

Shale gas: a game-changer for South Africa

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Disclaimer



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Some background



- Late 1960s: national oil co. (Soekor) exploration in SA's Karoo region
- Late 2000s: renewed interest in Karoo gas potential
 - recoverable resource estimate: 370 trillion cubic feet (EIA, June 2013)
 - ranked eighth-largest globally
 - Challenger first-mover
- Key drivers of corporate, state interest:
 - global energy trends/developments
 - SA economy, employment imperatives
 - National Development Plan
 - Eastern Cape one of SA's poorest provinces
 - looming SA energy crisis

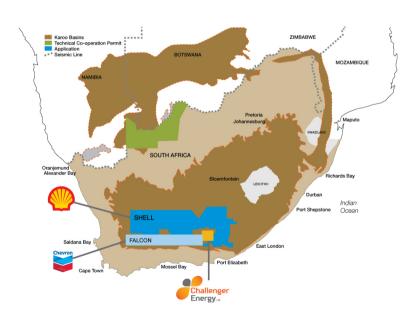
"... shale gas is recognised as a game-changer for our economy."

President of South Africa, Jacob Zuma
State of the Nation Address
(June 2014)

Some background, cont'd



- About the Karoo:
 - semi-desert, ±400 000km² in extent
 - sparsely populated ±300 000 people
 - primary economic activity farming, eco-tourism
- Robust debate on shale gas exploration pros, cons





Fracking in the Karoo: A step in the right direction?

SA: economy, employment imperatives (NDP)



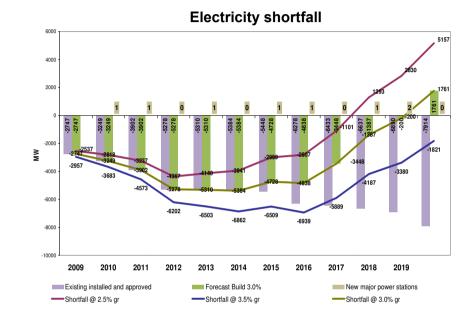
- National Development Plan 2030 'to eliminate poverty and reduce inequality by 2030'
 - economy
 - increase GDP by 2.7 times, requiring annual GDP growth rate of 5.4%
 - GDP per capita to increase from ±R50 000 to R110 000
 - exports to grow by 6% pa; non-traditional exports by 10% pa
 - employment
 - reduce unemployment from 25% currently to 14% by 2020, to 6% by 2030
 - additional 11 million jobs needed
 - total employment should rise from 13 million to 24 million



SA: emerging energy crisis



- Power grid has severe supply constraints
 - increased demand since 1994, ageing fleet
 - coal base-load
 - diesel-peaking plants make up shortfall
 - utility Eskom implementing load-shedding
 - significant government support
 - ~16.9% of 2010 GDP
- >12% increase in electricity price, 2012-13
 - >20% pa in prior three years
- >101% increase in gas price, 2012-13
 - >24% in 2013
- Doubling of current power generation capacity to 89GW targeted by 2030
 - huge newbuild programme required
- LNG import to bridge the gap?



