

The background of the slide is a photograph of an offshore oil rig at sunset. The rig's lattice structure is silhouetted against a bright, orange and yellow sky. The sun is low on the horizon, creating a strong glow and reflecting on the water below. The overall scene is atmospheric and industrial.

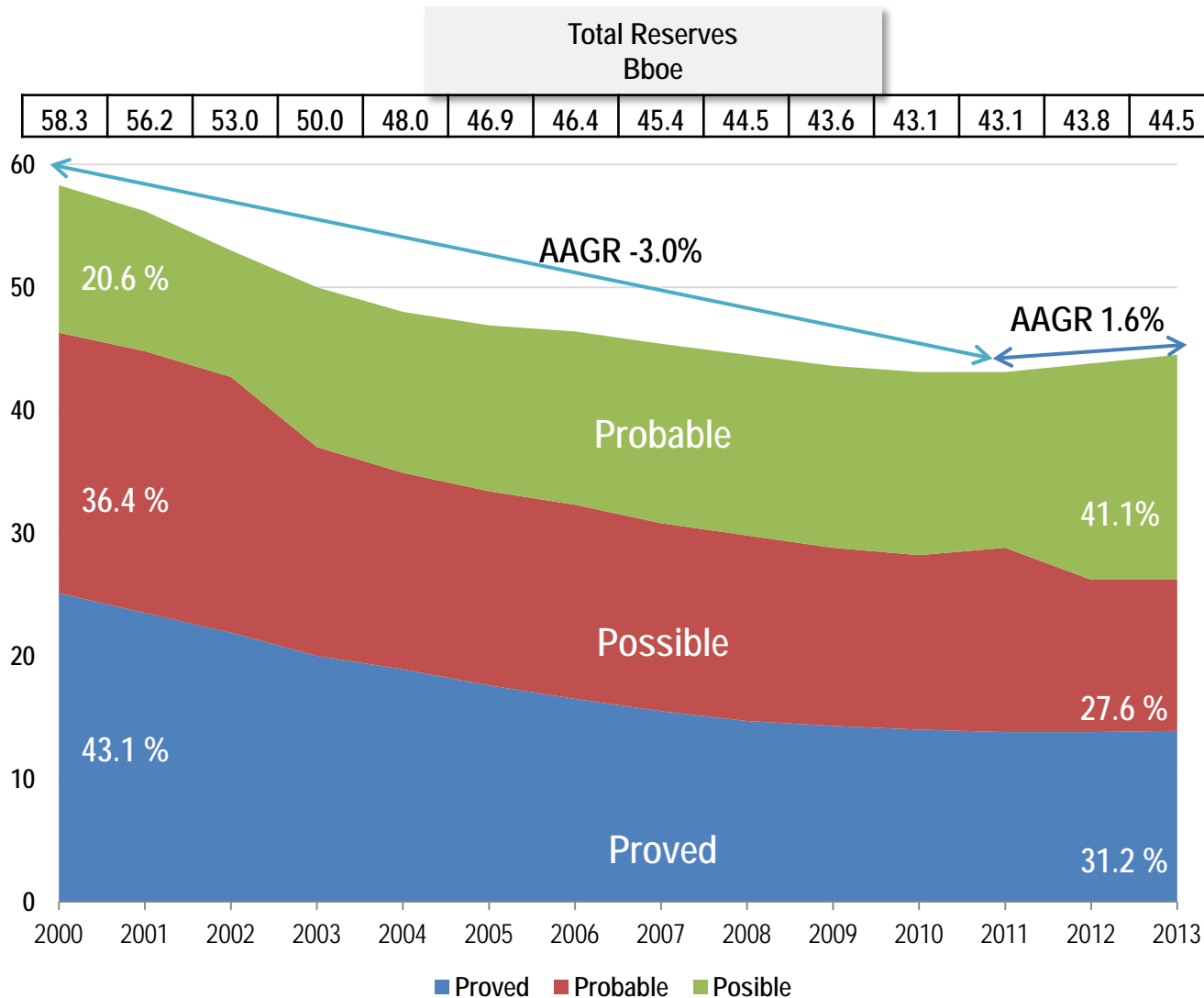
The Next Oil and Gas Reform in Mexico

*Mexico Institute
Woodrow Wilson International Center for Scholars*

Marcos y Asociados, Infraestructura y Energía S.C.
June, 2013

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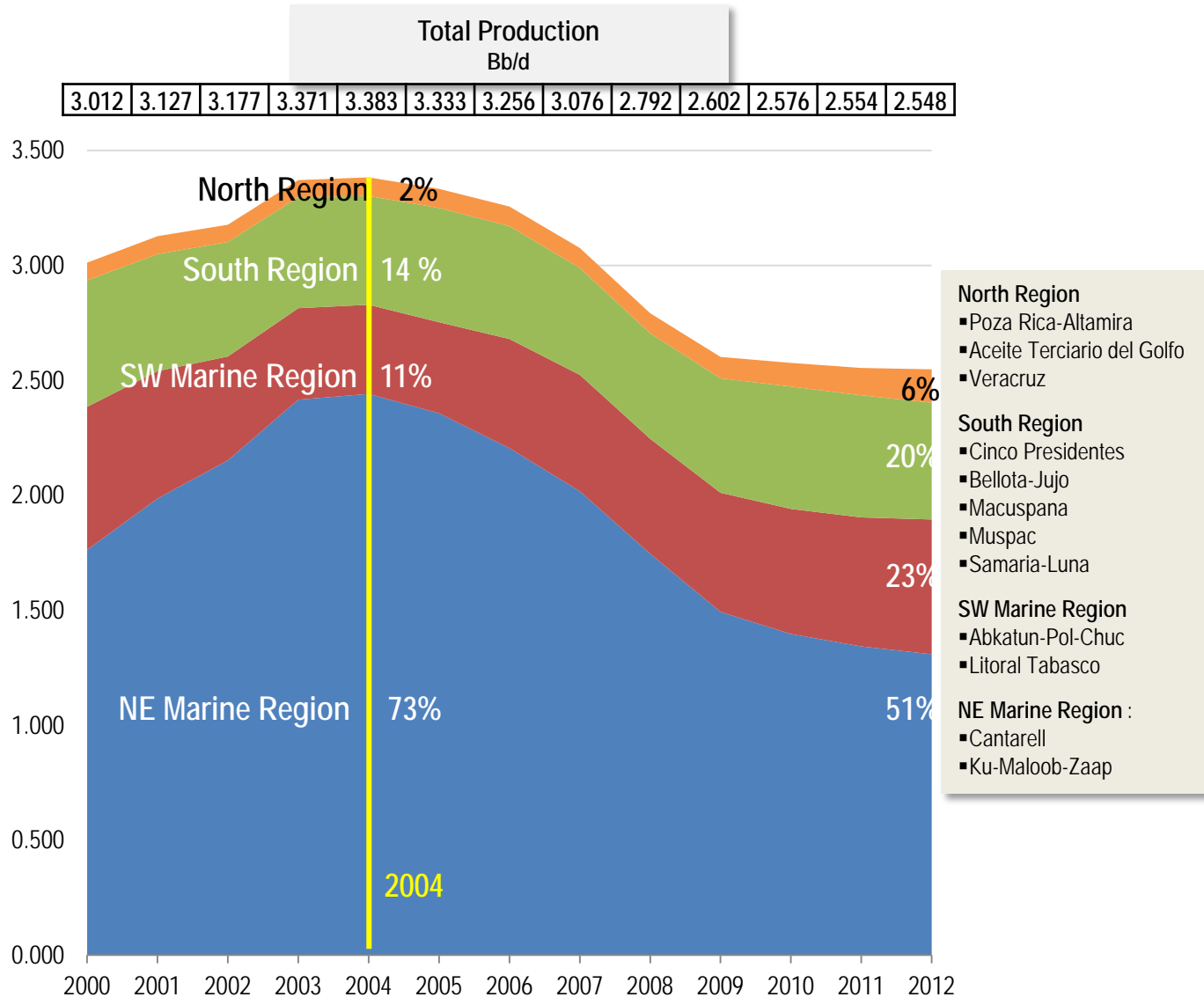
A. Mexico's hydrocarbon reserves have declined for the last 10 years



