carbonenergy
resource. technology. markets.
Carbon Energy Limited | ABN 56 057 552 137

Level 12, 301 Coronation Drive,
Milton QLD 4064 Australia
PO Box 2118, Toowong DC
QLD 4066 Australia
phone + 61 (0) 7 3337 9944
fax + 61 (0) 7 3337 9945

www.carbonenergy.com.au

Carbon Energy Limited
ABN 56 057 552 137
Carbon Energy (Operations) Pty Ltd
ABN 61 105 176 967

ASX/Media Announcement

23 May 2012

Carbon Energy Presentation – Surat Basin Coal & Energy Conference

Carbon Energy (ASX:CNX, OTCQX:CNXAY) posted to the Company's website the attached presentation made by Managing Director Andrew Dash at the Surat Basin Coal & Energy Conference.

Yours Faithfully

Morné Engelbrecht
CFO & Company Secretary

About Carbon Energy

Carbon Energy is world leader in advanced coal technology. Our business is transforming stranded coal resources into high-value fuels with lower carbon emissions to meet the increasing global demand for new, low cost, alternative energy sources.

Carbon Energy is headquartered in Brisbane, Australia and listed on the Australian Securities Exchange (ASX). The Company also has an office in New York and is quoted on the OTCQX International.

The Company's proprietary technology, keyseam® is an innovation in underground coal gasification (UCG), incorporating a unique site selection methodology and advanced geological and hydrological modelling. Keyseam maximises resource efficiency, extracting up to 20 times more energy from the same resource than coal seam gas, whilst minimising surface disturbance and preserving groundwater quality.

Carbon Energy's technological advantage comes from its association with Australia's premier research agency, CSIRO, which includes world-class geotechnical, hydrological and gasification modelling capabilities.

Carbon Energy is building an international portfolio of coal assets suitable for keyseam® and accessible to high-value markets. The Company has resources and rights to coal assets in projects across Australia, Chile and the United States.

CARBON ENERGY

Surat Basin Coal & Energy Conference

23 MAY 2012

carbonenergy
resource. technology. markets.

IMPORTANT **STATEMENTS**

Disclaimer

The information contained in this presentation is given without any liability whatsoever to Carbon Energy Ltd or any of its related entities or their respective directors or officers, and is not intended to constitute legal, tax or accounting advice or opinion. No representation or warranty, expressed or implied, is made as to the accuracy, completeness or thoroughness of the content of the information. The recipient should consult with its own legal, tax or accounting advisers as to the accuracy and application of the information contained herein and should conduct its own due diligence and other enquiries in relation to such information.

The information in this presentation has not been independently verified by Carbon Energy Ltd. Carbon Energy disclaims any responsibility for any errors or omissions in such information, including the financial calculations, projections and forecasts set forth herein. No representation or warranty is made by or on behalf of Carbon Energy that any projection, forecast, calculation, forward-looking statement, assumption or estimate contained in this presentation should or will be achieved.

Please note that, in providing this presentation, Carbon Energy has not considered the objectives, financial position or needs of the recipient. The recipient should obtain and rely on its own professional advice from its tax, legal, accounting and other professional advisers in respect of the addressee's objectives, financial position or needs.

This presentation does not carry any right of publication. This presentation is incomplete without reference to, and should be viewed solely in conjunction with, the oral briefing provided by Carbon Energy. Neither this presentation nor any of its contents may be reproduced or used for any other purpose without the prior written consent of Carbon Energy.

Competent Persons

The estimates of the Conventional Coal Resources presented in this Report are considered to be a true reflection of the Coal Resources as at 16 May 2012 and have been carried out in accordance with the principles and guidelines of the Australian Code for Reporting of Coal Resources and Coal Reserves published in September 2004 (JORC Code). Where quoted, it should be noted that the Exploration Target tonnages presented herein are considered non-JORC and are conceptual in nature. There has been insufficient exploration to define a Coal Resource and that it is uncertain if further exploration will result in the determination of a Coal Resource. The information in this presentation (where it relates to Conventional Coal Resources) is based on information compiled by Mr Mark Biggs who is an employee of Moultrie Database & Geology and is a member of the Australian Institute of Mining and Metallurgy. Mr Biggs has sufficient experience which is relevant to the style of mineralization and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Biggs consents to the inclusion in the presentation of the matters based on his information in the form and context in which it appears.

The information in this presentation (where it relates to Previously Reported Resources) is based on information compiled by Dr C. W. Mallett, Executive Director Carbon Energy Limited who is a member of the Australian Institute of Mining and Metallurgy. Dr Mallett has sufficient experience which is relevant to the style of mineralization and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Dr Mallett consents to the inclusion in the presentation of the matters based on his information in the form and context in which it appears.

