Investment and Access Workshop

April 2011

Creative Energy Consulting

Consider 4 Questions

- Do we need investment?
- Do we need additional information and tools?
- What commercial incentives are needed?
- What access regime changes are needed?

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Q1: DO WE NEED INVESTMENT?

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Show of Hands

Is immediate investment in new capacity needed on the Northern Pipeline?

A.YES

B.NO

C.DON’T KNOW: need more information

WHY?

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Some possible investment objectives

- Maintain a reliable supply
- Allow end users to obtain the gas they require
- Allow users to obtain the capacity they require
- Promote retail competition
- Make a profitable return on investment capital

Objectives vs Access Regime

Objective	Contract Carriage	Common Carriage
Reliability	Restrict capacity issuance	KEY OBJECTIVE
Meet end user needs	Through retail market	Through retail market
Meet user needs	KEY OBJECTIVE	Not relevant
Retail Competition	POSSIBLE OBJECTIVE	Not relevant
Profitable Return	Through extra capacity sales	Through tariff increase

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Meet user demand: at what price?

Project	Cost range ($m)	Capacity range (TJ/d)	MCE range $/(GJ/d)/yr	
			Scenario 1 (step demand)	Scenario 2 (20yr demand ramp)
Partial Looping	80-120	22-32	260-560	580-1200
Full Looping	150-200	140-160	100-150	220-330
Compression	19-49	9-12	160-560	350-1200

Current Auckland zone tariff is $60/(GJ/day)/yr

Figures taken from Vector presentation, *North Pipeline: Winter 2010 (and Beyond)*, March 2010.

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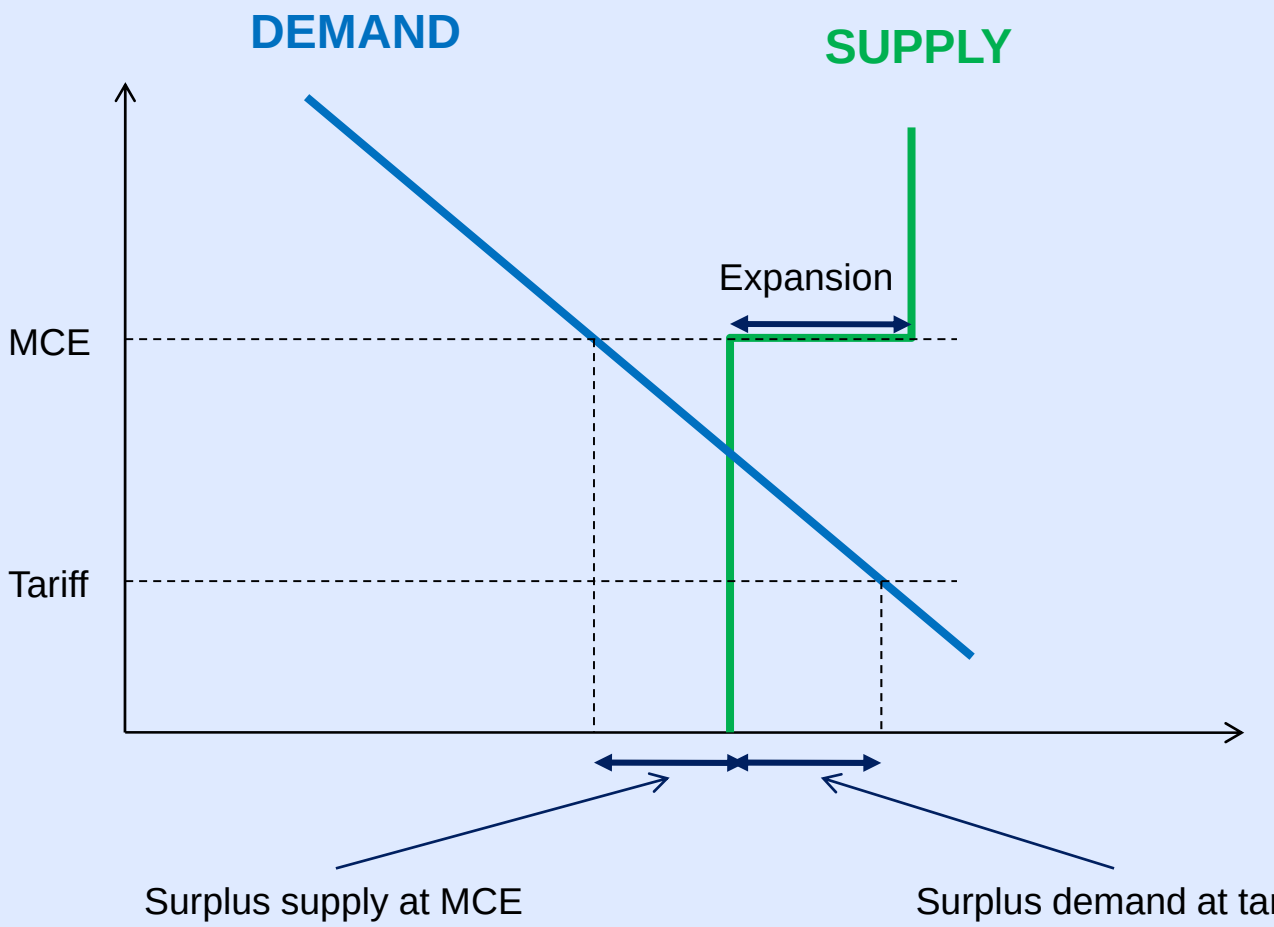
Pricing Issue



