


Prepared for **Energy Caribbean**

Reserves and Resources A Reality Check



October 2016


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INTRODUCTION

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GAS
A sustainable future?

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INTRODUCTION



Our goals: We will demonstrate how:

- A Ranked Portfolio can be the basis for:
 - A **sustainable gas price**
 - A **plan and strategy** for gas resources in Trinidad and Tobago
 - **future negotiations** with both the upstream and downstream sectors.
- A Resources and Reserves portfolio is and urgent priority because the new gas contract terms will probably be the most significant and long-term measure that this government will enact during its tenure.

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RESERVES AND RESOURCE



To develop a managed gas plan for T&T gas we advocated

- For a proactively managed portfolio approach to reserves and resources that needed to be
 - independent. Not political!
 - Based on stakeholder agreed guidelines (protocols)
 - Done to high levels of technical credibility, locally with locally available expertise
 - In partnership with companies that have international credibility
 - continuously updated in response to domestic and international changes (not annually)
 - more accessible and accountable (like SEC)

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RESERVES AND RESOURCES

What we have: Production shortfalls and confusion

"The country holds (oil) reserves of 199.5 million bbl (proved), 85.5 million bbl (probable), and 124.8 million bbl (possible) for a combined 3P total of 409.8 million bbl" ...

"Proven crude oil reserves in 2013 were estimated at, 728 million barrels while 3P natural gas reserves were 25.24 trillion cubic feet (Tcf)" ...

"Trinidad has just over nine years of natural gas left" ...

"T&T's proved reserves decline" ...

"The Jubilee Field has 40MM Barrels of reserves"


"Jan 29, 2004 several fraud cases brought against Oil Major" ...

Major oil and gas company to write off half of last year's reserves" ... (March 2008)

"Production on the multi-million-barrel Jubilee oil find within another 12 months" ...



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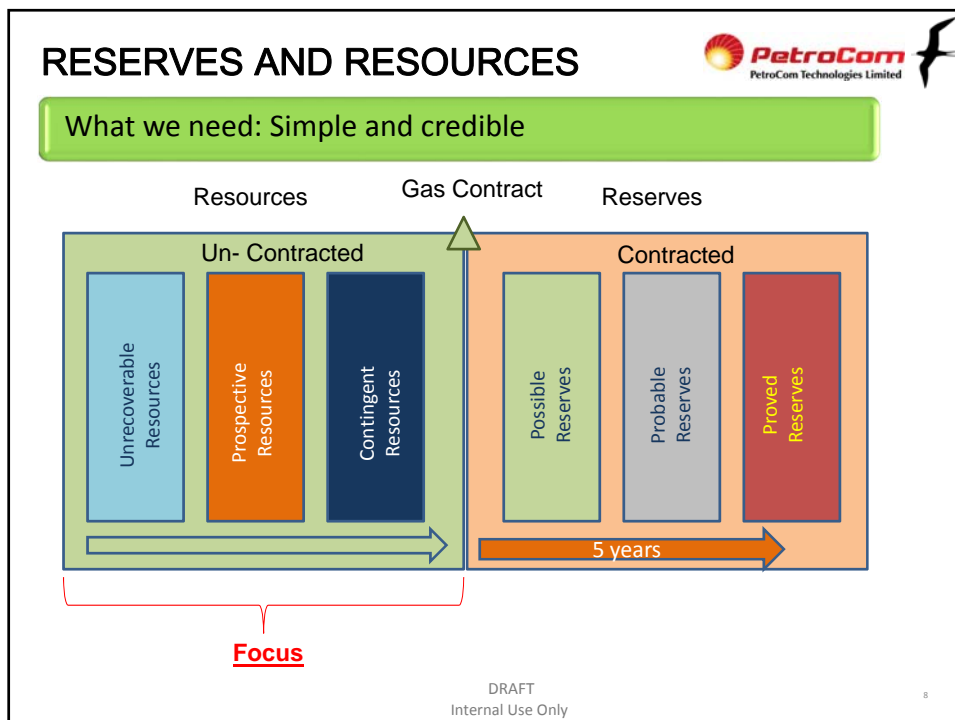
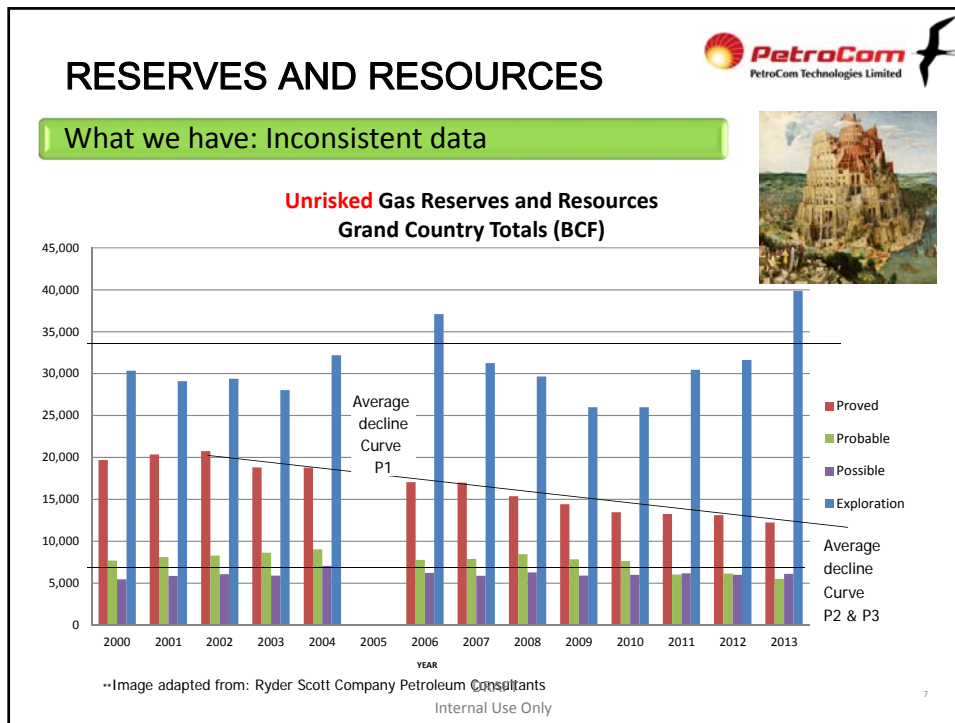
RESERVES AND RESOURCES