Source: Pemex

- Proven reserves were the most affected
- The declining tendency changed in 2011. Replacement rate above 100%
- Main reserve additions in 2011 comprise discoveries in shallow and deep water. Some inland
- In 2012, Pemex announced three major discoveries in the Gulf of Mexico:
 - Trion 1: 8,200 feet of water depth and 350 MMB of potential oil reserves
 - Kunah-1: 7,000 feet of water depth and 1.5-2 Tcf of natural gas
 - Supremus 1: 9,500 feet of water depth and 125 MMB of oil
- In addition, there was a discovery of an inland field: Navegante, with up to 500 MMboe of potential reserves

A. Oil production has dropped 835 MBD since 2004

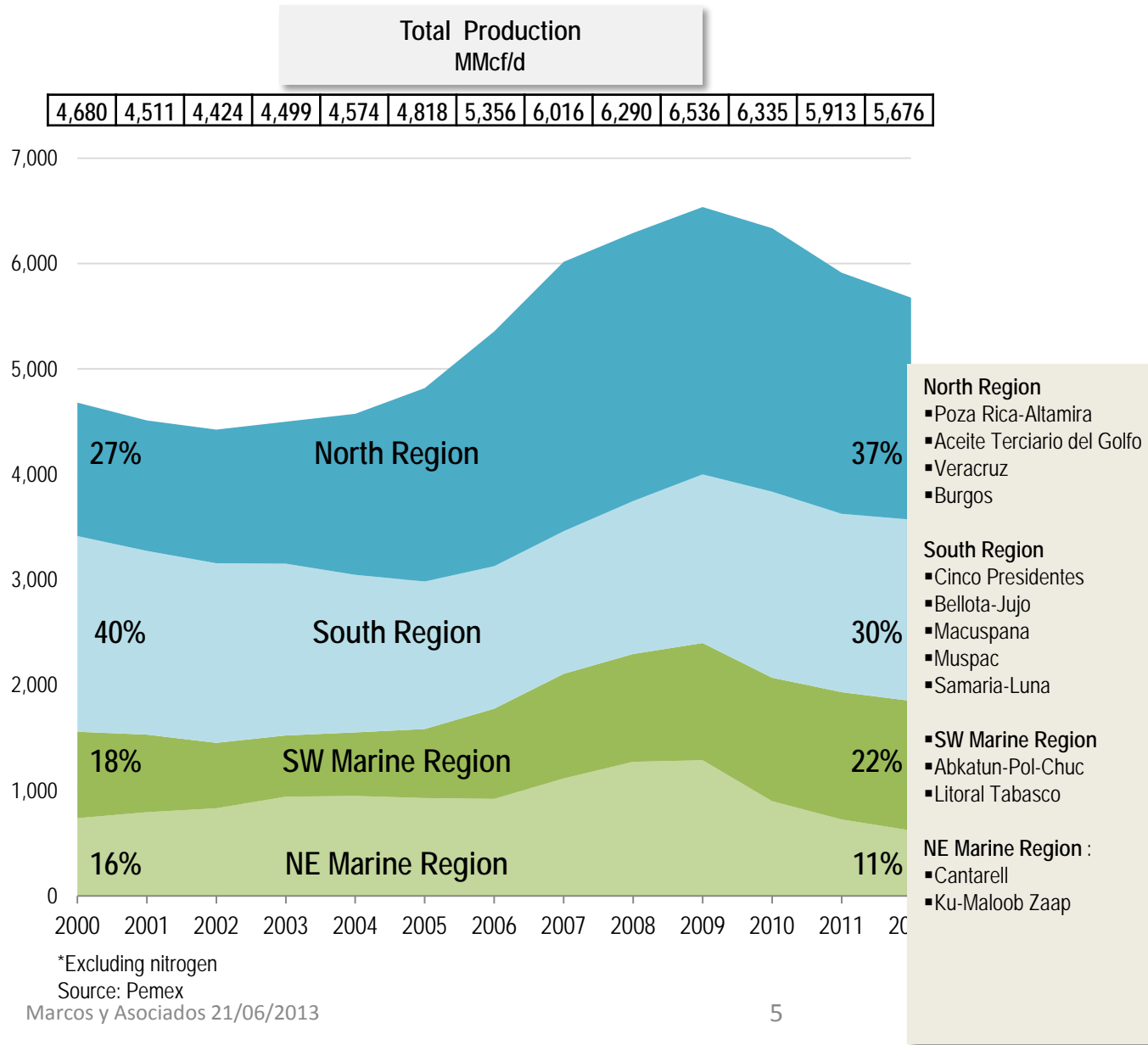


- Since its peak in 2004, oil production decreased due to the steep decline of Cantarell
- Production is expected to increase again, according to official estimates, mainly in the marine region
- Ku-Maloob-Zaap represents 1/3 of total crude production