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Quick Summary

- To answer question “is investment needed?”, you first need to define your investment objectives
- These depend upon the access regime:
  - Contract carriage: provide new capacity to users *prepared to pay for it*
  - Common carriage: maintain supply reliability
- And the access regime will determine who should pay:
  - Contract carriage: incremental users
  - Common carriage: all users

Q2: DO WE NEED ADDITIONAL INFORMATION AND TOOLS?

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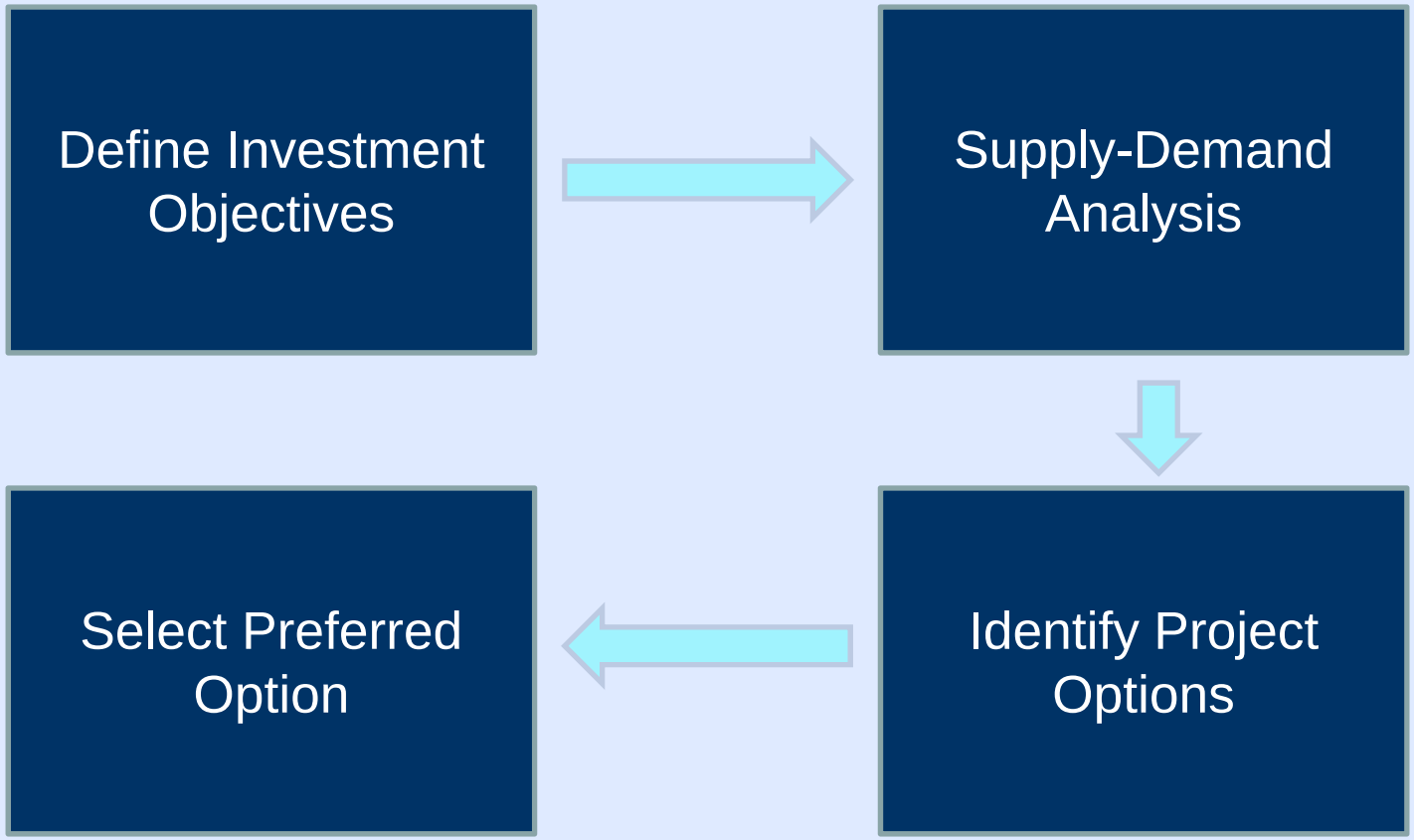
Back to Show of Hands

