SENER

Third IEF - IGU Ministerial Gas Forum

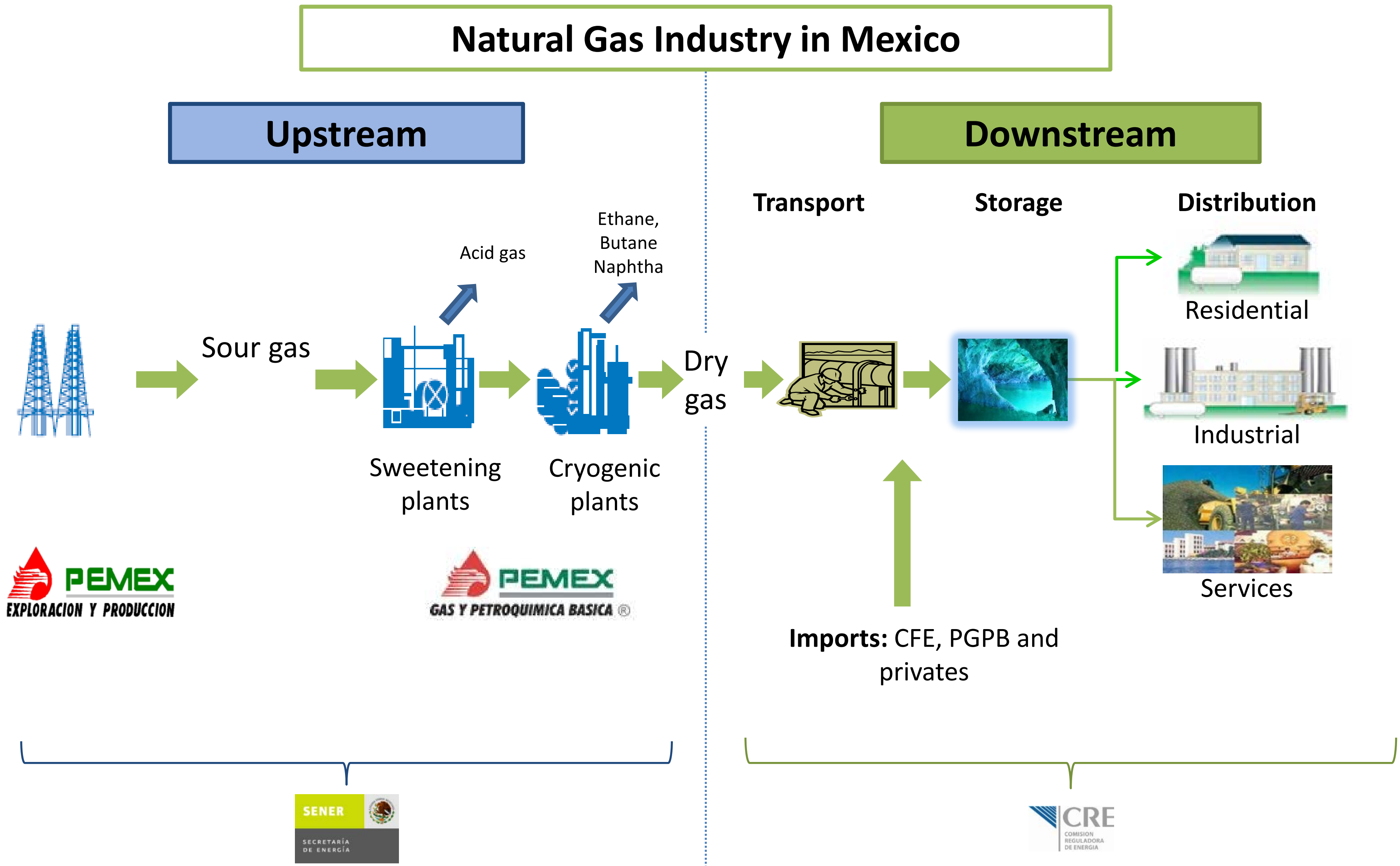
Panel Session 2: Enhanced dialogue and cooperation for strengthened energy security