What we have: Reporting confusion

		Production			Project Status				
		Proved	Proved & Probable	Proved & Probable & Possible	On Production	Under development	Planned for development		
Total Hydrocarbons Initially in place	Discovered Hydrocarbons Initially in place	Commercial	Reserves	P1	P2	P3			
	Sub Commercial	Contingent Resources	Low estimate	Best estimate	High Estimate				
	Undiscovered Hydrocarbons Initially in place	Prospective Resources	Low Estimate	Best estimate	High Estimate				
		Unrecoverable			Development Pending				
					Development on Hold				
					Development non Viable				
		Unrecoverable			Prospect				
					Lead				
					Play				
		Unrecoverable							

High risk

Image adapted from: Ryder Scott Company Petroleum Consultants



RESERVES AND RESOURCES



What we need: Simple and predictable

- Long duration; (30 years) (no risk)
- Stable, established pricing schedules (no risk)
- Volumes and rates stable, (take or pay terms) (no risk)
- High degree of confidence in supply & in demand for a long period of time or no agreement (no risk)

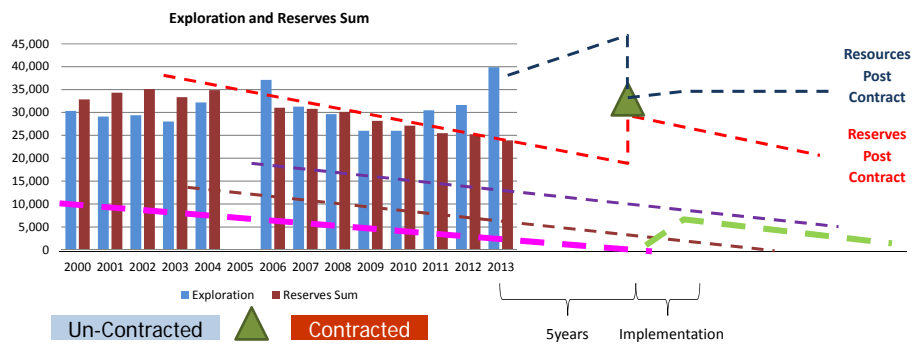


Image adapted from: Ryder Scott Company Petroleum Consultants

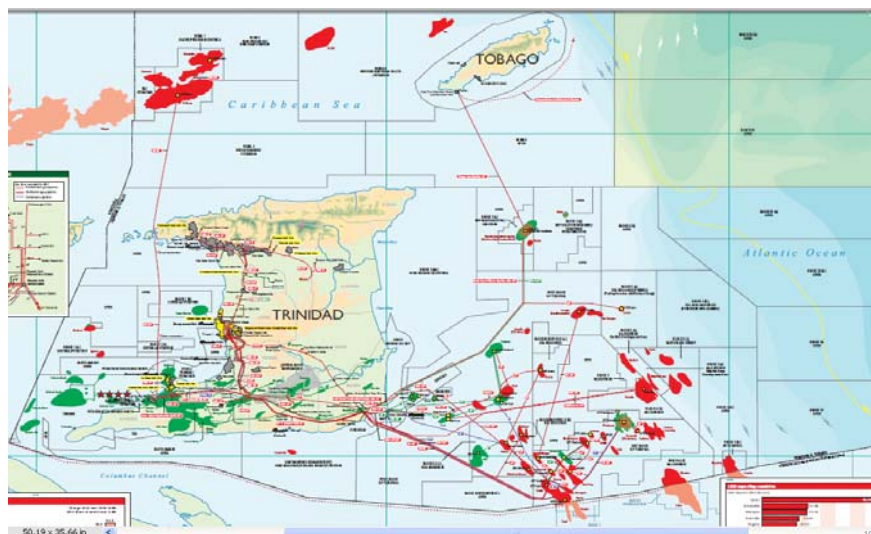
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RESERVES AND RESOURCES



What we have : T&T Petroleum Fields and licenses:

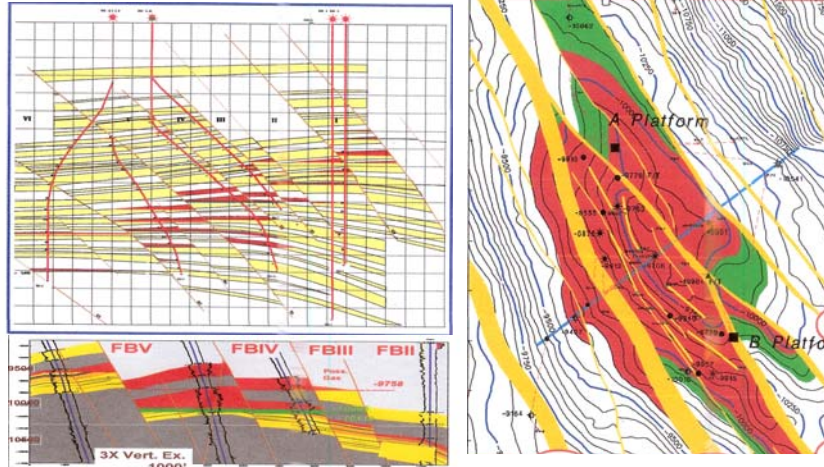


RESERVES AND RESOURCES



What we have: Gas fields contain multiple accumulations:

GSTT 2000 SPE Port of Spain :Bally, Yatindranath, BP Amoco, Trinidad, Staines, Michael J., BP Amoco, Trinidad, Finneran, Joseph, BP Amoco, Trinidad, Ali-Nandalal, Joann, BP Amoco, Trinidad, Gamero, Helena, Schlumberger Geoquest, Caracas, Venezuela