THE WWW.thenewage.co.za

PetroSA rethinks Mossel Bay LNG terminal

Shale gas in South Africa



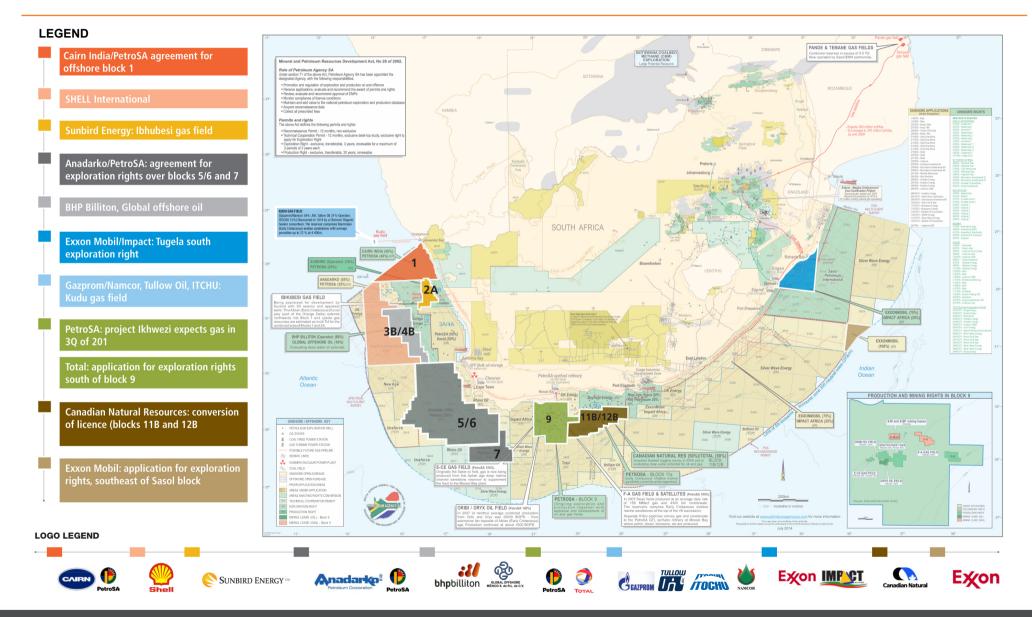
- Econometrix (SA's largest independent macro-economic consultancy) (March 2012 report):
 - 50tcf shale resource
 - could add R200bn to GDP pa
 - create 700 000 sustainable jobs
 - provide solution to power supply challenges to ensure South Africa's energy security
- US Energy Information Administration (EIA) estimates
 - shale gas potential ~370tcf risked technically recoverable
 - Econometrix report based on 20-50tcf being economically recoverable
 - full extent only known post-exploration
 - but transformational to SA's energy balance at these levels

Modelled value-added and employment scenarios

	Scenario A	Scenario B
Gas resource tcf	20	50
Production years	25	25
Average annual value-aded Rbn		
Upstream	30	86
Downstream	50	115
Combined	80	201
Average annual employment		
Upstream	55	155
Downstream	238	549
Combined	293	704

Growing international interest

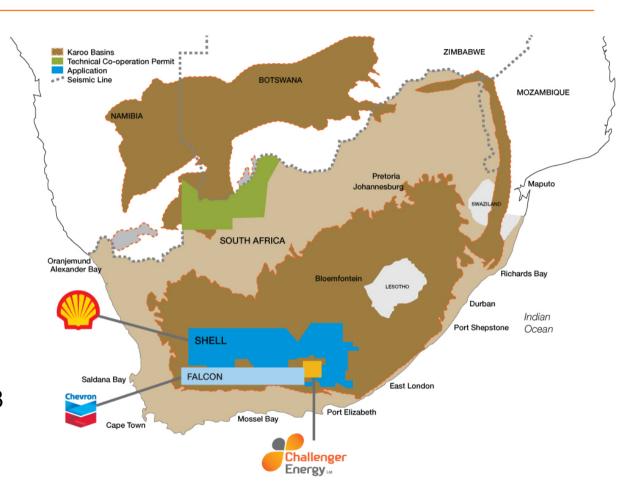




Challenger Energy: overview



- Australian listed shale gas exploration junior (ASX: CEL)
- South African subsidiary: Bundu Gas and Oil Exploration (Pty) Limited (Bundu)
 - 95% Challenger, 5% BEE (Don Ncube, Badimo Gas)
- Bundu first company to apply for shale gas exploration right
- Application made over ±4,300km²
 (~1 million acres) centred on 1968
 discovery well
- Neighbouring applicants: Shell, Falcon Chevron
- Advanced farm-in discussions



Challenger now the only small cap player with exposure to this play

Challenger Energy: overview, cont'd



- Permit application area centred around 1968 discovery well
 - flowed gas to surface from vertical unstimulated well
 - unusual, highly promising indicator of potential
- Strong board and management team
- Understanding of, support for SA Government's transformation agenda
- Committed to meeting regulatory framework requirements