The reserve estimates used in this document (where it relates to the syngas reserves at Bloodwood Creek) were compiled by Mr Timothy Hower of MHA Petroleum Consultants, Colorado, USA, a qualified person under ASX Listing Rule 5.11. Mr Hower has consented to the use of the reserve information contained within this document in the form and context in which it appears.

carbonenergy
resource. technology. markets.

TABLE OF CONTENTS

carbonenergy
resource. technology. markets.

CARBON **ENERGY** (ASX:CNX, OTCQX: CNXAY)

Executive Summary

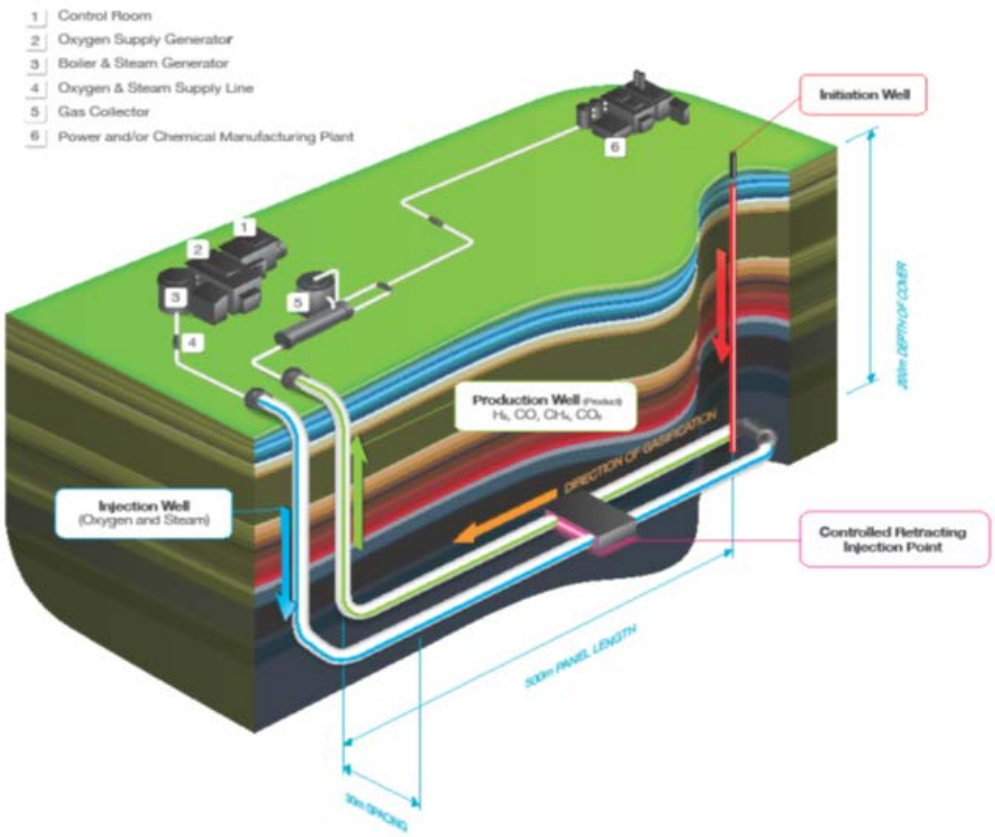
- CNX is a world leader in underground coal gasification (UCG) technology
- Our proprietary technology keyseam® produces consistently high quality syngas
- keyseam unlocks value in deep coal reserves that have no other economic potential
- keyseam also extracts 20 times more equivalent energy from the same resource footprint as compared with CSG
- We achieved proof of concept with 12 months continuous production of high quality syngas and now the production of electricity
- World class UCG team
- CNX has confirmed its strategic direction underpinned by 100% owned leases in the Surat Basin, Australia:
  - 668Mt coal Resource + 4,000 to 8,000 Mt coal Exploration Target inclusive of;
  - 743PJ 2P Reserves of syngas.

carbonenergy
resource. technology. markets.

PROOF OF **CONCEPT** keyseam TECHNOLOGY

Carbon Energy has achieved Proof of Concept and has demonstrated the following key elements:

- Drilling and construction of Carbon Energy's unique panel design
- Ignition and commissioning of two UCG panels
- Over 4 years of in-field UCG syngas trials
- 12 months continuous syngas production from UCG Panel 2
- Consistent production of high quality syngas
- Export of 1.5 MW of electricity to the local electricity grid
- Validation of gasification prediction models with operational data
- Environmental management during operations



carbonenergy
resource. technology. markets.