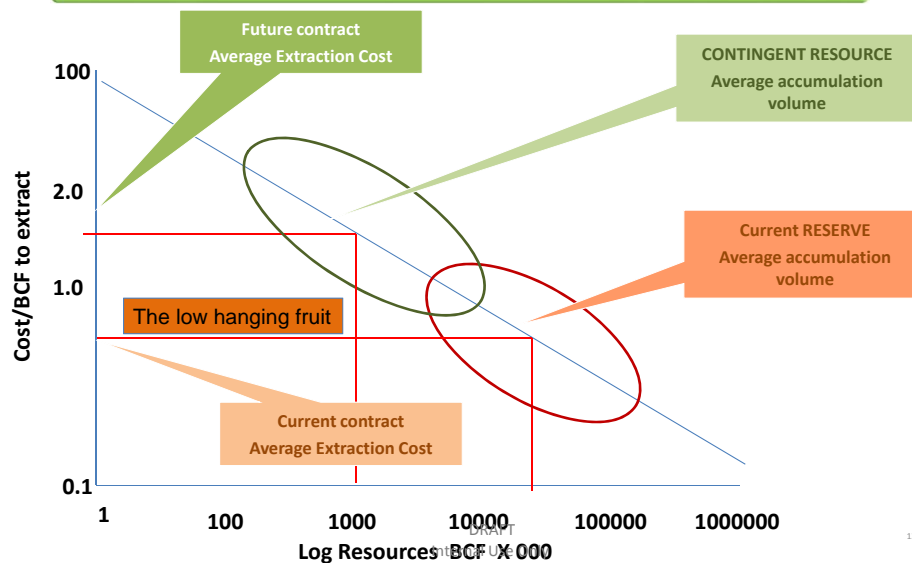


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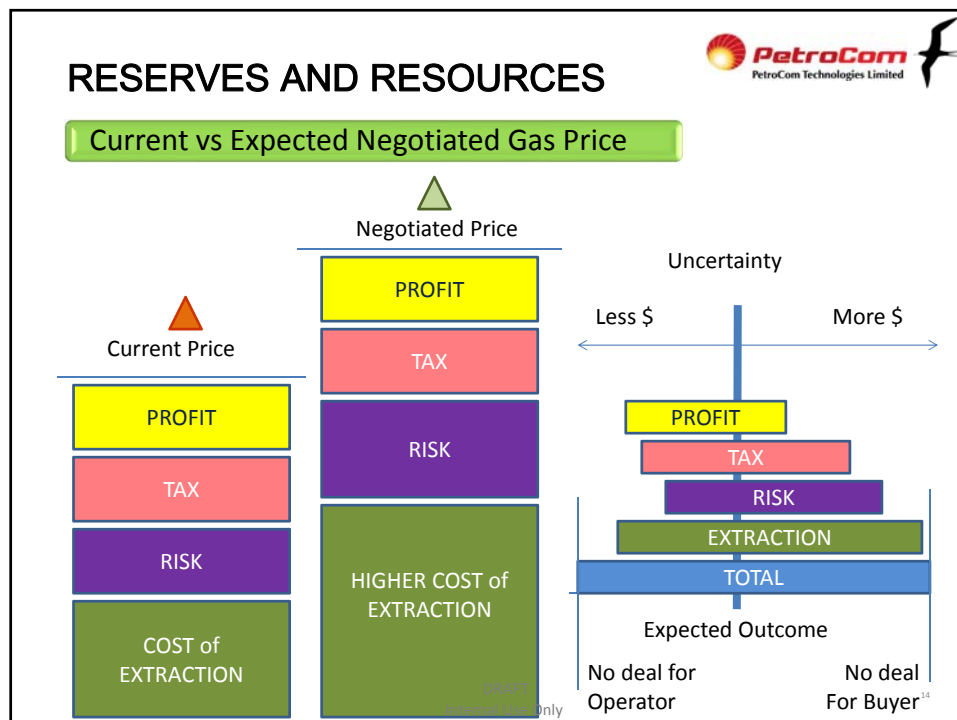
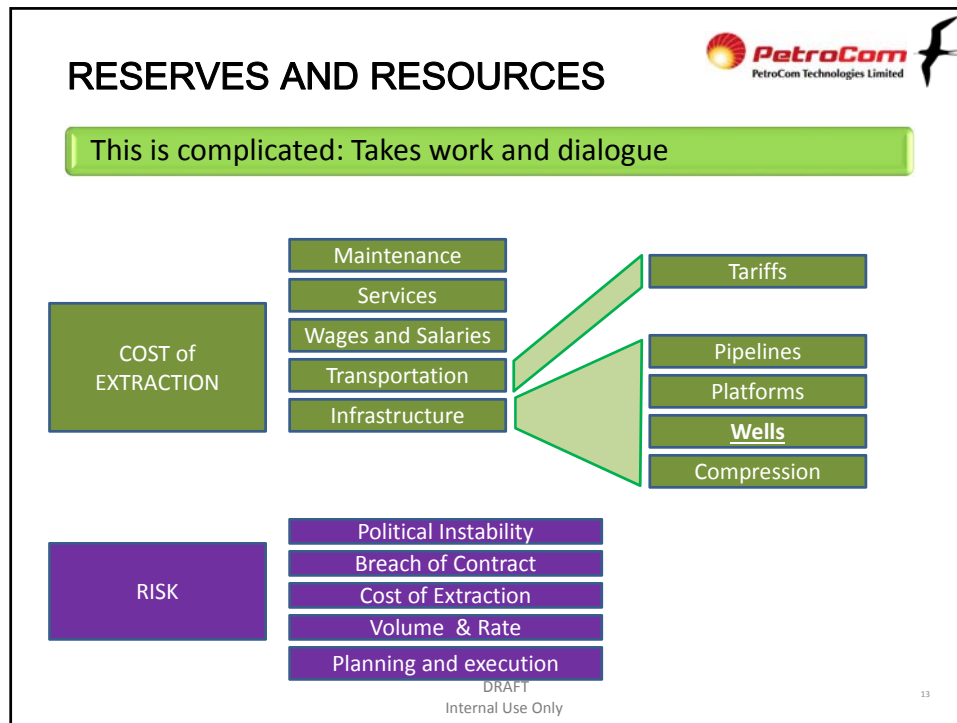
RESERVES AND RESOURCES