Source: Pemex

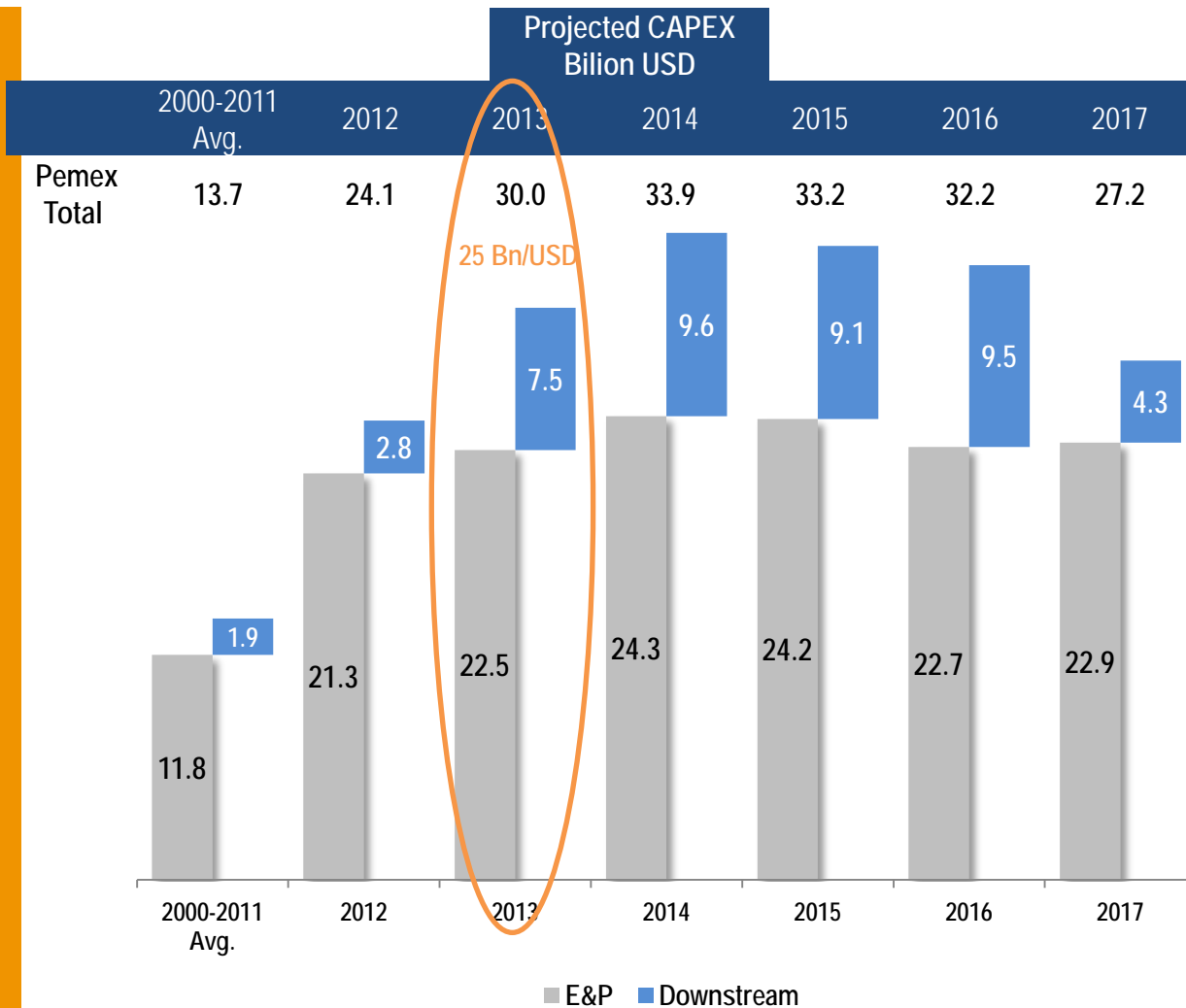
Marcos y Asociados 21/06/2013

A. Natural gas production* increased momentarily until 2009; has declined since



- Natural gas production expanded from 2003 to 2009 mainly due to an increasing output from the North Region (Burgos)
- However, production declined again recently due to lower output from NE Marine Region
- Since 2006, some of the nitrogen injected in Cantarell and other fields has surfaced, affecting gas specs.

