

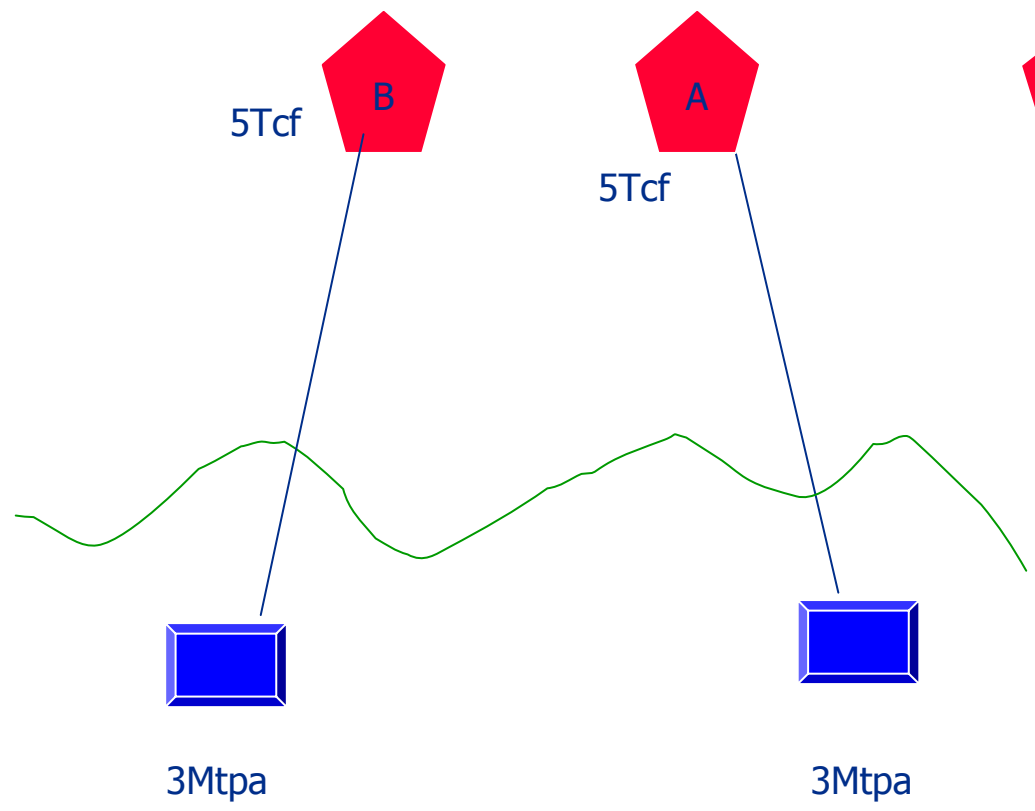
# Proliferation vs Collaboration? The Future of LNG Projects in Australia