November 2012

MÉXICO

Contents

Background: National framework



Background: Infrastructure

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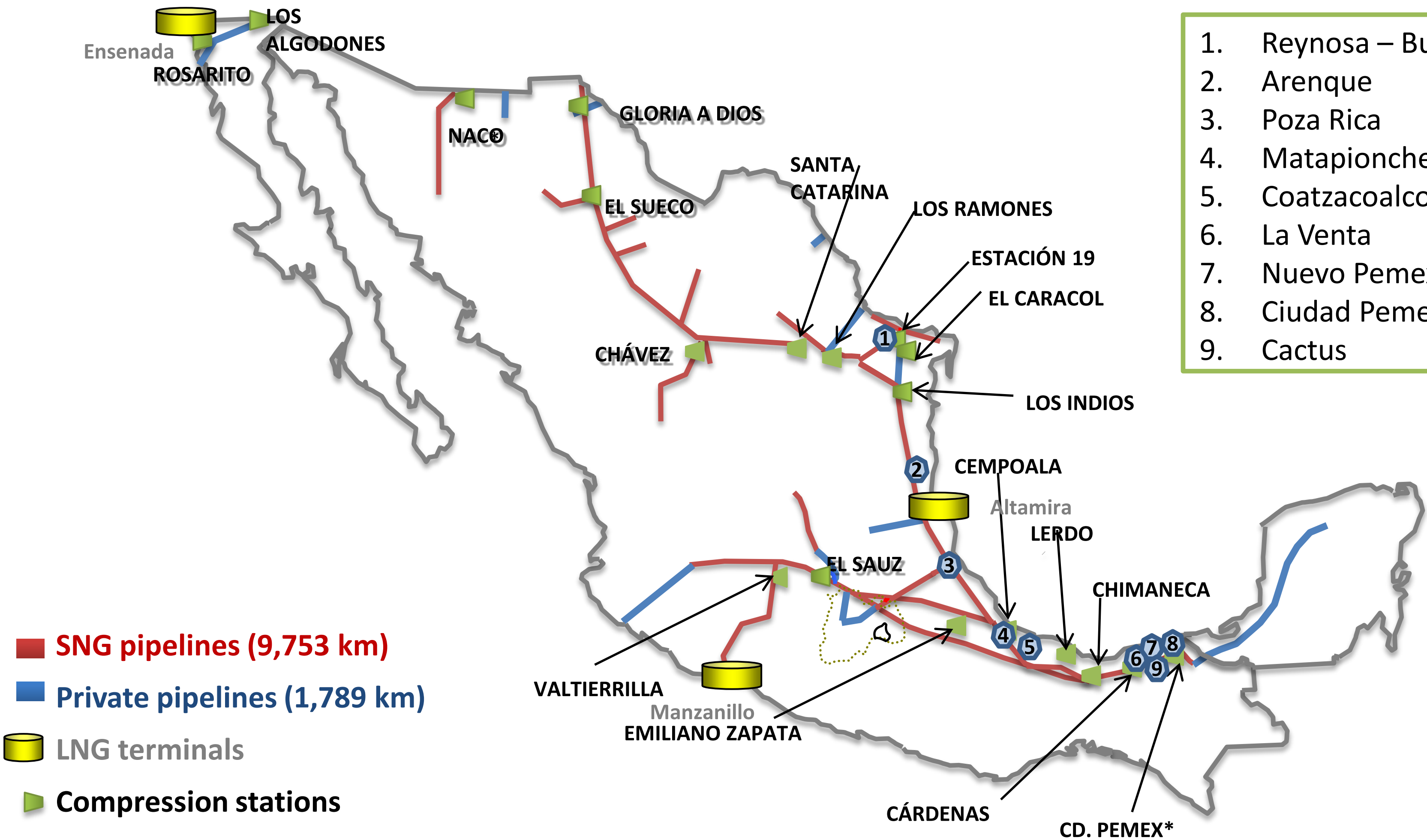
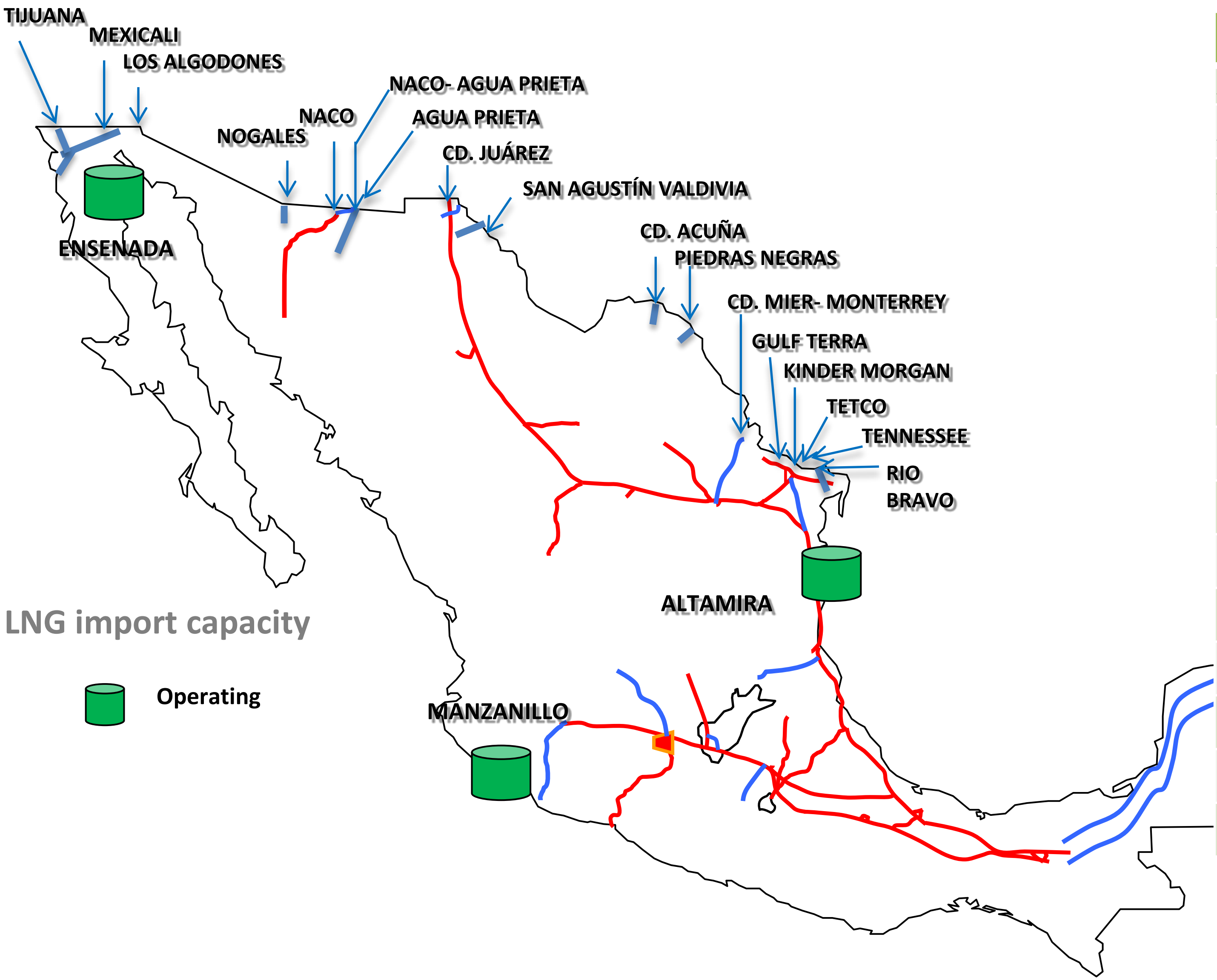
Total existing pipelines in 2011	11,542 km
Total gas processing plants in 2011	9



