INDIA

Power

Reliance Power

Initiation **12 March 2009**

Buy

Target Price: Rs140

CMP: Rs92*

Upside: 52%

**as on 9 March 2009*

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Stepping-up power

- **Huge potential upside:** We believe Reliance Power (RPower) is well-placed to capitalise on the emerging opportunities in the power sector. The stock currently trades close to its bear-case value of Rs90, which would be rewarding in the long-term, considering the huge 207% potential upside in our best case scenario.
- **Rs120bn cash in books, internal accruals adequate to fund 21GW capex:** About Rs120bn cash combined with internal accruals from initial projects and treasury gains should be adequate to fund its 21GW capex plan. We expect the Rosa (Phases 1 and 2), Butibori, Sasan, Krishnapatanam, Dadri and Tilaiya projects to be funded without resorting to equity dilution.
- **Projects are fundable, nearing financial closure:** RPower's projects have equity support, tied-up fuel requirements, received requisite clearances and in most cases completed land acquisition. We believe these factors give RPower projects good chance to complete financial closure at the earliest.
- **Projects are profitable; provide high IRR:** We estimate the equity IRR of Sasan and regulated projects at around 18% and that of Krishnapatanam and Tilaiya UMPPs at about 25%. Based on a tariff of Rs2.5/unit, the Chitrangi and Dadri projects have an estimated IRR of about 50%.
- **2bn tonne excess coal reserves a significant value add:** We believe the excess 1bn tonne reserves from the coal mines allocated to it for the Sasan and Tilaiya projects and the additional 1bn tonne coal reserves from its Indonesian mines are a significant value add.
- **Base case valuation gives target price of Rs140:** Based on our base case valuation, we arrive at a target price of Rs140 using DCF methodology. The stock has limited downside from here, but the upside potential is 207% in a best case scenario.
- **Risks:** Key risk is delay in achieving financial closure of projects. Failure to tie-up gas supply for Dadri plant would impact estimates as this project alone adds Rs39 per share in our base case value of Rs140.

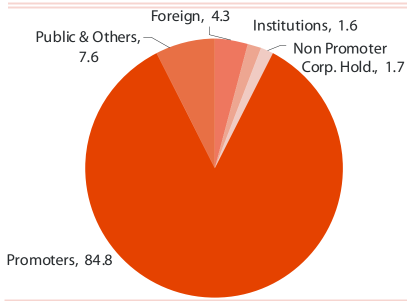
Key Data

Bloomberg Code	RPWR IN
Reuters Code	RPOL
Current Shares O/S (mn)	2,396.8
Diluted Shares O/S(mn)	2,396.8
Mkt Cap (Rsbn/USDbn)	220.5/4.3
52 Wk H / L (Rs)	310/81
Daily Vol. (3M NSE Avg.)	34,62,622
Face Value (Rs)	10

1 USD = Rs51.9

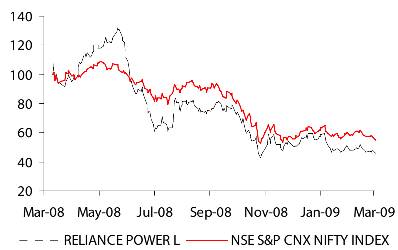
*Source: Bloomberg ; * As on 9 March 2009*

Shareholding Pattern



As on 31st December 2008

One Year Indexed Stock Performance



Price Performance (%)

	1M	6M	1Yr
RPL	(10.5)	(45.6)	(56.3)
NIFTY	(10.3)	(41.4)	(45.1)

Source: Bloomberg, Centrum Research
** as on 9 March 2009*

Y/E Mar (Rsmn)	Rev	YoY (%)	EBITDA	EBITDA (%)	Adj PAT	YoY %	Fully DEPS	RoE (%)	RoCE (%)	P/E (x)	P/B(x)
FY08	-	-	(212)	-	666	-	0.3	0.5	0.7	331.2	1.6
FY09E	-	-	(727)	-	5,289	694.4	2.2	3.8	3.4	41.7	1.6
FY10E	-	-	(897)	-	4,616	(12.7)	1.9	3.2	2.3	47.8	1.5
FY11E	4,379		1,234	28.2	3,940	(14.6)	1.6	2.7	1.9	56.0	1.5
FY12E	25,688	486.6	13,674	53.2	7,673	94.7	3.2	5.1	3.9	28.7	1.4