To those that answered “DON’T KNOW”:

what additional information do you need to make up your mind?

Investment Process Blueprint



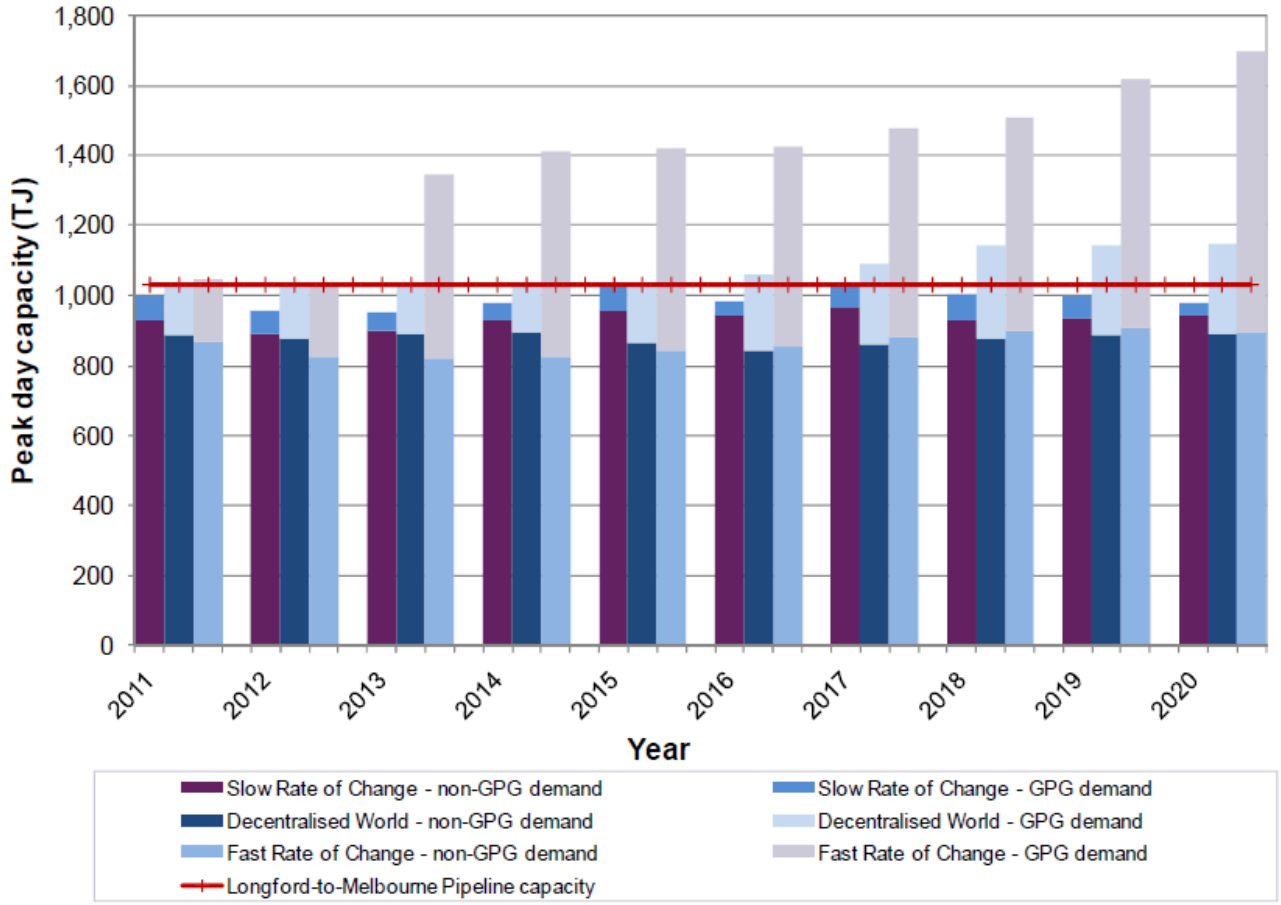
Transpower Presentation

Discussion

- What information and tools are required?
- Where do they fit into the blueprint?
- How is this done in Australia? Electricity? Other?
- Who should be responsible: owner, operator, GIC, CC, MED, users or other?
- Who should specify and direct the process: CC, GIC, users?
- Design and Implementation issues arising?

Australian Gas SOO Example

Figure 7-25 Longford-to-Melbourne Pipeline capacity and demand balance for winter 1-in-20 peak day demand



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Australian Gas Bulletin Board

Figure 2-6 Sample of Gas Bulletin Board historical data file

PlantName	PlantId	ZoneName	ZoneId
SEA Gas Pipeline	550052	Adelaide (ADL)	550016
SEA Gas Pipeline	550052	SEA Gas (SEA)	550019

Standing Capacity

Capacity Quantity	Units	Capacity Type	Effective Date	Comments	Last Updated
314	TJ	MDQ	02/07/2008 00:00		17/06/2009 15:35
314	TJ	MDQ	17/06/2009 00:00	Unchanged	29/06/2010 12:45
314	TJ	MDQ	29/06/2010 00:00		29/06/2010 12:45

