

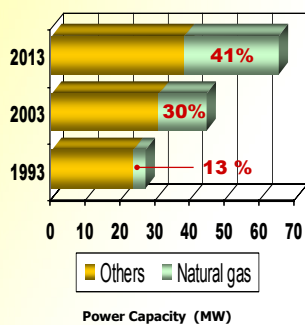
LNG in Mexico: update and regulatory perspective

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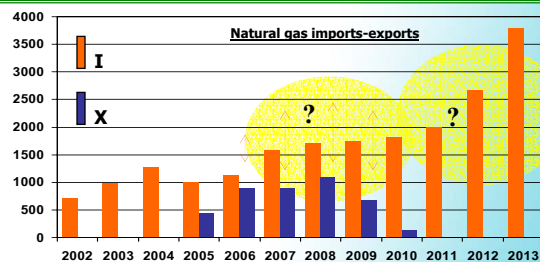
1. Mexican gas: increasing demand, short supply

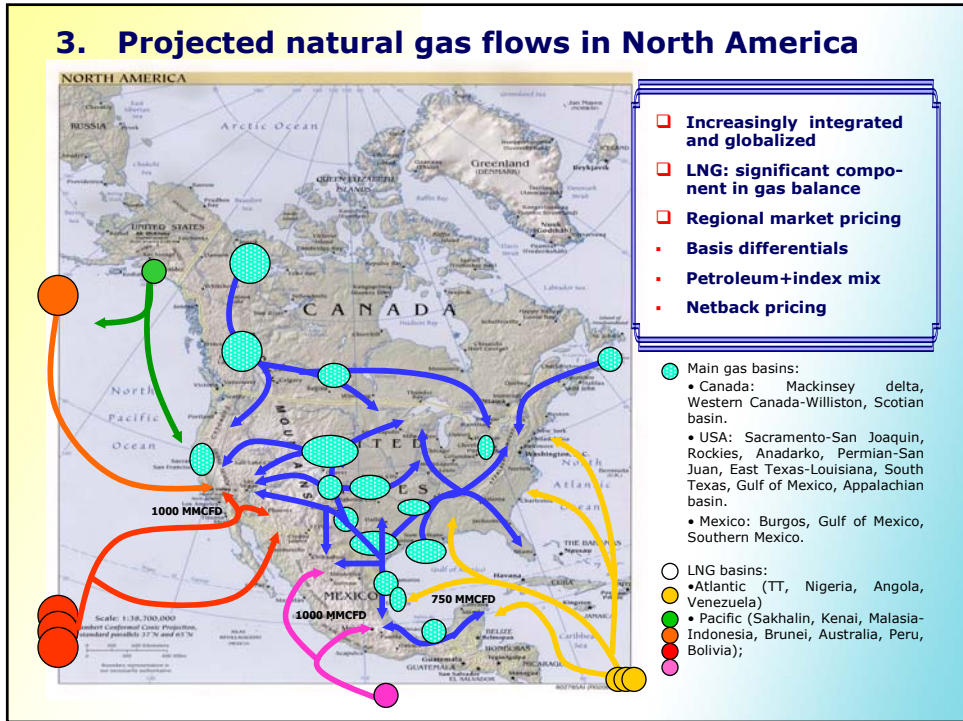
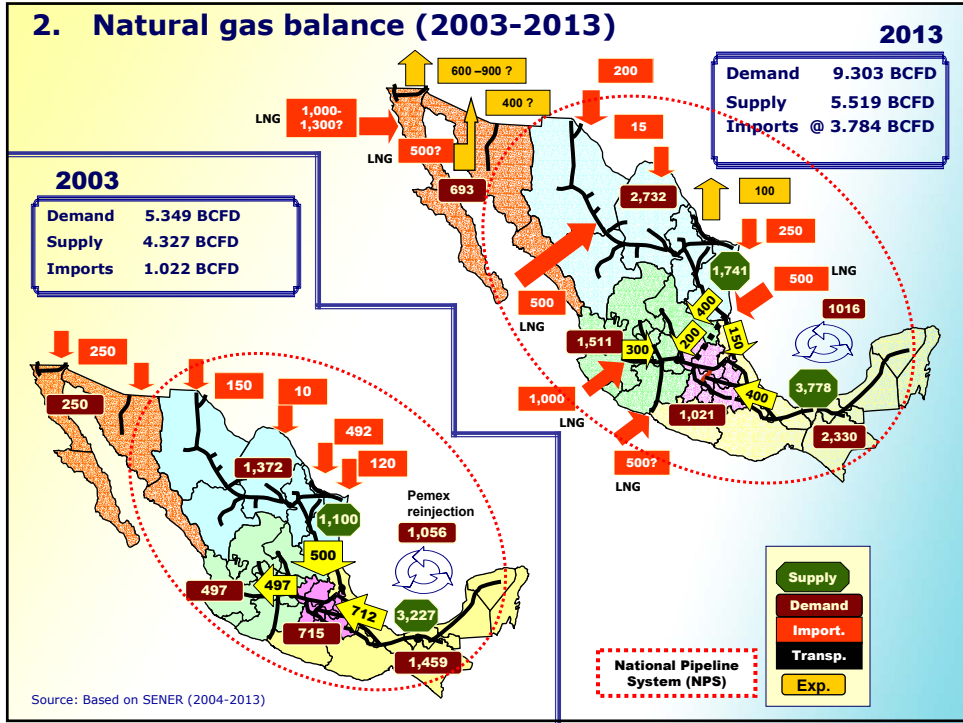
- ▶▶ Natural gas: favourite fuel since 1995 (clean air laws, turbogas & CC generation, LDC bids).
- ▶▶ Projected demand to 2013 is 9.3 BCFD, from 5.3 BCFD in 2003 (5.8% growth p.a.). Available domestic supply may only grow 3% p.a. (Base Case).
- ▶▶ Gas imports could reach 1.6 BCFD in 2007-2008, and 3.7 BCFD in 2013 (with some exports in the mid-term). 50% of domestic gas: associated.
- ▶▶ Fast-growing annual demand: power generation (10%), industry (5%) and others (over 10%, but from small base). ▶▶
- ▶▶ Actions to increase natural gas supply: PEG, MSC's, cross-border pipelines and LNG. Three to five LNG terminals may be built in the future.