John Boardman

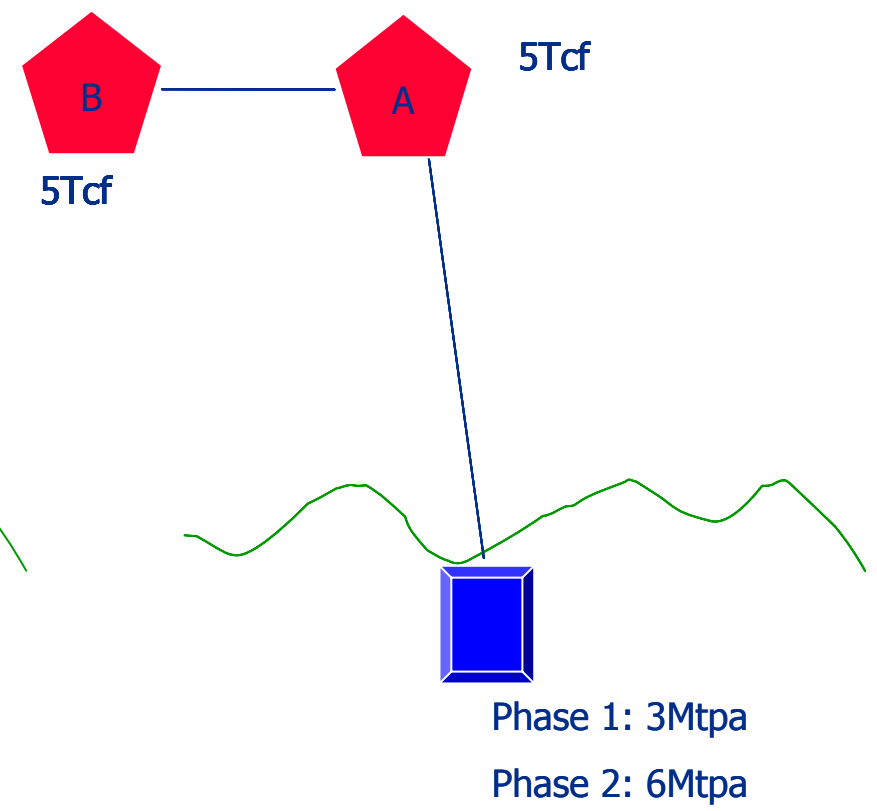
## LNG Outlook Australasia Perth December 2009

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### Scenario 1: Proliferation