1. Reynosa – Burgos
2. Arenque
3. Poza Rica
4. Matapionche
5. Coatzacoalcos
6. La Venta
7. Nuevo Pemex
8. Ciudad Pemex
9. Cactus

* Sistema Naco-Hermosillo

Background:
injection points and imports capacity

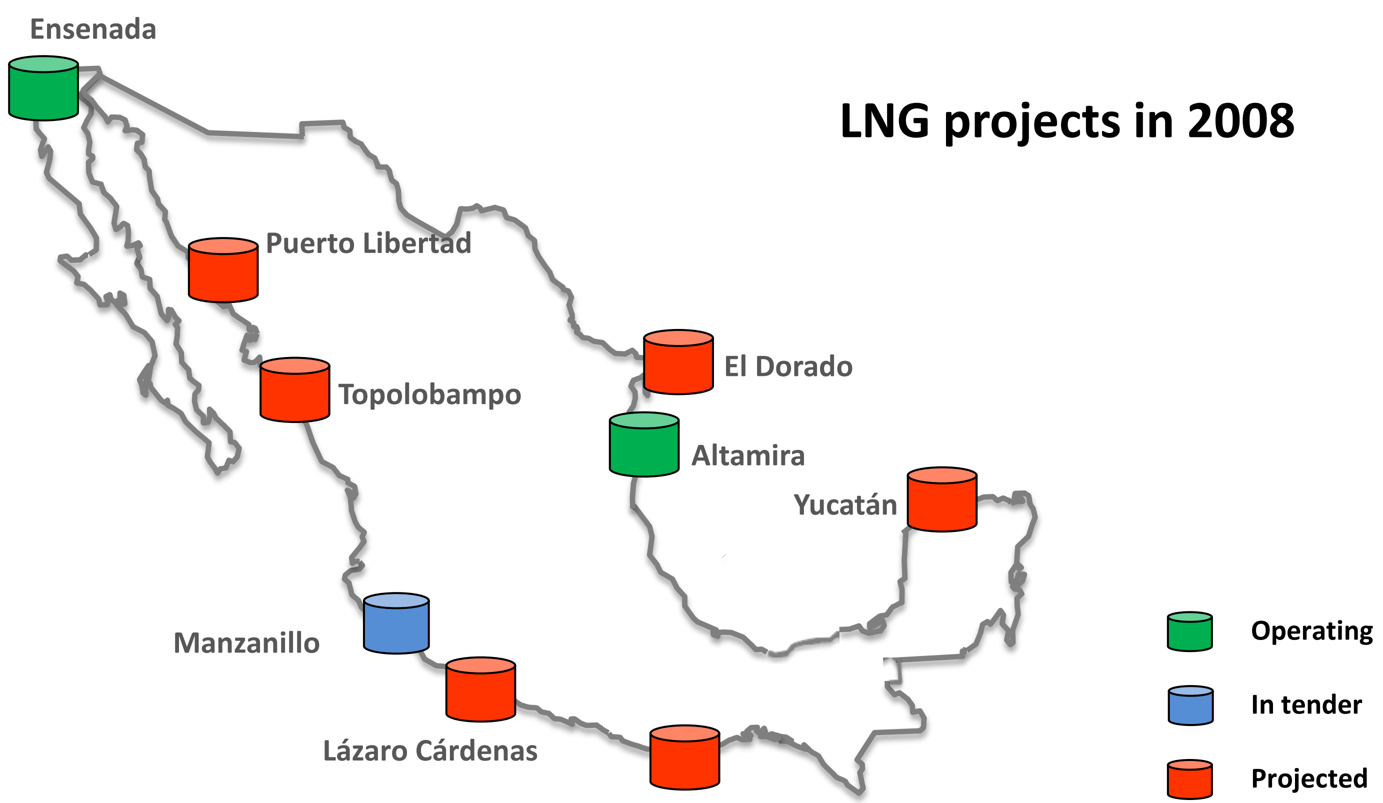


Injection point
Acuña, Coahuila
Agua Prieta, Sonora
Altamira, Tamaulipas
Argüelles, Tamaulipas
Cd. Juárez, Chihuahua
Ensenada, Baja California
Gloria a Dios, Chihuahua
Los Algodones, Baja California
Mexicali, Baja California
Monterrey, Nuevo León
Naco, Sonora
Nogales, Sonora
Piedras Negras, Coahuila
Reynosa, Tamaulipas
Río Bravo, Tamaulipas

Source: CRE. June 2012.

Change of Paradigm: LNG 2008 strategy in Mexico

In **2008** Mexico's natural gas supply **strategy considered several LNG projects**



The **USA** was also **contemplating the construction of 42 regasification plants**, in order to meet the projected demand.

Change of paradigm

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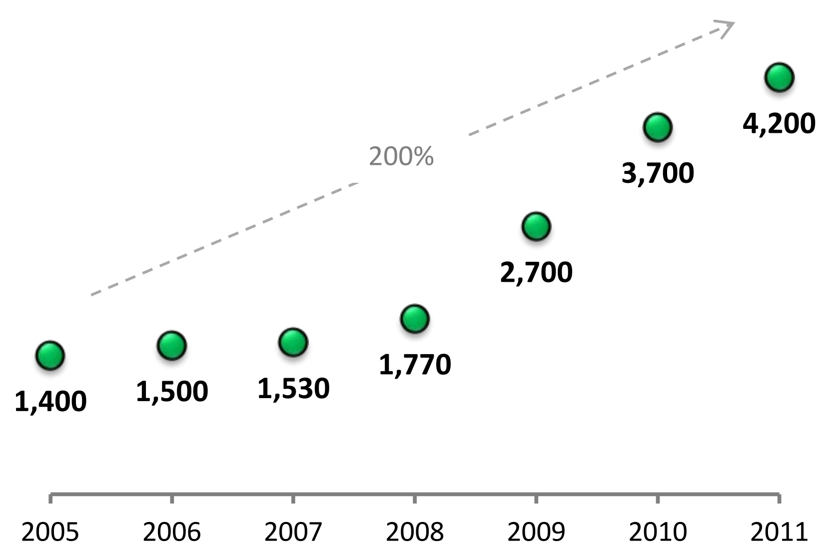
Natural gas strategy changed dramatically as a result of the **shale gas revolution in the USA.**