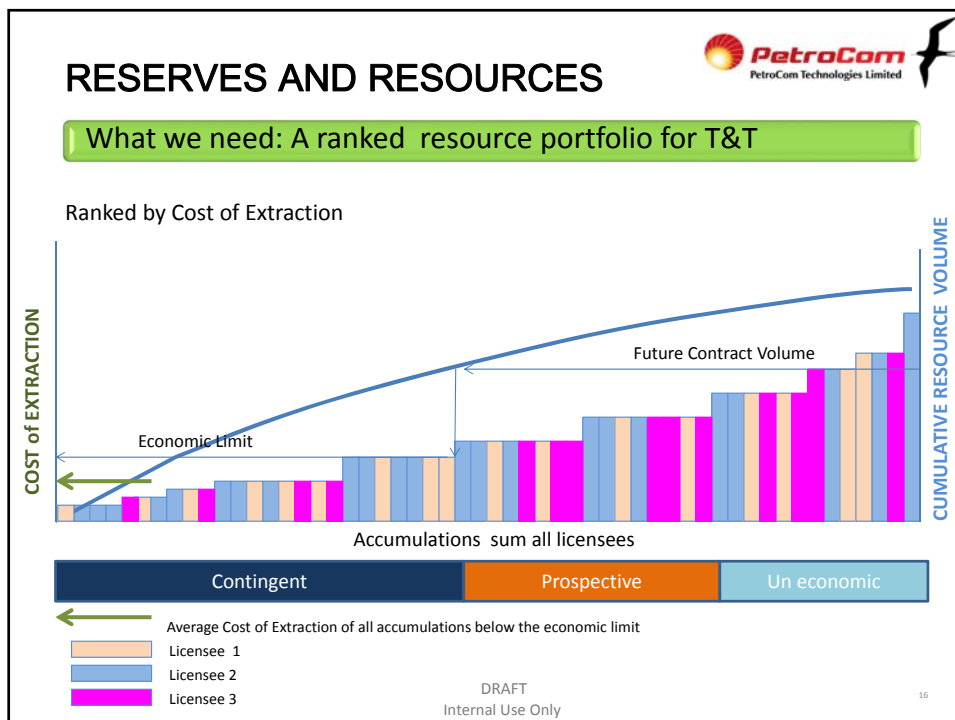
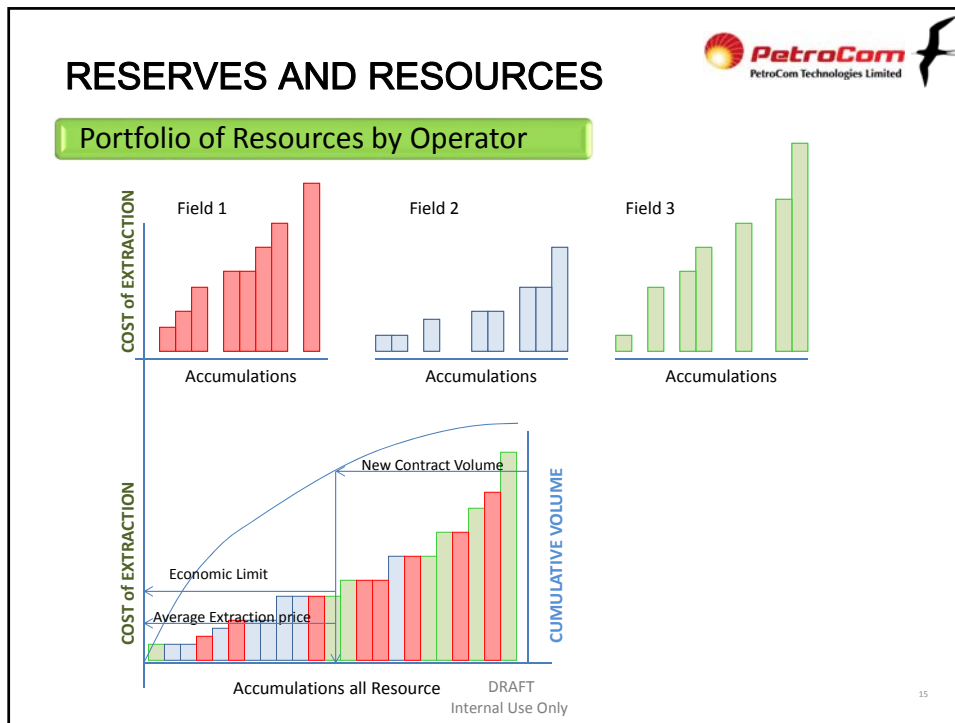