TECHNOLOGY **DEVELOPMENT**

CSIRO

- 10 years of scientific development and research

Achievements

- Development of the site selection and ground response modelling
- Development of syngas production operational prediction models

CNX at Bloodwood Creek

- 5 years of scientific development
- Research & development spend of approximately $100m

Achievements

- Commercial proof of concept
- Over 4 years of in-field UCG demonstration and operation
- Validation that multiple panels adjacent to each other can operate independently
- 12 months consistent high quality syngas production from Panel 2
- Export of electricity produced from syngas to the local grid
- Confirmation that the models developed by CSIRO translates to operational performance

CNX Offshore

- Chile
- USA
- China

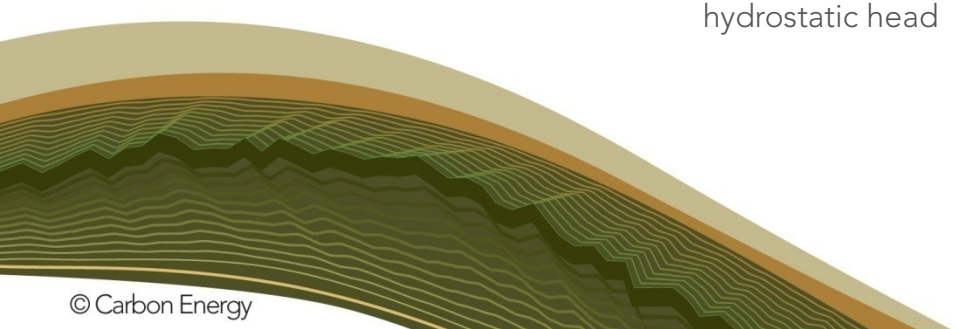
Achievements

- Establishment of Joint Venture partners in these locations with Antofagasta, Great Northern Properties and Anadarko
- Advancing with project with Antofagasta in Mulpun, Chile
- Site selection modelling refined
- HOA executed with Shanxi Sanyuan Coal, China

carbonenergy
resource. technology. markets.

CARBON ENERGY'S INNOVATION

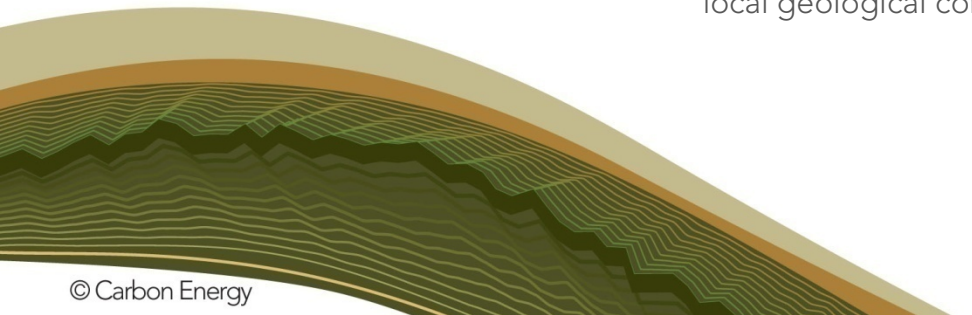
	Carbon Energy's Solution	Evidence
Site Selection	• CSIRO proprietary hydrological and geotechnical models • Advanced gasification prediction models	• Designed commercial scale projects based on proven and modular pilot facility • Verification of models with field trial data
Gas Quality	• Directional drilling techniques and proprietary well design • Continuous operation using proprietary controlled retraction injection point	• 12 months continuous production of syngas • Has consistently produced high quality syngas • Reliable production of electricity
Environmental Management	• On-site monitoring & quality control • Operational procedures developed for effective gasification below hydrostatic head	• 4 years of field trials



carbonenergy
resource. technology. markets.

CARBON ENERGY'S INNOVATION

	Carbon Energy's Solution	Evidence
Scalability	• Has commercial panel design for 1PJ pa for 5-10 years • Scalability proven by adjacent Panel operation	• 4 years of operational trials on Panel designs • Multi panel operation
Subsidence	• Developed models for separation distance between Panels	• 4 years of operational trials on Panel designs • Multi panel operation
Transferability	• CNX modelling tools can be applied to any coal seam • Panel design can be modified to suit local geological conditions	• Site assessments in Chile, Wyoming (US) and Turkey



carbonenergy
resource. technology. markets.

PRODUCTION WELL HEAD & KNOCK-OUT SKID

carbonenergy
resource. technology. markets.

METER RUN, GAS ANALYSIS & FLARE

carbonenergy
resource. technology. markets.

