

5 March 2010

# White Energy (WEC)

From concept to reality

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**Authorisation**

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**Recommendation**

**Spec Buy**

**Price**

**\$2.15**

**Target (12 months)**

**\$4.00**

Coal sales from WEC's first commercial coal project in Indonesia are expected in April. This significant milestone marks the beginning of a new era in the coal industry. It is now possible to upgrade low value, high moisture coal to increase its energy content but maintain the low impurities, bringing both economic and environmental benefits. WEC is poised to benefit from this opportunity.

**Expected Return**

Capital growth **86%**

Dividend yield **0%**

Total expected return **86%**

**Company Data & Ratios**

Enterprise value **\$444m**

Market cap **\$506m**

Issued capital **235m**

Free float **70%**

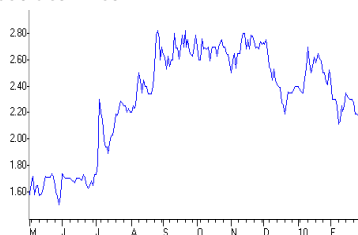
12 month price range  
**\$1.18-3.00**

GICS sector

**Materials**

Disclosure: SCE acted as a manager of a placement of 36.7m shares to raise A\$55m in May 2009, and 416 shares to raise A\$100m in November 2009 and received a fee.

**Absolute Price**



SOURCE: IRESS

**Slow to ramp up, but the technology works**

WEC has built its first commercial 1Mtpa facility in a JV with Bayan Resources in Tabang Indonesia. The plant is not yet producing at full capacity. However, the core process works and briquettes are being produced. An upgrade of the dust extraction system is due to be complete in May which will allow ramp-up to full capacity thereafter. The first product sales are expected in April, so that together with the addition of WEC into the S&P/ASX 300 index, should be key catalysts for the stock.

**Ready for the global roll-out**

WEC's next priorities are to progress the Tabang expansion to 5Mtpa, and obtain the permits necessary to build plants in the US, initially one at the Buckskin mine and one in a JV with Peabody. In the next 5 years WEC plans to have 45Mtpa worth of capacity in place. We conceptually value 45Mtpa of capacity at A\$17.35/share. With only 1Mtpa of capacity constructed, we remain conservative and have set a short term price target of A\$4.00 (previously A\$3.50), equivalent to a valuation of 6 working plants. We maintain a Speculative Buy, and the view that the company is likely to transform into a substantial growth stock in time.

**Earnings Forecast**

Year end June	2009a	2010e	2011e	2012e
NPAT (reported) (A\$m)	-27.6	-12.6	9.9	64.2
NPAT (adjusted) (A\$m)	-27.6	-12.6	9.9	64.2
EPS (adjusted) (cps)	-16.9	-5.4	4.0	23.0
EPS growth (%)	13.3	-0.7	-1.7	4.7
PER (x)	na	na	55.6	9.7
P/CFPS (x)	na	na	50.1	9.3
EV/EBITDA (x)	na	na	37.7	7.1
Dividend (¢ps)	0.0	0.0	0.0	0.0
Yield (%)	0.0	0.0	0.0	0.0
ROE (%)	-33.5	-7.0	4.3	15.9

SOURCE: SOUTHERN CROSS EQUITIES ESTIMATES

# The concept – a new era for coal

## The holy grail in coal – upgrading low value coals

There are two main types of energy coal. Bituminous coal is older, and following more compression over time, has lower moisture content and a higher energy content. Sub-bituminous coal is younger and with less compression contains more moisture and the energy content is lower. When mined and sold as thermal coal, the price correlates with the energy content. Bituminous coal sells for a higher price and is often exported into the seaborne market as the transport cost can be justified, but sub-bituminous coal is normally used domestically, with power stations built next to the coal to limit transport costs.

Consider these key coal facts:

- The difference between low and high priced coal is mainly water
- High energy coal is also high in contaminants

What if we could take sub-bituminous coal, remove the moisture, and sell it as bituminous coal? For more than 100 years the coal industry has been endeavouring to do just that. This was driven by two powerful factors, high moisture coal is typically more abundant and shallower and therefore more accessible, but you make more money selling lower moisture coal. But the holy grail in coal has eluded many who have tried. The problem has been that when you crush and dry out coal, it's subject to spontaneous combustion, and many attempts have literally been burnt in the process. WEC is one of the first companies to have cracked the code. It has developed a technology which upgrades high moisture, low energy, but low contaminant coal to a high energy product through a low cost production process which can be sold into the export market for a premium price.

## Thermal coal arbitrage

Initially the driver behind the White Coal technology was an economic one. Low energy coal sells for c.US\$10/t, and high energy coal sells today for c.US\$70/t, so the arbitrage is significant. The addition of a White Coal plant means that vast resources of coal which were previously deemed uneconomic, may now be viable.

## Coal needs to be clean to be viable

In talking to coal producers and customers, WEC has found that there is a second key driver for using the technology; coal now needs to be clean to be viable, and White Coal technology having the following benefits to the coal industry;

- **Lower transport costs.** Typically power stations are built next to coal reserves to limit transport costs. However in the US and China for example, coal is distributed thousands of kms from the coal basins to the population centres. White Coal will enable existing producers to eliminate the moisture before coal is railed, reducing the volume (and the cost) by a quarter.
- **Lower dust.** In the US, coal is transported uncovered, and the coal dust gets everywhere, causing maintenance and air quality issues. White Coal will enable existing producers to transport briquettes which are less dusty.
- **Burns "greener".** White Coal is more efficient to burn because less energy is required to eliminate the moisture. In addition, the raw sub-bituminous coal used to make White Coal typically contains less pollutants such as SO<sub>x</sub>, NO<sub>x</sub>, and ash, so overall it burns "greener".