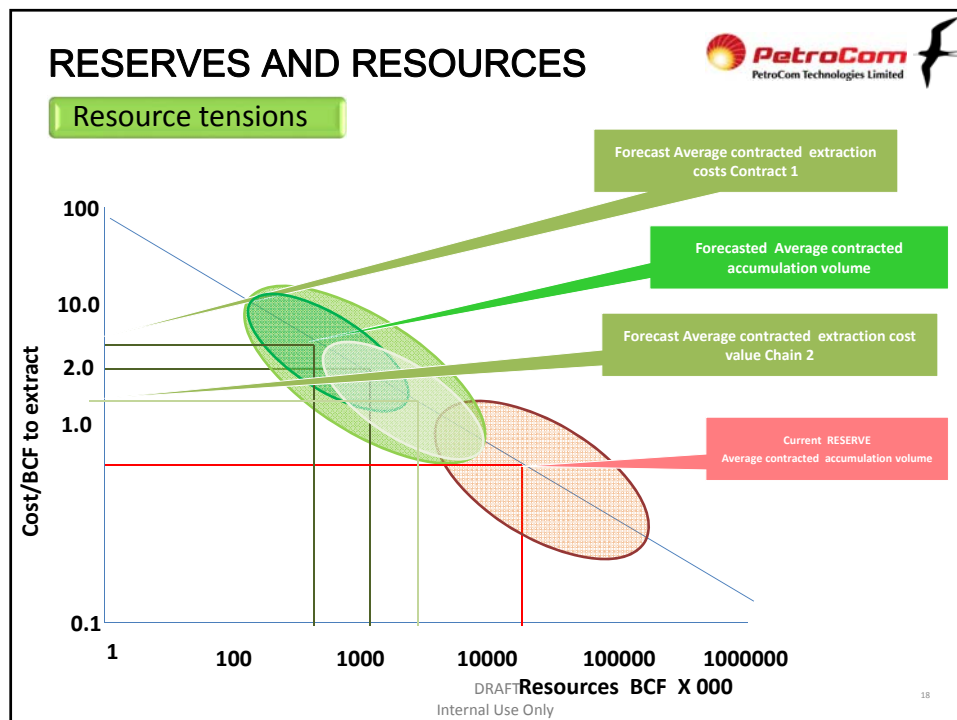
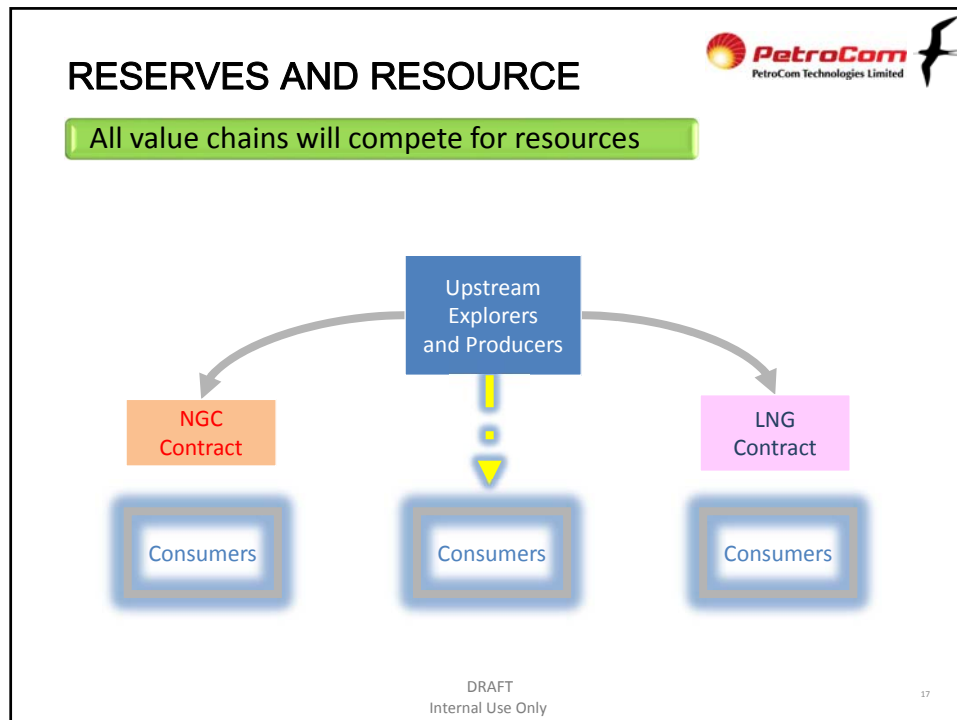
The effect of accumulation size on extraction cost