POWER STATION – RUSTON GAS ENGINES

POWERLINES TO LOCAL GRID

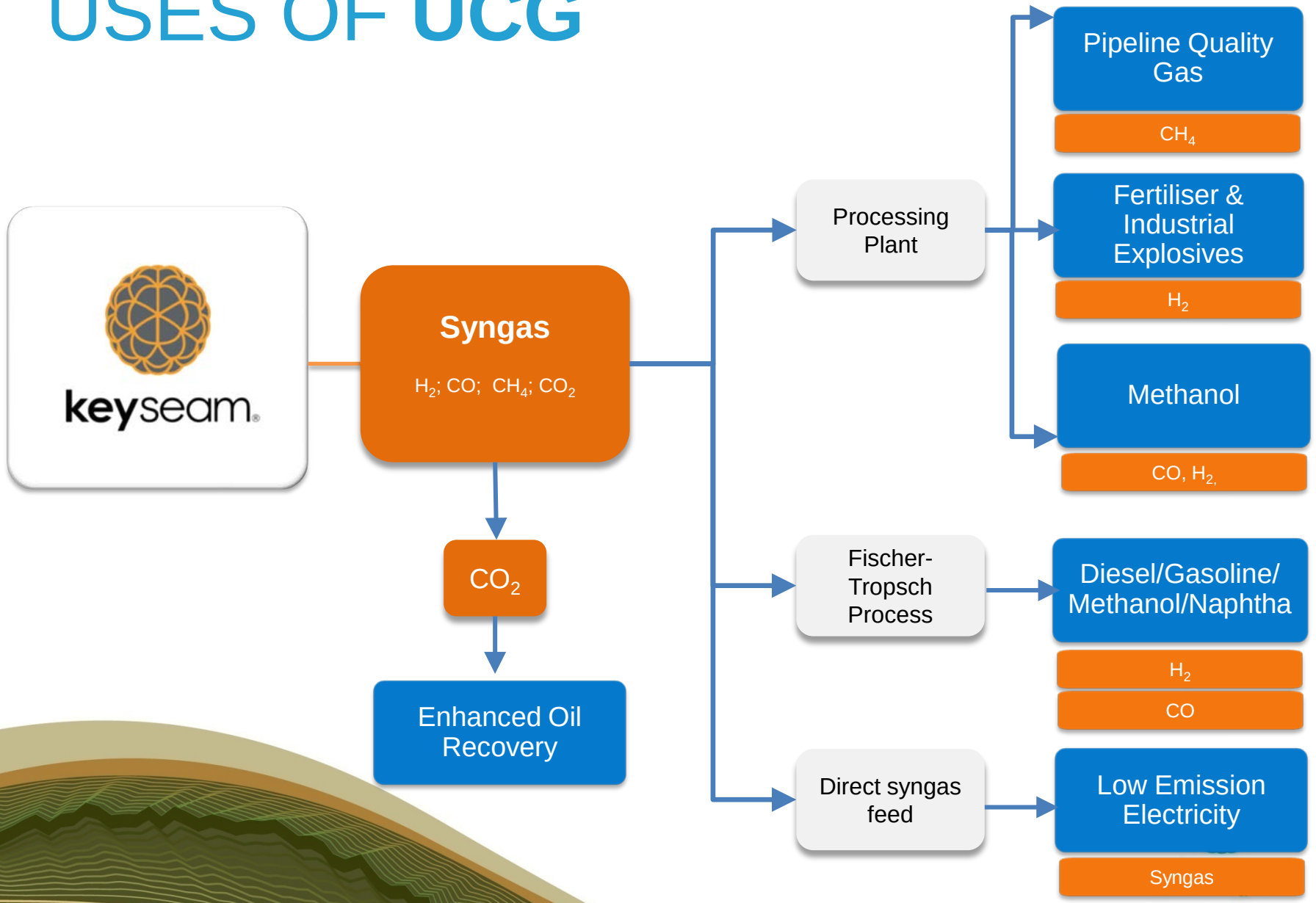
carbonenergy
resource. technology. markets.

GAS COMPOSITION

Primary Constituents - Dry Gas Basis	Average – Mol %
Hydrogen (H_2)	21.1
Methane (CH_4)	8.4
Carbon Monoxide (CO)	2.8
Ethane (C_2H_6)	0.5
Carbon Dioxide (CO_2)	21.4
Nitrogen (N_2)	44.5
Average Calorific Value – HHV (MJ/Sm^3)	**6.39**

carbonenergy
resource. technology. markets.