Source: Company, Centrum Research

Shareholding Pattern (%)

	Q408	Q109	Q209	Q309
Promoter	89.9	84.8	84.8	84.8
Foreign	3.7	4.7	4.0	4.2
Institutions	0.8	1.1	1.5	1.6
Public & Others	5.6	9.4	9.7	9.5
Total	**100.0**	**100.0**	**100.0**	**100.0**

Projects in pipeline

(MW)	
Rosa 1	600
Butibori	300
Rosa 2	600
Sasan	3,960
Krishnapatanam	4,000
Dadri	7,500
Tilaiya	3,960
Chitrangi	4,000
Total	**24,920**

Source: Centrum Research

Company Background

Reliance Power (RPower) is one of the leading private sector power-generating utilities in India. It is a part of the Anil Dhirubhai Ambani Group and was established to develop and operate power projects. The company along with its subsidiaries is developing 14 large and medium-sized power projects with a total installed capacity of 32 GW. The company won the bid for three of the four ultra mega power projects (UMPPs) tendered. It has bought stake in coal mines in Indonesia through its subsidiary, Reliance Coal Resources. The company came out with an IPO in February 2008.

Key events/timeline

1995	Originally incorporated as Bawana Power Pvt Ltd
2004	Converted to a public company
2005	Entered an MoU with the Maharashtra government for setting up a 1,200MW thermal power plant at Shahapur
2006	Acquired RPSCL from Aditya Birla Power Supply Company which was setting up a 1,200MW coal-based power plant at Rosa in Uttar Pradesh
Aug 2007	Acquired SPL from Power Finance Corporation which is setting up a 3,960MW pithead power plant at Sasan, Madhya Pradesh
Nov, 2007	Awarded the letter of award for Krishnapatanam UMPP in Andhra Pradesh
Feb, 2008	Launched IPO, raised ~Rs115.6bn
Jan,2009	Won the bid for Tilaiya UMPP in Jharkhand

Source: Company

Key management personnel

Name	Position	Profile
Mr J Chalsani	Chairman & Managing Director	He is an engineer with over 26 years' experience. He has worked with NTPC and Reliance Energy. He was director in Reliance Energy Jan 2003 to Jan 2008. He is also on the board of Hirma Power, Reliance Energy Trading, BSES Rajdhani Power, Utility Powertech, Jayamkondam Power, Matrix Innovation and Coastal Andhra Power.
Mr. Kakaraparthy Krishnamurthy	Heads -Operations & Maintenance	He has a total experience of 38 years and had stints in SAIL and NTPC in O&M and commissioning activities before joining Reliance Energy in 1998. In Reliance, he was heading the Business Unit of Samalkot Gas project from concept to commercial activities
Mr. K Prakasa Rao	Project Director - Krishnapatanam UMPP	He is a former Executive Director (Engineering) of NTPC and has over 34 years of experience in power project execution and engineering activities. He is a Mechanical Engineer from Regional Engineering College, Warangal. He joined the Company in February 2008
Mr. Jean Filet	Project Director - Sasan UMPP	He is a French national and was working with Alstom prior to joining Reliance Power in 2008. He has over 30 years of experience experience in setting up power projects across the world in various countries including China
Mr. G. Amudhan	Project Head- Rosa Power Project	He is a mechanical engineer and holds a Post Graduate Diploma in Business Administration. He has over 30 years of experience in the power sector and in construction, testing and commissioning of thermal power projects. He joined Reliance in January 2007 and has worked with NTPC for almost 30 years.
Mr. V K Singh	President - Domestic Coal	He has 37 years of experience with Coal India Ltd. He has served for 3 years as Chairman and Managing Director of Northern Coal Fields Ltd and prior to that another 4 years as Director of Central Coalfields Ltd.
Mr. G Ramachandra	Project Head - Butibori	Group captive Power project. He has 27 years of experience in project execution and management and was working with NTPC prior to joining Reliance Power in 2008.
Mr. Jagat Paikara	Head - Coal Planning	He is a Master of Technology in Mining Engineering from Moscow Mining Institute, Russia. He has more than 28 years of experience with Coal India Ltd in prospecting and exploration & opencast mine planning He has conceptualised and executed more than 25 coal projects of capacity ranging from 3 MTPA to 35 MTPA.
Mr Ashwani Kumar	Head – Business Development	A mechanical engineer and MBA from IIM, Bangalore. He is an alumnus of Harvard Business School. He has over 17 years of experience in investment banking, project finance, business development and commercial matters. He has been with REL since 2004.