Board and management

Michael Fry, Chairman

Industry experience: 7 years E&P (30 yrs Capital markets)

Chair **Red Fork Energy** (RFE), **Norwest** (NEW), past member **ASX** USA, Australia

Robert Willes, Managing Director

Industry experience: 27 years

BP (24 yrs), CEO *Eureka Energy* (EKA) UK, Norway, Algeria, Belgium, Australia, Asia, South Africa

Bill Bloking, Non-Exec Director

Industry experience: 40 years

Exxon, BHPB, MD Eureka Energy (EKA), Chair Nido Petroleum USA, Australia, Asia, Europe, South America

Paul Bilston, Technical Adviser

Industry experience: 20 years

Former MD *Challenger*, GM *Lucas Energy*, *AGL Energy Ltd* Australia, Asia, USA, South Africa

Peter Price, Director Bundu Industry experience: 55 years

Anglovaal, Anglo American, Lonhro, Rand Corp, Babcock, Molopo (MPO) South Africa, Zimbabwe, Zambia, UK, Belgium

Financial overview



Share price performance (ASX: CEL)



|--|

One month	\$445,695	
Six months	\$4,548,785	
One year	\$14,970,939	

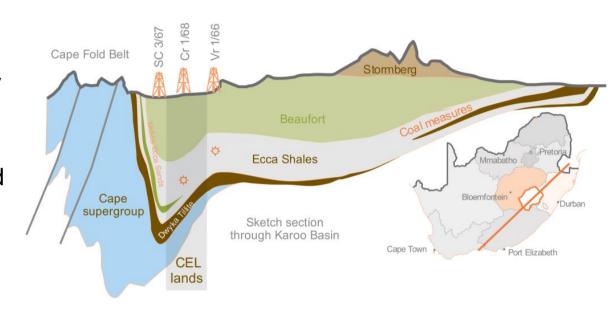
Capital structure				
Fully paid ordinary shares	329,482,541			
Listed options	65,896,502			
Unlisted options and rights ¹	41,500,000			
Share price ²	A\$0.081			
Market capitalisation ²	A\$26.7m			
Cash ³	A\$0.762m			
Shareholders	1,151			
Top 20	41.73%			
Significant shareholders ²				
LQ Super Pty Ltd	Ltd 11.60%			
Pitt Street Absolute Return Pty Ltd and related entities	4.77%			
Challenger directors	2.40%			

- Includes 23 million option exercise prices range from \$0.15-\$0.35 with exercise dates of November 2014 to November 2016 and 18.5 million Performance Rights.
- 2. As at close of business 1 September 2014
- 3. As at 30 June 2014

Bundu permit application: Cranemere, cont'd



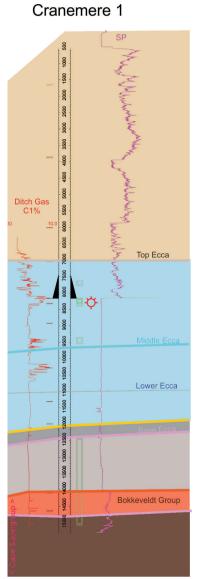
- Three wells drilled in late 1960s with uniform shale sections
- Application area surrounds discovery well (CR 1/68)
 - strong gas 'kick' and flow to surface, extensive core collected
- Shales are thick
 - upper, middle Ecca shales
 1,500-1,800m
 - Basal Ecca shales 110-150m
- EIA only considers Basal Eccas due to higher organic content - gas flow came from upper shales
- EIA study implies ~32tcf GIP, >7tcf risked recoverable in permit area for Basal Ecca only – upside potential?