Actual Quantity

Gas Date	Adelaide (ADL)	SEA Gas (SEA)	Total Actual Quantity	Flow Type	Units	Quality	Last Updated
25/06/2008 00:00	194.4	202.7	202.7	OPFLW	TJ	OK	27/06/2008 11:20
26/06/2008 00:00	222.8	234.4	234.4	OPFLW	TJ	OK	28/06/2008 08:30
	209.9	220	220	OPFLW	TJ	OK	29/06/2008 08:25
	170.1		179.6	OPFLW	TJ	OK	30/06/2008 09:15
	161.4		170.6	OPFLW	TJ		0/06/2008 09:15
	186.5				TJ		2/07/2008 12:00
01/07/2008 00:00	170				TJ		3/07/2008 15:35
02/07/2008 00:00	164.9				TJ		4/07/2008 10:25
03/07/2008 00:00	196				TJ	OK	05/07/2008 08:35
04/07/2008 00:00	192.3	208.2	208.2	OPFLW	TJ	OK	06/07/2008 08:35
05/07/2008 00:00	142.3	151.5	151.5	OPFLW	TJ	OK	07/07/2008 08:25
06/07/2008 00:00	137.5	145.6	145.6	OPFLW	TJ	OK	08/07/2008 09:55
07/07/2008 00:00	149.3	162.8	162.8	OPFLW	TJ	OK	09/07/2008 11:45

Capacity Type refers to the type of capacity being detailed. Valid entries are: HCAP, MDQ, RMDQ or WMDQs.
For more details of definitions please refer to the Bulletin Board Reports List:
http://www.gasbb.com.au/viewnotices.aspx?notice=Documents

Capacity Quantity refers to the standing nameplate capacity of the plant which is the maximum daily quantities