Source: Company

Investment Rationale

- RPower is a long-term bet on the emerging opportunities in the power sector
- Despite projects being at nascent stages, we are positive on the stock because its projects have equity backup and fuel linkages, which are critical for achieving financial closure
- Cash in hand, including internal accruals, enough to meet the equity requirement of 21GW projects including 7.5GW Dadri
- In the best case scenario, we have factored in the potential value from the excess reserves linked to UMPPs, which in our opinion is ~Rs142/share above the Rs140 base case target price

Scenario-based valuation

Rs/sh	Bear Case	Base Case	Best Case
Cash	54.8	54.8	54.8
Rosa 1	0.6	0.6	0.6
Butibori	8.9	8.9	8.9
Rosa 2	7.0	7.0	7.0
Sasan	3.0	3.0	3.0
Krishnapatanam	15.3	15.3	15.3
Tilaiya		11.3	11.3
Dadri		39.1	39.1
Chitrangi			58.4
Tilaiya - II			68.9
Indonesia coal reserve			14.4
Total value/sh	**90**	**140**	**282**

Note: Tilaiya –II is the potential 8GW capacity from excess reserves
Source: Company, Centrum Research

Summary Financials

Y/E March (Rsmn)	FY08	FY09E	FY10E	FY11E
Key Income Statement				
Revenue	-	-	-	4,379
Operating profit	(212)	(727)	(897)	1,234
Operating margin (%)	-	-	-	28.2
Depreciation	-	-	-	593
Interest expenses	-	-	-	1,057
Other non operating income	1,328	6,387	5,895	4,878
PBT	921	5,660	4,998	4,462
Provision for tax	68	371	383	522
PAT (adjusted)	666	5,289	4,616	3,940
YoY growth (%)	-	*694.4*	*(12.7)*	*(14.6)*
PAT margin (%)	-	-	-	90.0
Key CF Statement				
Cash generated from operations	(637)	(2,850)	(4,361)	(2,244)
Cash flow from investing	(123,149)	(18,607)	(37,447)	(60,515)
Cash flow from financing	128,038	24,271	41,443	66,894
Net cash increase/decrease	4,253	2,814	(365)	4,135
Key Balance Sheet Data				
Shareholders' fund	135,334	140,623	145,238	148,391
Debt	4,483	31,598	79,037	157,735
Minority Interest	0	11	24	38
Total Capital Employed	139,817	172,232	224,299	306,464
Fixed Assets	10,310	45,158	107,177	209,951
Investments	131,234	124,234	111,565	83,565
Net current assets	(1,727)	2,840	5,557	12,947
Total Assets	139,817	172,232	224,299	306,464
Key Ratio				
ROCE	0.7	3.4	2.3	1.9
ROIC	(53.0)	(27.1)	(14.2)	3.0
ROE	0.5	3.8	3.2	2.7
Per share Ratios (Rs)				
Fully diluted EPS	0.3	2.2	1.9	1.6
Book value	56.5	58.7	60.6	61.9
Solvency Ratio (x)				
Debt-equity	0.0	0.2	0.5	1.1
Interest coverage ratio	-	-	-	5.2
Valuation parameters(x)				
P/E (Fully Diluted)	331.2	41.7	47.8	56.0
P/BV	1.6	1.6	1.5	1.5