### Scenario 2: Collaboration

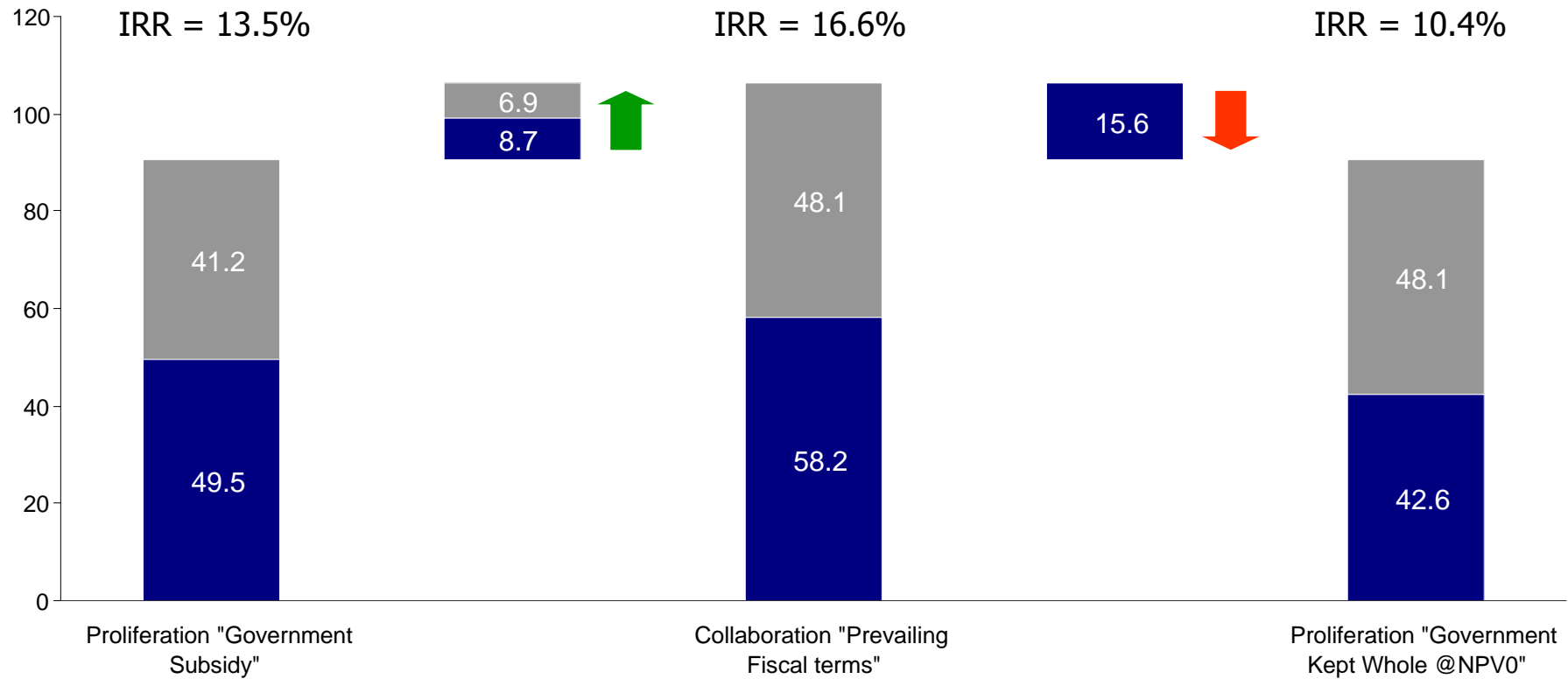


# Scenario Comparison – NPV0MOD



NPV Δ by scenario  
US\$ Billion

Project A + B  
Government

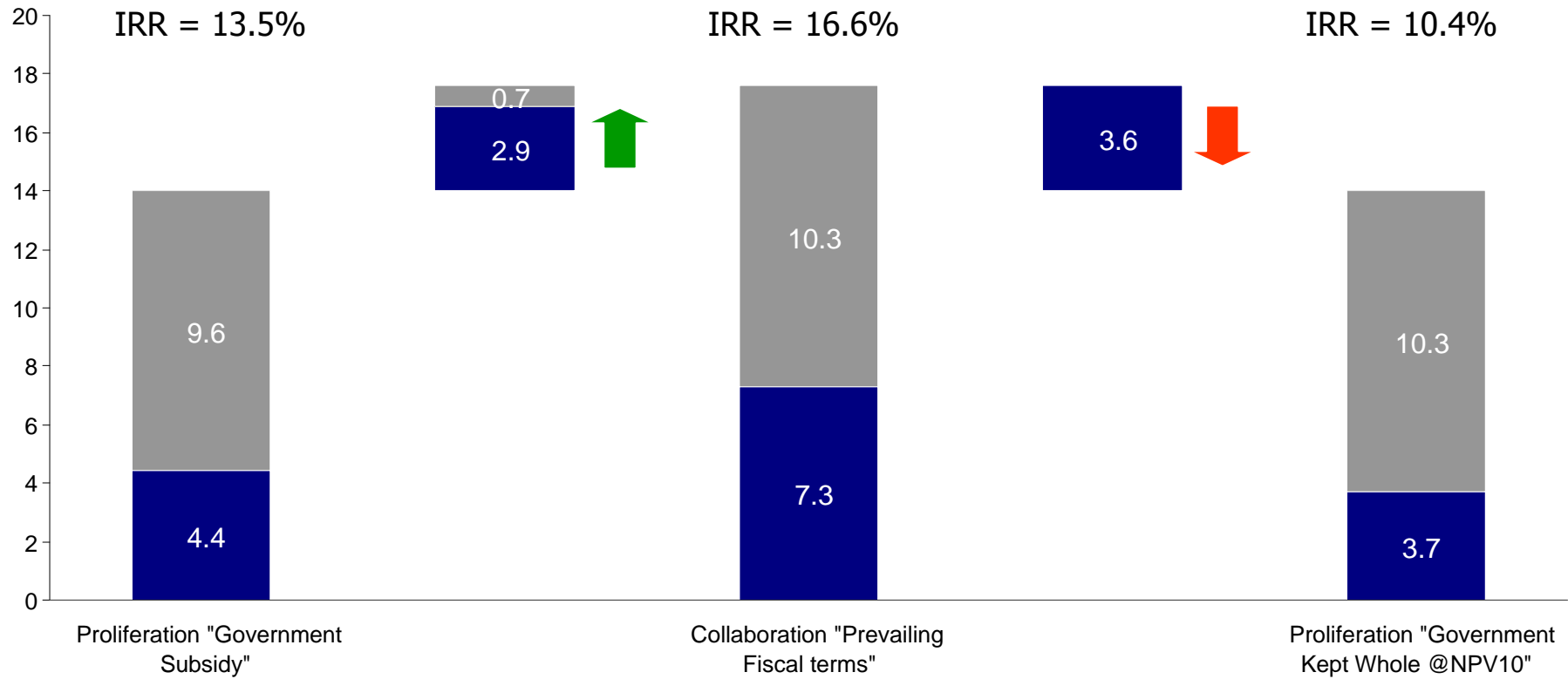


# Scenario Comparison – NPV10MOD



NPV Δ by scenario  
US\$ Billion

Project A + B  
Government



## ➤ Overview

- The potential synergy benefits are compelling.
- However each project proponent has an individual agenda, desired development strategy and view on project value
- To demonstrate the benefits available, RISC/KPMG considered the technical, commercial, legal and strategic potential benefits weighed against the full cost required to achieve them
- The challenge (for someone?) lies in stimulating sufficient interest and motivation amongst the project proponents to achieve a commitment to realising the benefits of collaboration

➤ "synergies from combining two of the four main planned LNG facilities were up to \$2 billion."  
➤ "David Knox later announced they would be between \$1 - \$2 billion"  
➤ "Merrill Lynch has agreed with this estimate in a major research note over the weekend"

Source: AFR 30 March 2009

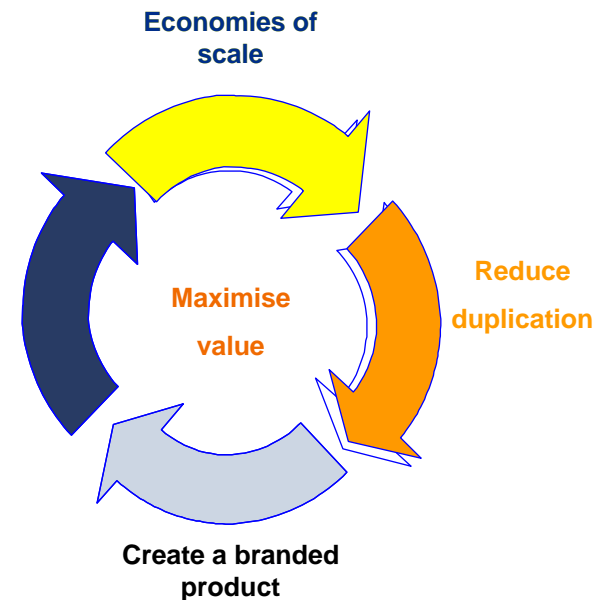
➤ "the most logical collaborations between big players was still in the vast onshore coal seam gas fields"  
➤ "the next stage will be project consolidation"

Source: The Australian, 30 April 2009