USES OF **UCG**

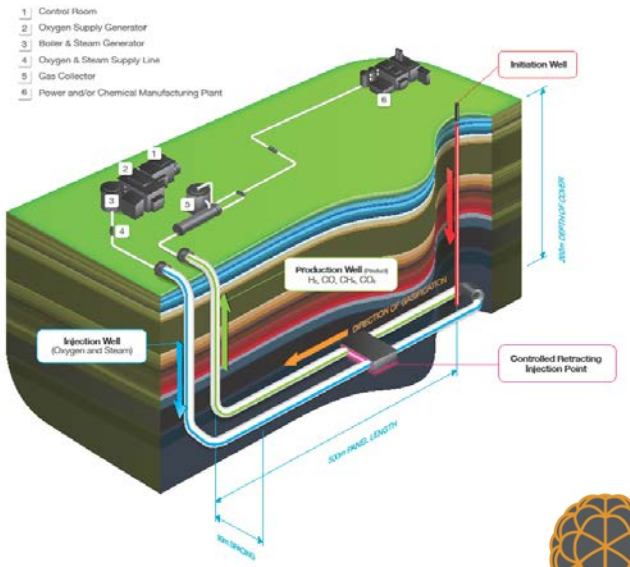


keyseam ENVIRONMENTAL **ADVANTAGES**

1. **Maximises resource efficiency** by extracting 20 times more energy from the same resource when compared to CSG production.
2. **Minimises surface disturbance** by extracting the energy from coal through a series of boreholes rather than mechanical excavation used in conventional mining methods.
3. **Preserves groundwater quality** by operating the gasification process below the hydrostatic pressure and not pumping groundwater to the surface. Maintaining the surrounding groundwater pressure acts as containment for the gasification process and ensures that syngas flows to the surface under pressure via the Production Well.
4. **Leaves rock and ash underground** in the coal bed, originally mixed with the coal.
5. **Cuts carbon emissions** by producing syngas-fuelled electricity with 10-20% less CO_2 emissions than traditional coal-fired power plants and reducing the cost of carbon capture.
6. **No fracing process or chemicals**.

keyseam can extract the equivalent energy from an area 20 times smaller than CSG without fraccing and with minimal impact on the water table.

keyseam



keyseam

UCG COAL SELECTION CRITERIA

Appropriate Coal

Ideal UCG Site Coal Characteristics

- Coal seam depth of greater than 200m.
- Coal is overlain by impervious strata.
- Coal has a confining hydrostatic head of 150m (± 20m).
- Coal seam thickness of greater than 5m (± 2m).
- Minimal faulting.
- Coal of any quality, rank or impurity can be used.

The current proven world coal reserves are approximately 909 billion tonnes; world coal resources have been estimated to lie somewhere around the 6,000 billion tonne mark, suggesting that only 15% of the resource is currently accessible.

The use of UCG could therefore unlock billions of tonnes of potential coal resources.

carbonenergy
resource. technology. markets.

WHAT ARE THE **OPPORTUNITIES**

Coal lease owners

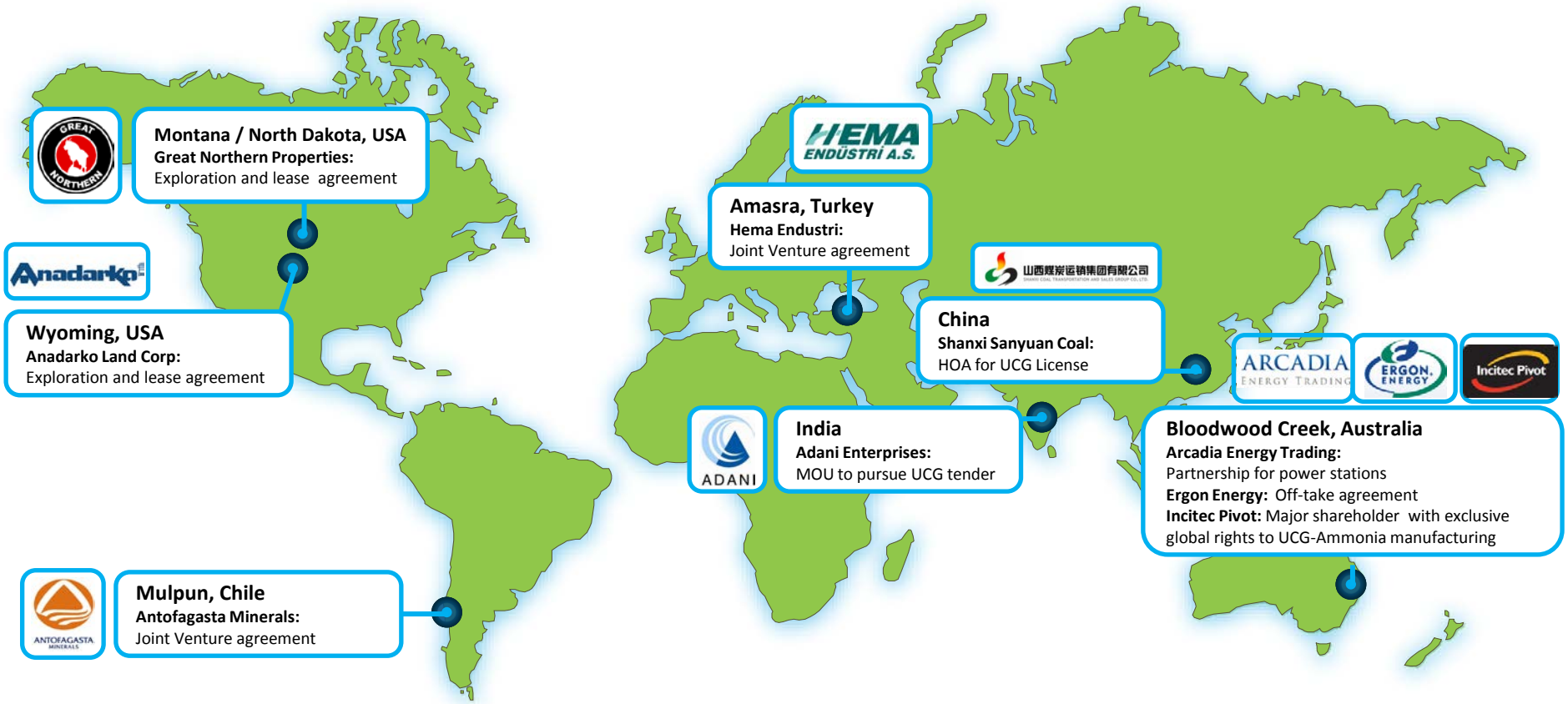
- Convert coal resources not suitable for conventional development to gas feed for down-stream use; and
- Turn otherwise stranded coal into certified gas reserve.