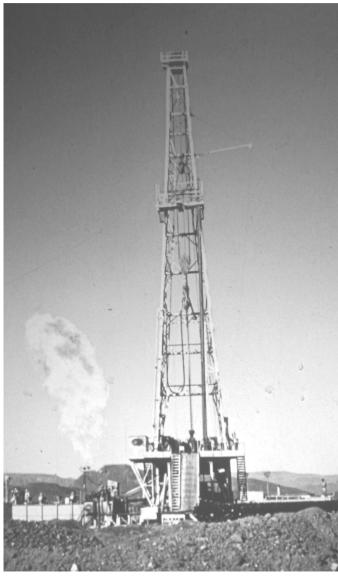


Bundu permit application: Cranemere, cont'd



- Term:
 - three years, up to three renewals not exceeding two years each
- Expected work programme:
 - studies
 - seismic reprocessing
 - 1-2 core holes
 - drill, complete, fracture-stimulate one well
 - production test





Continuing government support; regulatory process moves ahead



- Continuing government support for shale gas exploration, development
 - **ANC Manifesto**
 - Presidential State of the Nation Address
 - Ministers of Mineral Resources, Energy
 - subject to public participation
- Recall of legislation passed pre-election (May 2014)
 - timeline extended, but improved terms anticipated
- Moratorium on new shale gas exploration right applications extended
 - not applicable to applications already submitted (Challenger/Bundu)
- 27 August 2014, government says it is ready to regulate shale gas exploration
 - public consultation to start in September



Joemat-Pettersson reaffirms plan to expand role of gas. nuclear in SA mix



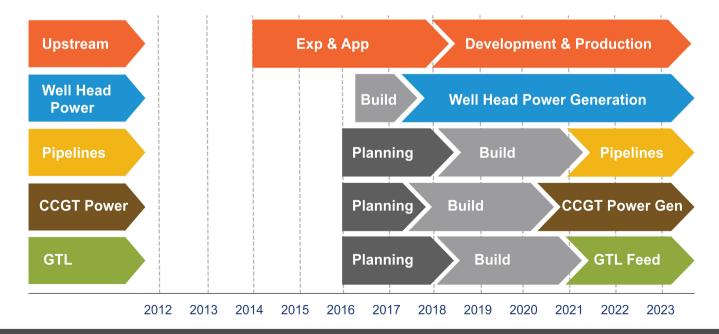
South Africa's Mineral Resources Minister in Favour of Shale Developments



Commercialisation



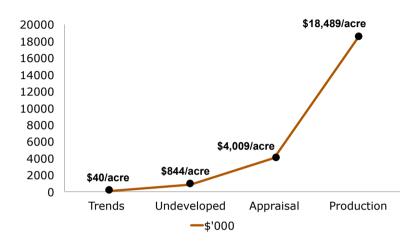
- Shale likely to play significant role in future:
 - drive to early gas-fired power generation
 - potential to spark a "Dash for Gas" as in UK (gas-fired power generation 5% of installed capacity in 1990, 30% by 2002
- Existing synthetic fuels industry:
 - coal and gas to liquids plants at Secunda and Mossel Bay with declining feedstock
 - potential domestic and export markets for shale gas



Why invest



- Recent transactions demonstrate increasing market value of acreage as it progresses towards commercialisation
- Previous discovery area
- World class neighbours
- Strong SA government support, development imperatives
 - economic growth
 - energy crisis
- Near term value catalysts license award and farm-in



Source: Company presentations, Dolmen broker report

\$40/acre	\$844/acre	\$4,009/acre	\$18,489/acre
ConocoPhillips New Standard Energy (AUS) Jul 2011	ExxonMobil/Americas Petrogas (ARG) Aug 2011	Statoil/Chesapeake Energy (US) Nov 2008	Korea National Oil/ Anadarko (US) Mar 2011
Mitsubishi/Buru Energy (AUS) Dec 2011	Beach Energy/Adelaide Energy (AUS) Jan 2012	KKR/Hilcorp Resources (US)Jun 2010	Marathon/Hilcorp Resources (US) Jun 2011
BG Group/Drillsearch – (AUS)Jul 2011	Chevron/Beach Energy (AUS) Feb 2013	Hess/Consol (US) Oct 2011	Mitsui/SM Energy (US) Jun 2012
Total/Central Petroleum (AUS) Nov 2012		Aurora Oil & Gas/Eureka (AUS) Aug 2012	Osaka Gas/Cabot Oil (US) Jun 2012
Statoil/Petrofrontier (AUS) Jun 2012			

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