Source: Company, Centrum Research

Revenue from the first project - Rosa Ph-1 - operational from FY11E

Treasury gains assumed at 5% of cash and cash equivalents

Investment Argument

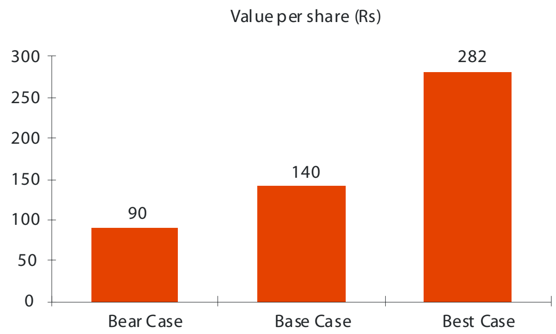
Huge potential upside

The stock currently trades close to its bear case value, and we believe it would be rewarding to buy at current levels. In our best case scenario, the stock provides 207% upside potential at a value of Rs282

Reliance Power (RPower) is well-placed to capitalise the emerging opportunities in the power sector, as visibility on the financial closure of its projects is slated to increase, in our view. We initiate coverage on the stock with a Buy rating and target price of Rs140, a 52% upside from current levels. The stock currently trades close to its bear case value, and we believe it would be rewarding to buy at current levels, based on our evaluation of three scenarios. On our best case scenario, the stock provides 207% upside potential at Rs282 per share. Here, we have factored in potential value of excess coal reserves attached to UMPPs. In a bear case scenario, wherein we have assumed only 9.5GW of the company's proposed 32GW project capacity for our estimates, we arrive at a value of Rs90 per share, which is a mere 2% downside from current levels.

Exhibit 1: RPower's valuation under three scenarios

Rs/Share	Bear Case	Base Case	Best Case
Cash	54.8	54.8	54.8
Rosa 1	0.6	0.6	0.6
Butibori	8.9	8.9	8.9
Rosa 2	7.0	7.0	7.0
Sasan	3.0	3.0	3.0
Krishnapatanam	15.3	15.3	15.3
Tilaiya		11.3	11.3
Dadri		39.1	39.1
Chitrangi			58.4
Tilaiya - II			68.9
Indonesia coal reserve			14.4
Total Value per share	**90**	**140**	**282**



Note: Tilaiya –II is the potential 8GW capacity from excess reserves
Source: Centrum Research

Projects in nascent stages – Yet, what makes us positive?

Most of RPower's projects, except for 600MW Phase 1 Rosa power project at Shahjahanpur in Uttar Pradesh, are still in nascent stages. Yet, we believe the company is well-placed to successfully implement the projects due to the following reasons:

1) The company has cash of Rs120bn which can fund at least 21 GW of projects. This is a significant value-add, considering the recent cancellations by other developers due to paucity of equity funds.

   a. All its projects (except the 7,840MW Dadri power project in Uttar Pradesh) have already firmed up fuel linkage. This is crucial, especially in a scenario where hundreds of private sector projects are awaiting coal linkages.

   b. Land acquisition formalities have been completed and environmental clearances obtained for almost all its projects.

2) We expect more than 17.5% equity IRR from all projects. For instance, we estimate an IRR of about ~17.5% and 18% from the 4,000MW Sasan power project in Madhya Pradesh and regulated projects respectively, 26.4% and 22.5% from the Krishnapatanam and Tilaiya projects respectively and 44.7% and 55.1% from the Dadri and Chitrangi projects respectively.

3) We see huge upside potential from the company's 2bn tonne excess coal reserves.