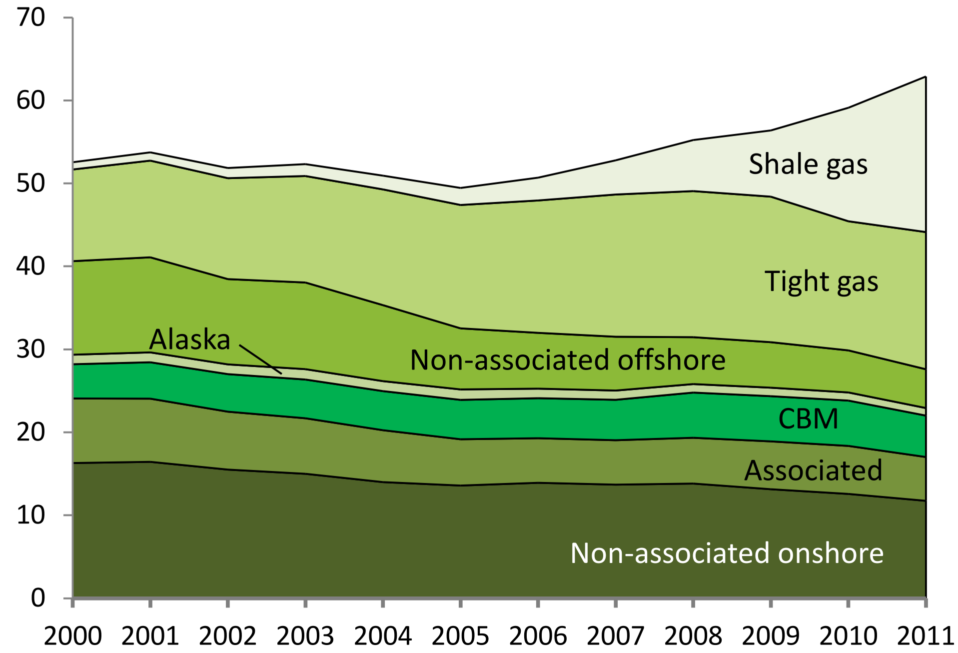
In 2011, **shale gas** represented **30%** of total **natural gas production** in the USA.

Shale gas new wells initial production
(cubic feet per day)



Source: Simmons & Company, "Perspectives on the Eagle Ford, November 2011".

U.S. natural gas production by source
(billion cubic feet per day)



Source: U.S. Energy Information Administration, Annual Energy Outlook 2012.

Change of paradigm: Natural gas prices

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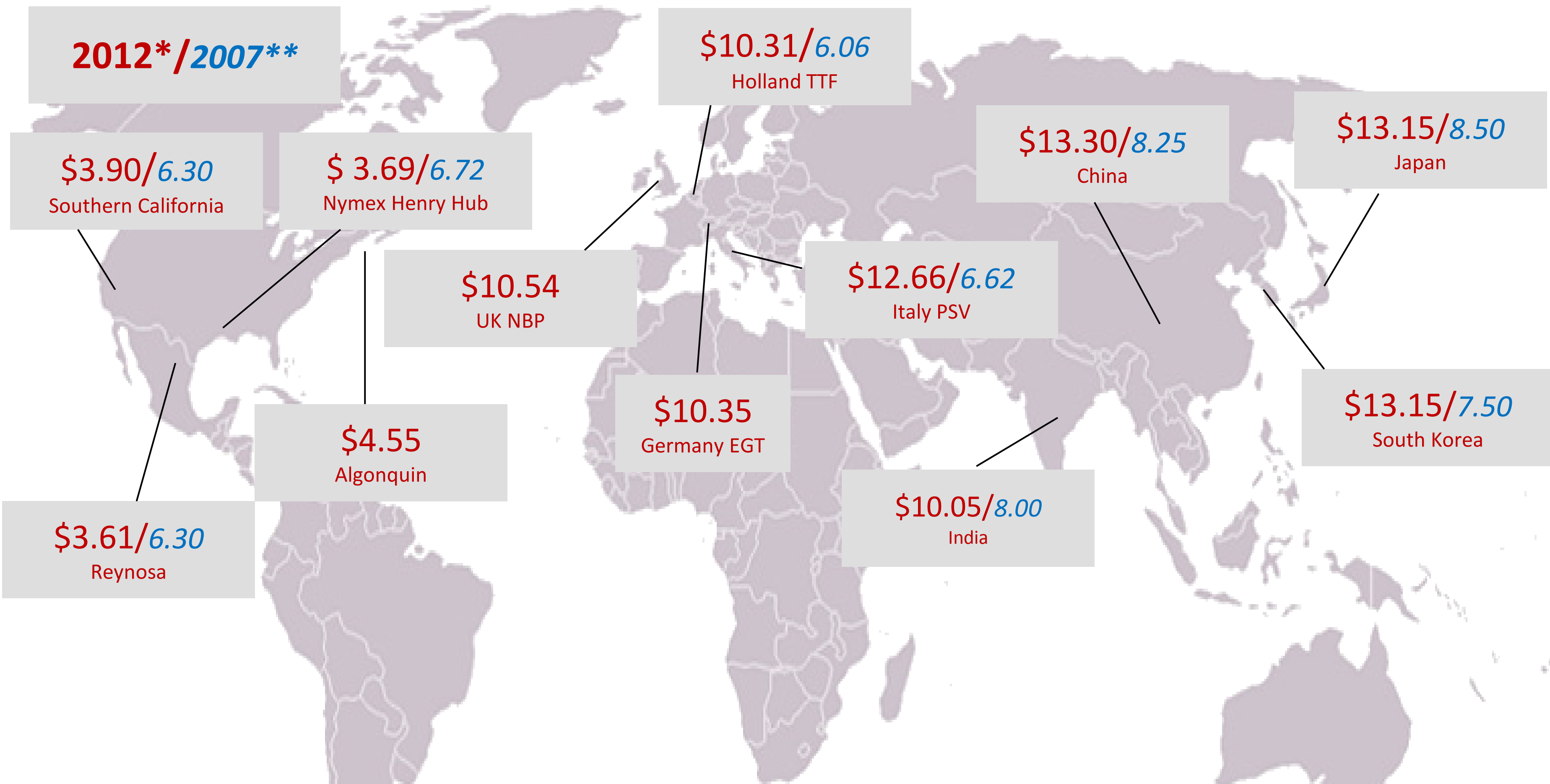