RISC/KPMG believe there are much greater opportunities that have not yet been publicly identified

Align development activities



# Opportunities exist throughout the value chain



Field Development

Transmission Pipeline

LNG plant & Infrastructure

LNG Marketing

## DEVELOPMENT CHALLENGES

- |   |  |   |  |
|---|--|---|--|
| <ul style="list-style-type: none"> <li>● Reserves maturation slow/very expensive</li> <li>● Ramp up gas requires a temporary market or sink</li> <li>● Water disposal is environmentally and politically sensitive</li> <li>● Scale of field development presents regulatory approval and contract management issues</li> </ul> | <ul style="list-style-type: none"> <li>● Significant upfront cost</li> <li>● Regulatory approval cycle and land-owner interface</li> <li>● Greater infrastructure utilisation offered by multiple users</li> <li>● Relatively "low rent" infrastructure</li> </ul> | <ul style="list-style-type: none"> <li>● Very large upfront cost</li> <li>● Poor use of utility, export and general support infrastructure by initial LNG process trains</li> <li>● Competition for optimal marine export sites</li> <li>● Competition for construction and operational services</li> </ul> | <ul style="list-style-type: none"> <li>● Ultra-lean LNG falls far outside traded Asian market specification</li> <li>● First of a kind LNG from CSG</li> <li>● Competition from conventional projects</li> </ul> |
|---|--|---|--|