# The reality – recognised by coal majors

## Strategy is to partner with existing producers

WEC has chosen to initially pursue commercialisation options in Indonesia and the US. Indonesia is a key growth region for meeting Asia’s growing coal demand. The US is the world’s largest producer of low rank coal.

WEC has signed agreements with existing coal producers for up to 61Mtpa of capacity, and as WEC is in discussion with other potential partners, production could rise even further over time. The strategy is to partner with existing producers who already have infrastructure solutions.

Longer term WEC may look to acquire its own resources, and benefit from unlocking the value.

## Pt Bayan re-rates with WEC partnership

WEC has built its first commercial plant in partnership with Pt Bayan. For Pt Bayan, the technology unlocks considerable value from its otherwise low value resources, and the company’s expansion plans would not be possible without the plants. PT Bayan has outperformed the Asian coal sector this year following the announcement of its potential expansions (Figure 2).

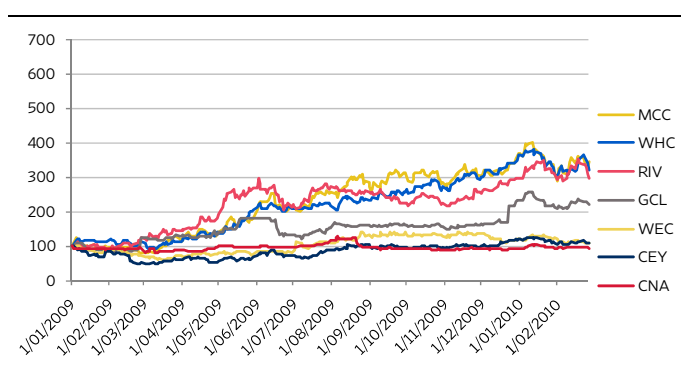
## Peabody sees significant potential

Peabody has recognised the additional value the WEC technology can bring to its lower valued resources, and has set aside one such resource for a 20Mtpa project. As well as increasing its resource base, the technology also provides economic and environmental benefits across the value chain but reducing dust, and providing fuel with lower contaminants.

## Potential solution for growing environmental issues

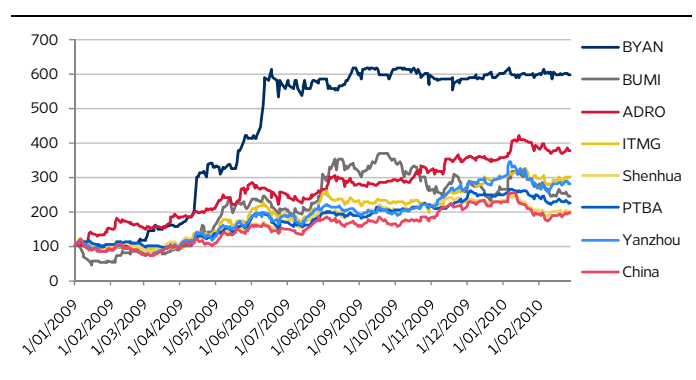
WEC has been approached by The State of Kentucky to build a plant. Kentucky is tackling some difficult environmental issues caused by coal fired power. Upgrading coal before it is burnt can reduce ash and contaminants, and the fact that the state is offering financial assistance to WEC suggests that the issue is large, and WEC’s technology can help.

Figure 1 – Aussie coal equities performance YTD



SOURCE: BLOOMBERG

Figure 2 – Asian coal equities performance YTD



SOURCE: BLOOMBERG

# The reality – first briquettes ready for sale

## **Tabang plant at 30% of nameplate**

WEC's first plant, built by PT Kaltim Supacoal (KSC), the joint venture between WEC 51% and Pt Bayan 49%, is in the early stages of ramp-up. All elements of the plant have been trialled, and the key IP, the briquetters work and have produced upgraded briquettes. However, due to the under sizing of the dust extraction system, the plant has only been able to run at 30% of the nameplate capacity of 1Mtpa to date.

## **Modifications to get to nameplate capacity by July**

Following early trials, it was found that the dust extraction system had been undersized. This resulted in coal dust build-up in the duct work, and coal dust in the product briquettes. As coal dust is potentially combustible, it has been necessary to run the plant conservatively until a permanent fix is in place, hence the current rate of 300ktpa. From an equipment perspective the permanent fix is not complex. The dust extraction system comprises fans and ductwork which are standard off the shelf items, and all that is required is a size upgrade. However from a practical perspective it will take some time to size, order, deliver and install the new ductwork. In the meantime, temporary screens have been installed to remove the dust intermittently, in order to enable product stockpiling and handling tests to take place.

The engineering modifications should complete during May, and then the plant should be able to ramp up relatively quickly to nameplate by the end of June. The modifications are expected to cost c.US\$2m. Standard Chartered Bank has agreed to provide KSC with an interim US\$10m facility to cover ramp-up and modification costs, and draw downs on this facility have already occurred.

## **Marketing effort should see first sales in April**

While the plant is being optimised, trial and sales initiatives have been progressing. There is a stockpile of 3-4kt of coal which has passed several coal handling tests. Small samples of c.20kg are now being sent (gratis) to potential customers as an introduction to the product. The next step is to sell test burn quantities of 5-8kt to Asian utilities. The marketing plan is to sell small quantities to a wide range of customers to get broad market acceptance, the majority being existing Bayan customers. Sufficient coal should have been produced by April to make the first sale.