* October 31 2012, spot prices (USD/MMBtu)
** September 2007, spot prices (USD/Mmbtu)

A **substantial increase in the supply** of this fuel in the **USA**, as well as in its reserves, has radically altered international relative prices, making **North America** the region with the **world's cheapest gas**.

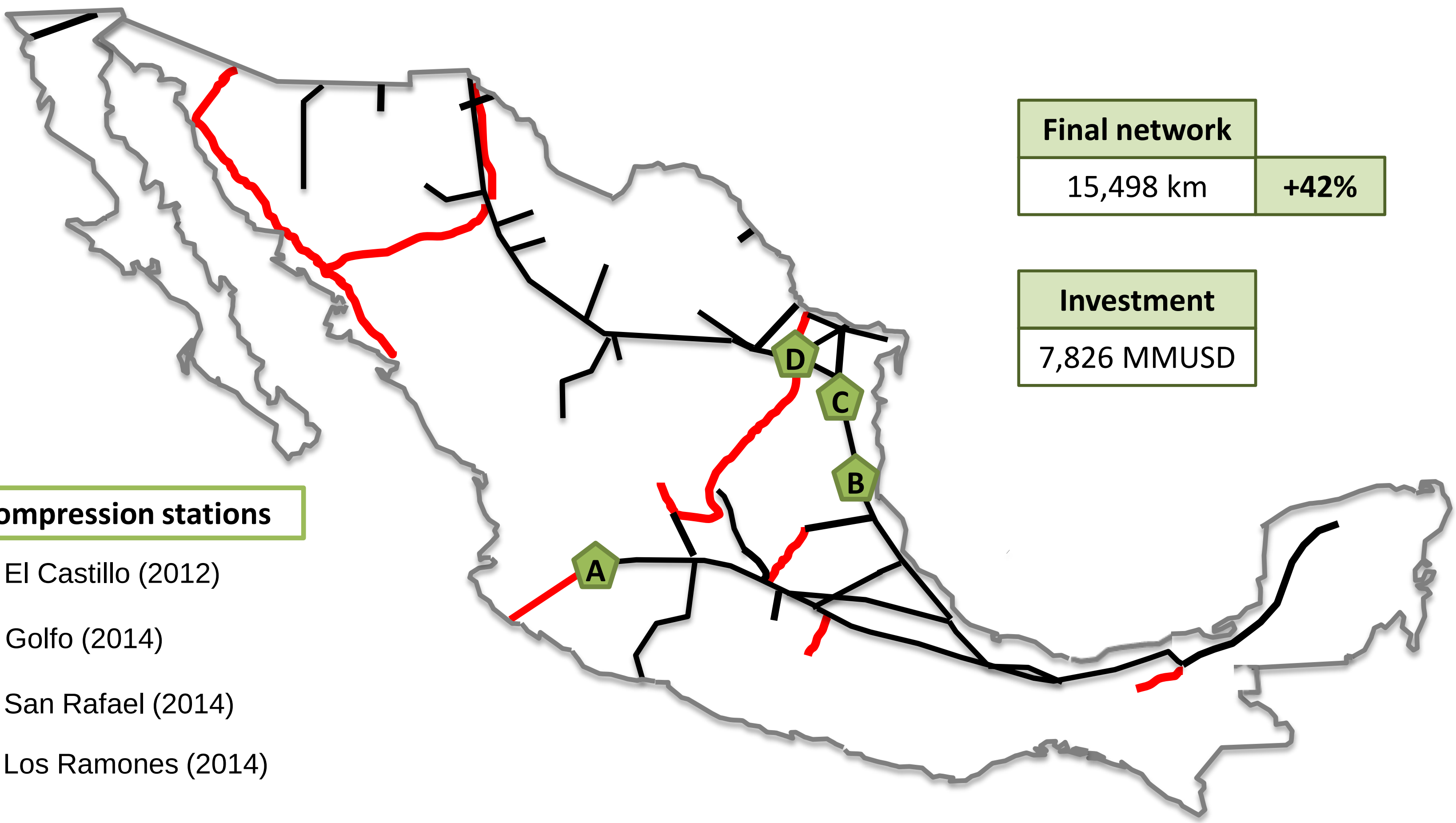
Source: Pemex Gas y Petroquímica Básica and the Platts International Gas Report.