B. Pemex capital expenditure for 2013-2017, expected to increase

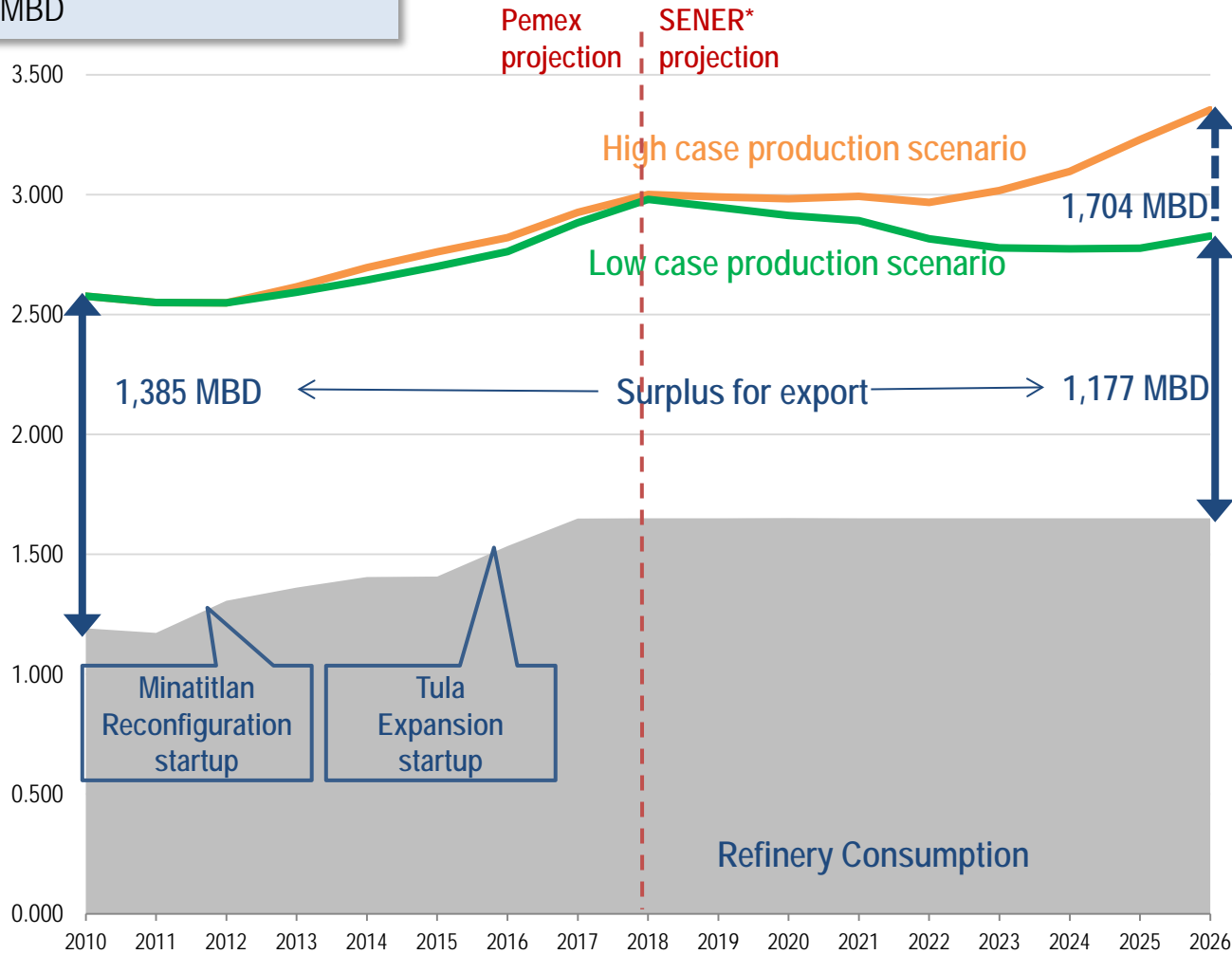


- Pemex E&P investments between 2013-2017 expected to average 23.3 Bn
- Downstream CAPEX growth during 2013-2016 would come from the new Tula Refinery project
- However, the 2013 CAPEX of 30 Bn/USD planned by Pemex was reduced to 25 Bn/USD, affecting mainly anticipated investments for the new Tula Refinery

Source: Pemex, Business Plan 2013-2017

B. An increase in CAPEX should favor long term oil production and exports

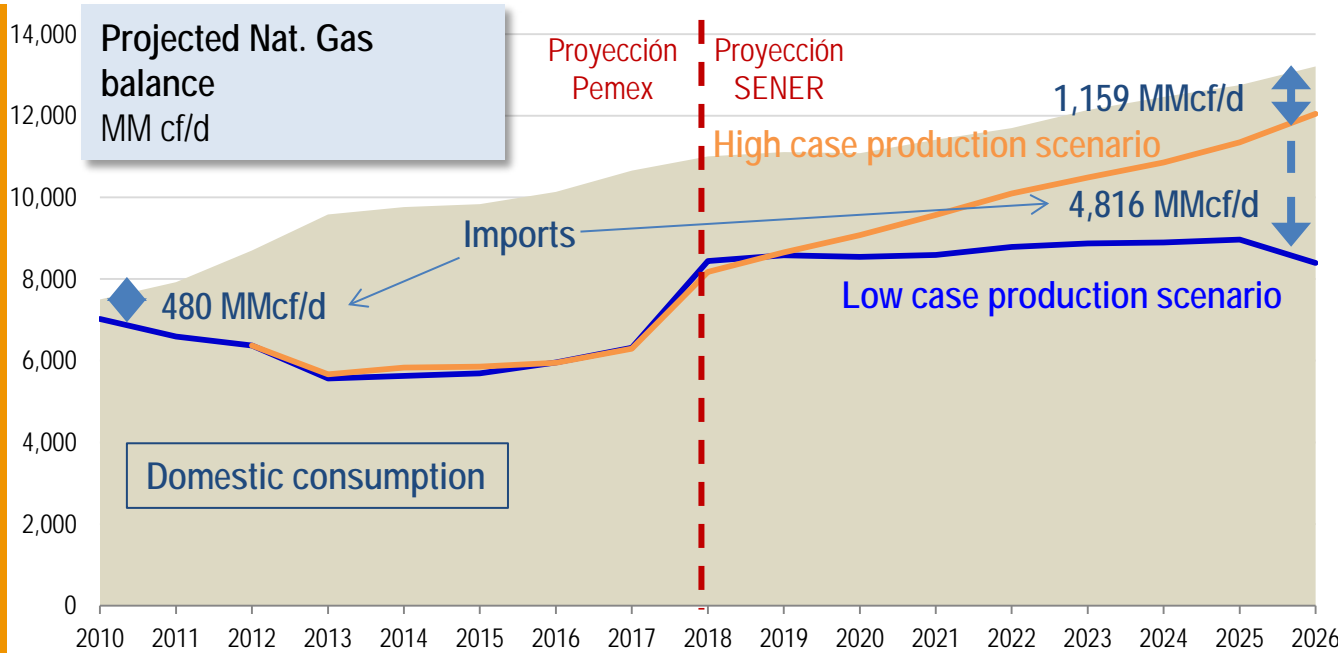
Projected crude oil balance MBD



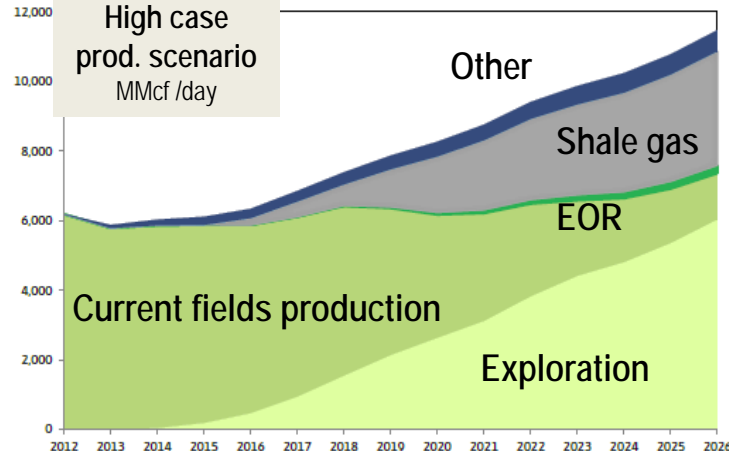
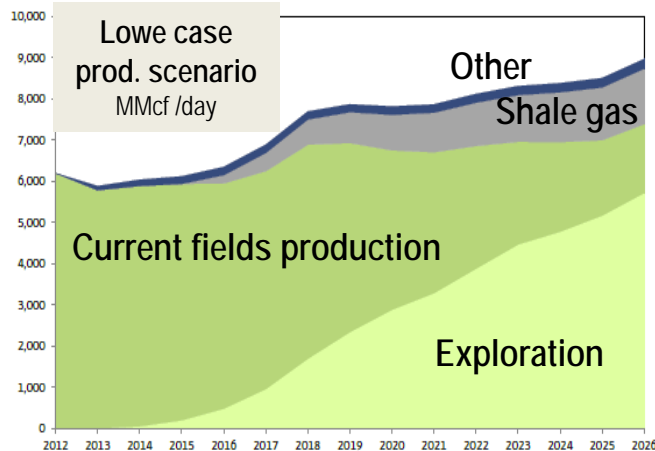
- In the low case scenario, a 0.67% annual production growth rate is forecasted, which would lead to a stable oil surplus for export
- In the high case scenario, production would grow 1.9% per year, expanding the export base

