Strategies for “National Gas Companies” in the Atlantic

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Agenda

- Context
- Companies/countries studied
- Methodological structure
- Corporate attributes
- National and Corporate Strategies
- Conclusion
Context

- LNG becoming more important, in the US, EU and Pacific
- Reserves of gas less concentrated than oil, regionally
- But more, nationally
- Small number of players
- Most players are “national oil companies”
Context….cont

- Unprecedented growth in LNG market
- Fundamental changes in the contractual structure
- Changes in legislative structure in key markets
Methodological Structure

- A modified Porters-5 forces
## Proximity to markets

<table>
<thead>
<tr>
<th>Region</th>
<th>Pipeline</th>
<th>LNG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algeria</td>
<td>Good proximity to West Europe</td>
<td>Europe, also USA</td>
</tr>
<tr>
<td>Egypt</td>
<td>Good proximity to Europe and Middle East</td>
<td>Europe, also USA</td>
</tr>
<tr>
<td>Iran</td>
<td>Good proximity to India and East Europe</td>
<td>Pacific and Atlantic</td>
</tr>
<tr>
<td>Libya</td>
<td>Good proximity to Europe</td>
<td>Europe, also USA</td>
</tr>
<tr>
<td>Nigeria</td>
<td>Potential regionally</td>
<td>Europe, also USA</td>
</tr>
<tr>
<td>Oman</td>
<td></td>
<td>Pacific and Atlantic</td>
</tr>
<tr>
<td>Qatar</td>
<td></td>
<td>Pacific and Atlantic</td>
</tr>
<tr>
<td>T&amp;T</td>
<td></td>
<td>USA, also Europe</td>
</tr>
<tr>
<td>UAE</td>
<td></td>
<td>Pacific and Atlantic</td>
</tr>
<tr>
<td>Venezuela</td>
<td>Potential regionally?</td>
<td>USA, also Europe</td>
</tr>
</tbody>
</table>
On the map

Trade flows worldwide (million tonnes)
<table>
<thead>
<tr>
<th>Country</th>
<th>Importance of the Oil/Gas sector to the Economy</th>
<th>State Ownership of Liquefaction Capacity</th>
<th>NOC</th>
<th>State ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algeria</td>
<td>Export revenues (95%), Fiscal revenue (70%) and GDP (40%)</td>
<td>100%</td>
<td>Sonatrach</td>
<td>100%</td>
</tr>
<tr>
<td>Libya</td>
<td>Export revenues (95%) and Fiscal revenue (75%)</td>
<td>100%</td>
<td>NOC</td>
<td>100%</td>
</tr>
<tr>
<td>Nigeria</td>
<td>Export revenues (93%) and Fiscal Revenues (80%)</td>
<td>49%</td>
<td>NNPC</td>
<td>100%</td>
</tr>
<tr>
<td>Trinidad &amp; Tobago</td>
<td>Export revenues (70%) and Fiscal revenues (25%)</td>
<td>about 5%</td>
<td>NEC/NGC</td>
<td>100%</td>
</tr>
<tr>
<td>Egypt</td>
<td>GDP (7%)</td>
<td>about 24%</td>
<td>EGPC/EGAS</td>
<td>100%</td>
</tr>
<tr>
<td>Venezuela</td>
<td>Export revenues (75%) and Fiscal Revenues (45%)</td>
<td>N/A</td>
<td>PDVSA</td>
<td>100%</td>
</tr>
<tr>
<td>Oman</td>
<td>Fiscal revenues (70%) and GDP (40%)</td>
<td>about 45%</td>
<td>Oman LNG</td>
<td>51%</td>
</tr>
<tr>
<td>UAE</td>
<td>Fiscal revenues (63%) and GDP (30%)</td>
<td>about 30%</td>
<td>ADNOC/ADGAS</td>
<td>100%</td>
</tr>
<tr>
<td>Qatar</td>
<td>Fiscal revenues (75%) and GDP (31%)</td>
<td>about 65%</td>
<td>Qatar Petroleum</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Fiscal Revenues (45%), Export Revenues (80%)</td>
<td>N/A</td>
<td>NIOC/NIGEC</td>
<td>100%</td>
</tr>
</tbody>
</table>

