

ALTO CAPITAL RESEARCH

Phone: (08) 9223 9888
 Fax: (08) 9221 0488
 Email: info@altocapital.com.au
 Website: www.altocapital.com.au



Low cost entry in renewable energy sector

13th October 2009

CBD Energy Limited (CBD)

Speculative Buy

Price: \$0.09
 Price Target: \$0.35
 Mkt Cap: \$19.7m

Investment Data:

Share Price	9.0¢
Ord Shares*	219.0m
Market Capitalisation	\$19.7m
Unlisted 10¢ Options (30/06/11)	7.5m
Unlisted 25¢ Options (30/06/11)	15.0m
Market Capitalisation (diluted)	\$21.7m
12% 10¢ convertible notes	(\$5.4m)
Outstanding Loans	(\$2.3m)
Cash Balance (Aug 09)	\$6.3m
Enterprise Value	\$23.1m
52 week Low/High	3.2¢ / 15.5¢

Directors:

Non-Exec Chairman	The Hon Mark Vaile
Managing Director	Gerry McGowan
Non-Exec Director	James Link

Major Shareholders:

Solon AG	15.5%
Souls Private Equity Limited	10.5%
TRW Holdings Pty Ltd	7.2%

Top 20 Shareholders hold 81.4% of the issued stock

Income (\$m):	08	09	10F	11F
Sales	17.8	16.8	19.2	22.2
EBITDA	(0.5)	(1.3)	(0.3)	(0.1)
Dep	(0.2)	(0.3)	(0.4)	(0.4)
EBIT	(0.7)	(1.6)	(0.7)	(0.5)
Interest	0.2	0.0	(0.1)	(0.2)
EBT	(0.5)	(1.6)	(0.8)	(0.3)
Tax	-	-	-	-
Underlying Profit	(0.5)	(1.6)	(0.8)	(0.3)
Reported NPAT	(0.5)	(3.7)	(2.5)	(0.3)
Balance Sheet (\$m):				
Cash	5.3	0.9	3.3	1.1
Intangibles	8.3	7.8	8.4	9.0
Total Assets	22.3	20.6	24.0	29.5
Total Debt	0.3	2.7	7.7	5.0
Total Liabilities	3.1	5.1	10.3	8.0
Equity	19.2	15.5	13.7	21.5



Summary:

CBD Energy Limited (CBD) is an ASX listed integrated energy solutions business combining engineering skills, technology and services to achieve energy efficiency and make renewable energy more effective.

CBD's business model combines two established businesses in energy efficiency and mechanical services, with its newer business in renewable energy services, technology and equipment. CBD plans to combine its engineering expertise within its businesses to expand further in providing solutions in renewable energy.

The recent passing of the Renewable Energy Target (RET) bill is likely to increase the attractiveness of CBD to the investing public, due to the estimated \$25 - \$30 billion in investment required by 2020 to reach the government's target of producing 20% of Australia's electricity via renewable energy sources.

CBD recently successfully raised \$5.4 million through an underwritten 1 for 4 non-renounceable right issue to holders of ordinary shares of 54.3 million convertible notes at an issue price of 10¢ per convertible note. The raising was to provide working capital as well as assisting in the progress of the Chatham Island, Shannons Flat and Emerald and Bowen developments.

We are initiating coverage of CBD with a speculative **BUY** recommendation and a 12-month price target of \$0.35 per share. Our price target for CBD is based on the company playing an active role in the growing Australian renewable energy sector, and completing a successfully partnership with a company capable for providing the funding required to progress the groups solar and wind energy projects.