Exhibit 2: Capacity addition assumption under different scenarios

in MW	Bear Case	Base Case	Best Case
Rosa 1	600	600	600
Butibori	300	300	300
Rosa 2	600	600	600
Sasan	4,000	3,960	3,960
Krishnapatanam	4,000	4,000	4,000
Dadri		7,500	7,500
Tilaiya		3,960	3,960
Chitrangi			4,000
Tilaiya - II			8,000
Total	**9,500**	**20,920**	**32,920**

Note: Tilaiya –II is the potential 8GW capacity from excess reserves
Source: Company, Centrum Research

Projects are fundable…

Projects are fundable - nearing financial closure

The probability of RPower's projects receiving funding appears high and we expect these projects to achieve financial closure soon. Equity support, tied-up fuel requirements, requisite clearances and in most cases, completed land acquisitions make us sanguine on the prospects of RPower's projects seeing financial closure.

For our base case scenario, we have considered the 1.2GW Rosa (Phases 1 and 2), 300MW Butibori, 4GW Sasan, 4GW Krishnapatanam, 4GW Tilaiya and 7.5GW Dadri projects, which aggregate to 21GW. The company is currently developing Rosa Phase 1 and 2, Butibori, Sasan and Krishnapatanam projects aggregating 9.5GW. Only Phase 1 of the Rosa project has officially achieved financial closure and significant construction has already been done. Phase 2 of the Rosa project, Butibori, Sasan and Krishnapatanam projects are likely to achieve financial closure before the start of FY10. The fact that these projects have equity back-up, superior IRR, government clearances and fuel-linkages makes them less risky and more attractive for funding. In our opinion, delays in financial closure are primarily due to banks' risk-averse behaviour. Following the moves by the government and RBI to boost liquidity, we expect banks would eventually switch to the lending mode, once bond yields move closer to cost of funds.

Sufficient cash to fund 21GW capacity

The company's existing Rs120bn cash and cash equivalents on a consolidated basis as at end Dec 2008, along with internal resources generated from treasury income and cash flows from initial projects would be adequate in meeting its capex requirement for the 21GW projects.

The total fund requirement for the 21GW projects considered for our base case is about Rs760bn spread over next 7 years, of which about around Rs536.9bn would be funded through borrowings (net of repayment). We have assumed debt equity ratio of 75:25 for all the UMPPs and 80:20 for all the regulated projects as targeted by the company. The company is confident of achieving financial closure with debt-equity ratio of 75:25, the Sasan project for which almost 95% debt financing has been closed has a 75:25 debt-equity ratio. Even if we assume 70:30 debt-equity ratio for all projects, the net additional fund works out to just Rs25.7bn more, which can be comfortably met with the cash in hand and treasury income.

After considering the debt portion, the fund requirement for equity portion comes to Rs222.7bn spread over the next 7 years. A portion of these up to Rs20.9bn is likely to be met from the treasury gains from cash equivalents estimated assuming a yield of 5%, leaving a funding gap of Rs201.8bn. The gap in funding during each year is shown in the exhibit below. Post FY12, we expect the company to generate positive cash flows after meeting interest and dividend payments from projects like Rosa Ph-1, Butibori and Sasan and these cash would help to ease the fund requirement from FY13E. Therefore it becomes critical to check the funding gap in the first 4 years (FY09, FY10, FY11 and FY12). The company is likely to see positive operating cash flow from FY12E onwards. We estimate a net gap of Rs9.1bn, Rs22.9bn, Rs45.1bn and Rs36.7bn during FY09E to FY12E respectively aggregating to Rs113.8bn, which can be comfortably met from the current Rs120bn cash in the book.

