

A differentiated
and
important but neglected
contribution
to ease the
US natural gas supply constraint

A briefing memo for the DOE

- 23.12.05,
- Provided by the:
SvTM Group of Consultants,

Tactics Drive Strategy

- What we present herein is neither idea, nor concept, nor strategic thrust. It is a hard tactical initiative; backed by an already well defined project.
- If this project can be realized, it will be the precursor of a strategic thrust; which within ten years could displace the natural gas presently fueling 15,000 MW of existing base load turbine fired power generation capacity.

- This is not the forum in which to discuss details. The bullet points within this power point presentation highlight the essentials. Later, we shall be please to meet with the DOE and to provide the supporting detail.

***FUEL* METHANOL**

**POTENTIALLY AN IMPORTANT
NEW FUEL**

**chemically similar,
economically completely
different.**

***FUEL* methanol**

- Compared to chemical methanol
 - Looser specifications,
 - Much larger plants; much lower unit capex,
 - FPSO capable; accesses lowest value gas in the ground,
 - \$ 4.50+/- / mmbtu USGC;
 - End use, gas turbine fuel

***FUEL* methanol**

- Compared to LNG:
 - Smaller physical scale,
 - Much faster on stream times,
 - Much less permitting problems,
 - Much smaller hydrocarbon reserve requirements.

***FUEL* methanol**

- Technology
 - Fully understood; both process, and, FPSO design considerations
 - Not fully engineered
 - Never built
 - No inordinate technical risk
 - No end use constraints for use as power turbine fuel

***FUEL* methanol**

- Timing
 - A ***FUEL* methanol** plant could be up and running within five years, half the time required for a grass roots LNG project,
 - But, time is of the essence. Such a project should not be studied to death. It should proceed at full speed and be stopped only if encountering an obstacle. We have an initial project well defined.

***FUEL* methanol**

- Market
 - there is no established market as the product, ***FUEL methanol***, economically seen, does not, as yet, exist.
 - one ***FUEL methanol*** plant of 10-12,000 mtpd capacity can supply circa 1500 MW of base load combined cycle power generation capacity, backing out its pipeline gas supplies into the general market.
 - the first successful project will lead quickly to ten more.

***FUEL* methanol**

- Capital Expense
 - Well head to consuming power plant, one ***FUEL* methanol** FPSO will tie up circa one billion dollars of capital expense; far less per unit of energy than a grass roots LNG project.

***FUEL* methanol**

Strategic Implications:

- It is entirely possible that ten ***Fuel* methanol** FPSOs could be on stream within ten years supplying 15,000 MW of combined cycle power generation capacity and backing out their established gas supply into the general market.
- Only circa ten billion dollars would be required.

***FUEL* methanol and...**

- ... its raw material.
 - This is one of the important tricks in the ***FUEL methanol*** concept. A world scale LNG project must be supported by a 10 T gas reserve. There are not many of these.

A ***FUEL methanol*** FPSO needs only 1-3 Ts of reserves. These are reserves that have zero value in the ground as they have no alternative market access.

***FUEL* methanol...and...**

- ...the major oil companies.
 - We have tried to sell this concept to the majors, unsuccessfully. Why?
 - The majors have a vested interest in high natural gas prices, and,
 - The majors have a vested interest in attempting to control the LNG industry.
 - ***Fuel methanol*** has a low entry level capex threshold and therefore can threaten these vested interests.

***FUEL* methanol and**

- ...the electric utilities.
 - The cost pass through pricing structures of the power industry make them reluctant to expose themselves to the upfront cost and capital requirements involved in the ***FUEL methanol*** concept. The utilities buy fuel, they don't make it. Nonetheless, ***FUEL methanol*** can be an excellent power turbine fuel.

***FUEL* methanol, and**

- The SvTM Group of consultants.
 - This is a group of highly experienced industry veterans who know how to get this job done.
 - Who know the process technology required,
 - Who know the design parameters needed to put such complex process equipment on an FPSO.
 - Who know the simple changes required in the consuming power plants.
 - But, who lack the seed money required to kick off the first project.

The US Department of Energy, and ***FUEL*** methanol.

- It is really very easy:
 - Seed money must be provided to conduct a detailed feasibility study of an already well defined project, including the host government negotiations, about five million.
 - Project development money must be provided to bring the first project to a bankable level of definition, about fifty million. Both are peanuts in context with the opportunity.
 - Then the deal needs to be sold to heavy hitters able to arrange the debt and equity finance.

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A bonanza...

- ...this is where this all can lead.
- ...a bonanza really impacting the US natural gas market price within the next decade.
- ...a real high volume low cost alternative fuel.