Key Points:

- Passing of the Renewable Energy Target (RET) legislation by the Australian government provides certainty for investors in renewable projects, such as CBD, and increases the attractiveness of small renewable companies to the investing public.
- An estimated \$25 - \$30 billion in addition investment required over the next 10 years to reach the goals of the recently passed RET legislation.
- CBD operates two established businesses, CapTech & Parmac, which produce approx. \$2.0m - \$3.0m in combined EBITDA per annum.
- Business model for wind and solar projects is to charge a fee for project management services during design and construction phase, and then an ongoing management fee plus a carried equity position in those projects.
- CBD is actively seeking partners to provide funding for the group's large scale solar and wind energy projects. It is noted they are co-developing their Shannons Flat wind project with GE who have capability in equipment supply and financing. CBD has partnered with Solon AG, their largest shareholder, to drive solar component sales.
- License holder for the innovative graphite block energy storage technology, enabling the storage of excess energy produced via renewable energy sources. CBD is negotiating with partners to develop projects in Europe and China.
- CBD has a JV called Integrated Energy Solutions with Hydro Tasmania. Hydro is Australia's largest renewable energy company providing 50% of Australia's renewable energy. King Island will be a quality reference site for the company's technologies and will incorporate power sourced from wind, solar, energy storage providing power to 1,800 people plus industry.
- Recently completed a successful \$5.4m convertible note issue providing funding to progress various projects and provide working capital.
- High quality Board and Management team in place, with extensive skills and experience in engineering, financial, treasury, and corporate management.

Brief History:**First listed in 1988**

First listed in June 1988 as London Securities Limited (LOS), and has undergone several name changes and business activities, including, Asia Pacific Infrastructure Limited (AIF), and CBD Online Limited (CBD), before changing its business model to focus on renewable energy and energy storage systems

Major Acquisitions/Sales**Achieved growth through Acquisitions**

Business Acquisitions	Cost	Date
Capacitor Technologies (CapTech)	\$0.74m	September 2003
Energys	\$0.25m	September 2003
Parmac Air-conditioning & Mechanical Services (Parmac)	\$1.25m	November 2003
O.P Industries	\$7.50m	April 2004
Lloyd Energy Systems (LES)	\$0.50m	November 2006
Larkden Pty Ltd	\$5.00m	June 2007

Accelerates participation in renewable energy sector

Business Sales	Received	Date
O P Consolidated	\$0.62	December 2005

Late 2008/early 2009 signified the real commencement of CBD Energy's entry into the renewable energy space with the construction of the King Island Solar Project, completion of the Larkden acquisition (graphite energy storage solutions), successful tender for the Chatham Island renewable energy project, and the acquisition of a licence to develop a wind farm at Shannons Flat in NSW.

Business Strategy**Work with specialist partners**

CBD's business strategy is to work with specialist partners to develop and deliver renewable energy projects. These partners, which include Hydro Tasmania, Solon AG, GE Energy and Buildev, provide elements of energy project operation, technology, construction and property development.

Renewable energy projects in which CBD is currently involved include:

- King Island – solar and wind power, energy management, energy storage – joint venture with Hydro Tasmania;
- Chatham Islands – wind farm – build, own and operate project supported by a 20 year power offtake agreement with local energy authority;
- Shannons Flat, NSW – wind farm – co-development with GE Energy; and
- Emerald & Bowen, QLD – green energy services projects – joint venture with Buildev

RET of 20% by 2010 to underpin sector going forward.

The recent passing of legislation to bring about the implementation of Australia's Renewable Energy Target (RET) scheme provides positive support for the renewable energy sector. The scheme requires 20% of electricity to come from renewable sources by 2020, and works by forcing electricity companies to buy a certain portion of their electricity from renewable sources.

Graphite energy technology provides CBD an entry in the energy storage sector

A defining difference at CBD in the renewable energy sector is its ownership of the intellectual property rights to graphite energy storage technology. Development of a commercial energy storage system is critical for the wider use of renewable energy in the broader market since it helps overcome the variability of wind and solar power. CBD are using this technology to grow its business internationally and has recently presented to utilities in Europe, the U.S and China.

CBD's current project pipeline exceeds 600M in development costs. Their success will depend on them finding a financing and power offtake partner.

Mission Statement**CBD plans to develop a portfolio of minority owned operating assets.**

CBD's purpose is to develop a portfolio of operating assets in which we hold minority interest and earn ongoing cash flows. Projects developed should benefit the communities in which CBD operates.

The company will achieve these goals by developing and maintaining close relationships with our customers, the communities they serve, our suppliers, partners and local, state and federal governments who are responsible for the regulatory environment in which we operate.