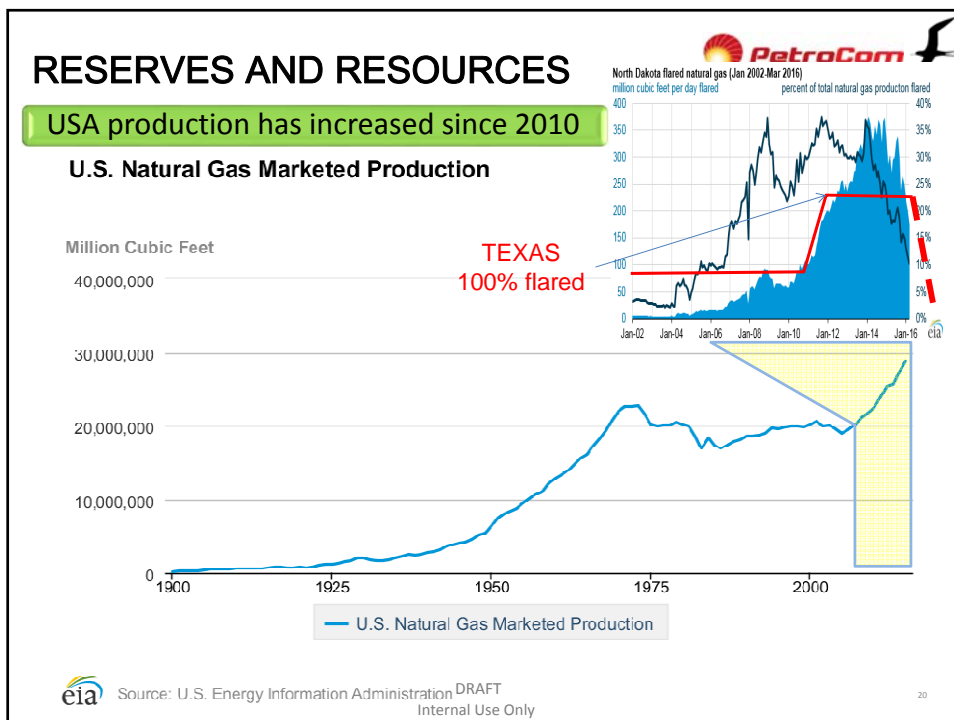
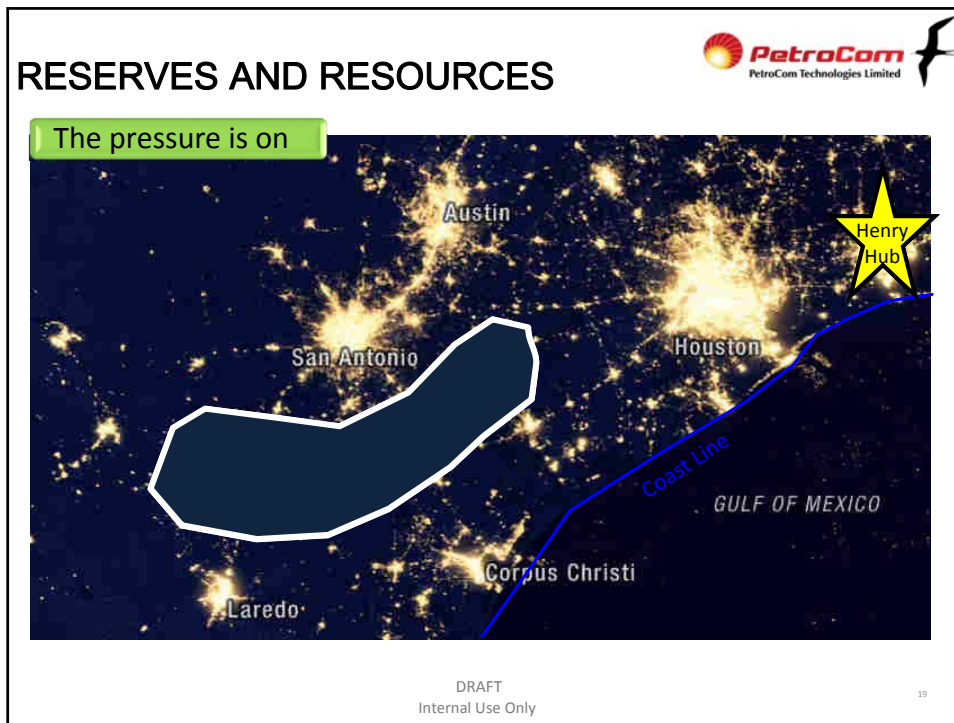