### Pricing

KSC is confident of achieving Newcastle benchmark or above for its coal. The typical benchmark price for thermal coal is set at an energy content of 6700kcal/kg, and then penalties are assigned if the energy content is lower, or the impurities (sulphur and ash) are too high. KSC coal should have an energy content of 6100-6200kcal/kg and hence receive a discount for energy content, however the sulphur content (0.3) and ash content (4%) are so low that they should attract a premium. In our analysis we have assumed price parity to Newcastle benchmark pricing.

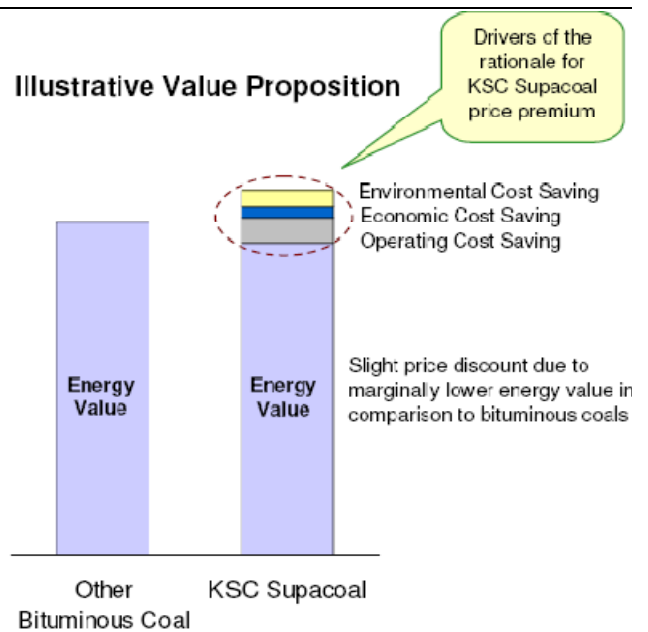
The first coal produced during the early production phase was slightly out of specification and will possibly be sold into a secondary market, separate to the marketing plan for the in spec product. The early coal is higher in moisture content being 10-11% compared to the 6-7% desired specification. This alters the energy content and the early coal will sell for a discount accordingly.

Figure 3 – Example of coal quality

Sample	Tabang Sub-Bituminous Coal	KSC Upgraded Coal
<b>Proximate Analysis (as received)</b>		
Total Moisture (%)	32.3	7.8
Ash (%)	3.9	5.3
Volatile Matter (%)	33.5	44.0
Fixed Carbon (%)	30.3	42.9
<b>Ultimate Analysis (dried basis)</b>		
Carbon (%)	68.3	69.0
Hydrogen (%)	5.2	5.2
Nitrogen (%)	0.9	0.9
Sulfur (%)	0.35	0.35
<b>Gross Calorific Value (as received basis)</b>		
Kcal/Kg (BTU/lb)	4,472 (8,049)	6,122 (11,020)
HGI	81	90
Drop Shatter Test		93%

SOURCE: COMPANY DATA

Figure 4 – Potential price premium



SOURCE: COMPANY DATA

# Progressing the global rollout

## The priorities

While the bugs are being ironed out of the first plant KSC in Tabang, the WEC team is busy progressing work on the other JVs, and looking to sign further agreements. WEC believes it will be possible to have 45Mtpa worth of capacity installed within 5 years. The following is a summary of the status and outlook for each program of work, and how this target could be achieved.

### PT KALTIM SUPACOAL (WEC 51%, PT BAYAN 49%)

**Initial target 5Mt**

**5 year target 15mt**

KSC is looking to increase capacity from 1-5Mtpa at Bayan's sites ASAP. The project is ready to go, and should commence once the first plant has settled at nameplate capacity in July. All the key requirements are in place. The design remains the same, and the financing is in the process of being arranged. Standard Chartered Bank has been mandated to provide a facility of at least US\$150m, and each JV partner will need to make modest equity contributions to help fund the expansion. Assuming that the expansion takes 18 months to build, 5 plants could be in place by December 2011.

Longer term KSC is looking to install 15Mtpa of capacity. We believe that once the rollout to 5Mtpa is finished, the JV will push ahead with two further successive expansions to see the 15Mtpa complete within 5 years. While this sounds like an aggressive schedule, PT Bayan has the incentive to fast track the rollout as it is key to the re-rating of the company.

### STATE OF KENTUCKY

**Target 0.5Mt**

This opportunity has arisen relatively recently, but it may hold the key to a timely US roll-out. Potentially a plant would be built on the Ohio River in Louisville Kentucky, where there is good coal transport infrastructure allowing coal to be imported, then upgraded, and re-shipped to local utilities. The state is proposing a half size plant (0.5Mtpa) and has offered financial incentives in the form of tax breaks to WEC.

While WEC already has other larger commitments, the benefit of this project is that it could fast track the permit approvals process which proven to be a bottleneck to development in the US. If the Kentucky State Government is supportive of the project and it gets timely Federal approvals, then these may be highly relevant in obtaining permits in other states including Wyoming where the other US partners are based. WEC will only progress this further and negotiate ownership and funding terms once approvals are received.

### BUCKSKIN MINING (WEC 100%)

**Initial target 1Mt**

**5 year target 8Mt**

WEC has an agreement to build up to 8Mtpa at Buckskin's mine in the Powder River Basin. Work to date has involved modifying the Indonesian design to meet US regulations. The next step is to make submissions for environmental permits by mid 2010. These could take 12 months to get approved, and in that time the project team will move its focus to construction planning activities. Initially one plant will be built and funded 100% by WEC. It could cost US\$80m and be financed with 60% debt and 40% equity, so WEC's equity contribution would be US\$32m. Construction could commence in mid 2011, and be ready for commissioning in mid 2012. Longer term there is a target to reach 8Mtpa, and this will be reached as quickly as finance can be arranged.