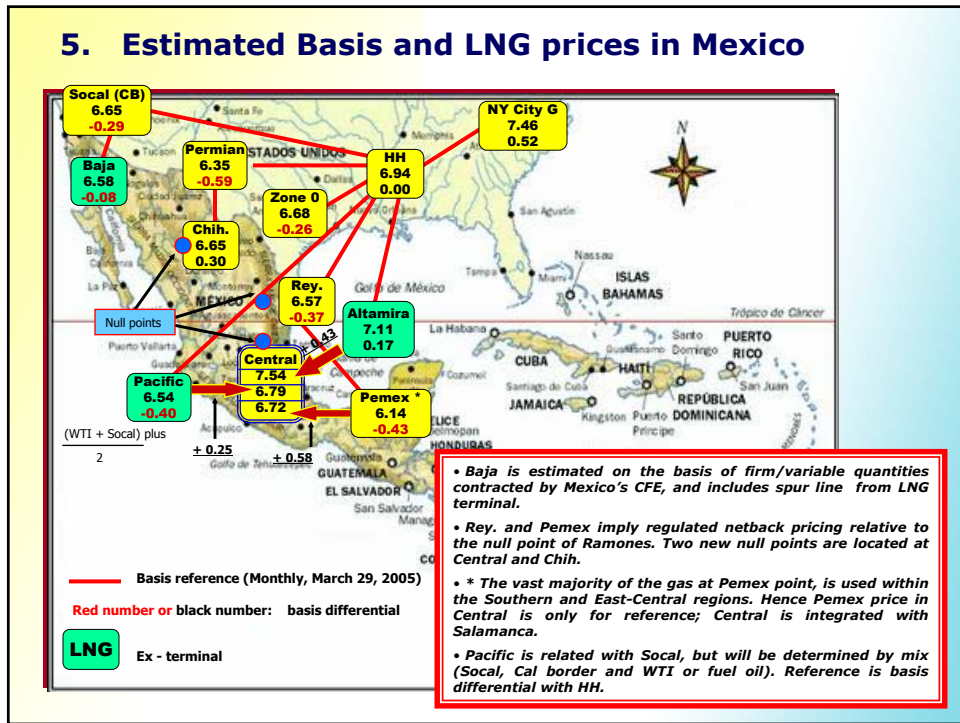
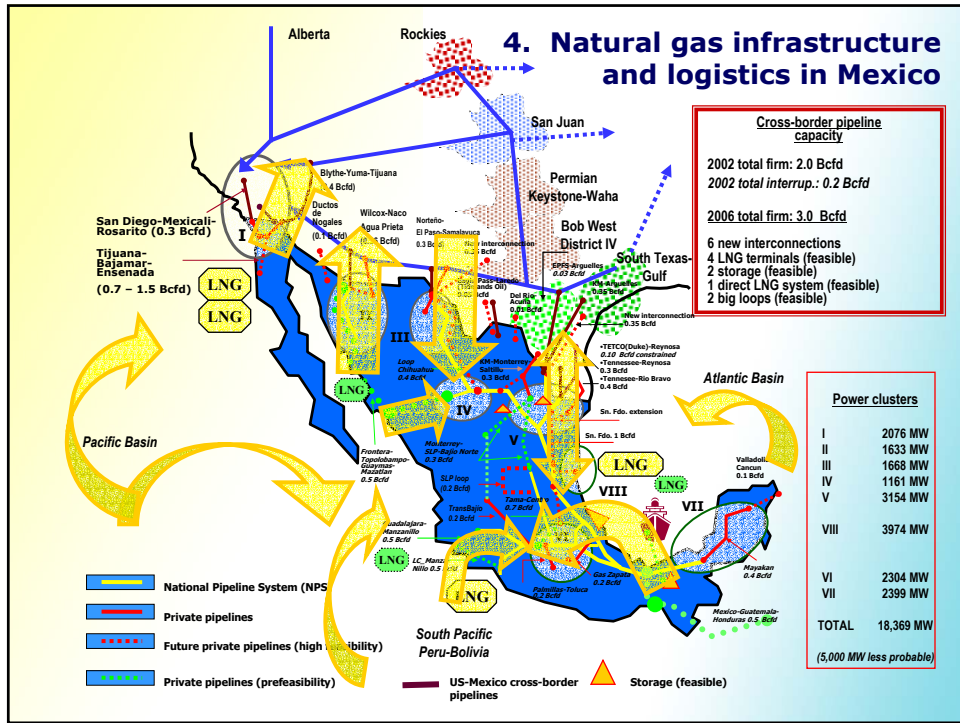


