

Gas NZ Industry Forum 2011

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KAPUNI -1





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Outline

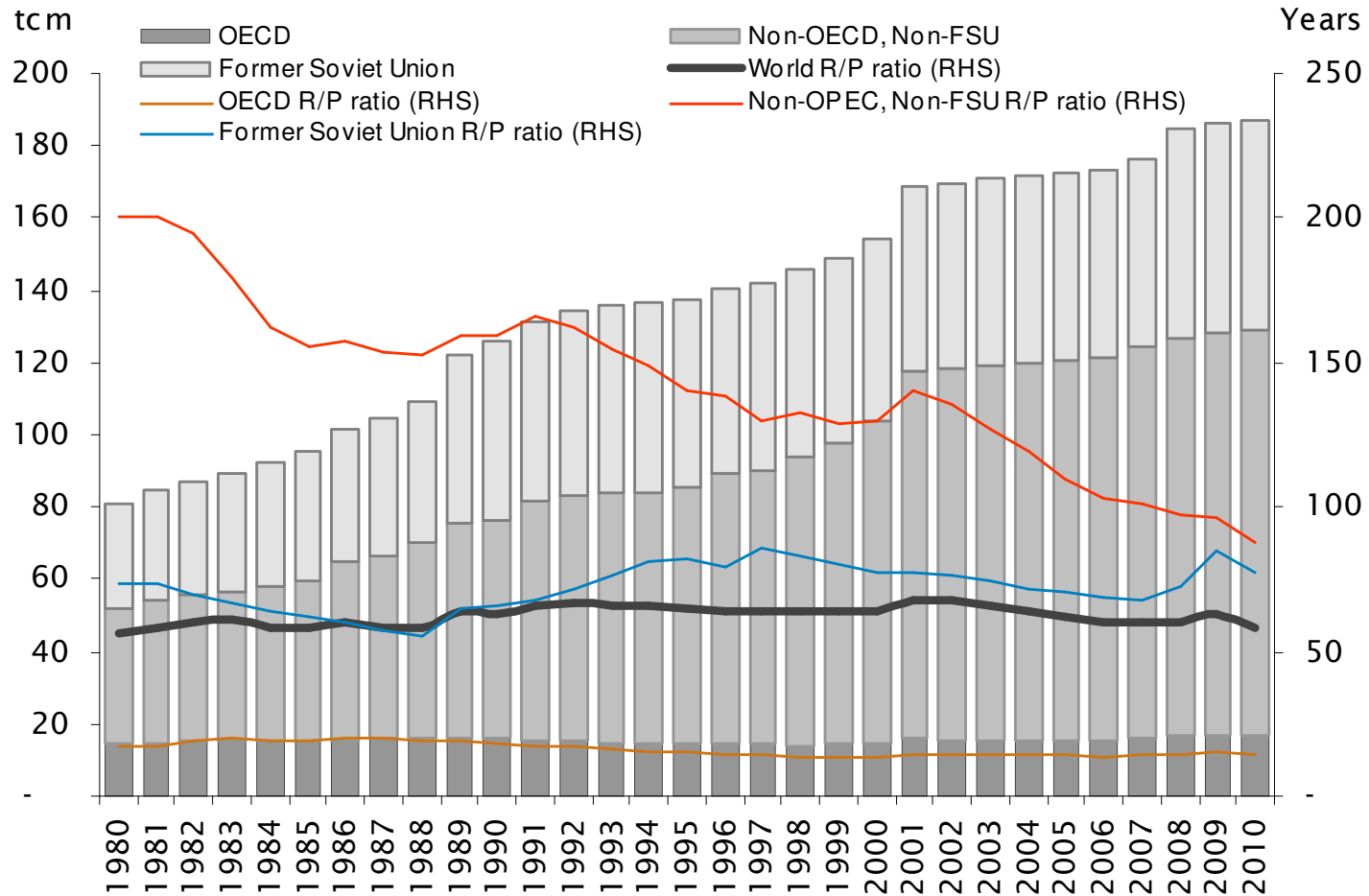
1. The big, big picture
2. The big, little picture
3. The little picture

1. The big, big picture

Key themes

- + globally, a gas revolution has been unfolding
- + unconventional energy rapidly becoming conventional
- + price paradigms look to have changed permanently
- + divergence in hydrocarbon pricing a recent but increasingly prevalent global theme
- + standalone gas mega-projects now increasingly viable
- + balance of global market power headed East
- + Fukushima has permanently changed the global energy equation

Global gas stock holding fast, with risk to upside



Unconventional hydrocarbons: what are they?

... gas and oil not produced by conventional means

+ oil sands

+ coal seam gas

+ shale oil and/or gas

+ tight gas

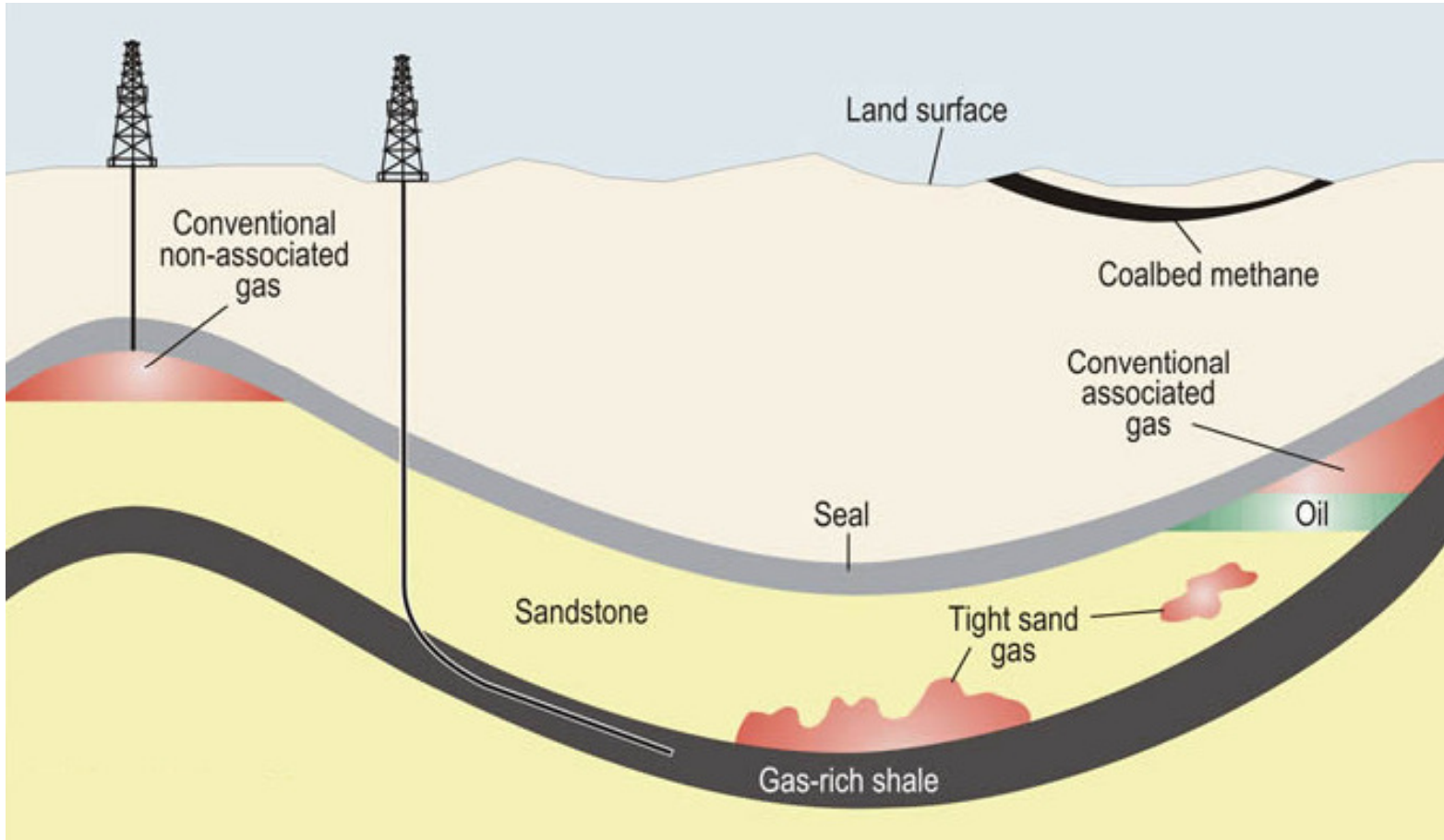
+ underground coal gasification

+ methane hydrates

Unconventional gas: what's changed?