**Initial target 1Mt**

**5 year target 20Mt**

**PEABODY (WEC 55%, PEABODY 45%)**

WEC has an agreement to build up to 20Mtpa with Peabody in the Powder River Basin. The WEC team in the US has been focused on design and permitting in conjunction with the Buckskin project and the approvals of permits dictate the timetable. In conjunction, Peabody has its own project team and has set aside a sizable resource specifically for the 20Mtpa project. The timing for the first plant would be similar to that of Buckskin with completion in mid 2012.

Longer term there is a target to reach 20Mtpa, and this will be reached as quickly as finance can be arranged. Again this sounds like an aggressive target, but similar to PT Bayan, Peabody has recognised the additional value the WEC technology can bring to its lower valued resources and has set aggressive rollout targets.

**RIVER ENERGY JV (WEC 51%, BLACK RIVER 49%)**

**5 year target 2Mt**

This JV is focussed on opportunities in Africa to briquette coal fines. Coal washing operations in the Waterberg are less efficient than in Australia, and there is a higher level of wastage in the form of coal fines. As the WEC process involves crushing, drying and briquetting coal, the coal fines could easily be processed through a modified plant and sold as top quality thermal coal. We do not believe a specific site has been chosen yet, but WEC is confident that there is sufficient interest to have at least 2 plants operational within the next 5 years.

**Potential production profile**

We have summarised our quantitative discussion above into the table below to show how capacity and production could grow over time. Initially the rollout will be slow, with permitting the real bottleneck in the US. This could be accelerated if the Kentucky plant is approved, but we haven't considered that here. Under our assumptions the production rate won't be at the targeted 45Mtpa until 2018. However, once the first plant is built in each location, there are few limitations to building more. Everything is in place, the design, the resource, the market, the only limitation is funding. Timely funding could accelerate the build-out. Which leads us to our next topic .....

Figure 5 – Potential production profile

FY		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
PT Kaltim Supacoal	51%	0.00	0.90	2.75	5.00	9.00	12.00	15.00	15.00	15.00	15.00	15.00
Buckskin	100%				0.90	1.90	4.00	7.00	8.00	8.00	8.00	8.00
Peabody	55%				0.90	4.50	8.00	13.50	18.00	20.00	20.00	20.00
Black River JV	25%				1.50	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Total (100%)		0.00	0.90	2.75	8.30	17.40	26.00	37.50	43.00	45.00	45.00	45.00
Equity (WEC's share)		0.00	0.46	1.40	4.32	9.47	15.02	22.58	26.05	27.15	27.15	27.15

SOURCE: SOUTHERN CROSS EQUITIES ESTIMATES

**Strong interest from customers = a large capex requirement**

Each 1Mtpa module is expected to cost approximately US\$40m in Indonesia (excluding US\$15m for a power plant) and US\$80m in the US with local variations, with WEC's share of capex being 51-100% depending on the agreement. If we consider the 5 year plan to reach 45Mtpa, we expect WEC's share of capex to be approximately A\$2.2bn (Figure 6).

We expect this to be funded using a 60:40 debt:equity ratio for the initial stage of each project, and then through internal cash flow once each project becomes self-funding. WEC's partners are large well established producers with substantial financial backing, which should assist in attracting funding.

**Figure 6 – Funding requirements for the next 44 plants**

JV	1Mtpa modules	Capex US\$m	WEC Share	US\$m	A\$m (90¢)	Debt funded	Equity Funded
Peabody	20	80	55%	880	978	587	391
KSC	4	55	51%	112	125	75	50
KSC	10	55	51%	281	312	187	125
Buckskin	8	80	100%	640	711	427	284
River Energy	2	70	17%	24	27	16	11
				<b>1937</b>	<b>2152</b>	<b>1291</b>	<b>861</b>

SOURCE: SOUTHERN CROSS EQUITIES ESTIMATES

### Short term, funding sufficient for 7 plants

In the near term, the priorities are the financing of KSC's expansion at Tabang to 5Mtpa, and the initial plant with Buckskin and Peabody.

Standard Chartered Bank has been appointed as financial advisor for the establishment of a funding facility for the Tabang expansion of another 4 plants. The funding package has been structured to cover a 5 plant parcel with the first already built, and its capex (c.US\$80m), counted in the overall equity contribution required. We have determined that WEC's outstanding contribution should be US\$ 20m (A\$22m) (Figure 7) to cover the additional 4Mtpa expansion.

### Current cash A\$117m

WEC's share of the equity component of the capex for a Bucksin plant should be A\$35m, and A\$20m for the Peabody plant. All these plants could be funded from current cash of \$117m, boosted by the \$100m equity raising in November 2009 (Figure 8). Although that assumes that the convertible bonds are back in the money and don't need to be paid out. If the share price fails to reach this level of \$3.32, further funding would be required to cover all the debt commitments and the funding for the 7 plants.

**Figure 7 – Funding for the next 4 plants at Tabang**

	US\$m
<b>Tabang 5 plants</b>	
First Plant	80
4 new plants	220
<b>Total</b>	<b>300</b>
Debt 60%	180
Equity 40%	120
Equity contributed	80
Equity outstanding	40
WEC contribution US\$m	20

SOURCE: SCE
**Figure 8 – Balance Sheet / Uses of cash**

	A\$m
<b>Balance Sheet</b>	
Cash	117
Convertible Notes	45 7.9% Convertible at \$3.32 on 12/10/2012
BHP Loan Facility	11 Payable by August 2011
Working Capital for Tabang	10 US\$m off balance sheet with KSC
<b>Uses of cash CY210/CY11</b>	
Cash	117
License fees	6
Corp/devel/interest	-30 A\$15p.a. Running costs
BHP Loan facility	-11
Bayan expansion contribution	-22 US\$20m each funds 4 more plants
Buckskin Plant	-36 US\$80m 40% equity 90¢
Peabody Plant	-20 US\$80m 40% equity 55% share 90¢
<b>Total</b>	<b>5</b>

SOURCE: SCE

### Longer term, fund through cash flow or additional equity

Once there is one plant in place at each of the locations, there is no limit to the rollout schedule other than funding. Eventually the plants will become self funding, with a payback of less than two years each. However, with an aggressive target to reach 45Mtpa of capacity in 5 years, some additional equity funding may be required. Using our potential production profile we estimate that WEC could need the following for equity contributions to fast track the rollout within each JV; \$12m for the Black River JV in mid 2011, minimal for KSC, A\$250m for Buckskin in mid 2012, and A\$250m for Peabody in mid 2012.

