Energy in Economic and National Development
- Some Governance Issues

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Petroleum Policy NOC Seminar
Timor Leste
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The Dawn of Exploration
- The Early Years

Randolph Rust
John Lee Lum

1910

Rust Wells Guayaguayare
(1903-1904)
T & T Oil and Gas Production
1908 - 2008
Barrels of Oil Equivalent (millions)

- British Colony
- Offshore Atlantic
- Offshore Gulf of Paria
- Petroleum Act 1969
- WW II
- LNG
Trinidad and Tobago GDP
$ TT Millions
1981 - 2007

Oil prices start falling
LNG Train 1
Trains 2 & 3
Train 4
Natural Gas Sales

Source: Central Bank of Trinidad and Tobago Annual Economic Survey Various Issues, and G. McGuire.
CONCLUSIONS

- National/State Companies are critical to National development in Energy
- The use of private International Capital may be crucial in natural gas development
- The correct Legal and Regulatory Framework is another essential requirement.
- Developing technically trained nationals is a key element for developing the correct systems
How did T&T get here

50 years of increasing output &
A 30 Year track record of initiating and innovating in
developing gas based industries

- Flexible Gas pricing
- Getting the correct Fiscal Incentives and Tax regimes so that T&T continued attracting investment in Energy
- Allocating Acreage expeditiously and encouraging enhanced Exploratory Activity
- Working with the International Community - National and International Human resources and Systems
Independence in 1962

- The Commission of Enquiry into Petroleum
- A Ministry of Petroleum and Mines
- The Petroleum Act and Regulations
- The UNDP and Acreage Evaluation

- Federation Chemicals turns Gas to ammonia
- Texaco - The STAR of the Nation
- The New Oil Finds off the East Coast
The Contractual and Tax Framework
Applicable Laws

- Petroleum Act (1969) and Regulations
- Petroleum Taxes Act (1974) & Amendments
- Income Tax Act (1965) & Amendments
- Nitrogenous Industries Act (1959)

- Environmental Management Act (1995)
  - *Oil in Waters of the Colony*

- Others, e.g. *Customs, Land use, T&C Planning, Work Permits, etc*
Contract Forms

- Exploration and Production Licenses
  1) *In use since 1908 and taxes paid out of profits as any other business until 1974.*
  2) *New Petroleum Tax Legislation, & The Oil Audit Section formed in 1974*

- Production Sharing Contracts
  *Introduced in 1974 in TT for the first time, in order to reduce tax avoidance.*
  *First gas - 1995; First Oil - 2005*

- Joint Ventures
Licenses vs P. S. C’s

**Administration**

- Licenses require less oversight
  
  *Transfer price, Tax avoidance and Cost manipulation are likely*

- Production Sharing Contracts require much greater supervision and technical knowhow and capacity.

- Joint Ventures spread risk, facilitate audits but can be costly
Participation

Managing Risk

*Exploration vs Development*

- Carried and Non-Carried Interests
- Peruvian vs Indonesian PSC’s
Taking Charge of Petroleum in TT
Tracking the Changes

CHANGES in TAX LAWS

Normal CT

E&P Licenses

1970

First PSC’s

 Shares include Gas

1980

PPT

SPT

Changes in SPT rates

Variable SPT

1990

1st PSC Production - GAS

2000

Recent changes

BHP-B 1st PSC Oil

2005/6

CONTRACT EVOLUTION
The Key State Enterprises

- Trinidad – Tesoro - 1968
- The creation of Trintoc – 1974
- The National Gas Company - 1975
- The National Energy Corporation - 1976
- Petrotrin – the National Oil Company – 1993

- National Petroleum Marketing Company
- T & T Electricity Commission, etc.
Capital Expenditure on Energy
1975-1985
US $ 3.3 BILLION

- Commercial Gov't Debt: 21.2% (700)
- Commercial Private Debt: 18.2% (600)
- Private Equity: 15.2% (500)
- Government Equity: 30.3% (1000)
- Other Debt: 15.2% (500)
T&T - Existing Gas Based Plants

- 1 Natural Gas Liquids Processing Facility
- 4 LNG Trains (2300 MMscfd)
- 9 Ammonia Plants (4,485 MTPA)
- 1 Urea Plant (550 MTPA)
- 6 Methanol Plants (3,560 MTPA)
- 4 Iron and Steel Mills (2,560 MTPA)
- 4 Power Generation Plants - Powergen (3) & Inncogen
- 1 Offshore Platform Fabrication Yard
- Other
  - Refinery - 175 MBOPD
  - Cement Manufacture
  - Light Industrial/Commercial Consumers - 105
  - 2 Gas Fired Air Cooling Projects
  - 4000 CNG powered vehicles
% Natural Gas Usage by Sector *
2008 (4.1 bcfd)

- LNG: 14.2
- Power: 15.6
- Ammonia: 6.2
- Methanol: 3.7
- Other: 60.3

* Estimated
THE KEY DECISION NODES

P.M.
S.E.C.

NGETF

MoE

NGC/NEC

Petrotrin

Others
The Role of the Ministry of Energy

- **Regulation of Industry**
  Drilling and Other Activity, Prices, Royalties, Policy etc.

- **Oversight of International Companies**

- **Allocating Acreage**

- **Oversight** of the Energy State Enterprises

- **Advising the Ministry of Finance**
STATE ENTERPRISES

- The COMPANIES Act
  *The Corporation Sole*

- Boards and the Ministry of Energy

- Boards and the Government

- Boards and Partners (Joint Ventures)
## Share of Oil & Gas in Government Revenue

**1999 - 2007**

($mm)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Current Revenue TT$M</th>
<th>Hydro-Carbon Revenue TT$M</th>
<th>Hydro-Carbon Rev as % of Current Revenue</th>
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<tr>
<td>1999</td>
<td>9613.2</td>
<td>1999.7</td>
<td>20.8</td>
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<tr>
<td>2000</td>
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<tr>
<td>2004</td>
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<td>21385.3</td>
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<td>2007e</td>
<td>40034.0</td>
<td>20079.2</td>
<td>50.1</td>
</tr>
</tbody>
</table>

Source: Central Bank of Trinidad and Tobago Annual Economic Survey Various Issues, and G. McGuire.
Gross Forex Earnings
1980 - 2009

US $ Billions

- Oil
- Other
- Gas Chemicals
- LNG

CONCLUSIONS

✓ National/State Companies are critical to National development in Energy
✓ The use of private International Capital may be crucial in natural gas development
✓ The correct Legal and Regulatory Framework is an essential requirement.
✓ Developing technically trained nationals is a key step in developing the correct systems
✓ Assessing and Managing Risk is a key competency
Sunrise for many, Sunset for some

Thank you for your attention
The PSC vs E&P License

**Price, Reserves and Costs as key variables**

- Prices of oil and gas influence the relative attractiveness of the PSC vs the E&P regime, all other assumptions being equal.
- In a low oil or gas price scenario, the PSC is better for the Gov’t because it guarantees some “profit” take even at low prices.
- At high oil prices, the E&P License is better for the Gov’t because it affords a higher marginal rate of take than the PSC.
- The flexible terms of the PSC better facilitates smaller revenues and/or increased capital costs, thereby stimulating investment.