Adelaide (ADL) data provided by participant. Represents the demand delivered to Adelaide hub by the Seagas pipeleine

SEA Gas (SEA) data provided by participant. Represents the demand on the Seagas Pipeline including the demand delivered to the Adelaide hub

Total Actual Quantity refers to total throughput of the Seagas pipeline

Flow Type refers to type of flow. Currently, the only valid entry is OPFLW - Operational daily flow. (NOT settlement quality data)

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Australian Short-term Trading Market

STTM GAS PRICE* & QUANTITY

Hub/Date	Ex Ante Price	Ex Ante Quantity	Ex Post Price	Ex Post Quantity
Adelaide				
11 Apr 2011	$3.76/GJ	72 TJ	$3.94/GJ	77 TJ
12 Apr 2011	$3.75/GJ	72 TJ	-	-
13 Apr 2011	$3.73/GJ	70 TJ	-	-
Sydney				
11 Apr 2011	$3.28/GJ	267 TJ	$3.81/GJ	272 TJ
12 Apr 2011	$3.52/GJ	272 TJ	-	-
13 Apr 2011	$3.50/GJ	279 TJ	-	-

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Q3: WHAT COMMERCIAL INCENTIVES ARE NEEDED?

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Back to Show of Hands

To those that answered “YES”:

Why do you think investment is not happening?

Current CC Timeline (approx)

Commissioned	DPP	CPP
To 2011 [?]	2012	2012
2012-2014	2017	2014
2014-2016	2017	Year in service

Note: under average price cap, incremental sales earn incremental revenue at tariff

Assume:

DPP runs 2012-2017
CPP runs 2014-2017
Cut off for inclusion in DPP is 2011

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Investment Drivers

- *Carrot*: profitable return on investment
- *Stick*: regulatory penalties for not achieving investment objectives
- *Market Power*: impact of investment on existing commercial positions
- *Current Uncertainty*: wait for more CC regime to be clarified
- *Future Uncertainty*: in demand or regulated return

Uncertainties for Regulated Investor

WACC vs Funding Cost

Regulatory Approval (Roll-in)

Demand across Pipeline Network

Future Regulatory Optimisation

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Uncertainties for Unregulated Investor

- Funding Cost
- Demand on Pipeline
- Competing Pipeline
- Interconnection

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Fundamental Issues

Issue

- Wait for new CC regime to be established
- WACC is a blunt tool: encourages too much or too little investment
- “Price-quality” is a common carriage concept

Possible Solution

- Establish special vehicle for urgent investment
- Need to define “prudent investments” which WACC is payable on
- Align the ER and AA regimes

Discussion Options

- Access regime changes:
  - Through VTC change
  - through GIC regulation
- Economic Regulation changes:
  - Through input to CC process
  - In parallel with CC process
- Unregulated investment
  - By Vector
  - By third party

Q4: WHAT ACCESS REGIME CHANGES ARE NEEDED?

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High-level View

- Even with efficient investment, there will be times of capacity scarcity. With underinvestment, it will be more frequent
- Access to scarce transmission capacity under contract carriage has similarities to production capacity:
  - If you want some, talk to existing capacity holders
  - If they won't let you have any, go out and procure your own
- But reform of production access is not being contemplated
- So, what are the essential differences between production and transmission capacity that might mean that transmission reform *is* required?

Production vs Transmission

Production		Transmission
• Large end users buy from wholesale market under long-term contracts	→	• Large end users historically served by retailers
• New entrant can build own capacity	→	• New entrant must persuade Vector to build capacity
• No automatic access to tariffed capacity	→	• Access to tariffed capacity until recently: market has not yet adapted to recent shortage
• Common carriage access not feasible in competitive sector	→	• Common carriage *is* feasible in a natural monopoly

Discussion: Strategic Options

1. Move to common carriage access
2. Make contract carriage transmission work more like “contract carriage” production (albeit recognising the natural monopoly in the former), addressing:
   - Large customer churn
   - Investment efficiency
   - Secondary trading
3. Ensure that there is always sufficient spare capacity to support retail competition under contract carriage
   - Deliberately overinvest
   - Discourage hoarding by users or Vector
   - Improve the churn process to minimise required spare capacity