

CENTRAL QUEENSLAND **COAL** DEVELOPMENT PROJECTS

Project	Company	Status	Proposed Start-Up	Est. Cap Exp	Employment	Mining Tenure	New capacity (Total)
Curragh open-cut	Wesfarmers Ltd	Expansion, under construction #	2012	\$286m	300 (con), 90 (op)	ML 1878 & others	Up to 8.5 Mt coking
Ensham Central B&P underground	Ensham Resources	New project, under construction	2012	\$166m	80 (con), 160 (op)	ML 70365 & others	1.7 Mt thermal
Baralaba open-cut	Cockatoo Coal Ltd	Expansion, FS underway	2012	na	na	ML 5605	0.75 Mt PCI & thermal
Middlemount open-cut	Peabody Energy / Gloucester Coal	Expansion, under construction	2012	\$380m	160 (con), 260 (op)	ML 70417	4 Mt coking and PCI (Stage 2)
Millennium open-cut	Peabody Energy Ltd	Expansion, under construction	2012	\$276m	50 (con), 160 (op)	ML 70457 & others	3.6 Mt coking & PCI
Jax open-cut	QCoal Ltd	New project, FS underway	2012	na	150 (op)	MLA 10346	1.8 Mt (ROM) coking
Burton open-cut	Peabody Energy Ltd	Expansion, under construction	2012	\$200m	80 (con)	ML 70109	4 Mt coking
Codrilla open-cut	Peabody Energy Ltd	New project, EIS completed	2013	\$250m	170 (con), 240 (op)	MLA 70450	3.2 Mt PCI
Kestrel underground	Rio Tinto Ltd	Expansion, under construction	2013	US\$2000m	Up to 550 (con), existing (op)	ML 1978 & others	5.7 Mt hard coking
Broadmeadow underground	BHP Billiton Mitsubishi Alliance	Expansion, under construction	2013	US\$900m	650 (con); existing (op)	ML 1763	4.8 Mt coking
Daunia open-cut	BHP Billiton Mitsubishi Alliance	New project, under construction	2013	\$1600m	1000 (con), 400 (op)	ML 1781 & 70115	4.5 Mt coking and PCI
North Goonyella underground	Peabody Energy Ltd	Expansion, introduce a LTCC system, committed	2013	\$150m	na	ML 6949	Up to 5 Mt coking
Foxleigh open-cut	Anglo American Metallurgical Coal Ltd	Extension, EIS and FS in progress	2013	na	100 (op)	MLA 70431 & others	3.2 Mt PCI
Drake open-cut	QCoal Ltd	New project, EIS & FS underway	2013	\$400m	400 (con), 250 (op)	MLA 10349 & 10350	6 Mt coking and thermal
Washpool open-cut	Aquila Resources Ltd	New project, BFS completed, EIS in progress #	2013	\$368m	310 (con), 370 (op)	MLA 80164 & others	2.6 Mt coking & PCI
Grosvenor underground	Anglo American Metallurgical Coal Ltd	New project, committed	2013	US\$1700m	500 (con), 485 (op)	MLA 70378	5 Mt hard coking (Stage 1)