Source: Pemex, Bussines Plan 2013-2017. *Secretaria de Energía (SENER), Crude oil prospective 2012-2026

B. Long term natural gas balance would grow, but remain below consumption levels

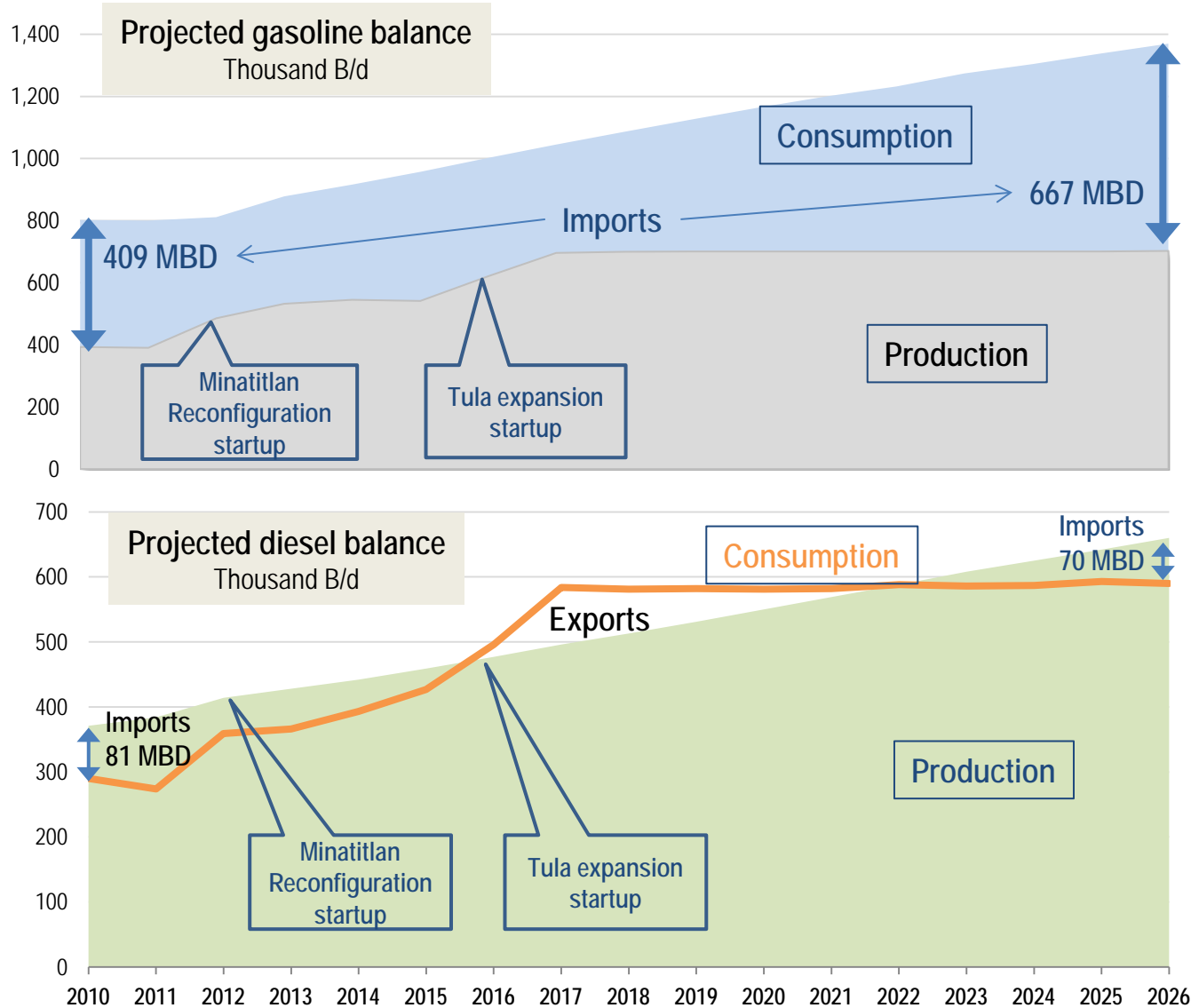


- In the low case scenario, between 2013 and 2026 production grows 3.2% per year, vs. a 2.5% annual average consumption growth, increasing imports
- In the high case scenario, production grows 5.7% per year, reducing import volumes
- In both cases, a growing participation of shale gas production and new discoveries are required
- Natural gas imports in 2012 averaged 2,200 Mcf/day