Limited operating environment to Australia, Pacific Islands & Asia

CBD will be commercially competitive, act with integrity, promote individual entrepreneurship, and encourage innovation and technological leadership.

CBD will limit its operations to Australia, Pacific Islands and Asia. It will enter other markets by developing partnership to utilize its storage technology.

Brief summary of Existing Operations

CBD operates 5 business divisions.

CBD Energy's business activities are divided into five business divisions: 1) CBD Solar, 2) Remote Area Power Systems, 3) CBD Wind, 4) Parmac, and 5) CapTech.

Partnership with leading German producer of photovoltaic modules.

CBD Solar

CBD Solar was formed in mid 2007, through the business relationship between CBD Energy and SOLON AG (leading German producer of photovoltaic solar modules). SOLAN produces the largest industrial manufactured turnkey solar tracking system globally.

The main focus of CBD Solar is to provide Australian Solar companies access to the high end quality products of SOLON.

Licence holder of initiative graphite energy storage technology.

Remote Area Power Systems

Remote Area Power Systems (RAPS), is an energy solutions company which provides wind, solar and energy storage in an integrated solutions package. The main focus of RAPS is on the reduction of diesel greenhouse gas emissions by providing renewable power technology to both on-grid and remote area power systems.

RAPS has developed a commercial size energy storage prototype to prove to its first customer, Hydro Tasmania, that the technology was fit for purpose. CBD also engaged international engineering firm Sinclair, Knight and Mertz to conduct due diligence on its prototype. SKM have stated "The prototype Energy Storage Module performed in accordance with RAPS' expectations, heating losses were minimal, heat flow was satisfactory and steam recovery effective".

Focused on locating, developing, and acquiring suitable wind power projects.

CBD Wind

The Wind Energy division focuses on developing wind farms including sourcing projects, locating suitable sites for development, progressing regulatory approvals, acquiring wind turbines and building and operating wind farms and associated infrastructure. Current sites include:

- Chatham Island NZ (two 200kW wind turbines) – 20 year off-take agreement in place.
- Shannons Flat NSW (twenty 2.5MW wind turbines) – early stage of development

Specialist air conditioning services provider

Parmac

Parmac, established in 1994, offers air conditioning installations and mechanical services, ranging from in-house designing of systems, checking of projects documented by consulting engineers, project management services and drafting services.

Parmac specialises in green field projects, institutional projects, office tenancy refurbishments and dedicated computer room and industrial air conditioning installations.

Specialist provider of power correction systems.

CapTech

Captech, established in 1990, is involved in developing and supplying power factor correction equipment to both the commercial and industrial sectors. Captech also manufactures a series of harmonic filters and reactors and is a supplier of capacitors, lightning and surge protection, energy monitoring and management systems and components.

Captech is a quality endorsed company accredited by ISO9001. Its products have been sold across Australia, Middle East, South East Asia and other parts of the world.

Main Business Objectives

CapTech and Parmac are self sufficient, generating free cashflow.

- Continue to operate and grow CapTech and Parmac Businesses, CapTech and Parmac each currently contribute between \$0.35 - \$1.0 m EBITDA per annum.
- Sale of solar equipment to Australian customers via its distribution agreement with SOLAN AG. 500kW of solar equipment has been sold during the previous 3 months.
- Find suitable partner to assist in the commercialisation of graphite block energy storage technology and develop an international market for its products.
- Find suitable partners to provide funding for the development of the groups proposed large scale solar and wind energy projects. CBD has announced a co-development agreement for its Shannons Flat wind project with GE Energy.

Actively seeking suitable partners to provide funding for solar and wind energy projects.

Business model for the development of large scale solar and wind energy projects is for CBD to be paid a fee to provide lead project management duties during the design and construction phase, and then to charge a management/maintenance fee to run the project over its life.