Source: BREE October 2011 and DEEDI-Mines, Rockhampton February 2012

CENTRAL QUEENSLAND COAL DEVELOPMENT PROJECTS continued

Project	Company	Status	Proposed Start-Up	Est. Cap Exp	Employment	Mining Tenure	New capacity (Total)
Dingo West open-cut	Bandanna Energy Ltd	New project, EIS in progress #	2013	\$134m	220 (con), 120 (op)	MLA 80180	1 Mt PCI and thermal
Ellensfield underground	Vale Australia Ltd	New project, EIS in progress	2013?	\$800m	460 (con), 340 (op)	MLA 70393 & others	4.7 Mt coking and thermal
Minyango underground	Guangdong Rising (Aust.) Ltd	New project, EIS & FS underway #	2013	\$750m	500 (con), 450 (op)	MLA 80173	Up to 7.5 Mt coking & thermal
Yarrabee open-cut	Yancoal Aust. Ltd	Expansion, waiting for rail and port allocations #	2013	\$260m	100 (op)	MLA 80172	Up to 4 Mt PCI
Lake Vermont open-cut	Lake Vermont Resources Ltd	Expansion, under construction	2013	\$200m	350 (con), 150 (op)	ML 70331	8 Mt coking
Baralaba North and South open-cut	Cockatoo Coal Ltd	New project, FS underway #	2013	\$300m e	300 (op)	MLA 80169 & 80170	3.5 Mt PCI and thermal
Orion Downs open-cut and UG	Endocoal Ltd	New project, BFS underway	2013	\$100m	200 e (op)	MLA 70452	2.5 Mt thermal
Styx open-cut	Waratah Coal / Queensland Nickel	New project, pre-FS underway	2013?	na	140 e (con), 110 e (op)	EPC 1029	1 Mt PCI & thermal
Springsure Creek underground	Bandanna Energy Ltd	New project, EIS underway, FS completed #	2014	\$1130m	300 (con), 330 (op)	MLA 70461	11 Mt thermal (ROM)
Olive Downs North open-cut	Peabody Energy Ltd	New project, On-hold	2014?	\$20m	100 (con), 80 (op)	ML 70354	1 Mt coking and PCI
Rolleston open-cut	Xstrata Coal Ltd	Expansion, FS and EIS underway #	2014	\$US450m	250 (con), 300 (op)	MLA 70415 & others	Up to 20 Mt thermal (ROM)
Eaglefield (Denham) open-cut	Peabody Energy Ltd	Expansion, EIS completed	2014?	\$1400m	650 (con), 700 (op)	ML 4969	Up to 6.8 Mt hard coking
Tad's Corner (Alpha) open-cut	GVKPI/ Hancock Coal Ltd	New project, BFS completed, EIS in progress	2014	\$3400m	1535 (con), 1200 (op)	MLA 70426	30 Mt thermal

Source: BREE October 2011 and DEEDI-Mines, Rockhampton February 2012

e= unofficial estimate, ROM= run of mine, FS= Feasibility Study, B&P= Bord and Pillar, UG= underground, ML= Mining Lease, MLA = ML application, # secured tonnage allocation for WICT Stage 1.

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**Department of Employment, Economic
Development and Innovation**

CENTRAL QUEENSLAND COAL DEVELOPMENT PROJECTS continued

Project	Company	Status	Proposed Start-Up	Est. Cap Exp	Employment	Mining Tenure	New capacity (Total)
Sarum open-cut and UG	Xstrata Coal Ltd	New project, EIS & pre-FS underway	2014	\$700m	600 e (con), 450 e (op)	MLA 10336 & 10365	5 Mt coking and thermal
Byerwen open-cut	QCoal Ltd	New project, EIS & FS underway	2014	\$1500m	500 (con), 1000 (op)	MLA 70434 & others	10 Mt hard coking and thermal
New Lenton open-cut	New Hope Corp. Ltd	New project, pre-FS completed	2014	\$400m e	400 e (op)	ML 70337 & MLA 70456	3.5 Mt coking & thermal
Jellinbah East (Mackenzie North) open-cut	Jellinbah Group	Extension, pre-feasibility underway	2014	\$50-100m	100 (con); existing (op)	MLA 70445 & 70446	2 Mt PCI & thermal
Peak Downs open-cut	BHP Billiton Mitsubishi Alliance	Expansion, committed	2014	US\$4200m	350 (op)	ML 1775	11 Mt hard coking
Caval Ridge open-cut	BHP Billiton Mitsubishi Alliance	New project, under construction	2014		2000 (con), 500 (op)	ML 1775 & MLA 70462	5.5 Mt hard coking
Curragh (Curragh West) open-cut	Wesfarmers Ltd	Expansion, FS underway	2014	na	70 e (con), 100 e (op)	MLA 80171	Up to 9 Mt coking
Taraborah open-cut and underground	Shenhua International Group	New project, pre-FS completed	2014?	\$400m e	800 e (con) 450 e (op)	MDLA 467	Up to 7 Mt thermal (ROM)
Eagle Downs underground	Aquila Resources / Vale Australia	New project, under construction	2015	\$1254m	500 (con), 410 (op)	ML 70389	4.5 Mt hard coking (Stage 1)
Oaky Creek open-cut (Stage 1)	Xstrata Coal Ltd	Re-development, pre-FS underway	2015	na	150 e (op)	ML 1832	2 Mt coking
Monto open-cut	Peabody Energy / Burnett Coal	New project, FS in progress	2015	\$150m e	200 e (op)	ML 80101 & MLA 80175	1 Mt thermal (Stage 1)
Kevin's Corner open-cut and UG	GVPIL	New project, EIS & BFS in progress	2015	\$6600m	2500 (con), 1500 (op)	MLA 70425	30 Mt thermal
South Galilee open-cut and UG	Bandanna Energy Ltd	New project, EIS and FS in progress	2015	\$4150m	2000 (con), 1280 (op)	MLA 70453	15 Mt thermal
Teresa underground	Linc Energy Ltd	New project, EIS in progress	2015	\$750m	500 (con) 380 (op)	MLA 70405 & 70442	6.4 Mt PCI
Arcturus open-cut and underground	Bandanna Energy Ltd	New project, EIS underway, FS completed	2015?	\$235m	240 (con), 200 (op)	EPC 1221	5 Mt thermal