Source: Secretaría de Energía (SENER), Natural Gas prospective 2012-2026

B. Projections do not consider major downstream investments beyond current projects



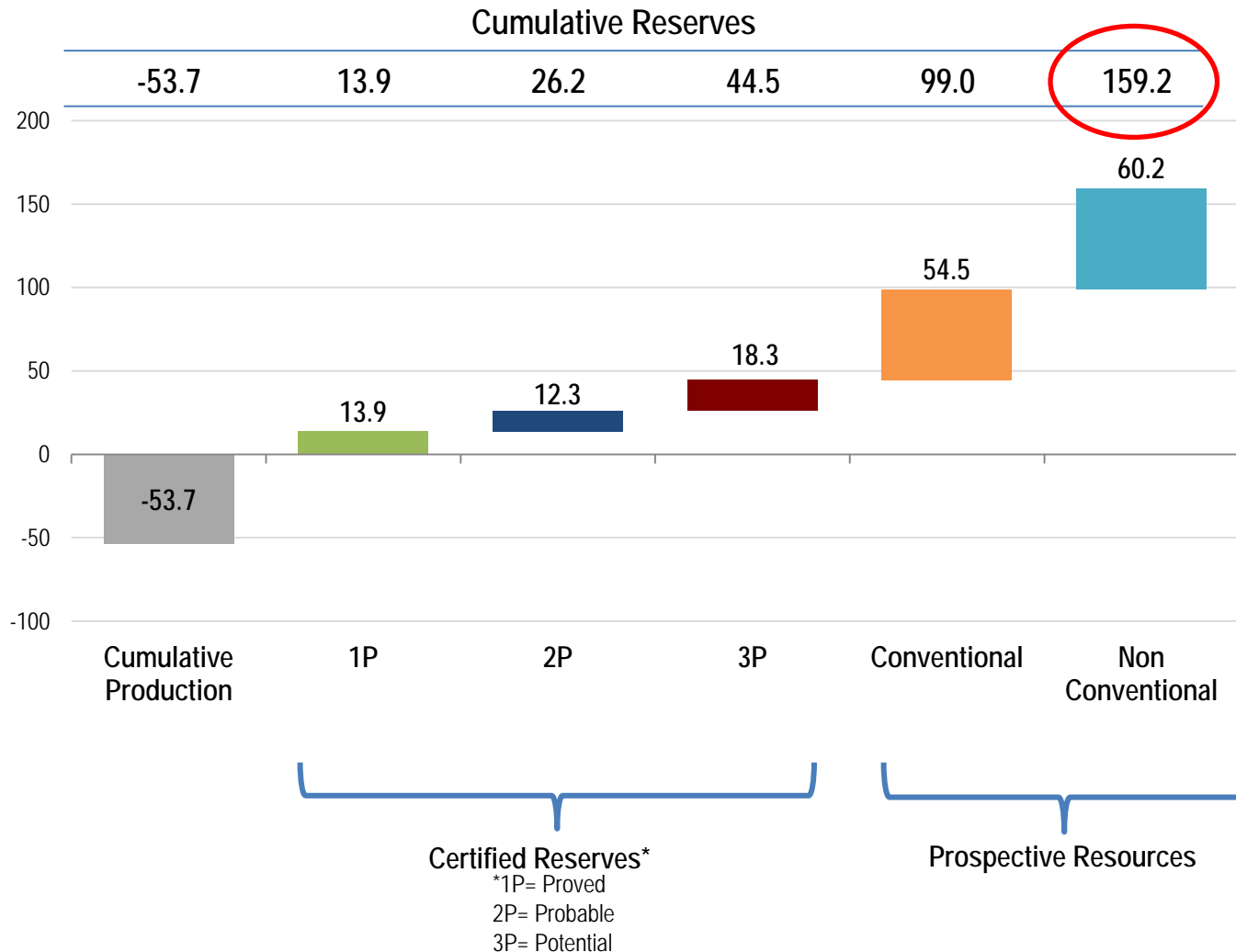
- Besides Minatitlán and Tula additions, Pemex is not planning to install additional refining capacity
- However, investment for the new Tula refinery (250 Mb/d of crude distillation capacity) has not been fully approved
- Gasoline imports represent around half of national consumption, throughout the whole period
- Diesel supply/demand balance would be less critical
- With oil fuels consumption growth above 3% per year, Mexico would become a net importer of hydrocarbons

Source: Secretaría de Energía (SENER), Refining Industry prospective 2012-2026

C. However, Mexico has a promising potential of O&G resources that need to be developed

Hydrocarbon reserves potential as of January 1st 2012

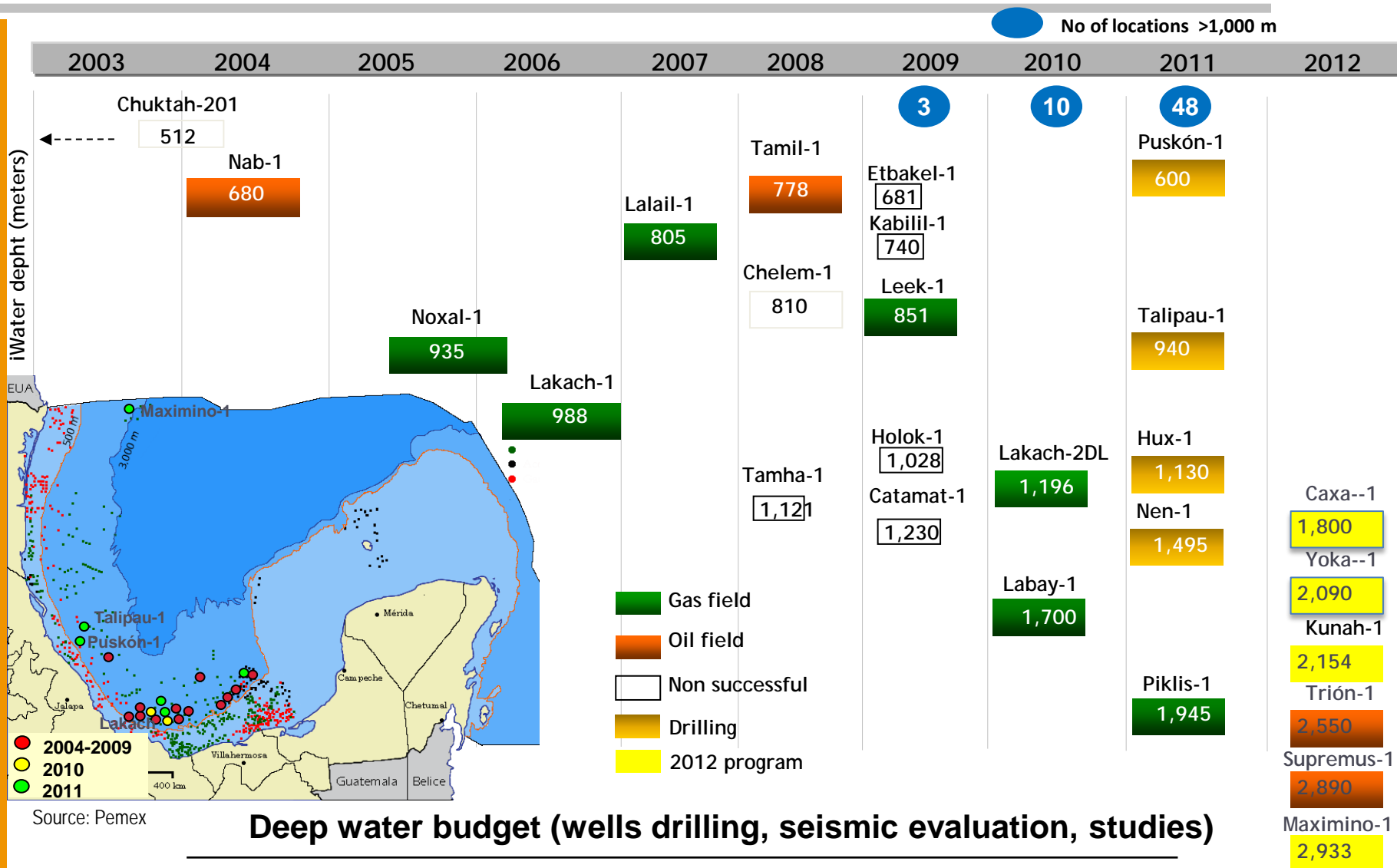
Bboe



- Mexico's certified hydrocarbon reserves as of 2012 reached 44.5 billion boe, of which 31.2% are proven (1P)
- Prospective resources estimated in 115 billion boe, 52% of which are non conventional