Project Examples

Installed 6 solar energy systems on King Island

Solar Energy

In 2008, six dual axis tracking solar photovoltaic systems were installed on King Island adding 100kW of renewable energy generation to the power station. The SOLON Mover is the largest industrially manufactured ready-to-go solar tracking system in the world. It was specially developed for use in major solar power stations. A SOLON Mover consists of 24 solar PV modules, a steel frame construction for the dual axis tracking system, and the necessary output, communication and control electronics. SOLON Movers contain all the technical components necessary for converting the direct current generated by solar modules into the alternating current required for feeding into the supply grid. The use of solar power on King Island has several benefits:



Solar array forecast to deliver 200MWh p.a.

The solar array is expected to deliver around 200 MWh a year to the Currie power station, resulting in CO₂ savings of around 180 tonnes per annum.

20 year BOOT partnership to install two wind turbines on Chatham Island



Wind Energy

CBD is undertaking construction of a wind turbine project on the Chatham Islands, located 800km east of Christchurch and are the first inhabited land in the world to greet the dawn each day.

The project resulted from a tender CBD won in December 2008 and is a 20 year BOOT (Build Own Operate transfer) partnership, with CBD to build, own and operate a new wind powered electricity system for 20 years after which it would transfer to the Chatham Islands Enterprise Trust.

CBD will install two wind turbines and associated control and ancillary systems on the island, integrate these with the existing diesel generation plant, and optimise the combined wind/diesel system.

Storage of excess energy from renewable energy sources greatest problem

Graphite Energy Storage System

The unpredictable and intermittent nature of certain renewable energy sources such as wind and solar is the greatest technological problem facing the renewable energy industry in its attempt to position itself as base load generation. Put simply, no matter how efficient the generator, electricity production stops when the wind drops or the sun goes down.

CBD Energy has addressed the issue of large scale energy storage with the development of a thermal energy storage system that addresses the need for storage as well as providing a modular system that allows for storage optimisation to the application.

In its current design configuration, each block contains approximately 19 tonnes of graphite and will store 6.5MWh of thermal energy. The carbon block consists of a number of high quality graphite modules stacked together. Installed within these modules are heating elements used to heat the graphite and operates at high temperatures of up to 650°C. Insulation surrounding the modules minimises heat loss and allows the energy to be stored for extended periods of time. Energy is then extracted from the carbon block when required by passing water through heat exchangers within the graphite block. As the block is at a high temperature, the water is converted into steam and then passed through a steam turbine generator.



Patented graphite energy storage technology

King Island Renewable Energy Project Under the Federal Government's

Renewable Energy Demonstration Program (REDP), Hydro Tasmania is seeking to implement an innovative program of renewable energy technologies, including the expansion of the King Island project currently under development. This involves several proposed projects to further reduce the reliance on diesel fuel for power generation. Elements of the expanded REDP project proposal include:

- Installation of short term inertia storage device. This would enhance the use of wind generation as well as the reliability of the power system which is approaching conventional limits for reliance on wind energy.

Project Examples (continued)

- Reinstatement of the Vanadium Redox Battery (VRB) energy storage system following an outage.
- Wind expansion by up to 4MW. The proposal is currently undergoing feasibility assessment, with a business case submission expected in 2009. Development Approval has been obtained for the installation of up to two wind turbines.
- Carbon Block energy storage – installation of carbon block thermal storage units for storing and recovering spilt wind energy.
- Biodiesel project - feasibility of a project is being considered to supply biodiesel as a generation fuel at Currie Power Station to reduce both generation cost and greenhouse gas emissions.

Recent Government Legislation

20% electricity mix by 2020 generated by renewable sources

The Australian Government set a target to achieve a 20 per cent share of renewables in Australia's electricity mix by 2020. To achieve this, the Government is supporting the deployment of renewable energy in Australia's electricity supply through the national Renewable Energy Target (RET) scheme. The RET scheme guarantees a market for additional renewable energy generation, using a mechanism of tradeable Renewable Energy Certificates known as RECs.

Legislated target increased to 45,000GWh from 9,500GWh

The Government, in cooperation with the States and Territories, is increasing the legislated target more than four times from 9,500 gigawatt-hours (GWh) to 45,000 GWh in 2020. The RET scheme expands on the existing Mandatory Renewable Energy Target (MRET) and absorbs existing and proposed State and Territory renewable energy schemes into a single national scheme.