Exhibit 3: Capex funding structure

Y/E Mar (Rsmn)	FY09E	FY10E	FY11E	FY12E	FY13E	FY14E	FY15E
Capex	**49,270**	**90,284**	**168,441**	**168,069**	**167,610**	**92,096**	**23,874**
Borrowing net of repayments	37,402	67,423	124,913	121,914	133,037	78,674	(26,423)
Cash required to meet equity portion	(11,868)	(22,861)	(43,528)	(46,154)	(34,573)	(13,422)	(50,297)
Treasury income (5% yield assumption)	6,312	5,612	4,037	1,887	637	663	1,714
Deficit cash	***(5,557)***	***(17,249)***	***(39,491)***	***(44,268)***	***(33,936)***	***(12,759)***	***(48,584)***
CF from op. net of div and int payment	(3,517)	(5,608)	(5,613)	7,535	37,120	70,943	96,893
Net cash required after CF operations	***(9,074)***	***(22,857)***	***(45,103)***	***(36,732)***	***3,184***	***58,184***	***48,310***
Sale of investments	10,000	18,000	45,000	41,000	9,000	-	-
Opening balance	4,270	5,196	339	235	4,503	16,687	74,870
Net Balance	***926***	***(4,857)***	***(103)***	***4,268***	***12,184***	***58,184***	***48,310***
Closing balance	**5,196**	**339**	**235**	**4,503**	**16,687**	**74,870**	**123,180**

Source: Company, Centrum Research

Fuel, land and clearances for projects are almost done

Except for the Dadri project, the company has tied-up fuel linkages for all other projects considered in base case scenario. In case of Dadri, we are of the opinion that the issue is currently related to only pricing and most probably RPower would receive ~35mmscmd from Reliance Industries (RIL) at ~$4.2/mmbut (total cost $5.7/mmbtu including transmission charges and taxes). All other projects have either a captive block or a coal linkage from Coal India (CIL). Except for the Tilaiya project, which was recently awarded, RPower has almost completed the land acquisition and received environmental clearances for other projects. Land requirement for a small portion in Krishnapatanam for ash pond and Sasan, which is in private possession is the only portion pending. Except for environmental clearances for Rosa Phase 2 and mines of Sasan (both are at advanced stages and likely to be received in 6 -12 months time), all other clearances are in place.

Exhibit 4: Status of fuel, land and clearances

Project Name	Fuel Supply Status	Land Acquisition	Environmental & Forest Clearance
Rosa Phase I	Agreement signed with Central Coalfields Limited	Completed	All clearance in place
Rosa Phase II	Agreement signed with Central Coalfields Limited	Completed	No, but expected soon
Butibori 1	Agreement signed with Western Coalfields Limited	Completed	All clearance in place
Sasan	Captive mines- Moher, Amroli Chattrasal coal field; estimated reserve of 750 Mn Tonne	Almost completed - Govt land of 1070 acre already in possession, 98% (923acre) of private. land has been awarded	Project site received all clearances. Moher & Moher Amroli EC completed, Chattrasal EIA/EMP in progress.
Krishnapatnam	Indonesian coal mine acquired south Sumatra region- estimated reserve 2bn tonne	91% completed, ash pond is only pending	All clearance in place
Dadri	Awaiting for court order - case with RIL	Completed	All clearance in place
Tilaiya	Captive mines -Kirandhari B & C coal blocks of North Karanpura coal fields; estimated reserve 1028mn tonne	3355 acres of land identified for main plant, ash dyke and township is to be made available by State Government.	-

Source: Company, Centrum Research

EPC and PPA for projects are half way through

Orders for equipment and PPA for off-take of power are likely to be completed in 12 months time. An EPC agreement has been signed with Shanghai Electric Corp (SEC) for Rosa Phases 1 and 2. In case of Butibori and Sasan, the EPC agreement has been signed with sister concern Reliance Infrastructure, who has in turn placed the order for BTG with SEC. The EPC order is yet to be placed for the Dadri and Tilaiya projects.

PPA has been signed for Rosa Phase 1, Sasan and Krishnapatanam, and is pending for Rosa Phase 2 and 51% of the capacity in Butibori. In case of Rosa Phase 2 unit 1, the capacity of 300 MW has been offered to Uttar Pradesh Power Company Ltd (UPPCL), which would be most probably to be signed within 3 months. In case of Tilaiya, nine states have given 'in principle' consent for off-take.