Downstream energy users – power / coal to liquids / etc.

- Partner to secure reliable / cost competitive energy supply locally and globally.

carbonenergy
resource. technology. markets.

GLOBAL INTEREST & OPPORTUNITIES



carbonenergy
resource. technology. markets.

SURAT BASIN - **GAS**

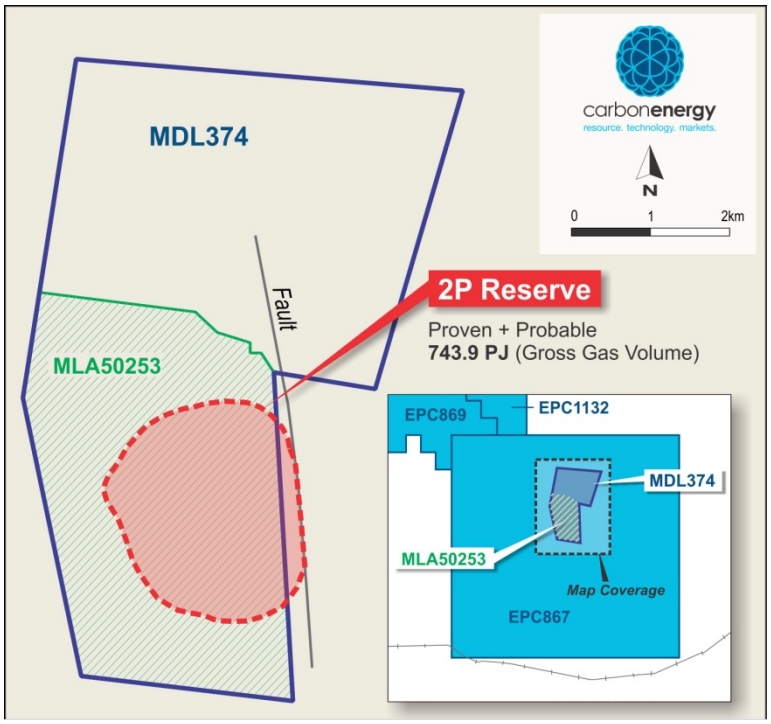
- Carbon Energy has a certified 2P Reserve of 743 PJ of syngas at our existing UCG licensed area (MDL374).
- This is equivalent in energy terms to provide Brisbane's entire gas supply for the next 15 years.

DETAILS

- MDL374 is 29 km^2 tenure.
- Current tenure allows for demonstration of multiple UCG panels and the production of up to 30MW of electricity.
- Application for a Mining Lease (which allows full commercial production) has been submitted over approximately half of the MDL area.

In accordance with the Society of Petroleum Engineers (SPE) guidelines, the reserves in these properties are:

Area	Category	Gross Gas Volume (PJ)
Bloodwood Creek EPC 867 (including MDL 374)	1P Reserve (Proven)	11.0
	2P Reserves (Proven + Probable)	743.9
	3P Reserves (Proven + Probable + Possible)	1,042.8



Carbon Energy 2P Reserve Area Bloodwood Creek

carbonenergy
resource. technology. markets.

