Balancing the North America Gas Market

CFE from Market Taker to Market Maker



Management Consulting



Mexico as a net importer of natural gas

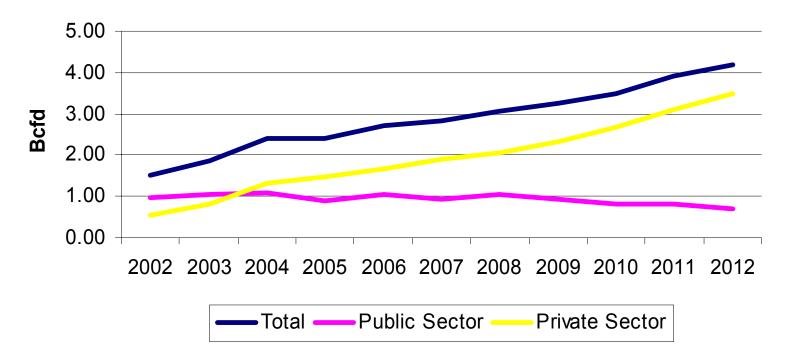
- In its latest natural gas prospective (2003 2012), the Ministry of Energy estimates a net importer position for Mexico
- The prospective presents two scenarios:
 - The high supply with domestic production of 8.4 Bcfd
 - The low supply with 6.8 Bcfd of domestic production
- Both scenarios consider production from the MSC contracts for 1 Bcfd and the high supply scenario is contingent to Pemex's fiscal reform
- In the high supply scenario Mexico is a net importer of 1.1 Bcfd while in the low supply scenario net imports are 2.6 Bcfd
- In both scenarios Mexico imports 0.5 MMcfd of LNG from the Altamira project already in construction



Mexico natural gas demand driven by the power sector

 Main consumer of natural gas is the power sector with a growing share of private IPP projects

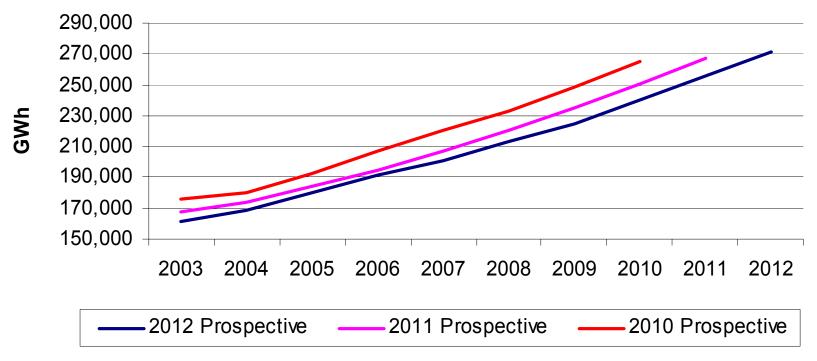
Mexico's power sector natural gas demand



Power sector has not been as dynamic as expected

• Prospectives have reach the same level of electricity consumption but one year later every year

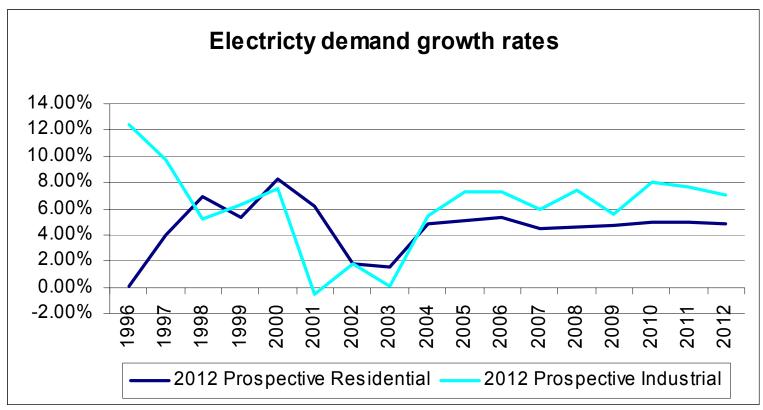
Total sales of electricity



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 Future annual growth rates used in the prospective seem high compare to historical data



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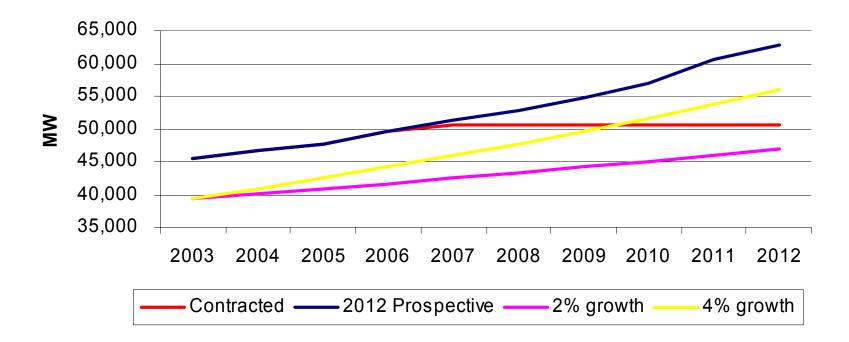
 $\mathbf{G}^{\mathbf{N}} \mathbf{O}^{\mathbf{S}_{T}} \mathbf{C} \mathbf{A}$



Installed capacity may not grow as expected

Moderate growth rates influence significantly the need of power generation installed capacity