Source: Pemex

C. Pemex Gulf of México deepwater exploration results are promissory



Source: Pemex

Deep water budget (wells drilling, seismic evaluation, studies)

2011

1.15 Billion USD

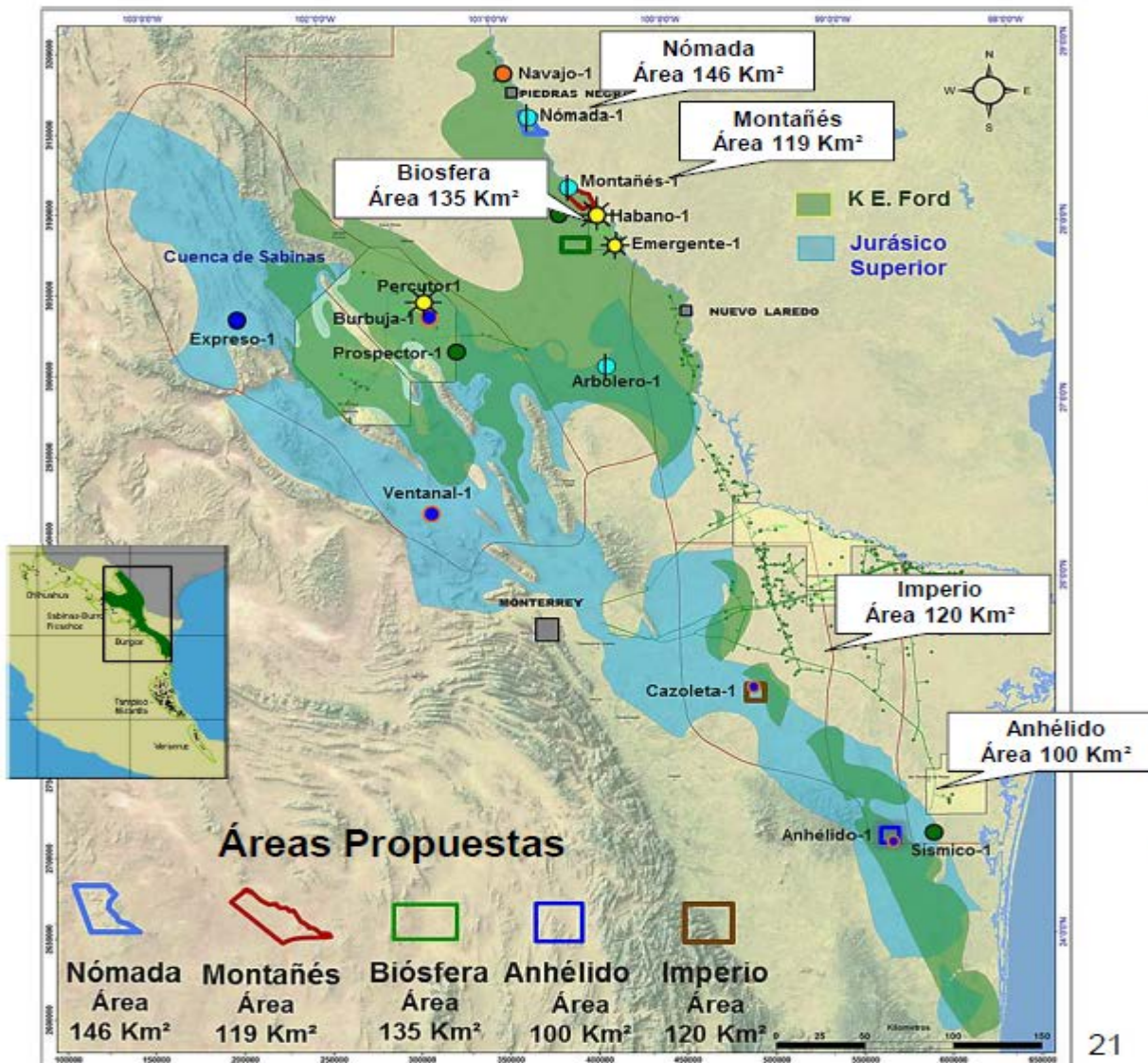
2012

1.08 Billion USD

2013

2.7 Billion USD

C. For shale plays, Pemex will explore selected areas



- Pemex is proposing to explore 5 potential shale plays in NE Mexico through “field laboratories”, contracts where service companies are assigned specific areas to explore and assess potential resources on behalf of Pemex
- The proposed areas in Km2 are:
 - Nómada 146
 - Montañés 119
 - Biósfera 135
 - Anhéldo 100
 - Imperio 120
- Pemex has already drilled 5 exploratory wells in this region with positive results
- However, It will take many years for Pemex to develop this resources alone

D. Reform Agenda

Ownership and management of hydrocarbon resources will remain under Mexican State jurisdiction, as much as Pemex as the National Oil Company (Agreement N° 54 PPM*)

I

Strengthen Pemex as a Public Productive Company to compete in an open market:

- Transform Pemex into a “Public Productive Company”, (A. 55) relieving it from its monopoly duties
- Create a truly independent Pemex Corporate Board (A.55), with capacity to negotiate alliances with other oil companies
- Maximize hydrocarbons “economic rent” (A.56), and introduce a competitive fiscal regime for Pemex and other operators
- Negotiate a more flexible labor contract

II

Reinforce the regulatory Agencies and its legal capacities to oversee Pemex and private newcomers to the industry

- National Hydrocarbons Commission (A. 58)
- Energy Regulatory Commission
- Economic Competition Commission
- Establish obligations for Pemex to adopt efficiency and transparency policies equivalent to other global oil companies (A. 58)

III

Introduce a gradual and selective liberalization of the O&G industry and promote market competition:

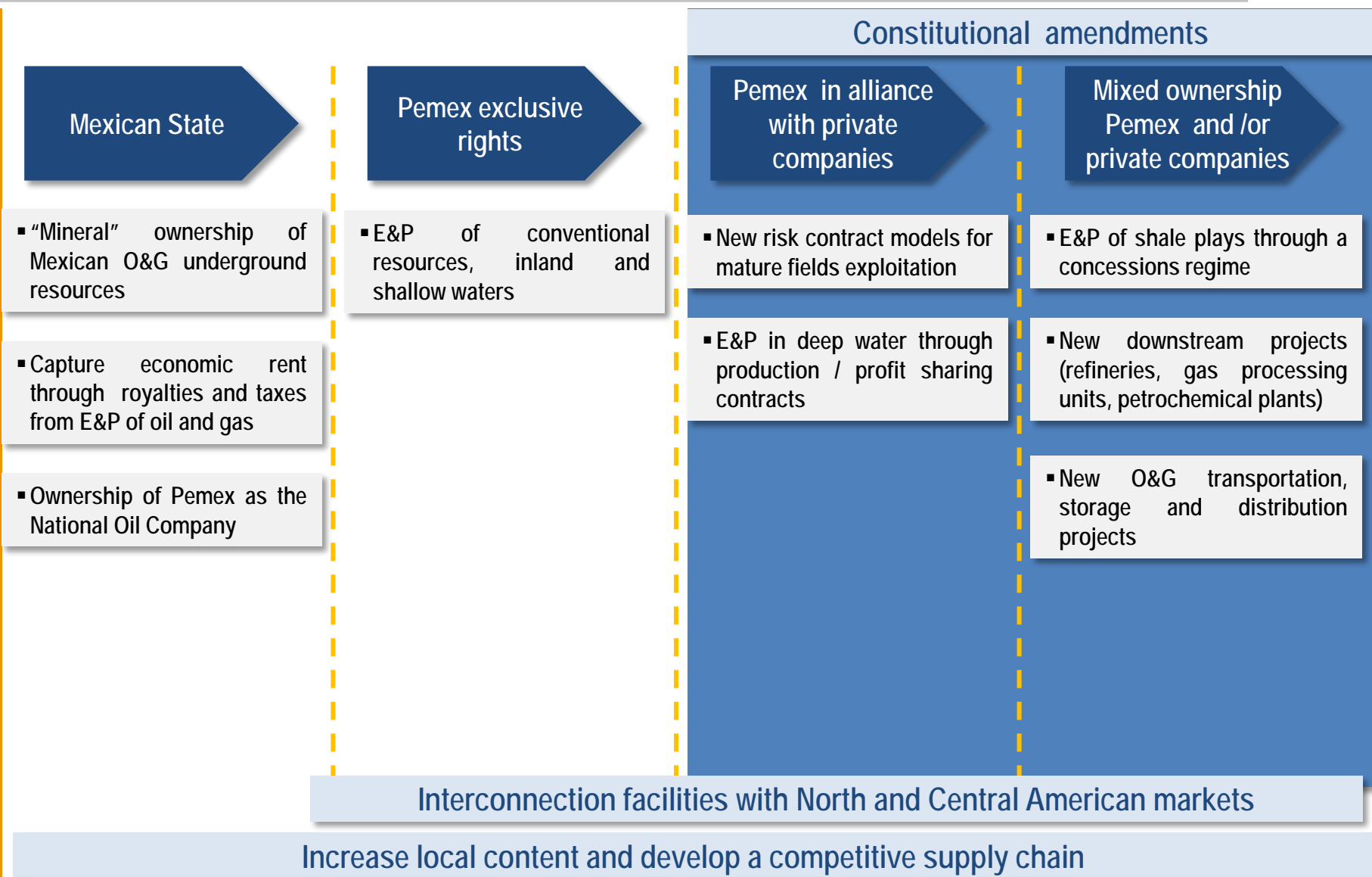
- Establish a new concessions regime (similar to mining) to promote development of unconventional resources
- Allow private investment in downstream activities: refining, gas processing and petrochemicals, including transportation, storage and local sales (A. 57)
- Eliminate price controls

IV

Promote the development of a local supply chain, the increase in local content (A. 59) and the development of an indigenous technology base for the oil industry

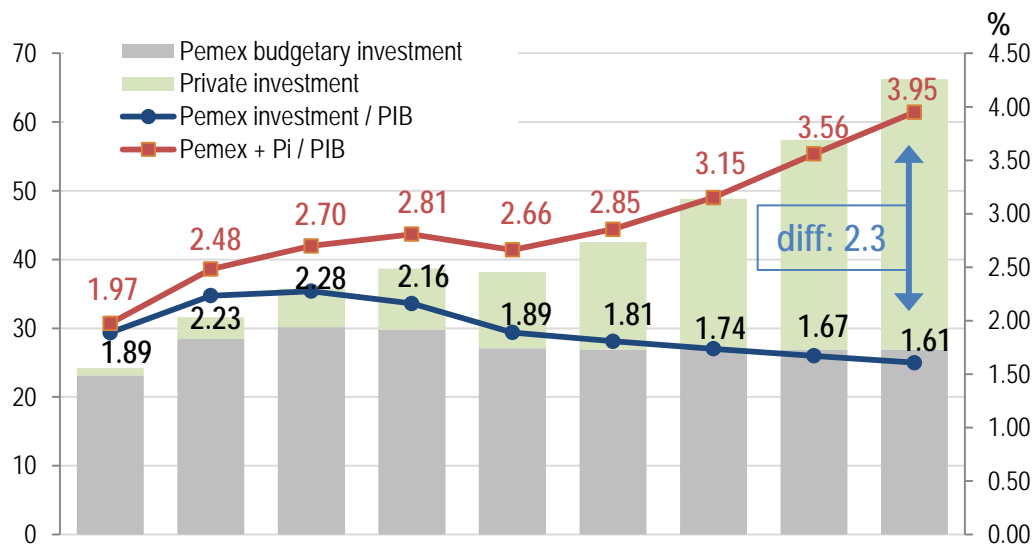
*Pact for Mexico agreement

D. Mexican O&G industry long term vision



D. Estimated impact of aggregate CAPEX

Billion USD



Private participation would increase CAPEX in the O&G industry by 2.3 points of GDP, in addition to Pemex planned Investments

	2012	2013	2014	2015	2016	2017	2018	2019	2020	Suma	AGR
Pemex budget CAPEX	23	28	30	30	27	27	27	27	27	246	1.9
Incremental private investment											
Mature fields	0	1	1	2	2	2	3	5	6	22	
Deep water	0	0	1	2	3	5	6	8	9	33	
Shale gas	0	0	0	2	3	5	7	9	12	37	
New refining capacity	0	2	3	3	3	2	3	5	6	25	
Petrochemical feedstocks	0	0	0	0	0	0	0	1	1	3	
Natural gas pipelines	0	0	1	1	2	3	3	3	3	16	
Power cogeneration	0	0	0	1	1	1	1	1	1	5	
Petrochemicals	0	1	1	0	1	1	2	3	4	13	
New downstream infrastructure	0	0	0	1	2	2	3	4	5	16	
Total	1	3	7	11	15	21	28	37	46	170	
Pemex + private investment	24	32	37	41	42	48	55	64	73	416	14.8
Mex GDP current prices	1,225	1,274	1,325	1,378	1,433	1,491	1,550	1,612	1,677	12,966	4.0
Pemex Investment / GDP	1.89	2.23	2.28	2.16	1.89	1.81	1.74	1.67	1.61	1.90	
Pemex+Pi / GDP	1.97	2.48	2.79	2.94	2.96	3.21	3.55	3.99	4.36	3.21	