# Significant value upside long term

## Updated valuation >\$17/share

Our valuation continues to evolve as the priorities change amid a large pool of options. We have updated our valuation scenarios, now covering the initial 7 plant target, and the 5 year plan, and accounting for the recent equity raising which replaced the proposed ASSAC deal. We use a fully diluted number of shares of 287m (compared to the 235m on issue) assuming that Peabody takes up its option to acquire 14.9%, although this does not happen for at least 12 months. Our valuation for the 5 year plan is \$17.35 and suggests significant upside from the current price. However it will take time for the rollout to really start accelerating and for the global footprint to become a reality. For a shorter term view we also look at a valuation for the first 7 plants which is \$4.85.

Figure 9 – DCF valuation – initial target of 7 plants

WEC	A\$m	A\$/sh	A\$/sh +1yr	A\$/sh +2yr
Bayan 5Mt (51%)	761	2.65	3.03	3.56
Buckskin 1Mt (100%)	451	1.57	1.53	1.67
Peabody 1Mt (55%)	106	0.37	0.41	0.54
Corporate	-145	-0.51	-0.50	-0.49
Options	157	0.55	0.55	0.55
Net Cash	62	0.22	0.08	-0.24
<b>Total</b>	<b>1392</b>	<b>4.85</b>	<b>5.10</b>	<b>5.58</b>

SOURCE: SOUTHERN CROSS EQUITIES ESTIMATES

Figure 10 - DCF valuation – Current 5 year development concept

WEC	A\$m	A\$/sh	A\$/sh +1yr	A\$/sh +2yr
KSC 15Mt (51%)	2063	7.19	8.04	9.05
Peabody 20Mt (55%)	1585	5.53	6.08	6.78
Buckskin 8Mt (100%)	1050	3.66	4.03	4.60
Black River 2Mt (51%)	204	0.71	0.78	0.86
Sub Total	4902	17.09	18.93	21.30
Corporate	-145	-0.51	-0.50	-0.49
Options	157	0.55	0.55	0.55
Net Cash	62	0.22	0.08	-0.24
<b>Total</b>	<b>4976</b>	<b>17.35</b>	<b>19.07</b>	<b>21.12</b>

SOURCE: SOUTHERN CROSS EQUITIES ESTIMATES

## Pricing like a coal stock

With WEC's imminent transformation into a producing coal stock (albeit with no resources of its own), we consider pricing it against its coal producing peers. WEC has the target of reaching 45Mt of capacity in 5 years. That equates to 27Mtpa of attributable coal capacity, with an average EBITDA of US\$40m at current coal prices.

We consider the comps table (Figure 11) below of some aussie pure plays. First we notice that even the largest coal stock, CNA has less equity production than then 28Mtpa that WEC is planning. We also see that producing coal stocks are trading on an average EV/production of 0.37x, and an average price/cashflow multiple of 11x next year.

Figure 11 – Aussie pure play coal comps

		Price	Market Cap	EV	P / CFPS		P/E		Production	EV/Production
		A\$	A\$Bn	A\$Bn	this year	next year	this year	next year	2011	
COAL & ALLIED	CNA.AU	81.00	7.01	6.53	14	9	16	11	20	0.33
NEW HOPE	NHC.AU	4.42	3.66	2.26	-7	19	21	22		
AQUILA RESOURCES	AQA.AU	10.22	3.29	3.00	108	44	-386	69		
MACARTHUR COAL	MCC.AU	11.35	2.89	2.70	24	11	27	14	4	0.69
WHITEHAVEN COAL	WHC.AU	4.66	2.27	2.06	25	21	35	20	5	0.42
RIVERSDALE MINING	RIV.AU	8.21	1.61	1.42	373	86	-684	148		
CENTENNIAL COAL	CEY.AU	3.92	1.54	1.79	9	6	22	12	15	0.12
GLOUCESTER COAL	GCL.AU	9.41	0.77	0.73	14	10	19	11	2	0.30
COCKATOO COAL	COK.AU	0.38	0.23	0.20	-15	-75				
						11				0.37

SOURCE: BLOOMBERG AND SCE ESTIMATES

We have used these multiples to show where WEC could be trading once it reaches its production targets. The production multiple suggests that comparable value is \$35, and the cash multiple suggests that comparable value is \$52. Of course this could be several years away, as we don't expect this level of production to be reached until 2018. However, we also show the implied price at each production level over time. With 5 plants installed at Tabang, and this project should be announced mid year, the stock is worth \$4.17 using an average of the implied prices.