Source: BREE October 2011 and DEEDI-Mines, Rockhampton February 2012

BFS= Bankable Feasibility Study, LTCC= Longwall Top Coal Caving, PCI= Pulverised Coal Injection (used in steel-making process)

CENTRAL QUEENSLAND COAL DEVELOPMENT PROJECTS continued

Project	Company	Status	Proposed Start-Up	Est. Cap Exp	Employment	Mining Tenure	New capacity (Total)
Togara North underground	Xstrata Coal Ltd	New project, pre-FS underway	2015	\$800m e	1000 e (con) 450 e (op)	ML 70149	6 Mtpa thermal
Taroom open-cut	Cockatoo Coal / Mitsui	New project, EIS and pre-FS underway	2015	\$1120m	1000 (con) 550 (op)	MLA 55006	8 Mt thermal
Talwood underground	Aquila Resources Ltd	New project, pre-FS underway	2015?	\$700m e	400 e (con) 300 e (op)	MLA 70471	3.6 Mt coking & thermal
Moorvale B&P underground	Peabody Energy Ltd	Expansion, pre-FS underway	2015?	\$180m e	80 e (con) 160 e (op)	ML 70290	1 Mt coking and PCI
Curragh South (MDL 162) open-cut	Peabody Energy Ltd	New project, pre-FS underway	2015?	na	400 e (op)	MDL 162	6 Mtpa (ROM) coking
Collinsville open-cut	Xstrata Coal Ltd	Expansion, pre-FS underway	2015?	na	na	ML granted	6 Mt coking & thermal
Carmichael open-cut & UG	Adani Mining Ltd	New project, EIS commenced	2015?	\$4100m	1500 (con), 3000 (op)	MLA 70456	Up to 60 Mt thermal
Willunga open-cut	Peabody Energy Ltd	New project, pre-FS completed	2015?	\$300m e	na	EPC 721	3 Mt PCI and thermal
China First (Galilee Coal) open-cut and underground	Waratah Coal Ltd	New project, EIS in progress	2016	\$4000m	2500 (con), 1900 (op)	MLA 70454	40 Mt thermal
Eastern Creek open-cut	NCA JV (Xstrata Coal Ltd 55%)	Extension, EIS & pre-FS underway	2016	na	130 e (op)	MLA 10352	Extend mine life 27 yrs
Wards Well underground	BHP Billiton Mitsubishi Alliance	New project, pre-FS underway	2016	\$1000m +	1000 e (con), 500 e (op)	ML 1790 & MLA 70443	5 Mt hard coking
Belvedere underground	Aquila Resources/Vale	New project, EIS in progress	2016	\$2800m	600 (con), 500 (op)	MLA 80153 & others	Up to 7 Mt hard coking
Saraji East underground	BHP Billiton Mitsubishi Alliance	New project, pre-FS underway	2016	\$1000m+	2500 (con), 1400 (op)	MLA 70383	14 Mt hard coking
Winchester South open-cut	Rio Tinto Ltd	New project, pre-FS to start: Q2 2012	2016?	na	400 e (op)	MDL 183	4 Mt coking & thermal
Red Hill underground	BHP Billiton Mitsubishi Alliance	New project, pre-FS underway	2017	\$1000m +	3000 (con), 1500 (op)	MLA 70421	Up to 14 Mt hard coking
Moranbah South underground	Anglo Amer. Met Coal / Exxaro Australia	New project, pre-FS underway	2017	\$1300m	1200 (con), 650 (op)	MDL 277 & 377	Up to 12 Mt coking

