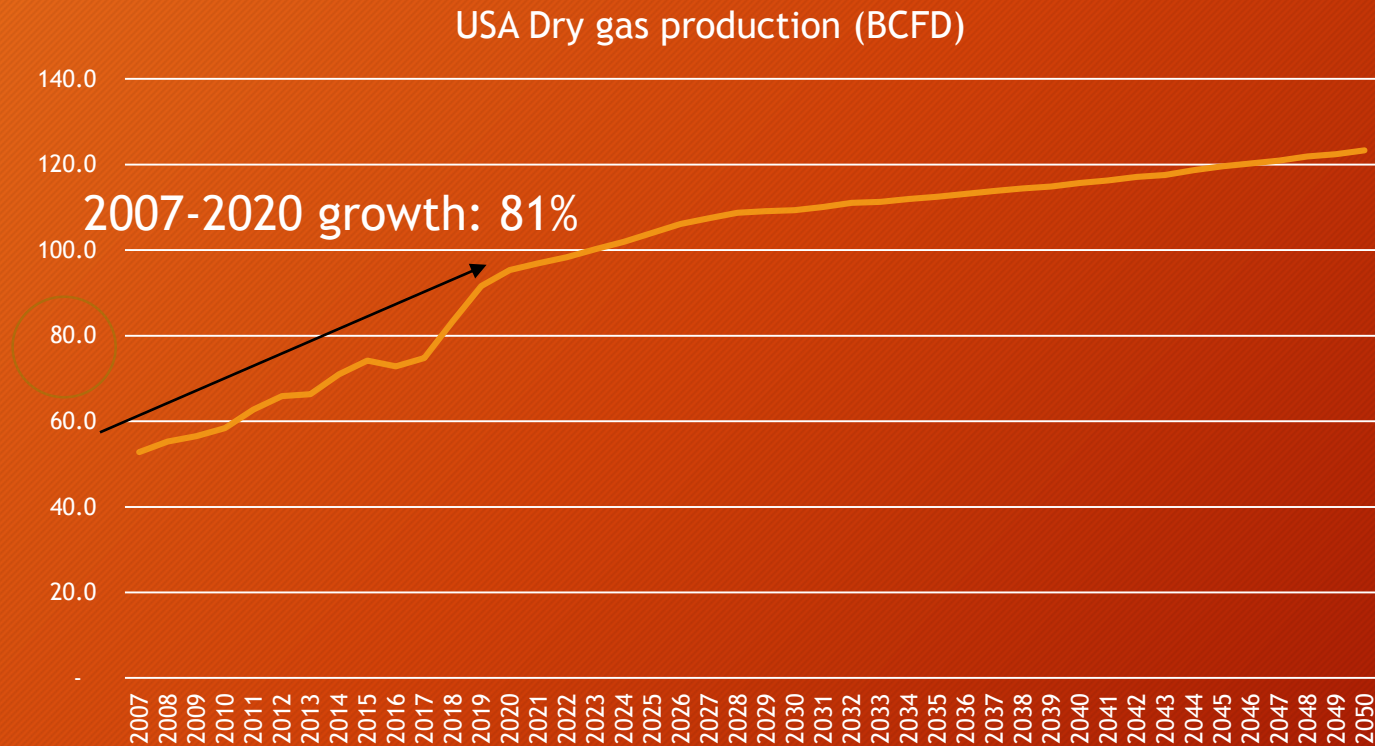
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- AEO 2019 (EIA), shows 6 different scenarios besides reference one.
- Difference between highest and lowest is almost 90%
- Difference between reference scenario and lowest is 50%