Figure 12 - WEC implied share price using coal comps

Production Level	Attrib. Sales Mt	EBITDA A\$m	Production Multiple	Implied EV A\$bn	Implied Price A\$/sh	Cash Multiple	Implied EV A\$bn	Implied Price A\$/sh	Average Implied Price A\$/sh
5 at Tabang	2.60	130	0.37	0.96	3.35	11	1.43	4.98	4.17
7 funded plants	4.10	205	0.37	1.52	5.29	11	2.26	7.86	6.57
"5 year" plan	27.15	1358	0.37	10.05	35.00	11	14.93	52.03	43.52
2010	0.00	0	0.37	0.00	0.00	11	0.00	0.00	0.00
2011	0.46	23	0.37	0.17	0.59	11	0.25	0.88	0.74
2012	1.40	70	0.37	0.52	1.81	11	0.77	2.69	2.25
2013	4.32	216	0.37	1.60	5.57	11	2.38	8.28	6.92
2014	9.47	473	0.37	3.50	12.20	11	5.21	18.14	15.17
2015	15.02	751	0.37	5.56	19.36	11	8.26	28.78	24.07
2016	22.58	1129	0.37	8.35	29.10	11	12.42	43.26	36.18
2017	26.05	1303	0.37	9.64	33.58	11	14.33	49.92	41.75
2018	27.15	1358	0.37	10.05	35.00	11	14.93	52.03	43.52

SOURCE: SOUTHERN CROSS EQUITIES ESTIMATES

## Catalysts

Over the next 12 months we expect the following milestones

- First sales of KSC Tabang product in April 2010
- KSC Tabang plant at full capacity July 2010
- Decision by KSC to expand Tabang to 5 plants by July 2010 and commencement of construction in H2 2010
- Submission of permits for US plants July 2010

Another catalyst should be the addition of WEC to the S&P/ASX 300 index announced on 5 March 2010.

## Investment View

WEC has underperformed its coal peers. We believe this is due to the delay in getting to full production at Tabang, and making the first sales, which would demonstrate the commerciality of the technology. We expect that the first sales in April will be a key catalyst for a re-rating.

We have shown that the stock could be worth greater than \$17 under the current roll-out plan. But in the mean time with only one plant in place, and a slow initial roll-out we considered the near term plans to set our price target, specifically:

- 5 plant 12 month DCF - \$3.17
- 7 plant 12 month DCF - \$5.10
- 5 plant coal comps - \$4.17
- 7 plant coal comps - \$6.57

We have shown that 7 plants can be funded, but only 5 will have been approved in the next 12 months, so we have set a price target of \$4.00.

# White Energy

## Company Description

White Energy Company is the exclusive worldwide license holder of the patented White Coal Technology, a mechanical process which uses drying and briquetting to convert poor quality coal into a higher value, cleaner product. The low cost process allows WEC and its partners to take advantage of the price differential between low and high quality coals.

White Energy has reached agreements with major coal producers globally to commercialise the technology. A 1Mtpa module has been constructed in Indonesia in a JV with Bayan Resources (WEC 51%). Agreements have been reached to build an initial 1Mtpa module in partnership with Peabody in the US, Adaro/Itochu in Indonesia, Datang in China, and Buckskin in the US. All partners have expressed interest in growing capacity rapidly beyond the initial level. The current priorities are expanding the Bayan capacity to 5Mtpa, obtaining permits for the first module at Buckskin, and finalising arrangements with Peabody by mid 2010.

## Investment Strategy

We rate White Energy a Speculative Buy with a target price of A\$4.00. The Bayan module is due to be in full production by end July 2010, and the first coal sale is expected to be a key catalyst for the stock's performance over the next 12 months.

## Valuation

Our valuation for 7 Mtpa of capacity is A\$4.85, and for 45Mtpa of capacity is A\$17.35.

## Risks

Risks include, but are not limited to:

- **Protection of Intellectual Property.** White Energy has patent protection over the drying and briquetting (mechanical) technology which is valid for another 16 years. However we do acknowledge that this does not provide guaranteed protection over intellectual property. We believe WEC has a five year window in which to establish the White Coal Technology in the market place before competitors may emerge, and capitalising quickly on the first mover advantage should be the best defence.
- **Funding.** WEC has funding to support 7Mtpa of capacity. Thereafter, debt equity, and cash flow funding are options.
- **Technology.** We believe the process risks are minimal given that a 90kt commercial scale plant is already operating in Cessnock and this is representative of the design and construction of a full scale plant. The upsize to a 1Mtpa plant involves adding a larger number of discrete briquetting units in parallel which minimises any upscale risk.
- **Altering the coal supply/demand dynamics.** The size of the seaborne thermal coal market is currently 700Mt, hence the planned 14Mt capacity should have a minimal impact on the supply dynamics and prices. Product from the US plant is for the domestic market.

## WEC Chart Pack

Figure 13 – Simplistic comparison of coals

	Bituminous Coal	Sub-bituminous Coal	White Coal
Age	Older	Younger	
Moisture Content	Lower	Higher	Lower
Energy Content	Higher	Lower	Higher
Pollutants	Higher	Lower	Lower
Price	Higher	Lower	Higher
Market	Export	Domestic	Export

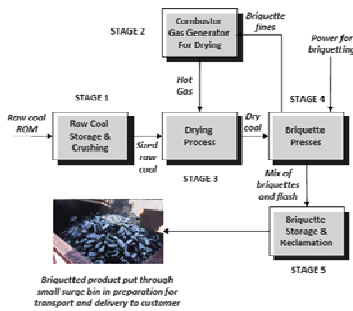
SOURCE: SCE

Figure 14 – Tabang Plant commissioned



SOURCE: COMPANY

Figure 15 – White Coal process



SOURCE: COMPANY

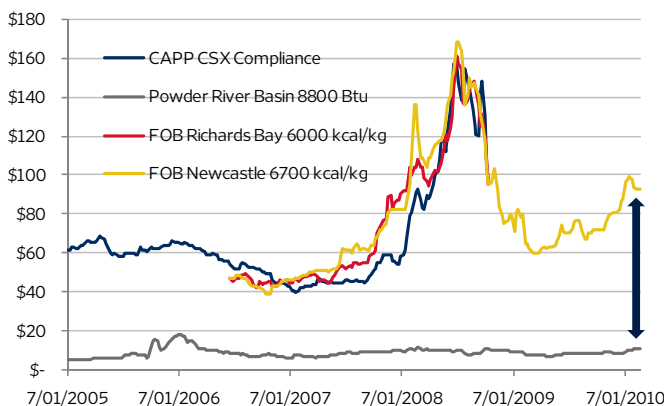
Figure 16 – White Coal Economics in US\$