Source: BREE October 2011 and DEEDI-Mines, Rockhampton February 2012

CENTRAL QUEENSLAND **MINERAL** DEVELOPMENT PROJECTS

Project	Company	Status	Proposed Start-Up	Est. Cap Exp	Employment	Mining Tenure	New capacity (Total)
Mt Carlton Copper-Gold-Silver open-cut	Evolution Mining Ltd	New project, under construction	2012	\$127m	150 (con), 150 (op)	ML 10343	100,000 oz pa gold 6000 tpa copper 2 Mozs pa silver
Moranbah Ammonium Nitrate plant	Incitec Pivot Ltd	New project, under construction	2012	\$935m	550 (con), 80 (op)	Not required	330,000 tpa
Yarwun Alumina refinery	Rio Tinto Alcan Ltd	Expansion, under construction	2012	US\$2300m	1300 (con), 250 (op)	Not required	3.4 Mtpa
Goondicum Industrial minerals open-cut	Belridge Enterprises Ltd	Redevelopment, under construction	2012	\$15m	35 (op)	ML 80044	1.7 Mtpa ROM ore
Twin Hills Gold-Silver underground	Evolution Mining Ltd	Redevelopment, on hold	2013?	\$6m	50 (op)	ML 70316	30,000 oz pa
Wateranga Industrial minerals open-cut	Queensland Industrial Minerals Ltd	New project, EIS commenced, on hold	2013?	\$82m	200 (con), 100 (op)	MLA 80116	225,000 tpa Ilmenite 765,000 tpa Feldspar 27,000 tpa Apatite
Mount Morgan Gold Tailings Re-treatment	Norton Gold Fields Ltd	New project, Feasibility Study completed, on hold	2014?	\$45m	80 (con), 50 (op)	ML 3206 & others	35,000 oz pa (Stage 1)
East End Limestone open-cut	Cement Australia Ltd	Expansion, EIS commenced	2014	na	Existing (op)	MLA 80156	na
Marlborough Nickel-Cobalt open-cut	Gladstone Pacific Nickel Ltd	New project, EIS completed, On hold	2014?	\$120m	500 (con), 200 (op)	ML 80058 & others	2.7 Mtpa nickel-cobalt ore
Mount Cannindah Copper-Gold open-cut	Planet Metals Ltd	New project, Resource extension drilling	2015?	\$80m	90 e (op)	ML 3206 & others	8200 tpa copper 5900 oz gold 275,000 oz silver
Mount Kroombit Copper-Zinc open-cut	Argonaut Resources NL	New project, Scoping Study completed, on hold	2015?	\$87m	na	ML 5631	1.5 Mtpa copper-zinc ore
Anthony Molybdenum open-cut	Zamia Metals Ltd	New project, Scoping Study in progress	2015?	\$200m	na	EPM 15145	5 Mtpa molybdenum ore

Source: BREE October 2011 and DEEDI-Mines, Rockhampton February 2012

na= not available, MDL= Mineral Development Licence, EPC= Exploration Permit for Coal, EPM= Exploration Permit for Minerals, con= construction, op= operational, tpa= tonnes per annum