## DEVELOPMENT OPTIONS

- |  |  |   |  |
|--|--|---|--|
| <ul style="list-style-type: none"> <li>● Stand alone development of discrete fields</li> <li>or</li> <li>● Co-ordinated sequential development of discrete fields</li> <li>or</li> <li>● Shared field infrastructure under a single operator</li> <li>or</li> <li>● Unitisation with JV management structure and cash calls</li> </ul> | <ul style="list-style-type: none"> <li>● Multiple separate pipelines; or single expandable pipeline or subsequent duplicate pipeline?</li> <li>● Owned by LNG Project owners or independent 3rd party</li> </ul> | <ul style="list-style-type: none"> <li>● Discrete sole development of infrastructure and LNG trains on private lease, or</li> <li>● Discrete sole development of LNG trains supported by common user infrastructure, or</li> <li>● Joint development of multiple LNG trains and supporting infrastructure with shared ownership under management by an agreed operator</li> </ul> | <ul style="list-style-type: none"> <li>● Solely develop market for the projects ultra lean LNG with competitive pricing</li> <li>or</li> <li>● Joint marketing (branded product) to focus competitive positioning against conventional suppliers</li> <li>● Common LPG Injection facilities if required</li> <li>or</li> <li>● Individual assessment and construction</li> </ul> |
|--|--|---|--|

Source: RISC/KPMG independent study May 2009

Catch 22: The greater the level of collaboration, the more complex the issues involved...and the greater the potential benefits on offer



*Major Capital Projects/Engineering elements*

<ul style="list-style-type: none"> <li>● Reserves cover</li> <li>● Reservoir management</li> <li>● Technology (shut in, carbon storage, water management)</li> <li>● Drilling schedule and potential Capex savings</li> <li>● Location of infrastructure</li> <li>● HHV/price relationship</li> <li>● LPG blending</li> </ul>	<ul style="list-style-type: none"> <li>● Scale (immediate and ultimate)</li> <li>● Optimal route (with various partners)</li> <li>● Environmental benefits from smaller footprint</li> </ul>	<ul style="list-style-type: none"> <li>● Technology</li> <li>● Scale (immediate and ultimate)</li> <li>● Cost synergies (Capex, Opex)</li> <li>● Environmental benefits from smaller footprint</li> <li>● Minimise cost inflation by eliminating competition for resources</li> </ul>	<ul style="list-style-type: none"> <li>● HHV/price relationship</li> <li>● LPG blending</li> </ul>
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*Commercial elements*