	Indonesia	Buckskin	Peabody
Capex US\$m*	55.00	80.00	80.00
Input cost coal / upgraded tonne	12.60	18.50	18.50
Processing Cost	6.00	10.00	10.00
Transport/Maintenance	15.00	6.00	6.00
Total Cost	33.60	34.50	34.50
Margins at Sales price US\$/t			
50	16.40	15.50	15.50
60	26.40	25.50	25.50
70	36.40	<b>35.50</b>	<b>35.50</b>
80	46.40	45.50	45.50
90	<b>56.40</b>	55.50	55.50
100	66.40	65.50	65.50
EBITDA Margin at current prices	168%	103%	103%
Years payback at current prices	0.98	2.25	2.25
WEC share	51%	100%	55%

\* Inc. power plant for Indonesia

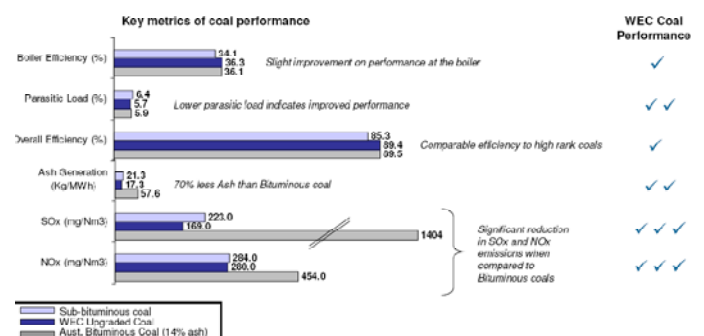
SOURCE: SCE

Figure 17 – Coal price arbitrage



SOURCE: BLOOMBERG

Figure 18 – White Coal is more efficient and has lower contaminants



SOURCE: WEC

Table 1 - Financial summary

White Energy (WEC)						Share price:					2.15
As at		6-Mar-10				Market Cap (diluted shares):					\$ 617
<b>PROFIT AND LOSS (A\$m)</b>						<b>VALUATION DATA</b>					
<b>Y/e June 30</b>	<b>2009a</b>	<b>2010f</b>	<b>2011f</b>	<b>2012f</b>	<b>2013f</b>	<b>Y/e June 30</b>	<b>2009a</b>	<b>2010f</b>	<b>2011f</b>	<b>2012f</b>	<b>2013f</b>
Sales revenue	0	0	53	189	596	Net profit adj (A\$m)	-28	-13	10	64	218
EBITDA	-18	-16	16	102	348	EPS (c)	-17	-5	4	23	76
Depreciation	-4	0	-1	-4	-17	EPS growth (%)	13	-1	-2	5	2
<b>EBIT</b>	<b>-22</b>	<b>-16</b>	<b>15</b>	<b>98</b>	<b>332</b>	P/E ratio (x)	na	na	54	9	3
Net Interest Expense	-2	-2	-1	-6	-20	CFPS (c)	na	-7	4	24	82
Pre-tax profit	-27	-18	14	92	312	Price/CF (x)	na	na	48	9	3
Tax	0	5	-4	-28	-93	DPS (c)	0	0	0	0	0
Net Profit	-27	-13	10	64	218	Yield (%)	0	0	0	0	0
Adjustments	-1	0	0	0	0	Franking (%)	0	0	0	0	0
<b>SCEQ adj profit</b>	<b>-28</b>	<b>-13</b>	<b>10</b>	<b>64</b>	<b>218</b>	EV/EBITDA	na	na	36.3	6.9	2.8
One-off items	0	0	0	0	0	EBITDA margin (%)	na	na	31	54	58
<b>Reported net profit</b>	<b>-28</b>	<b>-13</b>	<b>10</b>	<b>64</b>	<b>218</b>						
<b>CASHFLOW (A\$m)</b>						Valuation per share:					
<b>Y/e June 30</b>	<b>2009a</b>	<b>2010f</b>	<b>2011f</b>	<b>2012f</b>	<b>2013f</b>	<b>A\$ Target price (12 mth):</b>					<b>4.00</b>
Receipts from customers	1	0	53	190	596	<i>Total Return (including yield)</i>					<b>86%</b>
Payments to suppliers	-15	-19	-37	-88	-248	<b>PROFITABILITY RATIOS</b>					
Net interest	-4	-1	-1	-6	-20	<b>Y/e June 30</b>	<b>2009a</b>	<b>2010f</b>	<b>2011f</b>	<b>2012f</b>	<b>2013f</b>
Tax paid	0	2	-4	-28	-93	EBITDA/sales (%)	na	na	31	54	58
Other	0	0	0	0	0	EBIT/sales (%)	na	na	28	52	56
<b>Operating cashflow</b>	<b>-18</b>	<b>-18</b>	<b>11</b>	<b>69</b>	<b>235</b>	Return on assets (%)	na	na	3	10	17
Capex	-77	-10	-81	-282	-519	Return on equity (%)	-34	-7	4	16	35
Investments	0	0	0	0	0	Return on funds empl'd (%)	-24	-10	5	13	22
Asset sales	0	0	0	0	0	Dividend cover (x)	0	0	0	0	0
Other	-3	0	0	0	0	Effective tax rate (%)	0	30	30	30	30
<b>Investing cashflow</b>	<b>-79</b>	<b>-10</b>	<b>-81</b>	<b>-282</b>	<b>-519</b>	<b>LIQUIDITY AND LEVERAGE RATIOS</b>					
Change in borrowings	44	-5	-10	100	456	<b>Y/e June 30</b>	<b>2009a</b>	<b>2010f</b>	<b>2011f</b>	<b>2012f</b>	<b>2013f</b>
Equity raised	37	126	44	106	0	Net debt/(cash) (\$m)	32	-51	-26	82	366
Dividends paid	0	0	0	0	0	<b>Net debt/equity (%)</b>	38	-29	-11	20	59