+ confluence of 3 above-ground breakthroughs / events supported the arrival-to-market of unconventional gas

1. drilling technology
2. fracking stimulation techniques
3. economics



Unconventional gas: how real is it?

+ globally, the market says: very real

1. technical

- + US market has demonstrated shale commerciality
- + Australia has done the same for CSG



2. bottom-up economics

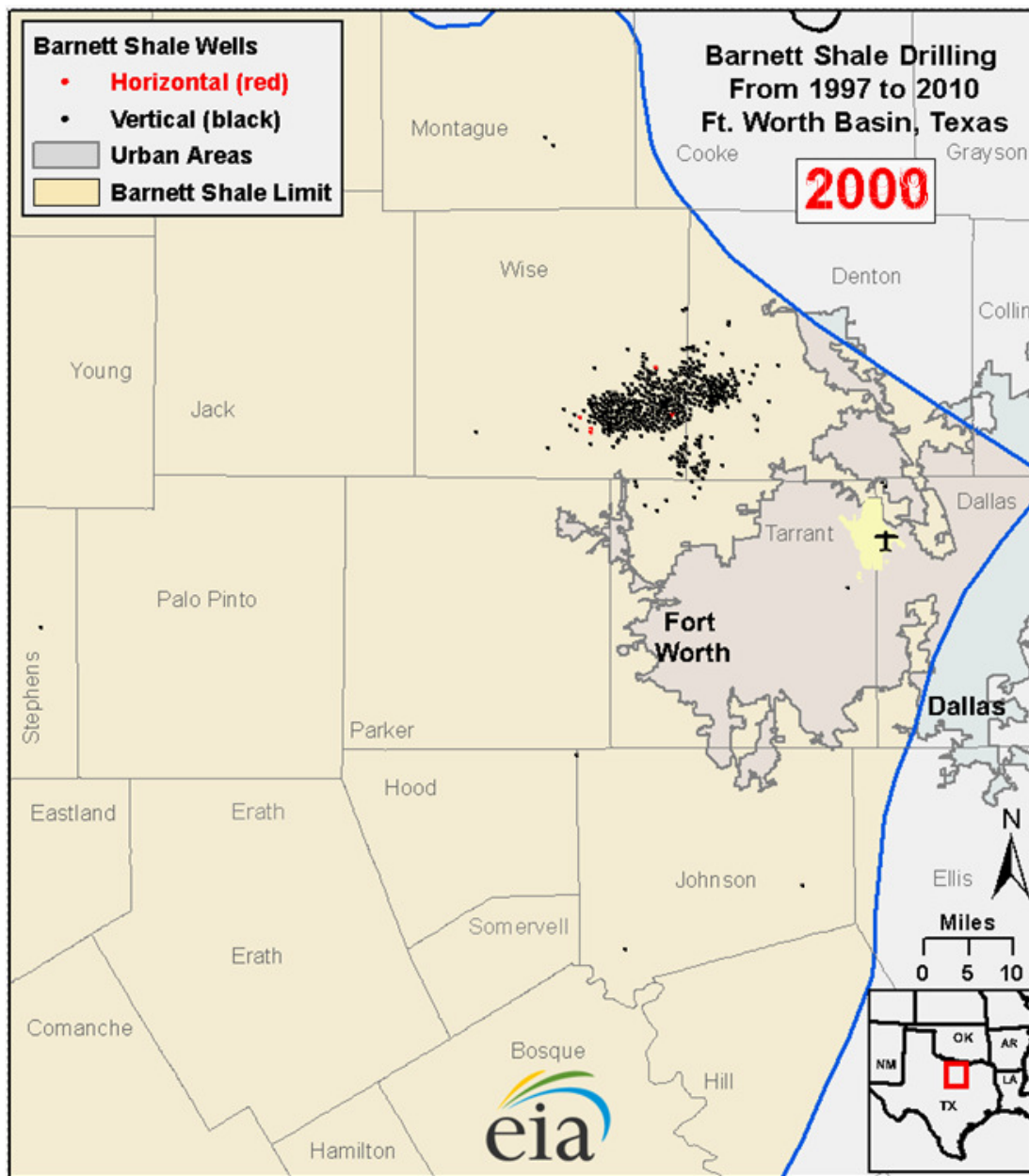
- + in spite of US gas prices, more and more to market
- + market analysts supportive of unconventional players