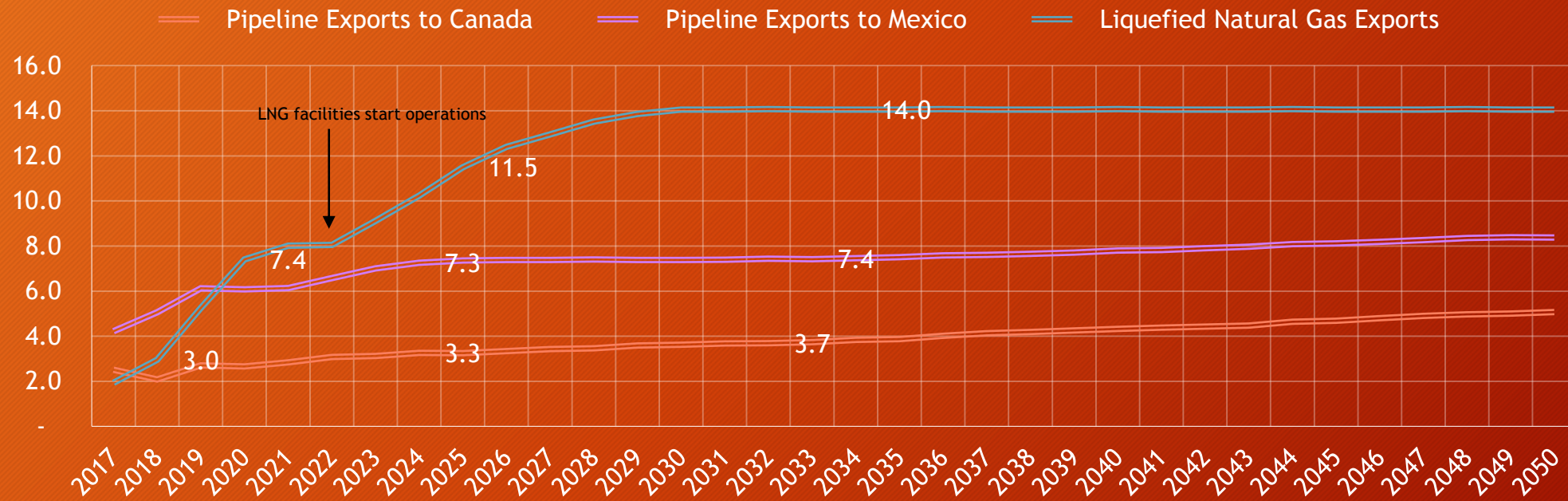
In EIA reference case, 2019 and 2020 have the highest rate of growth in production. After that, growth is more stable

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# Mexico's estimated imports represents 1/3 of USA export capacity