The expanded RET scheme will accelerate uptake and prepare the electricity sector to contribute to the significant emissions reductions that will be needed to address climate change. The RET scheme design focuses on reaching the 45,000 GWh target in 2020 at least cost and is closely based on the existing MRET scheme. It is envisaged that the measure will commence on 1 July 2009 with the expanded targets to commence from 1 January 2010.

The NSW Government recently advised that the Government would streamline the approval process for renewable energy projects and waive certain fees for projects of a size greater than 30 MW. The Shannons Flat project should qualify for this initiative.

Profile of Annual Targets

Staged ramp up to 45,000 GWh over a 10 year period

The target profile (below) is a ramp-up of annual targets in calendar years from 2010, rising to 45,000 GWh in 2020. The target profile is to be maintained at 45,000 GWh from 2020 to 2030, at which point the RET scheme will conclude.

Year	Annual Target (GWh)	Increase (GWh)
current	9,500	
2010	12,500	3,000
2011	14,400	1,900
2012	16,300	1,900
2013	18,200	1,900
2014	20,100	1,900
2015	22,000	1,900
2016	26,600	4,600
2017	31,200	4,600
2018	35,800	4,600
2019	40,400	4,600
2020	45,000	4,600

Recommendation and Price Target

Speculative Buy with a 35¢ price target.

We are initiating coverage of CBD Energy with a speculative **BUY** recommendation and a 12-month price target of \$0.35 per share. Our price target for CBD is based on the company playing an active role in the growing Australian renewable energy sector, and completing a successful partnership with a company capable of providing the funding required to progress the groups solar and wind energy projects.

Requirement to raise substantial capital going forward.

The passing of the Renewable Energy Target (RET) bill is likely to increase the attractiveness of CBD and similar companies to the investing public, due to the estimated \$25 - \$30 billion in investment required by 2020 to reach the government's target of producing 20% of Australia's electricity via renewable energy sources.

It must be noted that if CBD is to achieve its goals in the renewable energy sector, the company will be required to raise substantial capital going forward. Our estimate is that in order for group to advance the current projects on its books will require at least \$40 million in new equity over the next two years.

Recent Quotes in the Press

Smaller companies to benefit from increased interest in sector.

“The passing of the Rudd government’s Renewable Energy Target (RET) bill could open up new investment opportunities in renewable energy, according to KPMG, with smaller companies set to reap the benefit of increased interest in the sector.

KPMG’s annual report into merger and acquisition activity in renewable energy, The Winds of Change, said that the global financial crisis had made conditions more conducive for bigger utilities and power companies – Origin Energy Ltd, AGL Energy Ltd—to build their presence in the sector with opportunistic acquisitions in the sector.”

Business Spectator 1-Sep 2009

High upfront capital costs by very high operating margins.

“The passage of the 20-20 renewable energy target last week improves the economics of the wind farm business, because the price of renewable energy certificates should bridge the gap between the cost of operating wind turbines and the electricity price.

Wind farms have high upfront capital costs, but strong operating margins. Infigen's accounts show its wind farms generate an EBITDA margin in excess of 80 per cent, despite gearbox and other problems in the early stages of the Lake Bonney 2 wind farm, and lower than expected wind speeds.”

The Australian 31-Aug 2009

Increase from current 4,000GWh to 45,000GWh required to reach 20% RET by 2020.

“Mr Dashwood, ExxonMobil Australia chairman, said the government's target of increasing renewable energy to 45,000 gigawatt hours by 2020 would not cover the 20 per cent power generation the government predicted it would.

But even reaching the 45,000 GWh target would take a "mammoth effort", with wind and solar power now accounting for just 4,000GWh of power generation.”

The Australian 29-Aug 2009

Forecast \$25 - \$30 billion investment required to reach RET by 2020.

“AGL Energy says it will develop \$6 billion to \$7 billion in renewable energy projects over the next decade. Chief executive, Michael Fraser, said the recent passage of renewable energy target legislation through parliament was "very significant" for AGL.