State Ownership of Liquefaction Capacity

- Export revenues (75%)
- Fiscal revenue (45%)
- GDP (7%)
The national character

State

Employment & Other subsidies

Revenues

Strategy and Policy

NGC

Monopoly

Shareholder

State

Employment & Other subsidies

Revenues

Strategy and Policy

NGC

Monopoly

Shareholder
Gas rich, oil poor

- Algeria and Qatar
- Important investments over the past decades
- Reaching momentum
Algeria

- Algeria: Sonatrach
- Unique Pipeline/LNG flexibility
- Vertical hedge (UK & US)
  - Reinforce pipeline flexibility
- Cooperation
  - Cooperation with Nigeria in infrastructure
  - Cooperation with Trinidad in Swaps
  - Cooperation with Qatar for vertical hedge?
  - Geographical integration (Peru)
  - Low investment in LNG?
Qatar

- Positioning as a swing producer: Pacific Atlantic?
- Upstream competition with Iran
- BUT:
- Over investment in Liquefaction capacity?
- Over investment in shipping?
Oil Rich, Gas Rich: The Sleeping Giants

- Iran and Venezuela
- Oil reserves high, low historic interest in gas
- Political (and legal) dimensions particularly important
- Low initial market share, coupled with high reserves entails aggressive pricing structure
Sleeping giants…cont

- Once liquefaction capacity investment comes through in Iran, NIOC will have in a 2025 horizon:
  - 2nd Reserves in the world
  - Status as swing exporter of LNG: Pacific/Atlantic?
  - Status of swing exporter of pipeline (India and EU)
  - Important pipeline/LNG flexibility
Other strategies: Niche LNG players

- Trinidad & Tobago
- Oman
- UAE
Pipeline/LNG flexibility seekers

- Libya (Greenstream)
- Egypt (Arab Pipeline Project)
- Nigeria (NIGAL)
Existing pipelines
Nigeria: A Med. Pipeline Player?
LNG vertical expansion

- Algeria: Regasification presence in Spain and UK, and capacity booking in the US
- Qatar: Regasification presence in Italy and the UK
- SHIPPING CAPACITY
Shipping Capacity for National Gas Companies

![Shipping Capacity Chart]

- **Sonatarch**
  - 2005: Below 500,000 cu.m
  - 2010: Below 500,000 cu.m

- **Qatar Petroleum**
  - 2005: Below 500,000 cu.m
  - 2010: 2,500,000 cu.m
LNG Horizontal Expansion

- Sonatrach in Peru (Camisea) for Pacific market
Other substitutes

- **CNG - GTL** becoming more important
  - Qatar, Iran and Algeria

- **Gas intensive industries?**
  - Environment concerns
  - Other raw materials (aluminium)
Competitive environment

- Algeria with Libya and Egypt
- Qatar with Oman, UAE
  - Iran in the future (2008?)
- T&T with Venezuela, in the future (2010?)
- Also, is there an over-capacity of liquefaction capacity?
Over-supply of LNG?
Cooperation between NGCs

- LNG projects are capital intensive
- Contracts are more flexible
- Over capacity of production leads to lower prices
- Lower prices means lower margins and lower reinvestments
- Lower reinvestment means lower safety???
- Should cooperation between NGCs be encouraged?
Cooperation with IOCs

- Complementarity:
- NGCs have the reserves and local expertise
- IOCs have technology and finances
Conclusions

- As upstream markets liberalise in some key producers, with high oil prices and changing gas market fundamentals
- NGCs will become more present as global players rather than national or regional players
- A number of low reserves players will try to maximise revenues from niche markets
- A number of Mediterranean players will seek Pipeline/LNG flexibility
Conclusions

- Gulf players will seek Atlantic/Pacific flexibility
- “Sleeping giants” will enter the market with aggressive pricing to gain market share
- Experienced players will seek vertical hedge through shipping and regasification investment
- And geographical expansion for Pacific/Atlantic markets