CENTRAL QUEENSLAND ENERGY DEVELOPMENT PROJECTS

Project	Company	Status	Proposed Start-Up	Est. Cap Exp	Employment	Tenure	New capacity
Callide Oxyfuel Low Emissions	CS Energy Ltd	New project, commissioning in progress	2012	\$206m	100 (con)	Not required	Capture and store ~17,000 tpa CO ₂
Stuart Oil Shale Paraho semi-works plant	Queensland Energy Resources Ltd	New project, under construction	2012	\$100m	150 (con), 50 (op)	ML 80003 & PFL 8	Up to 45 barrels/day
Blackwater CSG Power Station	Arrow Energy Ltd	New project, under construction	2012	\$50m	200 (con), 3 (op)	Not required	30 MW
Moura CSG Power Station	Molopo Australia Ltd	New project, Feasibility Study on hold	2012?	\$65m	200 e (con)	Not required	60 MW (Stage 2)
Meridian CSG operation	WestSide Corp Ltd / Mitsui E&P Aust.	Expansion, in progress	2013	\$17m	na	PL 94	25 TJ/day
Queensland Curtis LNG	BG Group / QGC	New project, under construction ; includes 540 km gas pipeline network and gas field development	2014	\$US15,000m	5000 (con), 1000 (op)	PPL 154 and PFL 11	8.5 Mtpa (Stage 1)
Aldoga Gas Power Station	TRUenergy Ltd	New project, FEED Study in progress	2014	\$400m	1000 (con) 20 e (op)	Not required	500 MW (Stage 1)
Central Qld gas pipeline	Arrow Energy Ltd / AGL Energy Ltd	New project, Feasibility Study completed, on-hold	2014?	\$475m	300 (con)	PPL 121	Up to 50 PJpa
Moranbah CSG operation	Arrow Energy Ltd / AGL Energy Ltd	Expansion, in progress	2014?	\$160m	na	PL appln	160 PJpa
Blackwater & Norwich Park CSG fields	Arrow Energy Ltd	New project, EIS commenced	2014?	\$400m e	200 (con), 45 (op)	PLA 376 & others	Minimum 30 PJpa
Arrow Surat to Gladstone gas pipeline	Arrow Energy Ltd	New project, EIS approved; on hold	2014?	\$600m	450 (con)	PPL 144	66cm diameter (90 PJpa)
Gladstone LNG	Santos Ltd / PETRONAS	New project, under construction ; includes 435 km gas pipeline network and gas field development	2015	\$US16,000m	5000 (con), 1000 (op)	PPLA 166 and PFL 10	7.8 Mtpa (Stage 1)
Fisherman's Landing LNG	LNG Ltd	New project, FEED Study completed	2015	US\$1180m	120 (con), 35 (op)	PPL 161 and PFL 18	1.5 Mtpa (Stage 1)

Source: BREE October 2011 and DEEDI-Mines, Rockhampton February 2012

CENTRAL QUEENSLAND ENERGY DEVELOPMENT PROJECTS continued

Project	Company	Status	Proposed Start-Up	Est. Cap Exp	Employment	Tenure	New capacity
Abbott Point LNG	Energy World Corporation	New project, Pre-feasibility Study underway; includes 350km gas pipeline	2015?	US\$1500m	na	PFL required	2 Mtpa (Stage 1)
Blackwater to Gladstone gas pipeline	Arrow Energy Ltd	New project, EIS commenced, on hold	2015?	\$300m e	200 e (con)	PPL required	250km length and 51cm diameter
Australia Pacific LNG	Origin Energy / ConocoPhillips	New project, <u>under construction</u> ; includes 450 km gas pipeline network and gas field development	2015	\$US14,000m	6000 (con), 1000 (op)	PPLA 163 and PFL 20	9 Mtpa (Stage 1)
Galilee IGCC Power Station	Waratah Coal Ltd	New project, on hold	2015?	\$1250m	1000 (con), 60 (op)	Not required	450 MW (Stage 1)
Blackwater to Norwich Park gas pipeline	Arrow Energy Ltd	New project, EIS commenced, on hold	2015?	\$100m e	100 e (con)	PPL required	95km length, 30cm diameter
Southern Cross LNG	LNG Impel Ltd	New project, on hold	2015?	na	350 (con), 80 (op)	PFL required	Up to 3.4 Mtpa (Stage 1)
Arrow Energy LNG	Shell Australia Ltd/ PetroChina	New project, Scoping Study and EIS underway	2017	\$16,000m	3000 (con), 300 (op)	PFL required	8 Mtpa (Stage 1)
Arrow Bowen Gas pipeline	Arrow Energy Ltd	New project, EIS underway	2017	\$1000m	650 (con), 10 (op)	PPL required	600km gas pipeline

Source: BREE October 2011 and DEEDI-Mines, Rockhampton February 2012

PL= Petroleum Lease, PLA= Petroleum Lease Application, PPL= Petroleum Pipeline Licence, PFL= Petroleum Facility Licence