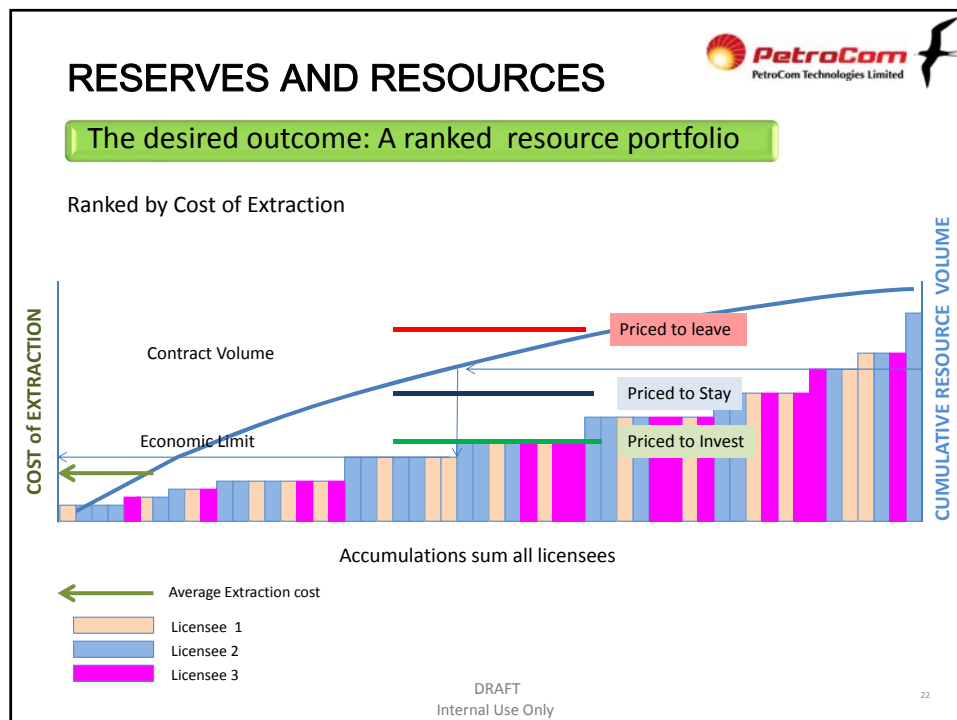
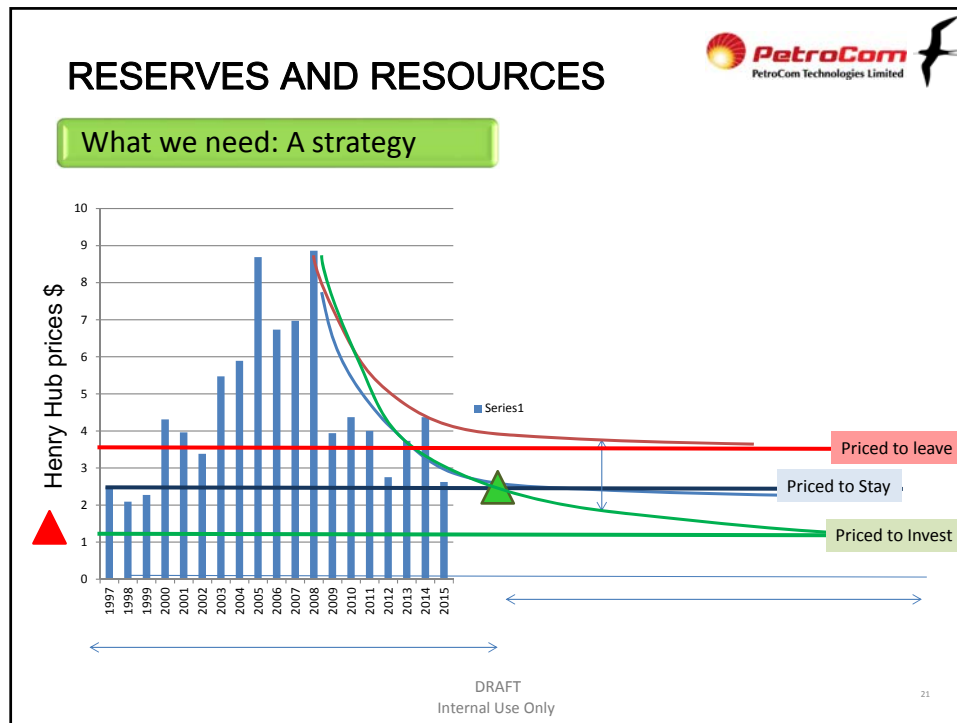
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RESERVES AND RESOURCES



We hope this presentation has demonstrated that we need is:

- A Ranked Portfolio in which T&T's available resources are ranked by their ability to deliver the volumes and the value.
- A process can be the basis for
 - A durable extraction plan and strategy for gas resources in Trinidad and Tobago and
 - future negotiations with both the upstream and down stream sectors.
- a well resourced priority with substantive dedication of manpower, and technical capability.
- Dialogue
- ..

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What we do not need