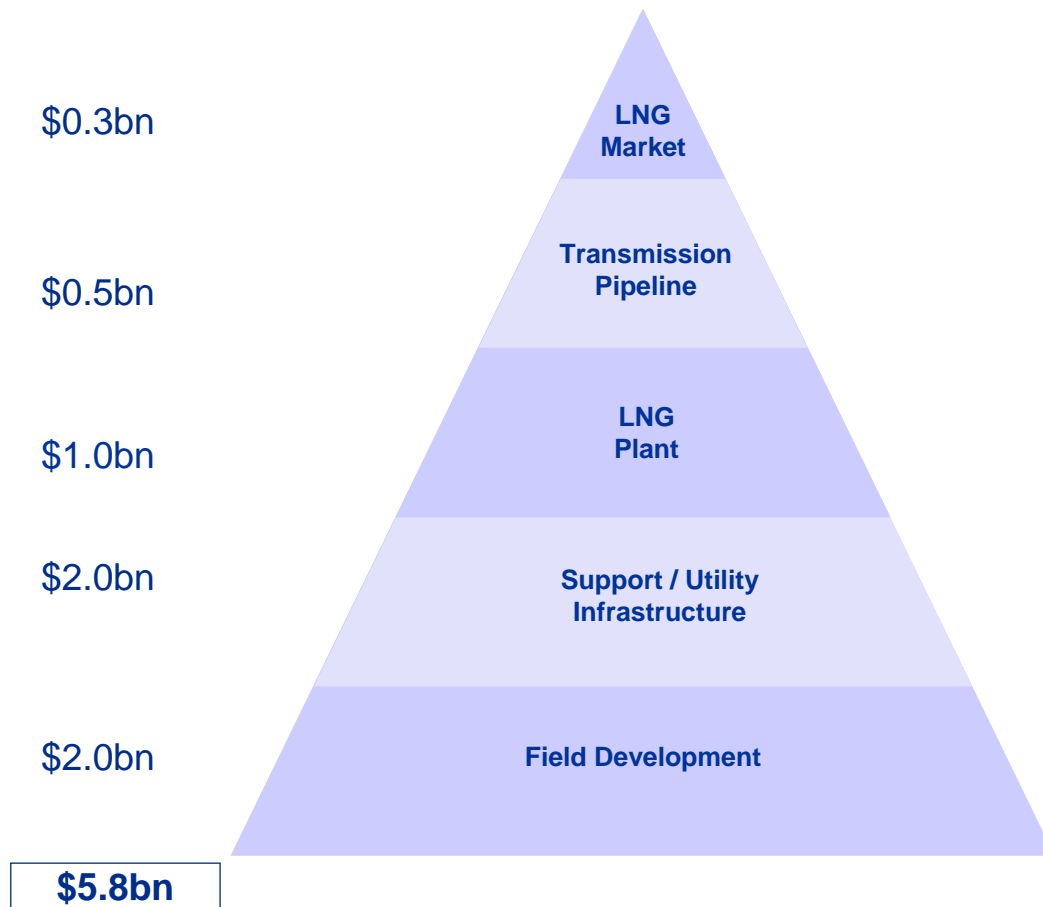
<ul style="list-style-type: none"> <li>● Gas swaps</li> <li>● Potential for blending (min. spec.)</li> <li>● Development schedule and contract services management</li> <li>● Ramp-up management</li> <li>● Unitisation potential</li> <li>● Implications for reversionary rights</li> <li>● Leverage diversification of supply fields to mitigate 'first of kind' project risk profile</li> </ul>	<ul style="list-style-type: none"> <li>● Third party involvement or owned</li> <li>● Tariffs</li> <li>● Fiscal efficiency of a change in gas ownership</li> <li>● Land access</li> <li>● Total capacity</li> <li>● Statutory third party access issues</li> </ul>	<ul style="list-style-type: none"> <li>● Ownership structure</li> <li>● Operating and management structure</li> <li>● Contractual and lease arrangements</li> <li>● Tariffs and tolls</li> <li>● Streamline environmental approval process via fewer applications in the system</li> <li>● Financing options and security</li> <li>● Security</li> </ul>	<ul style="list-style-type: none"> <li>● CSG LNG branding and market development</li> <li>● Contract vs. Merchant</li> <li>● Buyer participation</li> </ul>
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Source: RISC/KPMG independent study May 2009

Estimated benefits are based upon combining two of the major projects to form an initial 10 Mtpa project



Tangible benefits of collaboration



Unquantified benefits of collaboration

- Strong signal of project strength to external stakeholders and the market
- Enhanced metrics for debt financing
- Greater ability to secure 'A' team contractors
- Cost benefits from less competition for resources/services
- Simplified approvals process
- Increased credibility with LNG buyers and governments
- Insights gained from collaborators approach to development
- Sharing of risk
- Enhanced corporate reputation by achieving maximum benefit for shareholders despite recognised difficulties

Source: RISC/KPMG independent study May 2009

## GUIDELINES FOR GRANT OF A PRODUCTION LICENCE AND GRANT OF AN INFRASTRUCTURE LICENCE; Clause 4.2

“..... these sovereign rights confer on the Australian Government *a responsibility* to ensure that present and future generations of Australians derive *optimal benefit* from the petroleum resources .....

*Thank you*

## AUSTRALIAN HERITAGE

## INTERNATIONAL EXPERIENCE

## GLOBAL VISION

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