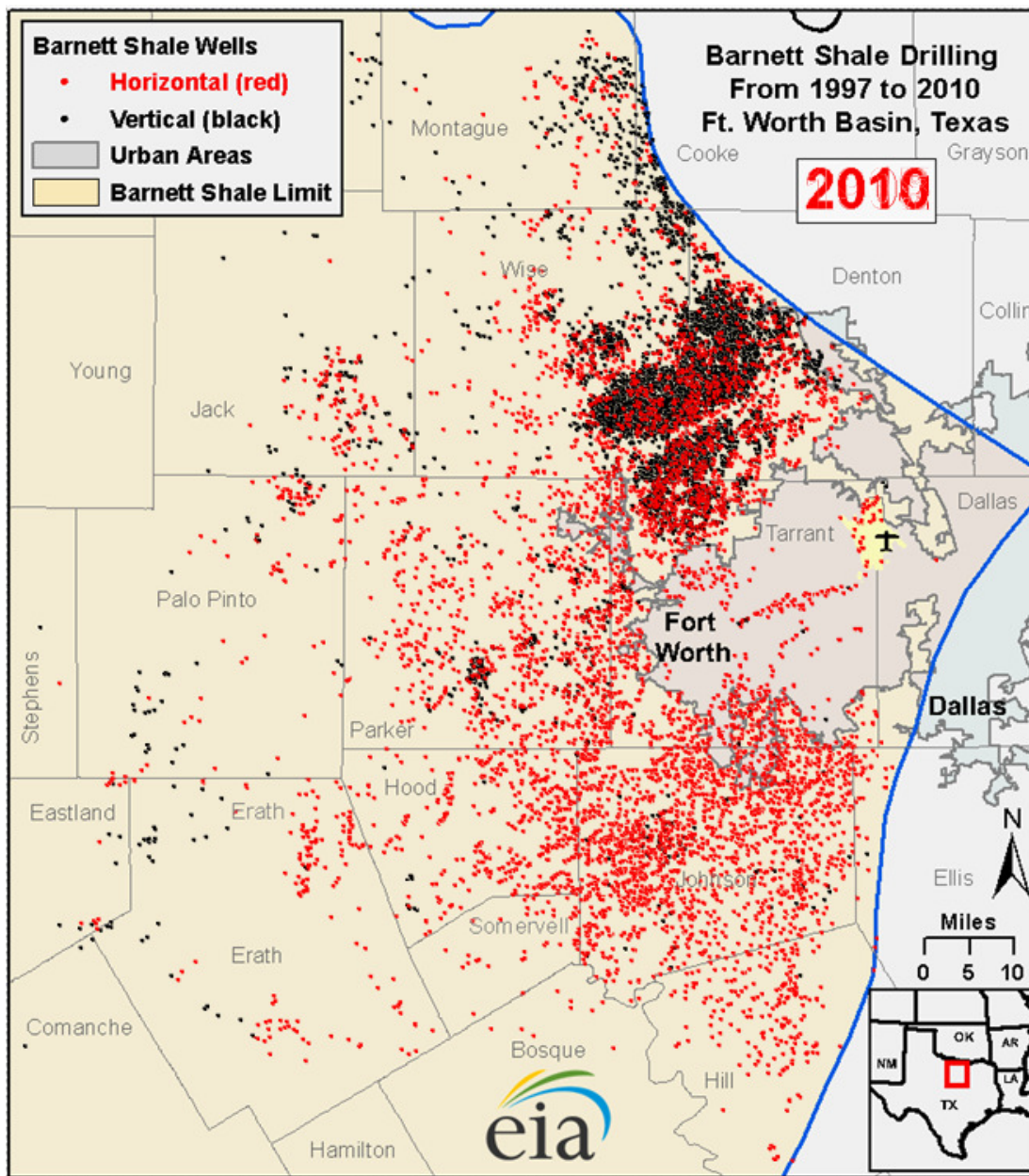


3. commercial / transactional

- + recent M&A strongly supportive
- + both CSG and shale gas focus







Australian CSG-to-LNG developing at startling scale and speed

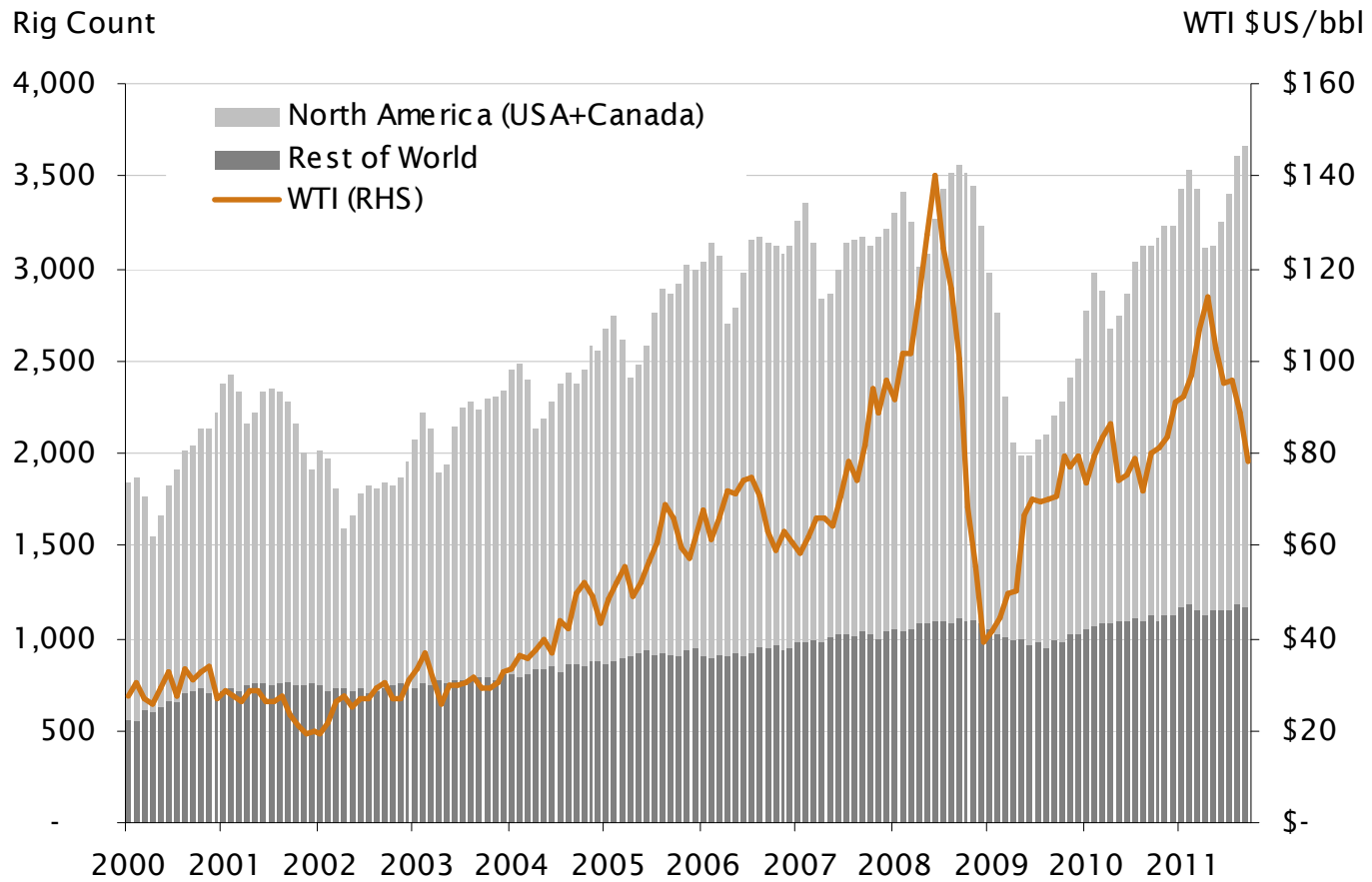
- + Curtis Island LNG: 3 projects, 6 trains, 1,400PJ pa gas-in, A\$50 billion capex ... and more is planned

Gladstone CSG-to-LNG Projects

	Australia Pacific LNG	Gladstone LNG	Curtis LNG
Partners	Origin Energy 42.5% ConocoPhillips 42.5% Sinopec 15.0%	Santos 30.0% Petronas 27.5% Total 27.5% KOGAS 15.0%	QGC ¹ 100.0%
Capital budget	A\$20 billion	A\$16 billion	A\$15 billion
Capacity: Out	2 x 4.5mtpa trains = 9.0mtpa	2 x 3.9mtpa trains = 7.8mtpa	2 x 4.25mtpa trains = 8.5mtpa
Capacity: In	500PJ pa	430PJ pa	470PJ pa
Reserves 3P	14,742PJ	14,619PJ	11,042PJ

Rig counts have rebounded strongly since GFC ...

BHI Global Rig Count



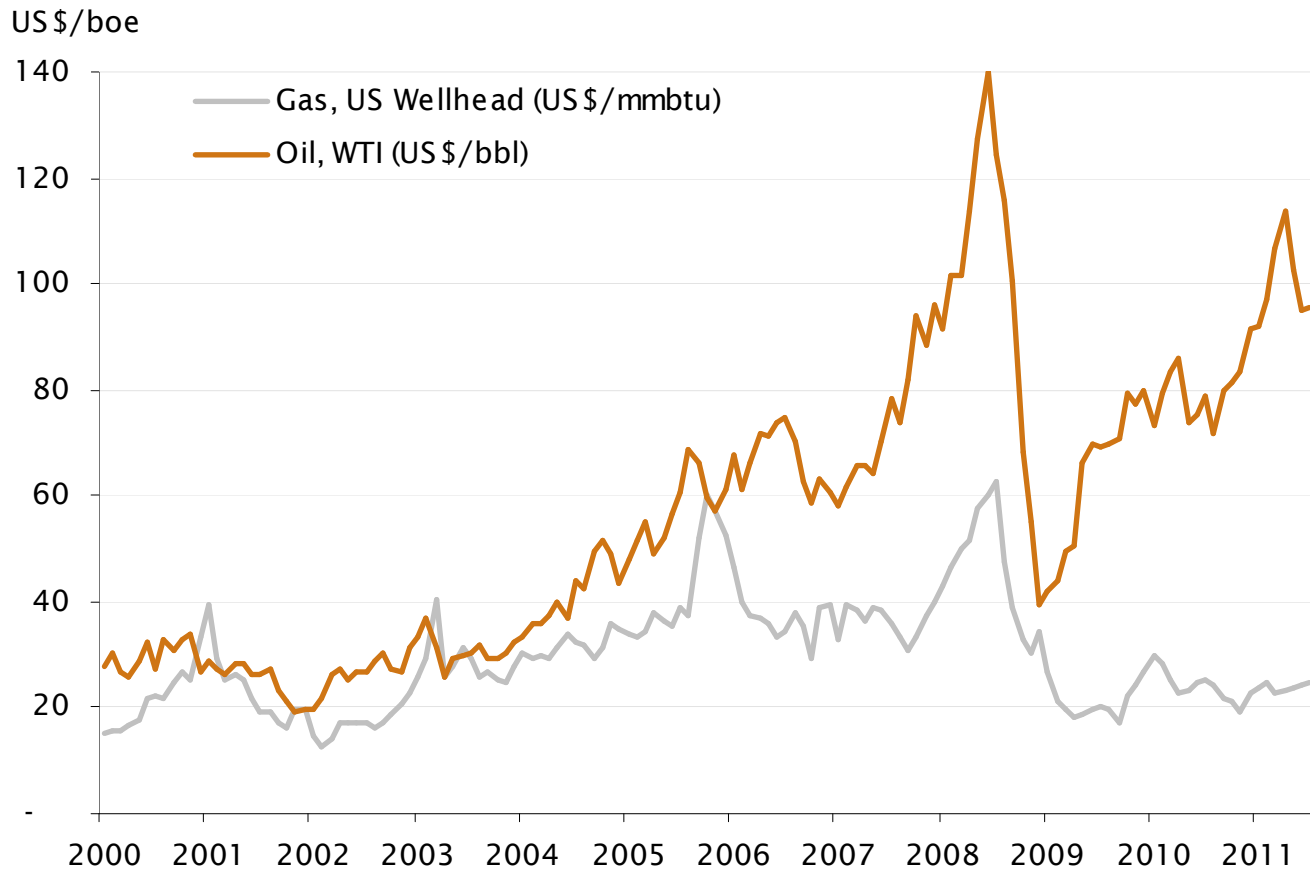
... but redeployment has been to new, not old frontiers.