## USA NG EXPORTS (BCFD)

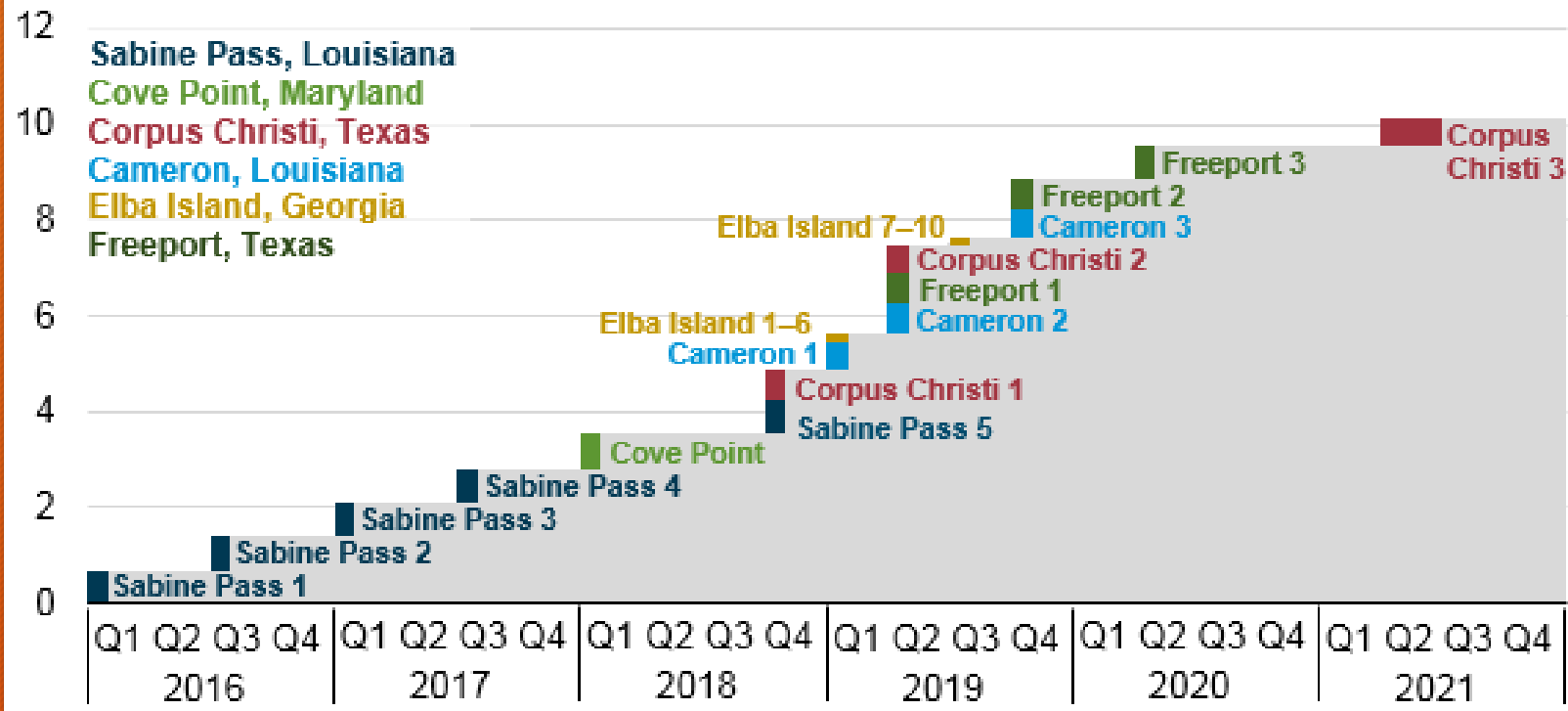


Source: Annual Energy Outlook 2019. Energy Information Administration

# U.S. liquefied natural gas export capacity, 2016–2021



billion cubic feet per day



LNG under construction facilities should be operating by 2022

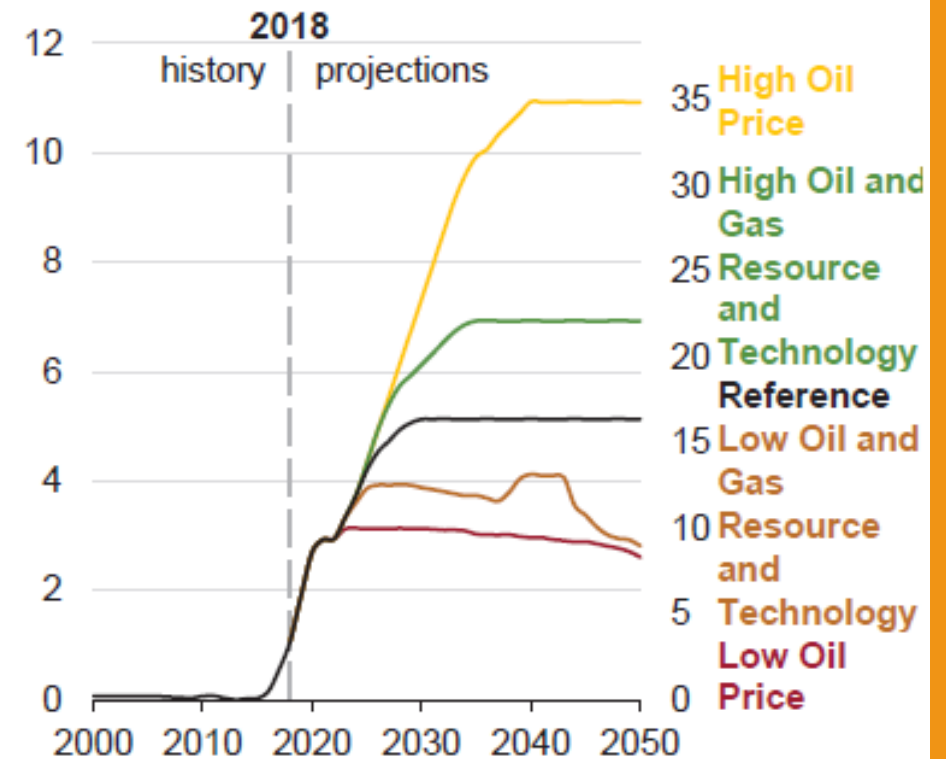
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USA-LNG exports reach the highest level in high oil price scenario

### Liquefied natural gas exports

trillion cubic feet

billion cubic feet per day



## There are five key factors to watch in the next two years

- USA production
- LNG facilities building
- Short term contracts vs long term contracts
- Building process in regasification facilities
- Mexico's natural gas production

Many  
thanks

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