Other	10	-11	0	0	0	Net interest cover (x)	-5	-8	19	17	16
<b>Financing cashflow</b>	<b>90</b>	<b>110</b>	<b>34</b>	<b>206</b>	<b>456</b>	Current ratio (x)	1	4	3	3	8
<b>Net change in cash</b>	<b>-7</b>	<b>82</b>	<b>-36</b>	<b>-8</b>	<b>172</b>	<b>VALUATION (10% d.r.)</b>					
<b>Cash at end of period</b>	<b>26</b>	<b>109</b>	<b>73</b>	<b>65</b>	<b>236</b>	WEC	A\$m	A\$/sh	A\$/sh +1yr	A\$/sh +2yr	
<b>BALANCE SHEET (A\$m)</b>						KSC 15Mt (51%)	2063	7.19	8.04	9.05	
<b>Y/e June 30</b>	<b>2009a</b>	<b>2010f</b>	<b>2011f</b>	<b>2012f</b>	<b>2013f</b>	Peabody 20Mt (55%)	1585	5.53	6.08	6.78	
Cash	26	105	69	61	233	Buckskin 8Mt (100%)	1050	3.66	4.03	4.60	
Receivables	13	13	13	13	13	Black River 2Mt (51%)	204	0.71	0.78	0.86	
Inventories	0	0	0	0	0	<b>Sub Total</b>	<b>4902</b>	<b>17.09</b>	<b>18.93</b>	<b>21.30</b>	
Investments	0	0	0	0	0	Corporate	-145	-0.51	-0.50	-0.49	
Other	0	0	0	0	0	Options	157	0.55	0.55	0.55	
<b>Current assets</b>	<b>39</b>	<b>118</b>	<b>82</b>	<b>74</b>	<b>246</b>	Net Cash	62	0.22	0.08	-0.24	
PPE	128	142	222	500	1002	<b>Total</b>	<b>4976</b>	<b>17.35</b>	<b>19.07</b>	<b>21.12</b>	
Investments	0	0	0	0	0	<b>SEGMENTALS</b>					
Intangibles	53	53	53	53	53	<b>Base Case Production</b>	<b>2009a</b>	<b>2010f</b>	<b>2011f</b>	<b>2012f</b>	<b>2013f</b>
Other	1	1	1	1	1	<b>Briquettes Mt (100%)</b>					
<b>Non-current assets</b>	<b>182</b>	<b>196</b>	<b>276</b>	<b>554</b>	<b>1056</b>	Black River	0.0	0.0	0.0	0.0	1.5
<b>Total assets</b>	<b>222</b>	<b>314</b>	<b>358</b>	<b>628</b>	<b>1302</b>	KSC	0.0	0.0	0.9	2.8	5.0
Payables	30	30	30	30	30	Buckskin	0.0	0.0	0.0	0.0	0.9
Debt	58	53	43	143	599	Peabody	0.0	0.0	0.0	0.0	0.9
Provisions	52	52	52	52	52	Total (Mt)	0.0	0.0	0.9	2.8	8.3
Other	0	0	0	0	0	<b>ASSUMPTIONS</b>					
<b>Total liabilities</b>	<b>139</b>	<b>134</b>	<b>124</b>	<b>224</b>	<b>680</b>	<b>Y/e June 30</b>	<b>2009a</b>	<b>2010f</b>	<b>2011f</b>	<b>2012f</b>	<b>2013f</b>
Shareholders' equity	82	180	234	404	622	A\$	0.75	0.91	0.93	0.83	0.75
Minorities	0	0	0	0	0	Raw Coal - Indo (US\$/t)	9	9	9	9	9
<b>Total shareholders funds</b>	<b>82</b>	<b>180</b>	<b>234</b>	<b>404</b>	<b>622</b>	Raw Coal - US (US\$/t)	13	13	13	13	13
<b>Total funds employed</b>	<b>114</b>	<b>128</b>	<b>208</b>	<b>486</b>	<b>988</b>	Realised price - Buckskin	61	61	61	61	61
W/A diluted shares on issue	146	235	246	272	287	Export Thermal (US\$/t)	118	73	91	95	95

SOURCE: SOUTHERN CROSS EQUITIES ESTIMATES

**Recommendation structure**

Spec Buy: Expect >30% total return on a 12 month view but carries significantly higher risk than its sector

Buy: Expect >15% total return on a 12 month view

Accumulate: Expect total return between 0% and +15% on a 12 month view

Reduce: Expect -15% and 0% total return on a 12 month view

Sell: Expect <-15% total return on a 12 month view

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Southern Cross Equities Ltd and its associates hold 414,000 shares and 2,000,000 options in WEC as at the date of this report. This position is subject to change without notice.

Disclosure: SCE acted as a manager of a placement of 36.7m shares to raise A\$55m in May 2009, and 41.6 shares to raise A\$100m in November 2009 and received a fee. F. Grose owns 2000 shares in WEC.