BHI US Land Rig Count

	June 2009 Trough Point Rigs	Sept 2011 Rigs	Rig count uplift since trough
Texas	329	899	+ 173%
Louisiana	86	108	+ 26%
Oklahoma	77	196	+155%
Colorado	44	79	+ 80%
Pennsylvania	38	109	+ 187%
North Dakota	36	191	+ 431%
New Mexico	37	81	+ 119%
Wyoming	31	55	+ 77%
California	21	52	+ 148%
All other US	142	158	+11%
TOTAL US	841	1,928	+129%

Price divergence in some markets now looking structural

US WTI and gas price benchmarks



... but is seeing incumbents take a fresh perspective



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Sasol to do feasibility study on US GTL plant

Tue Sep 13, 2011 4:01pm GMT [Print](#) | [Single Page](#) [-] Text [+]

JOHANNESBURG (Reuters) - South African petrochemicals group Sasol said on Tuesday it would conduct a feasibility study on a potential gas-to-liquids (GTL) plant in the United States which could produce transport fuels and other products.

Sasol, the world's top maker of motor fuel from coal, is heavily investing in gas to diversify its portfolio and boost its production of chemicals and synthetic fuels.

Over the next 18 months the company will evaluate the viability of a GTL plant in Calcasieu Parish, Louisiana. The study will look at two possible options of producing either 2 million tonnes or 4 million tonnes of products a year.

"We believe Sasol's proprietary GTL technology can help unlock the potential of Louisiana's clean and abundant natural gas resources," said Ernst Oberholster, Sasol's managing director for new business development.

"GTL fuels are an important part of the energy mix because they can advance energy independence in a way that is both cost-efficient and environmentally friendly."

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UPDATE 2-Dominion seeks to re-export LNG from idle Cove Point

Fri Aug 12, 2011 7:31pm GMT [Print](#) | [Single Page](#) [-] Text [+]


- * Dominion hope to re-export from Dec 1
- * Follows number of other terminals already re-exporting
- * Company brings in cargo for \$8 per mmBtu (Adds detail, background)

By Edward McAllister

NEW YORK, Aug 12 (Reuters) - Dominion Resources (D.N: [Quote](#)) has applied for a license to re-export liquefied natural gas from its idle Cove Point terminal in Maryland, according to the DOE website.

Cove Point has not received a cargo since February, thanks to low U.S. natural gas prices, and re-export could allow customers more flexibility and

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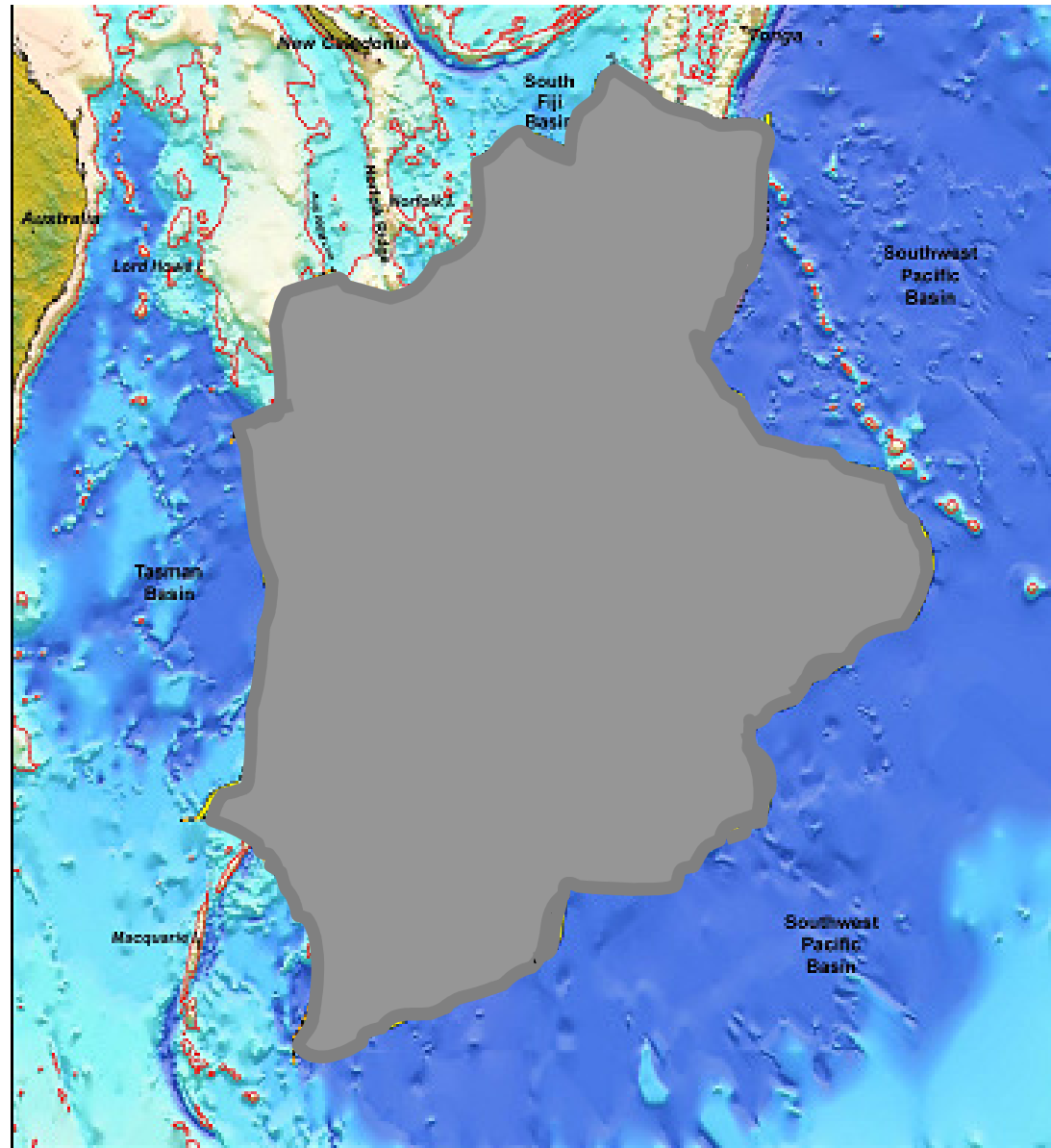
Fukushima has changed the energy world

- + of 60 reactors in service before 11 March 2011, just 11 remain operating
 - + almost 50,000MW of nuclear capacity in Japan, most of which is now idle.
 - + other nations and players have already reacted:
 - Germany immediately shut 7 of its 17 reactors, with the remaining to be shut down by 2022
 - Switzerland to shut all its reactors as they reach useful lives, by 2034
 - Venezuela and Israel both announced withdrawal
 - Siemens will no longer build nuclear plants anywhere in the world
- where will new and replacement capacity come from?**