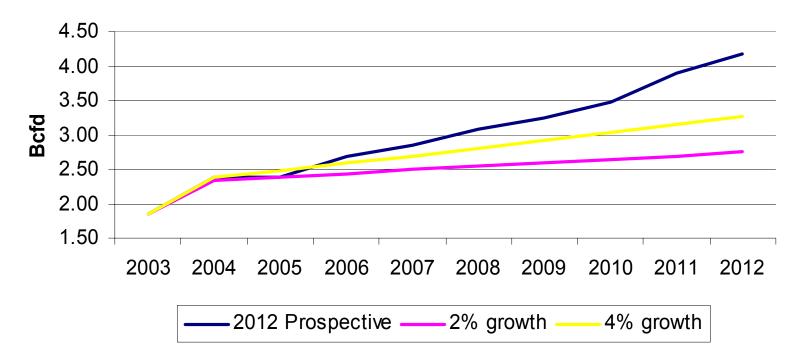
Power generation installed capacity





 Moderate growth rates have a strong impact on the need of natural gas by the power sector

Natural gas demand by the power sector



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 $G^{N \circ S_T \cdot C} A$

Current indicators show more moderate growth

- 4% growth in electricity demand:
 - Contracted IPP projects are sufficient to cover demand up to 2010
 - CFE has some time flexibility in its IPP program
 - Power sector will demand 1 Bcfd less than the estimates of the 2012 prospective
- 2% growth in electricity demand:
 - Contracted IPP projects are sufficient to cover demand up to 2013
 - CFE can delay its IPP program for the medium term
 - Power sector will demand 1.5 Bcfd less than the estimates of the 2012 prospective
- CFE will not plan with a 2% growth rate. Recent delays in the IPP program are in line with a 4% growth rate



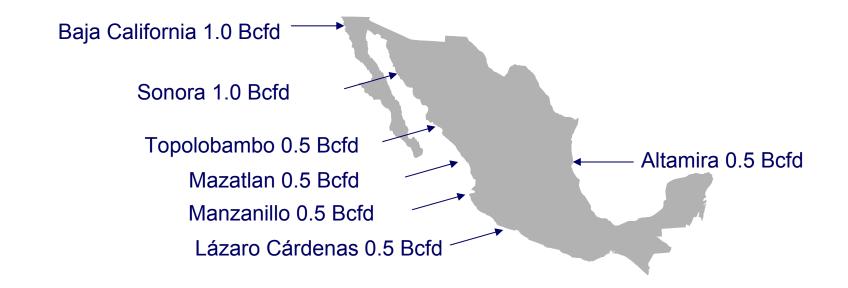
CFE will take an active role in the LNG market

- CFE will import most of its natural gas needs to avoid depending on Pemex's budget and/or exploration and production success rates
- New natural gas demand of power generation projects, either CFE owned or IPPs, will be covered by CFE
- CFE will call for bids for the acquisition of LNG with the specific objective of converting power generation facilities in the Pacific
- CFE will evaluate the cost advantage of LNG supply versus US supply for their power generation clusters in northern Mexico (Agua Prieta, Chihuahua and La Laguna)



Many LNG projects in Mexico

• Many LNG projects have been mentioned as possible in Mexico



 Altamira project is already under construction and competition in Baja projects will result in at least one project



Two types of LNG projects

- Two types of LNG projects in Mexico:
 - US driven (Baja, Sonora)
 - CFE driven (Altamira, Topolobampo, Manzanillo, Lazaro Cárdenas)
- US driven projects will help North America natural gas balance but do not have any impact in Mexico's natural gas imbalance
- CFE driven projects have the advantage of supply assurance and better basis for CFE acquisitions
- CFE will have to develop a trading company to manage their imbalances and consumption peaks by supplying LDCs and industrial users



CFE considered sites and projects

CFE is considering many sites, possibilities and combinations



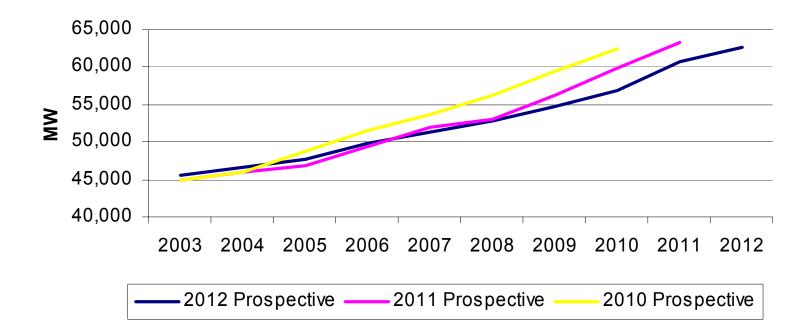
 Manzanillo should be their next bid (0.5 Bcfd) with documents to be issued by the end of the year



Mexican official data

 Additions to installed capacity present the same one year lag for the later years but reflect CFE's IPP bids in the early years

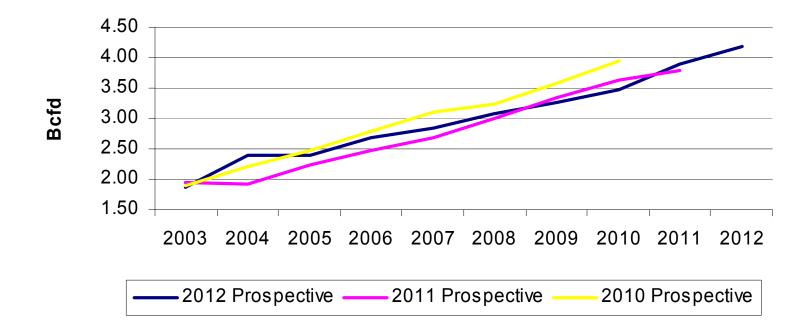
Power generation installed capacity





 The same pattern is observed in natural gas demand by the power sector between prospectives

Natural gas demand by the power sector





Moderate growth rates have a strong impact on the expected total sales of electricity

Total sales of electricity