Source: based on SENER (2004-2013)

- ▶ Natural gas: premium fuel in industry and power generation .
- ▶ Power generation will dominate demand for natural gas.
- ▶ LNG plants could supply 2 BCFD and Mexico could export.
- ▶ LPG and fuel oil: still very important until 2013.



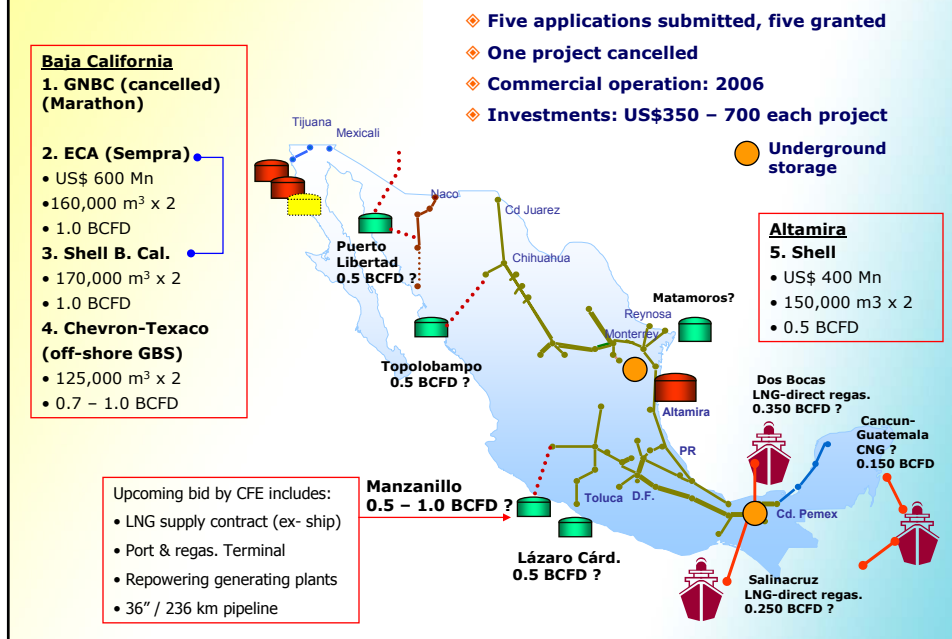




6. Regulatory aspects of LNG

Technical Regulation	Economic Regulation	Institutional coordination
<ul style="list-style-type: none"> ◆ NOMS: proven international codes and recommended practice; final NOM published: includes on-shore and off-shore. ◆ Utilization of international standards in design, construction, o&m (NFPA 59-A, API 620, EN 1330, EN 1473). ◆ Pragmatic approach: prescriptive & risk analysis. ◆ Tanks: double wall, double containment (GBS-SPB off-shore). ◆ Gas quality code: Wobbe index, dew point setting, N+Co2 limit; flexibility & risk sharing. ◆ Strict oversight and certification. 	<ul style="list-style-type: none"> ◆ Regulation as an integrated service: storage and regasification. Operating standards for variable cost. ◆ Flexible open access. Affiliate marketer and/ or third party may anchor capacity. Interruptible service available. ◆ DCF rate design, including reasonable profit over life-cycle. ◆ Capex locked at EPC, one-time review after five years. ◆ Fair & reasonable. 	<ul style="list-style-type: none"> ◆ Federal level: elaboration of NOMS. ◆ Coordination with Energy Ministry. ◆ Information exchange with local authorities. ◆ Jurisdictional issues: federal permits independent from local permits. ◆ CRE keeps open book policy and advisory service. ◆ Vested regional interests: worse than NIMBY. Federal land is an advantage (API).

7. Permit applications and future projects

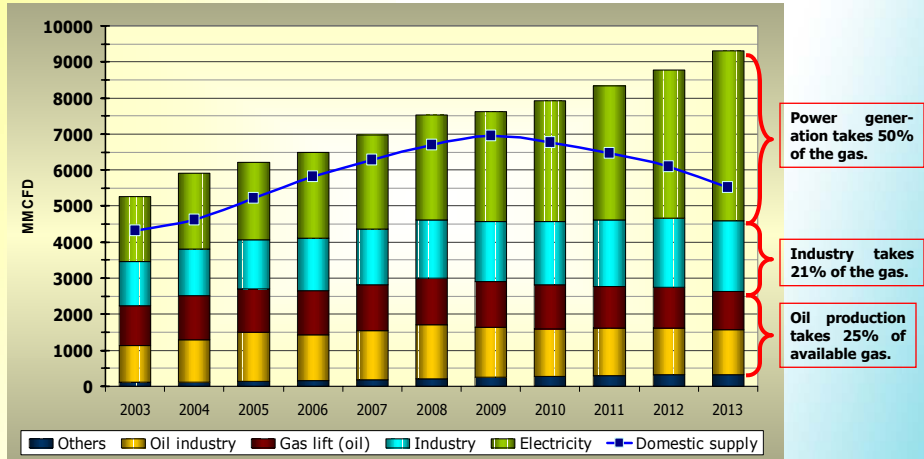


CONCLUSIONS

- ■ Natural gas demand will continue to expand rapidly in Mexico, especially in the power sector. It is the fuel of choice, but security of supply is a pressing issue.
- ■ LNG is strategically important for Mexico:
 - North-West: significant US energy dependence coupled with high energy demand and investments in Mexico;
 - North-East: supply insurance and import diversification. Also price competition; could re-export to US;
 - West coast: supply balance, flow reversal and price competition.
- ■ Cross-border energy trade and interconnections will continue to grow and flows will become bi-directional. However, Mexico cannot rely on US imports for more time: energy trade restrictions across the border will also affect Mexico's oil exporting capability.
- ■ Natural gas in North America will become more integrated, but LNG (especially on the Pacific) will decouple Mexico from South Texas markets and pricing formulas will have to change.
- ■ LNG in Mexico will lower domestic gas prices, substitute for imports from USA, create significant energy infrastructure, and foster regional growth. Mexico could develop own reserves and export into more expensive markets.

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Mexico: natural gas balance (2003-2014)



Source: Based on SENER (2004-2013)