GAS RESOURCE **POTENTIAL – 743 PJ**

Product Options	Indicative Production
Synthetic Natural Gas (Pipeline quality)	Brisbane's Entire Supply For 15 yrs
Liquefied Natural Gas (LNG)	1 million tonnes p.a For 13 yrs
Fertiliser/Industrial Explosives	World Scale Plant For 50 yrs
Barrels of Oil	20,000 barrels/day For 17 yrs
Electricity	1,000 MW Base Load For 10 yrs

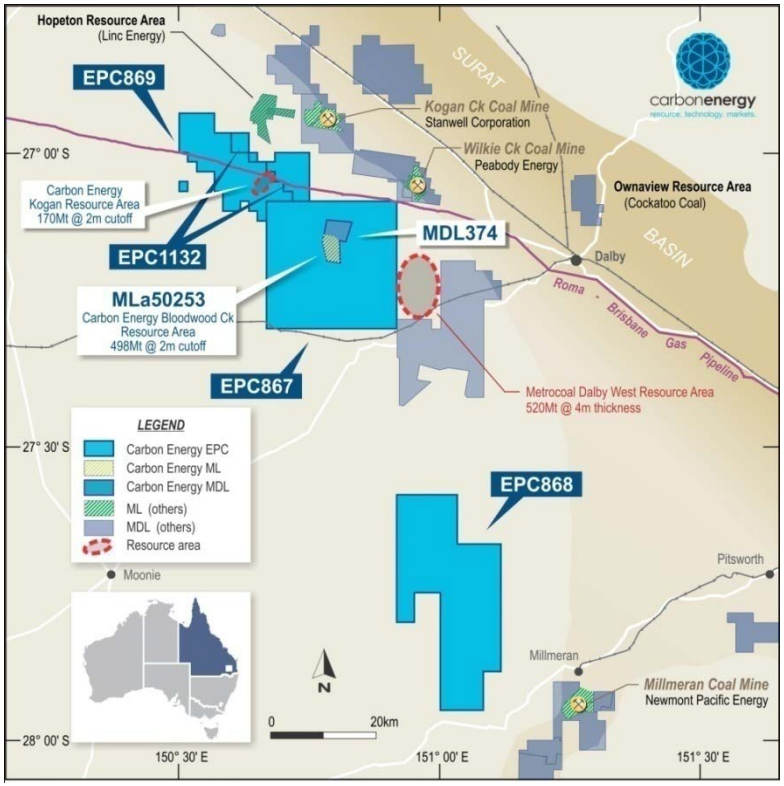
carbonenergy
resource. technology. markets.

SURAT BASIN- **COAL**

- CNX is currently evaluating its coal reserves beyond the uses of UCG.
- 1400km^2 of exploration permits for coal EPCs in Queensland's Surat Basin
- CNX has previously reported 668Mt of JORC Indicated and Inferred Resources (218Mt Indicated & 450Mt Inferred) within just 52km^2 including the MDL area
- A third party has independently assessed the additional coal resources contained in these leases.

DETAILS

- 1,400 km^2 of EPC's in Queensland's Surat basin
- Close to existing operating mines and proposed mines
- Close to rail and other infrastructure
- The Surat Basin region supports existing export and domestic coal products
- 668Mt Resource + 4,000 to 8,000 Mt Exploration Target



Carbon Energy Coal Tenure Surat Basin

carbonenergy
resource. technology. markets.

4 TO 8 BILLION TONNE
EXPLORATION TARGET

	Expected depth ranges	EPC867 (Mt)	EPC868 (Mt)	EPC869 (Mt)	EPC1132 (Mt)	Totals by Seam (Mt)
Westbourne Seams	45 – 180m	100 – 210		100 – 225	25 – 75	220 – 510
Springbok Seams	100 – 250	50 – 110		25 – 75		70 – 180
Macalister Seams	120 – 500	2,000 – 4,100	340 – 680	500 – 1,010	210 – 435	3,050 – 6,220
Wambo Seams	120 – 500	190 – 380	175 – 360	440 – 890	120 – 240	920 – 1,870
Totals by Lease		2,340 – 4,800	510 - 1,040	1,060 - 2,200	350 - 750	4,270 - 8,790