2. The little, big picture

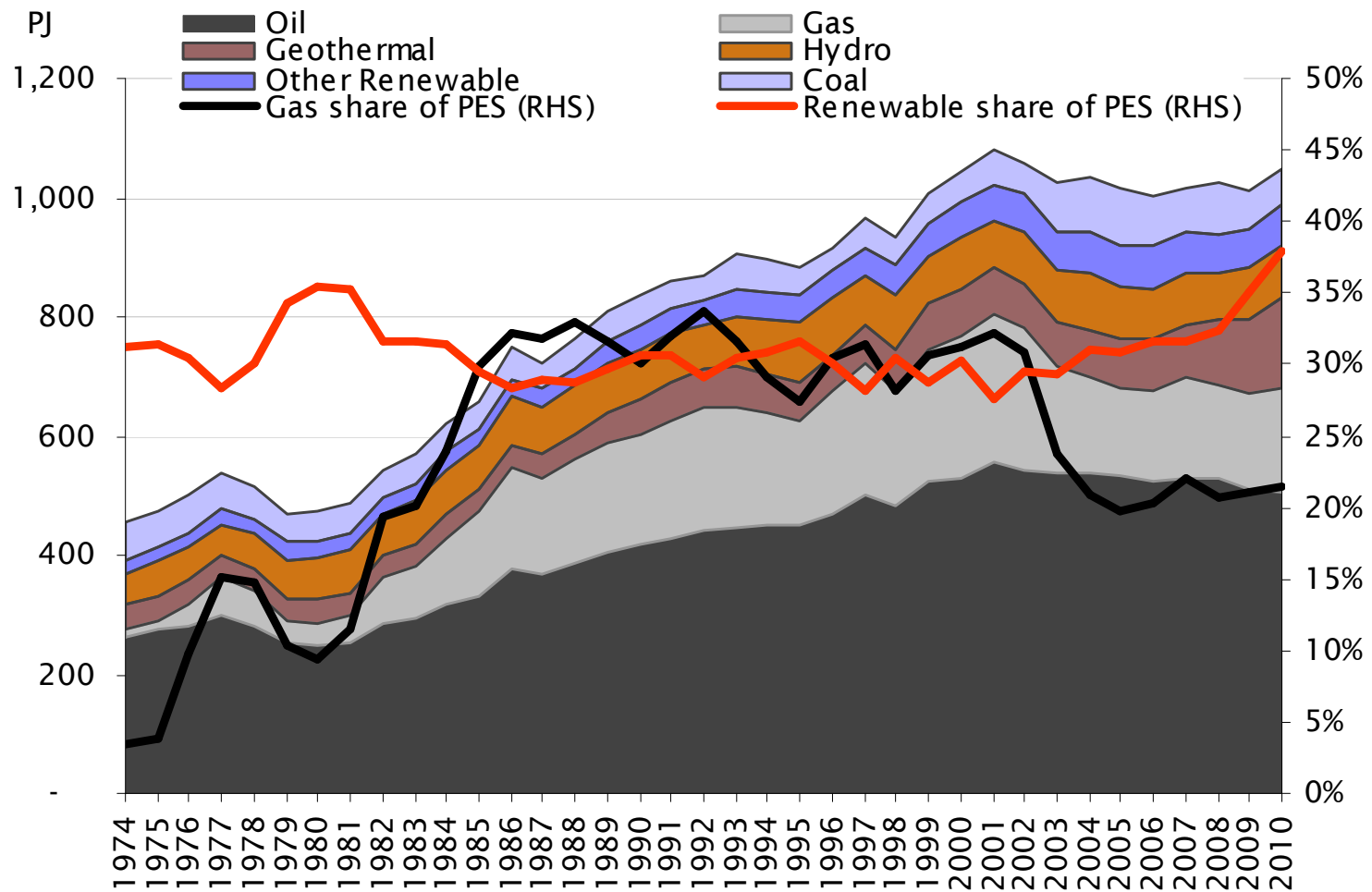


The little, big picture



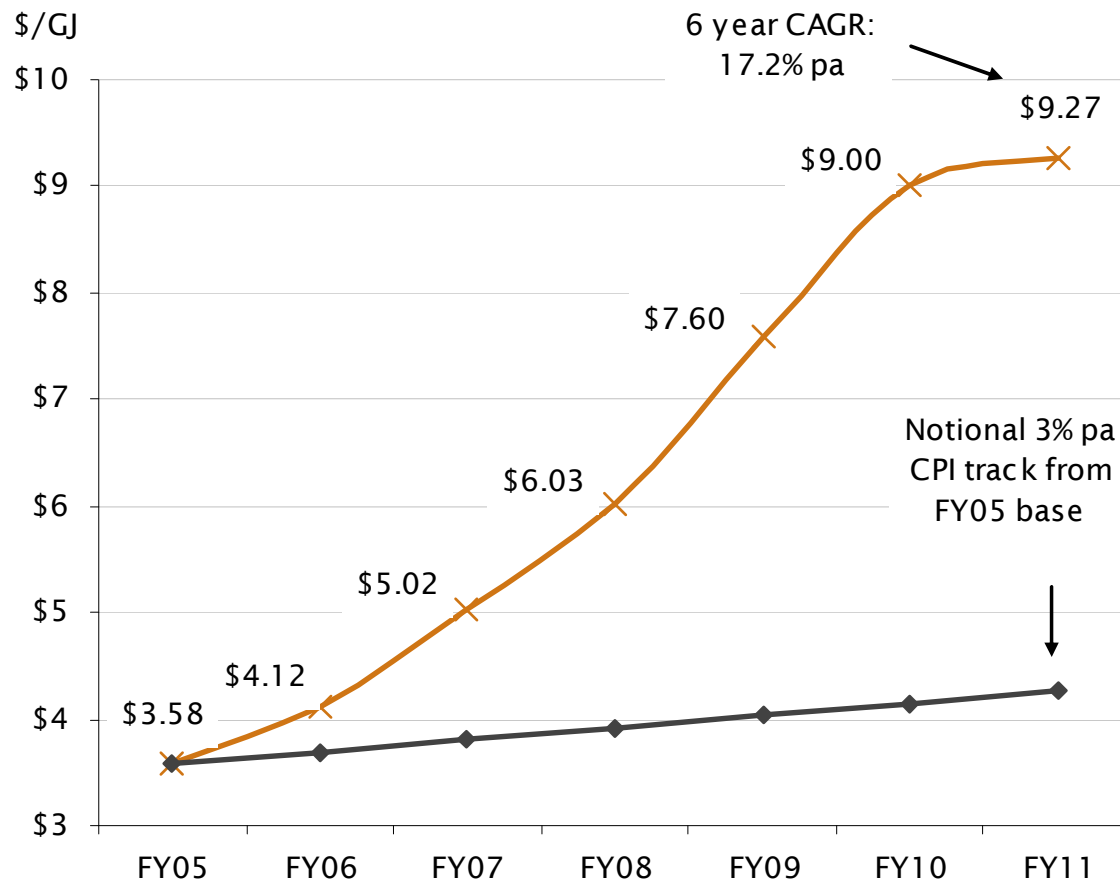
+ gas remains a significant and critical component of NZ's primary energy mix