New Strategy: Gas pipeline expansion in Mexico

2010	2011	2013	2014	2016	2017	
10,928 km	+313 km	+630 km	+365 km	+2,041 km	+1,221 km	
	+500 MMCFD	+1,470 MMCFD	+670 MMCFD	+1,606 MMCFD	+2,100 MMCFD	**6,326 MMCFD**

Final network	
15,498 km	**+42%**

Investment
7,826 MMUSD



Compression stations

- A El Castillo (2012)
- B Golfo (2014)
- C San Rafael (2014)
- D Los Ramones (2014)

New Strategy: Shale gas around the world

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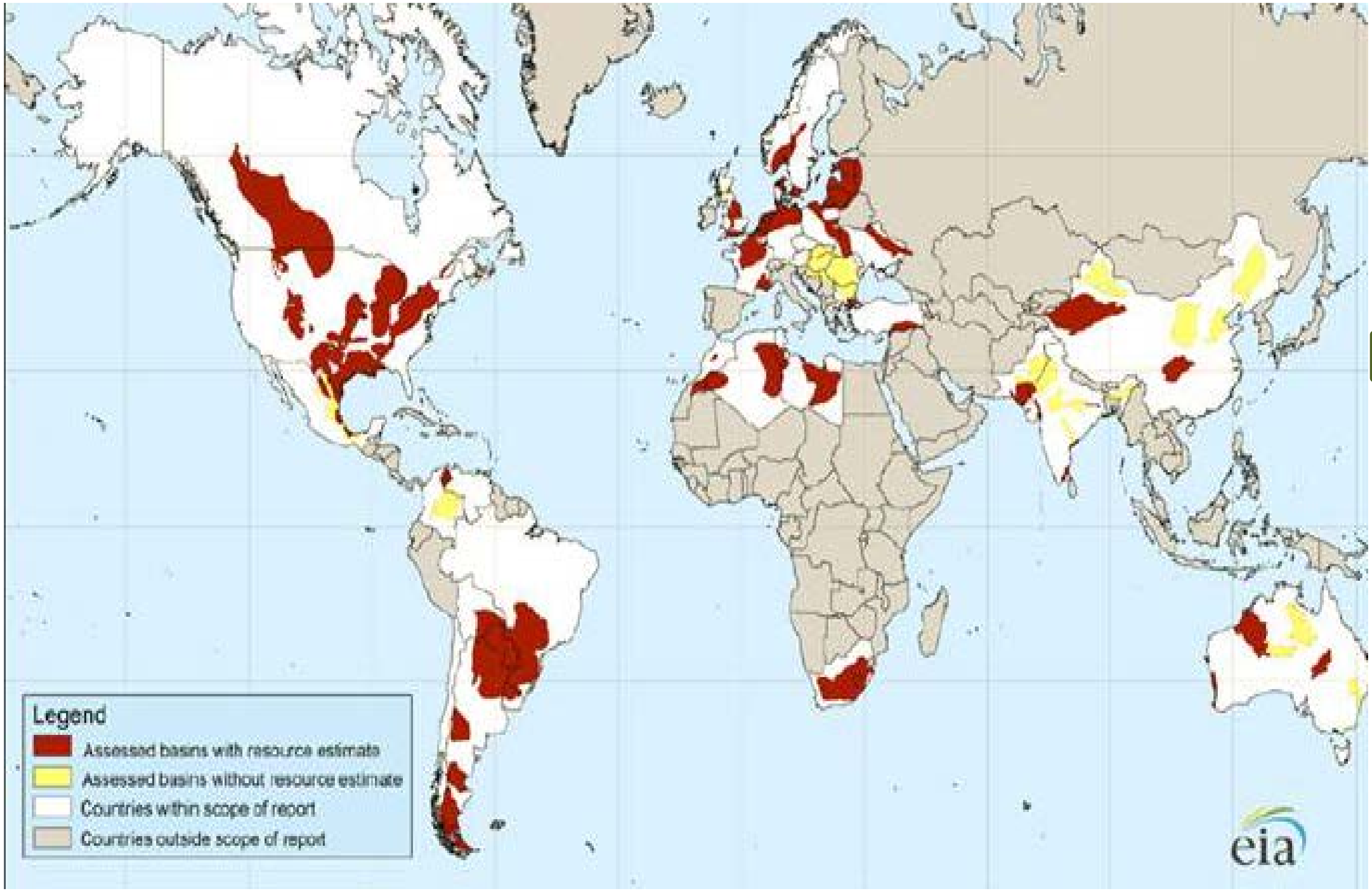
Mexico has a great potential to exploit shale gas. At the current production rate, shale gas could boost up natural gas reserves up to **60 years**.