Mr Fraser said that in total about \$25 billion to \$30 billion of renewable projects would have to be built over the next decade to meet the renewable energy target.”

The Age 24-Aug 2009

Directors

The Hon Mark Vaile
Non-Exec Chairman

Mr. Vaile was appointed to the board as Chairman on the 8 September 2008. Mr Vaile was Deputy Prime Minister of Australia from June 2005 to November 2007. He was elected to the Australian Parliament in 1993 and resigned in July 2008. He was Minister for Trade from July 1999 to September 2006 and was responsible for negotiating Australia’s free trade agreements with the United States, Singapore and Thailand. He has held the ministerial portfolios of Transport and Regional Development (twice) and Agriculture, Fisheries and Forestry. Mr Vaile was elected leader of the National Party in June 2005.

Mr. Gerry McGowan
Managing Director

Mr. McGowan was appointed Managing Director on 8 September 2008. Mr McGowan is a former executive of TNT and Mayne Nickless. Gerry started his own company in 1982 and won the distribution of John Fairfax product nationally. He launched Impulse Airlines in 1992, and then sold to Qantas in 2001. Currently Gerry is Executive Chairman of Pacific Aviation Pty Limited and TRW Holdings Pty Limited, an investment company with exposure to the energy and aviation industries. Mr McGowan also previously served as a director under a ministerial appointment to the Board of Air Services Australia..

Mr. James Link
Non-Exec Director

Mr. Link was appointed to the board on the 8 September 2008. Mr Link is a director of Great Lakes Aviation Limited. He was previously the President of Raytheon Aircraft Finance Corporation, following roles as Vice President and Treasurer, Vice President Worldwide Sales and Special Assistant to the CEO. Mr Link worked with the Raytheon group from 1985 until retiring in 2001. His qualifications include MBA Finance, MBA Marketing and BSA Accounting

Carey P. Smith
Research Analyst

Phone: 08 9223 9838
Mobile: 0400 216 502
E-mail: carey@altocapital.com.au

Investment Managers

Stockley Davis
Corporate Manager
Phone: +618 9223 9835
stockley@altocapital.com.au

Shane Wee
Director
Phone: +618 9223 9868
shane@altocapital.com.au

Alan Lawson
Investment Manager
Phone: +618 9223 9878
alan@altocapital.com.au

Cameron Bolton
Investment Manager
Phone: +618 9223 9832
cameron@altocapital.com.au

Russell Lynton-Brown
Authorised Representative
Phone: +618 6460 4960
ruslb@westnet.com.au

James Robinson
Authorised Representative
Phone: +618 6460 4960
james@cicerocorporate.com.au

Carrie Burns
Administration Assistant
Phone: +618 9223 9888
carrie@altocapital.com.au

Adam Belton
Director
Phone: +618 9223 9818
adam@altocapital.com.au

Brendan Fogarty
Investment Manager
Phone: +618 9223 9810
brendan@altocapital.com.au

Maciej Rosiewicz
Investment Manager
Phone: +618 9223 9830
maciej@altocapital.com.au

Ian Leete
Authorised Representative
Phone: 0415 707 065
ian@altocapital.com.au

Nathan Barbarich
Authorised Representative
Phone: +618 9223 9848
nathan@altocapital.com.au

Carey Smith
Research Analyst
Phone: +618 9223 9838
carey@altocapital.com.au

Craig Brown
Director
Phone: +618 9223 9828
craig@altocapital.com.au

Peter Hayes
Investment Manager
Phone: +618 9223 9836
peterh@altocapital.com.au

Brett Schreuders
Investment Manager
Phone: +618 9223 9825
brett@altocapital.com.au

Mathew Walker
Director
Phone: +618 6460 4960
mathew@cicerocorporate.com.au

Paul Poli
Authorised Representative
Phone: +618 9223 9888
Paul.poli@matsa.com.au

Kendra Bayley
Executive Assistant
Phone: +618 9223 9840
kendra@altocapital.com.au

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Alto Capital acted as Manager for the recent \$5.4m convertible note issue of CBD Energy and received corporate and advisory fees for services rendered.