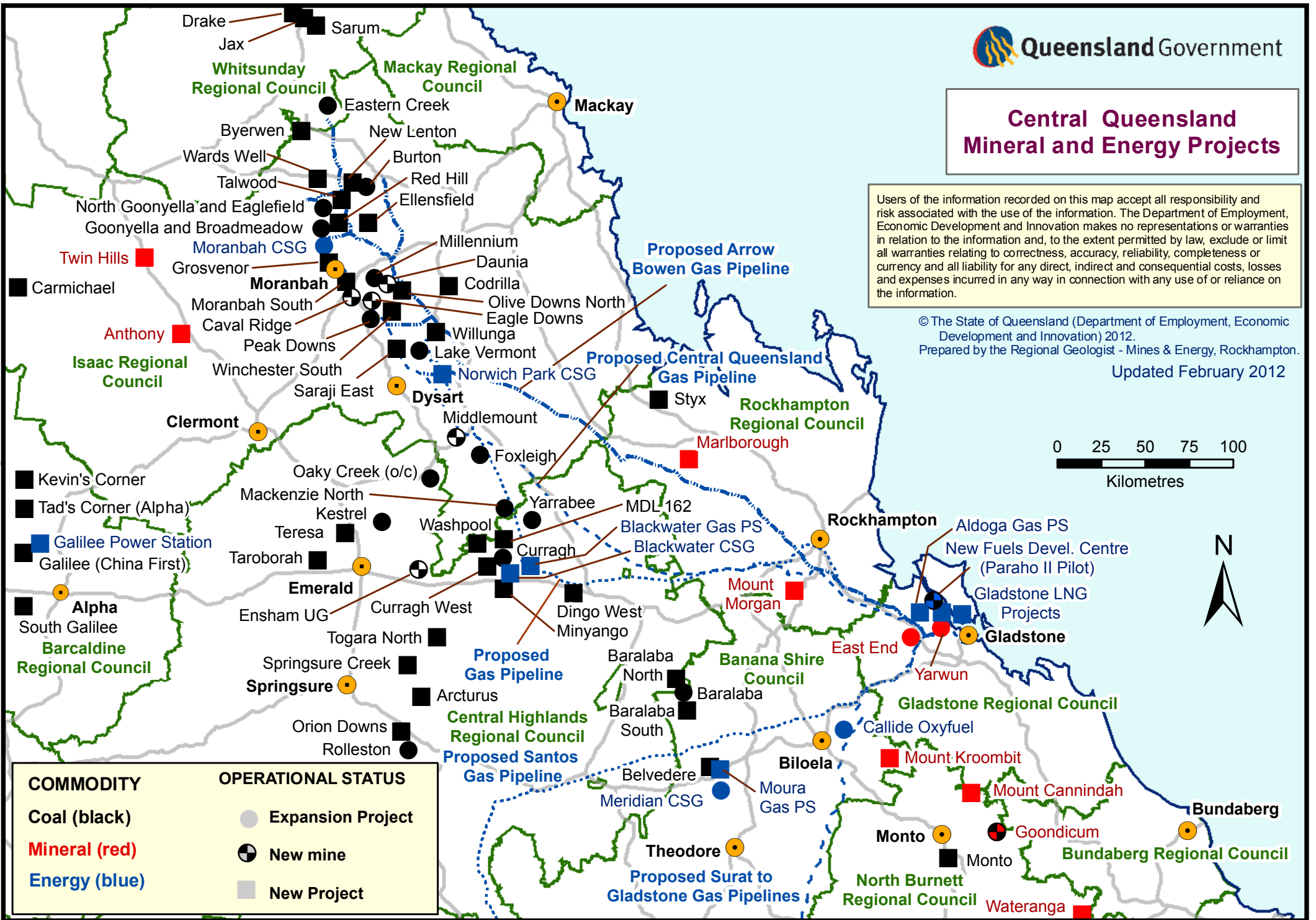
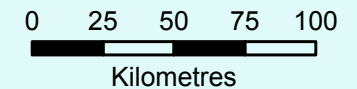
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Central Queensland Mineral and Energy Projects

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Prepared by the Regional Geologist - Mines & Energy, Rockhampton.

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COMMODITY	OPERATIONAL STATUS
Coal (black)	Expansion Project (grey circle)
Mineral (red)	New mine (black circle with crosshair)
Energy (blue)	New Project (grey square)