Technically Recoverable Shale Gas Resources (trillion cubic feet tcf)	
China	1,275
USA	862
Argentina	774
Mexico	681
South Africa	485
Australia	396
Canada	388
Algeria	231
Brazil	226
Poland	187
France	180
India	63
UK	20

Source: "World Shale Gas Resources: An Initial Assessment of 14 Regions Outside the United States", Energy Information Agency (EIA) USA. April 2011.

New Strategy: Shale gas production in Mexico

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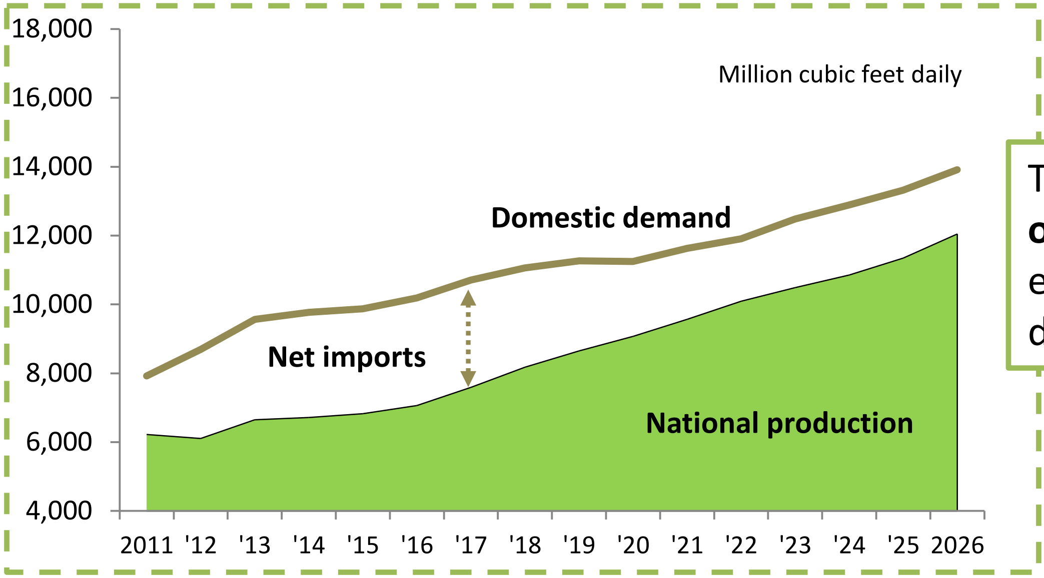

The **NES scenario** has a **greater production of natural gas**, related to shale gas exploitation, reducing imports. Even when domestic demand raises.

In contrast, in the **BAU scenario**, **exploitation of shale gas is limited**, as a result imports will increase in order to supply domestic demand, which is also driven down by a limited offer.