New Zealand Primary Energy Supply

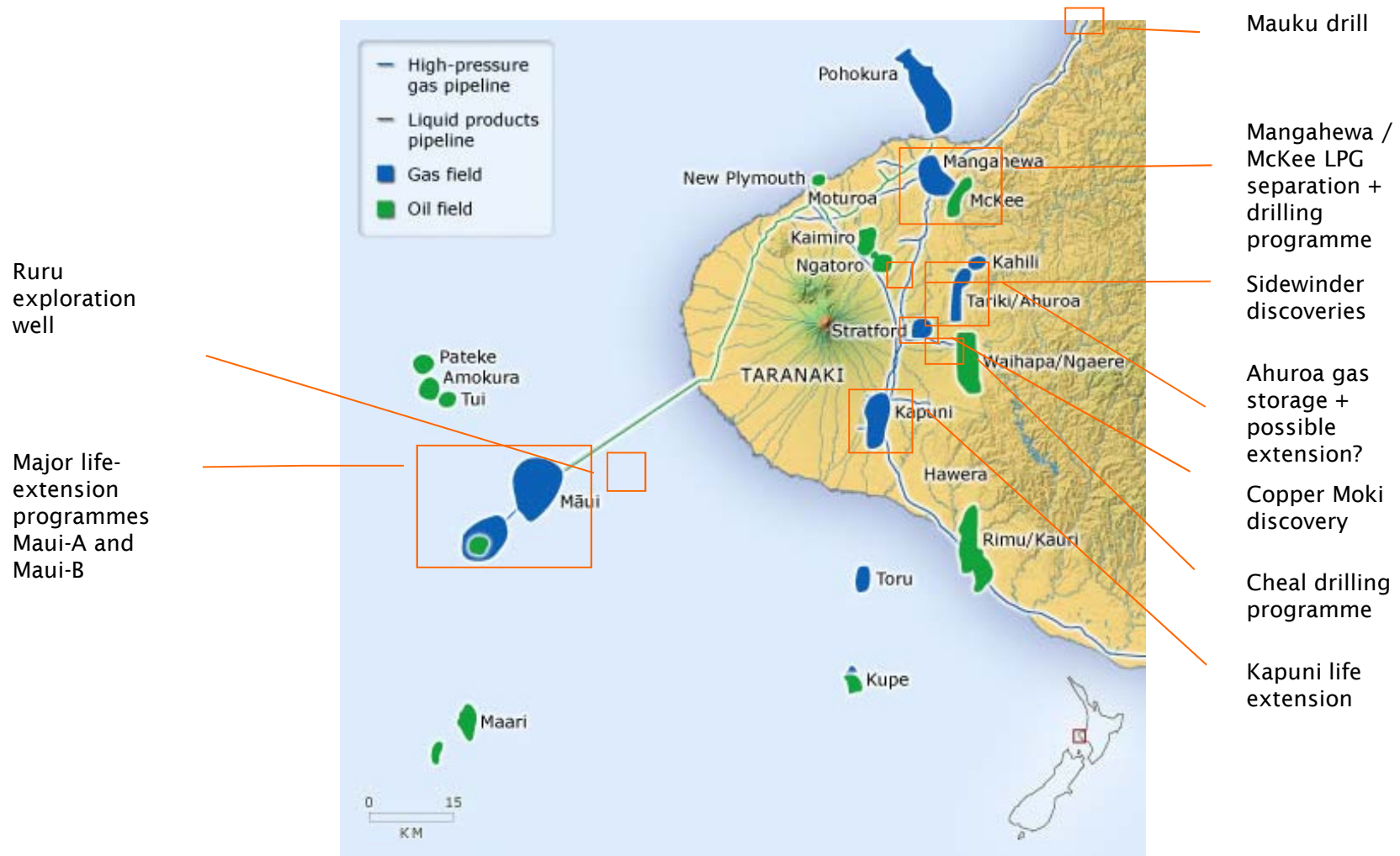


+ but is now much more expensive than what it was

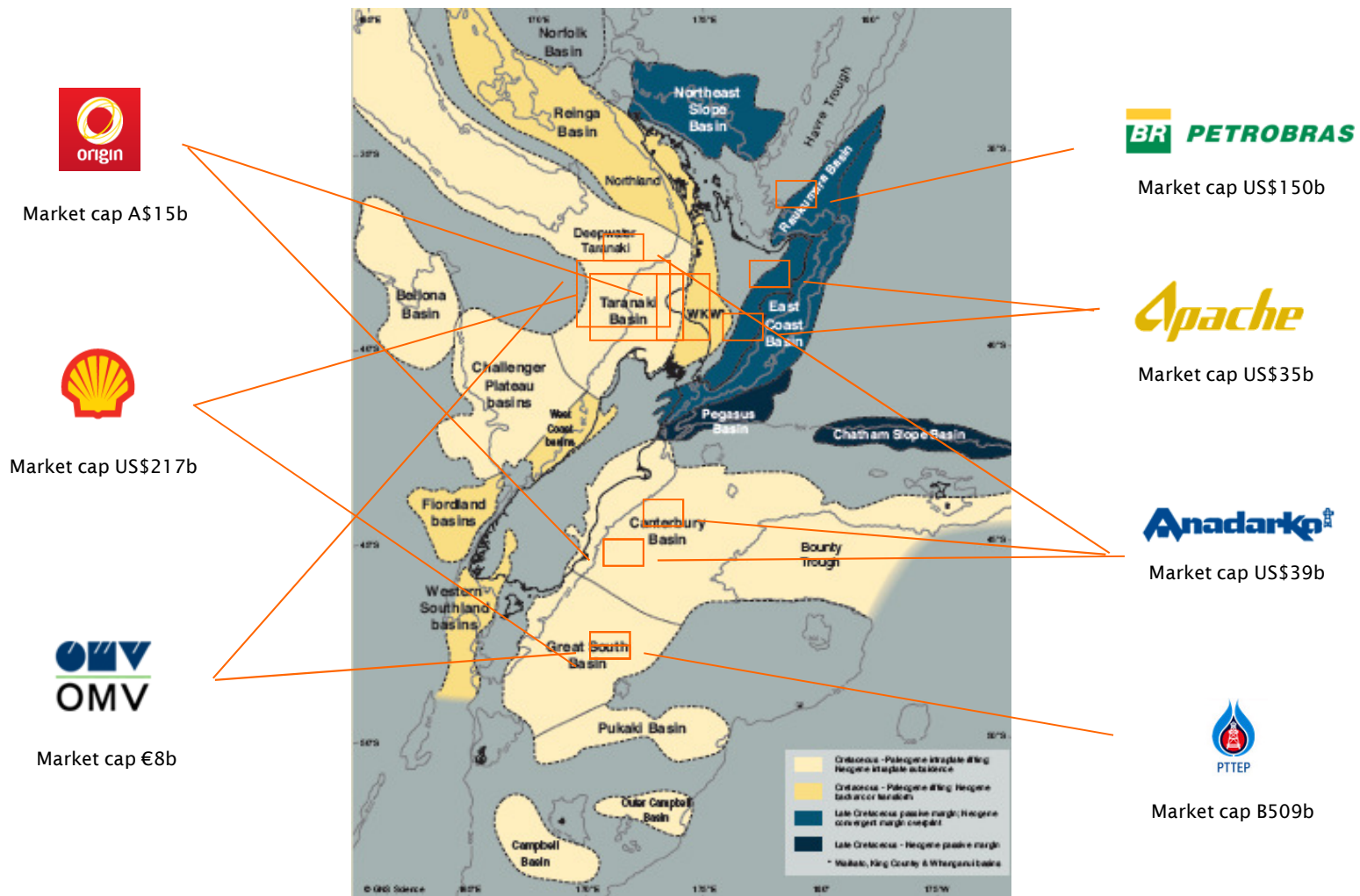
Contact Energy Average Cost of Gas



+ Taranaki Basin extremely busy

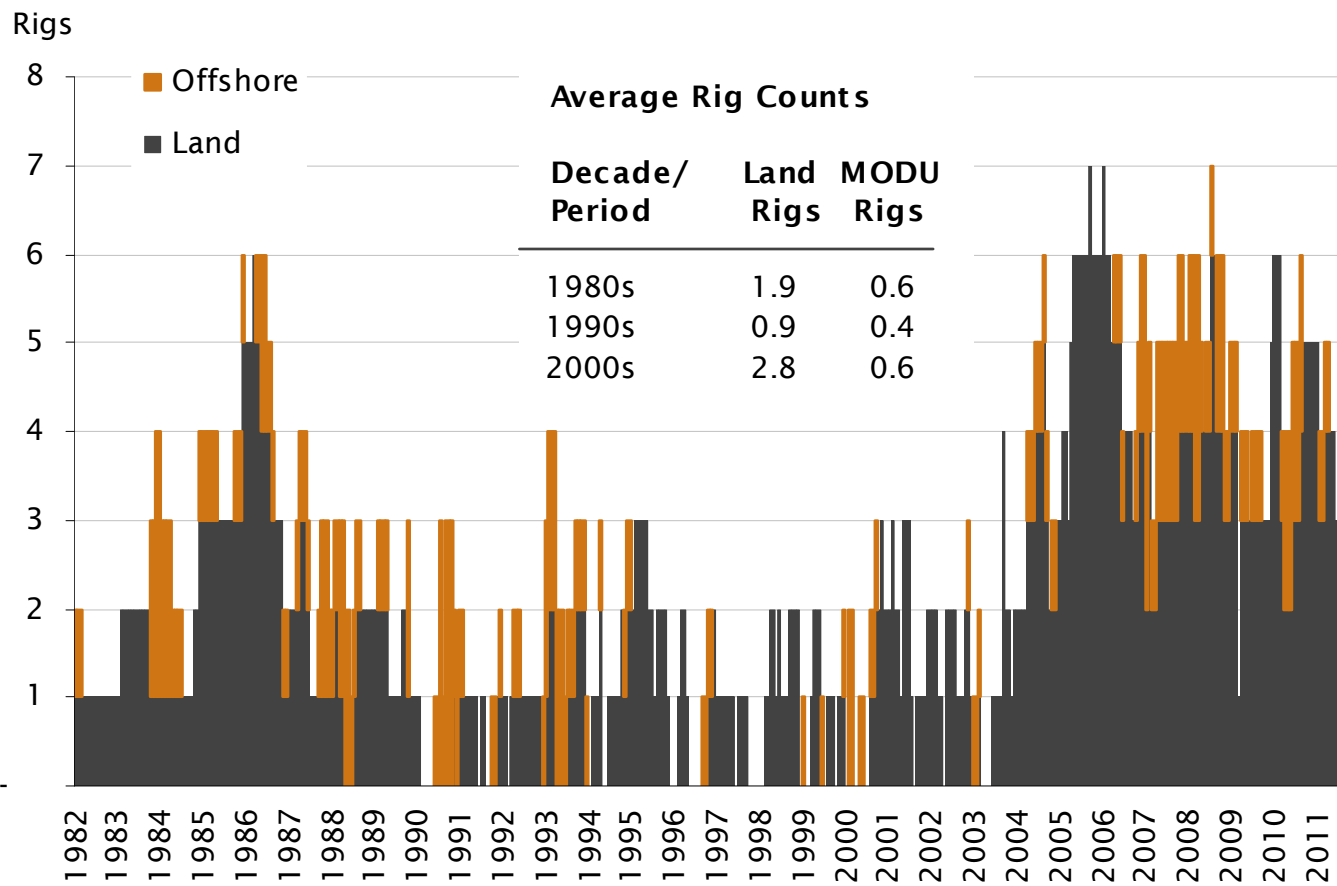


- + 18 mapped sedimentary basins, but only 1 producing
- + frontiers attracting high-quality interest and momentum