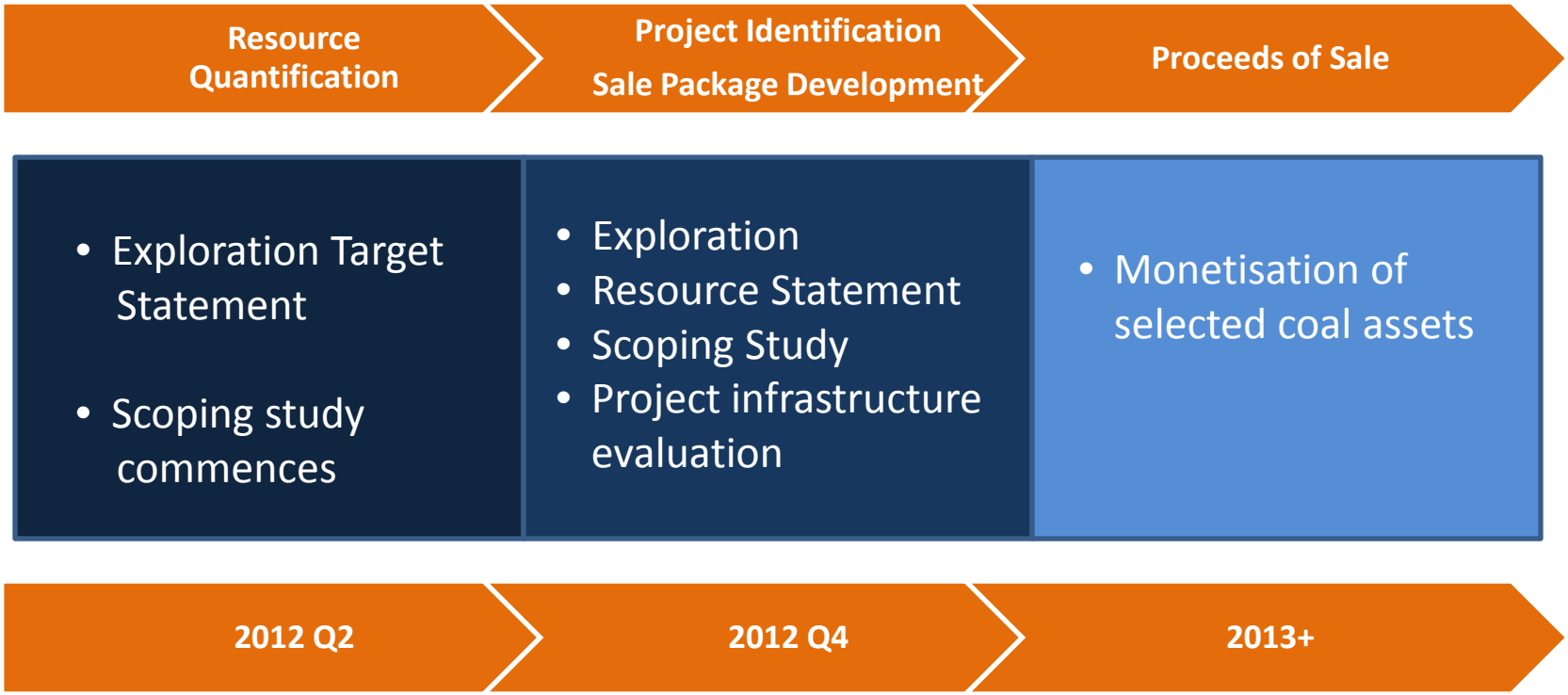
Notes:
- Previously reported JORC Indicated and Inferred Resources in MDL374, EPC867 and EPC869 are not included in Exploration Target tonnages
- Tonnages quoted above are conceptual in nature and there has been insufficient exploration to define a coal resource (outside the previously reported Resources). Insufficient data exists to confidently correlate coal seams and generate a grid mesh model, however further exploration is likely to lead to the reporting of a JORC-standard resource.
- A general geological loss between 20-50% was applied to all tonnage calculations to account for seam splitting and stone bands. Additional loss was applied where required, particularly where there was a large spacing between boreholes
- Regardless of actual coal quality results, coals from all Formations have been given an average wet, insitu density of 1.45 g/cc
- Total tonnages *in situ* estimated with non-weathered seams un-intruded and >0.3m. Based on density log coverage seams <50% ash (adb);

carbonenergy
resource. technology. markets.

COAL STRATEGY TIMELINE

CALENDAR YEAR

Monetising coal resource to fund core UCG technology business



carbonenergy
resource. technology. markets.

CARBON ENERGY: UCG LEADER

1. Clear Strategic Vision

2. Key Resources in Queensland

3. Market Leading Technology

CNX a technology partner for world class projects

carbonenergy
resource. technology. markets.

CONTACT **DETAILS**

- Andrew Dash – CEO & MD
  telephone: +61 7 3337 9901 | mobile: +61 419 025 507
  email: adash@carbonenergy.com.au

- Morné Engelbrecht – CFO
  telephone: +61 7 3337 9906 | mobile: +61 407 754 081
  email: mengelbrecht@carbonenergy.com.au

carbonenergy
resource. technology. markets.

QUESTIONS

carbonenergy
resource. technology. markets.