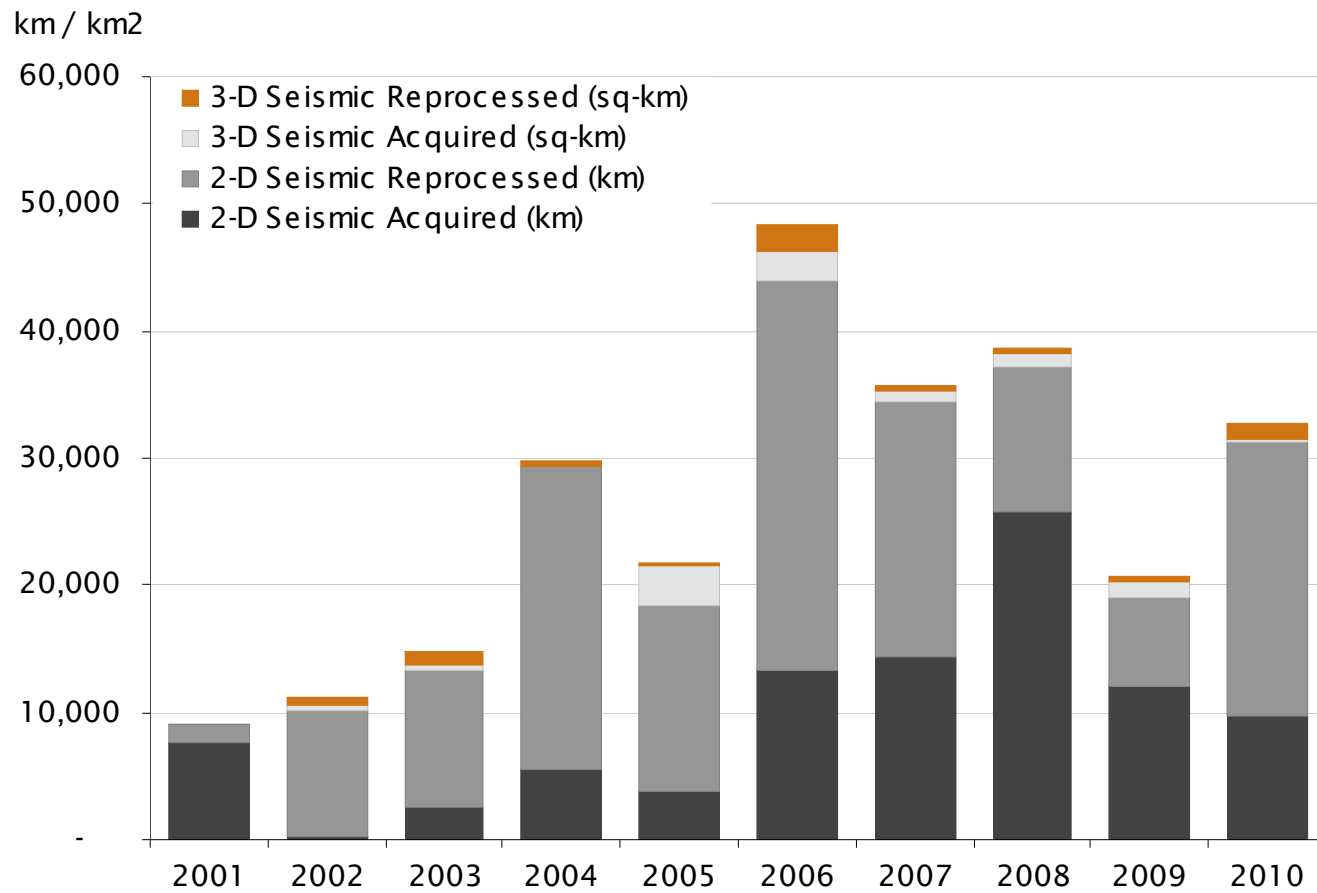
+ lead indicators encouraging

BHI New Zealand Rig Count



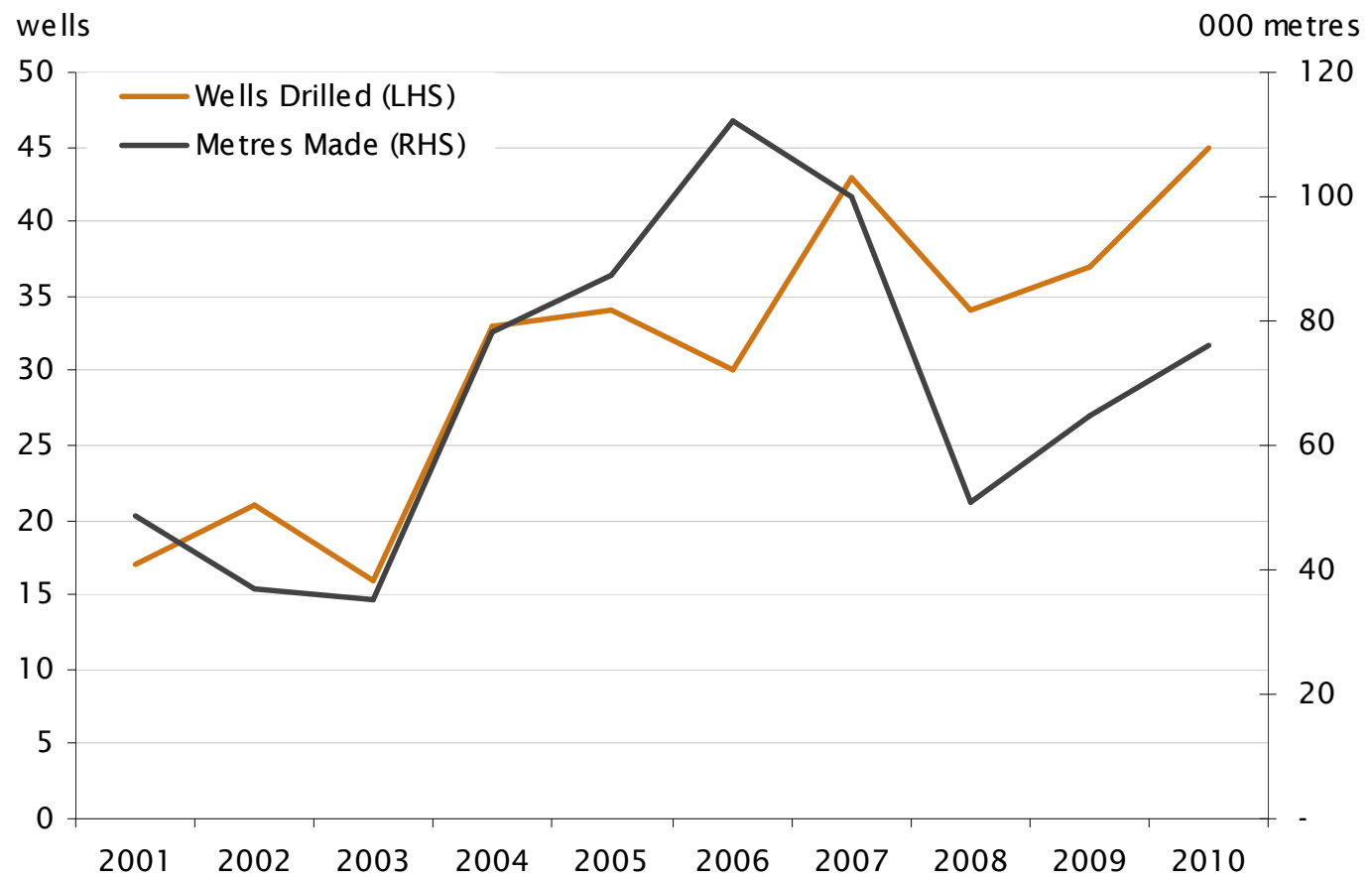
+ lead indicators encouraging

Seismic Acquired / Reprocessed



+ lead indicators encouraging

Wells Drilled & Metres Gained

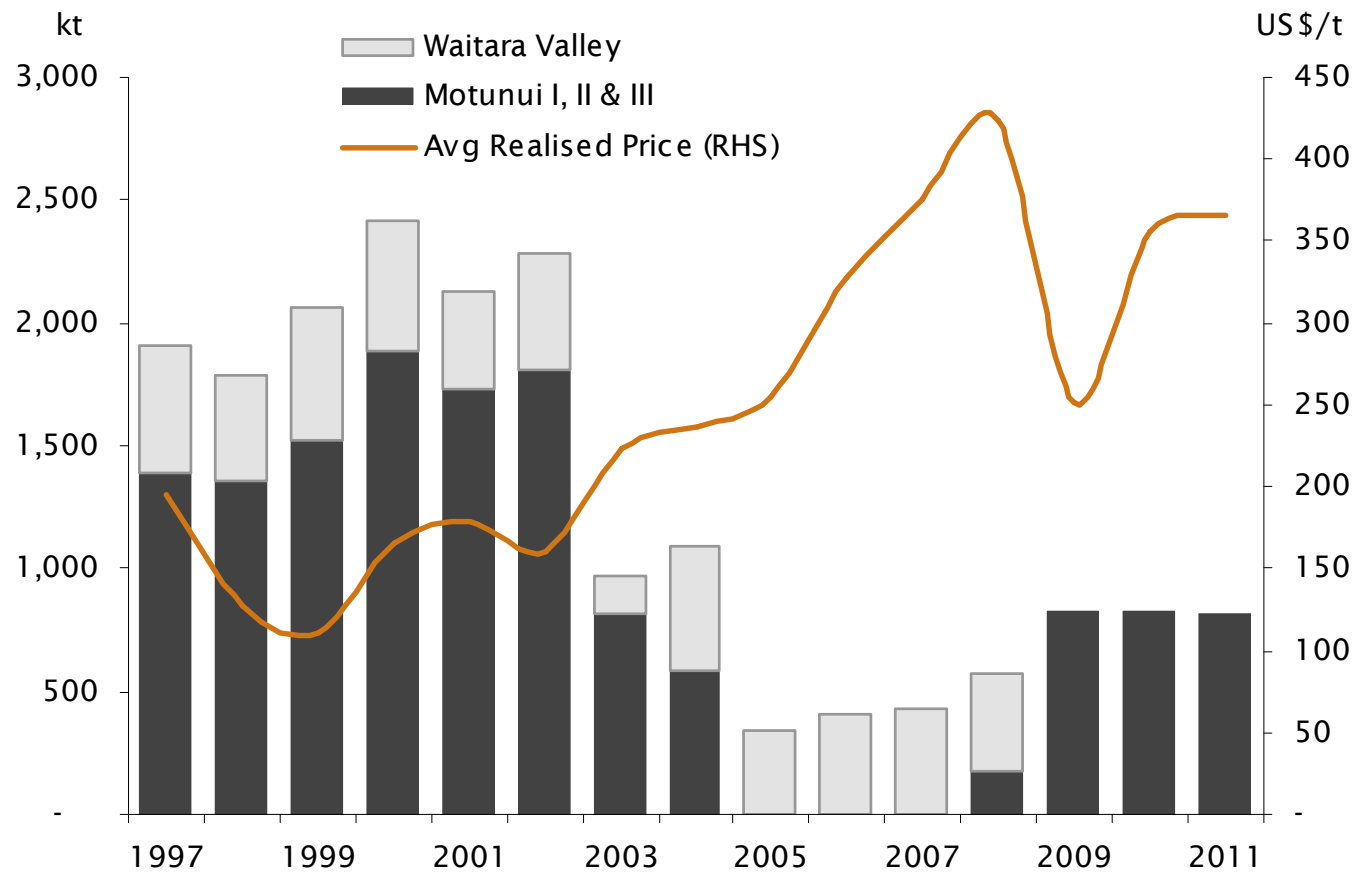


-
- + the Methanex gas market barometer giving all the right readings
 - running at near capacity since late 2008
 - openly looking to recommission Motonui I, possibly in addition to Motonui II
 - renewed upstream partnering strategy

“We believe there has been continued improvement in the natural gas supply outlook in New Zealand and we are focused on accessing additional natural gas supply to increase production in New Zealand. We are continuing to pursue opportunities to obtain economically priced natural gas with suppliers in New Zealand to underpin a restart of a second plant.”

+ the incentives for Methanex to access more economic gas are clear

Methanex NZ Production vs Avg Realised Price



+ unconventional gas very much in the frame in NZ

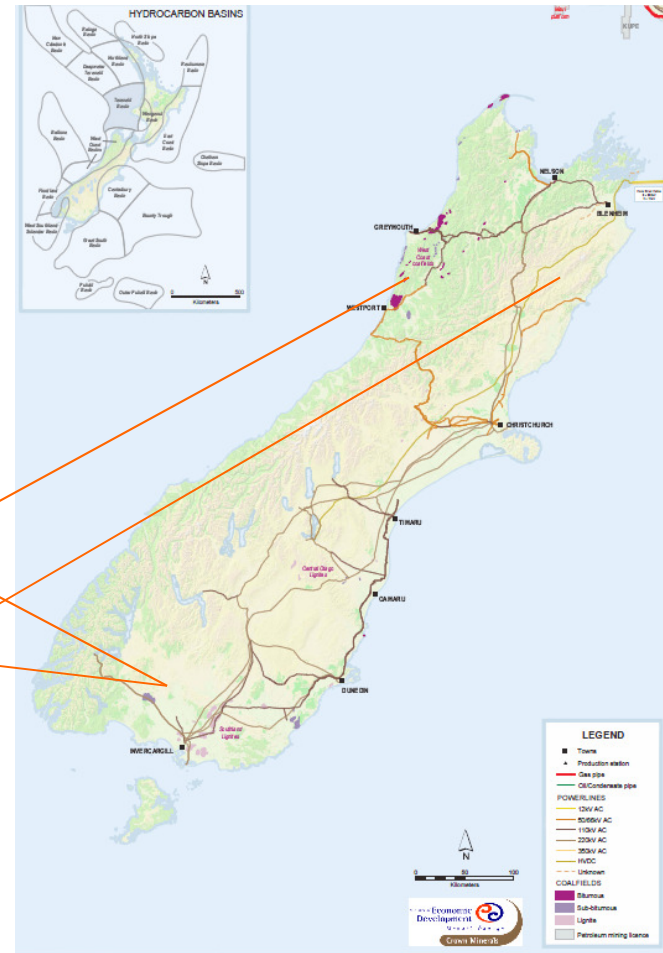


Underground coal
gasification

Coal seam gas

Shale gas

Methane hydrates



LPG

- + local LPG sector at a fascinating juncture
 - Todd McKee/Mangahewa/Pohokura LPG separation unit to market
 - in the hunt for market share, fierce retail, price-based competition
 - in a falling market, compounds an already tight indigenous supply curve ...
... bringing much supply-chain pressure to net-long incumbents
- + LPG export likely to be a much stronger market feature going forward

3. The little picture

Looking forward:

- + all legacy wholesale gas entitlements now gone, post-Maui transition complete
- + price adjustment has been very, very painful, but leverage now sits much more with Buyer than it did in 2004
- + swing to be a critical issue, for both Buyer and Seller
- + long-term gas access still a major issue, none is currently obvious
- + portfolio approach likely to be increasingly common Buyer strategy
- + economic access to infrastructure a weight on a truly competitive market
- + easy to picture a scenario where NZ is again awash with gas within 5 years, but a circuit breaker needed.

Thank you