Financial closure is yet to be completed for majority of the projects except for Rosa Phase 1. About 95% of the debt funding for Sasan has been tied up and financial closure will be announced in short time. Similarly 50% of the debt requirement in Butibori has also been tied-up. Rs10bn of ~Rs19.7bn requirement of Rosa Phase 2 is also complete. PFC and IDBI have been nominated as lead bankers for Krishnapatanam project.

Exhibit 5: Status of EPC, PPA and financial closure of projects

Project Name	EPC contract	Off-take Status	Progress	Financial Closure
Rosa Phase I	EPC contract signed with Shanghai Electric Co. (SEC) consortium	Long-term PPA for 25 years signed with the UPPCL	Boiler Drum lifted; 65% work completed	Completed
Rosa Phase II	EPC contract signed with Shanghai Electric Co. (SEC) consortium	300 MW long-term PPA proposed to UPPCL; 300 MW MOU- Merchant model	-	Rs10bn of Rs19.7bn already tied-up - IDBI is the lead bank
Butibori 1	EPC - Reliance Infra; BTG - SEC	Long-term PPA to be arranged with group of captive industrial consumers for 51% of the power. PPA already signed with DAKC for 50 MW & RETL for 133 MW.	Site leveling completed, contracts awarded	50% already tied up - Axis is the lead bank
Sasan	EPC - Reliance Infra; BTG - SEC	Long-term PPA signed with a group of 14 procurers from seven states	Basic engineering and design basis reports in progress	95% of debt closed
Krishnapatnam	EPC - Reliance Infra; BTG - in process	Long-term PPAs signed with 11 procurers comprising four states	All site enabling work completed	PFC & IDBI are lead bankers
Dadri	-	40% to be sold under PPA and 60% under Merchant model	-	-
Tilaiya	-	States of Delhi, UP, Punjab, Haryana, Rajasthan, MP, Gujarat, Maharashtra, Bihar and Jharkhand have given consent to offtake entire power	-	-

Note: As on 30 Sept 2008
Source: Company, Centrum Research

Banks to shift to lending mode; projects to achieve financial closure

Given the regulated models of power utilities and huge power deficit in the country, we believe the likelihood of power projects receiving funding is high. We believe RPower's existing projects like Rosa Phase 2, Butibori, Krishnapatanam and Sasan are fundable and expect the company to achieve financial closure for these projects before end-CY09.

Except for Phase 1 of the Rosa project, all other projects are yet to achieve financial closure. Post global financial meltdown, RPower has been finding it difficult to tie-up funds for its projects. Despite ample liquidity in the banking system, high yields from government securities and higher risk perception have forced banks to invest in SLR securities. This is evident from the sharp fall in credit growth from ~31% in FY07 to ~19%-20% registered recently. Once the yield of government securities fall, banks would gradually shift to lending, and particularly to more attractive projects. In our view Power projects are more fundable due to their regulatory protection and favourable demand supply mismatch. RPower projects in particular have equity, fuel, clearances in place for majority of its projects and therefore stand a good chance to complete the financial closure at the earliest.

…because they are profitable

What makes RPower's projects fundable?

We believe RPower's proposed projects are profitable. For instance, the Sasan project is expected to register a healthy IRR of 17.5% as the coal block allocated to the project contains high-grade coal and the debt has been carefully structured. The Krishnapatanam and Tilaiya UMPPs are slated to register IRRs of 26.4% and 22.5%, respectively. We have assumed coal cost at US$45/tonne for the Krishnapatanam project and Rs560/tonne for the Tilaiya project. The gas-based Dadri project also looks attractive even after assuming the cost of gas at $5.7/mmbtu, primarily as globally gas-based projects are better suited for merchant sales and the capex cost of gas-based projects are almost 30% lower than that of coal-based projects. Assuming a tariff of Rs3.5/unit, we get an IRR of 44.7% for the Dadri project. The 300MW Butibori is an industrial tariff-based project with a high IRR of 59.2%.

Exhibit 6: IRRs by projects

Projects	Rosa I	Rosa II	Butibori	Kpatnam*	Sasan	Dadri	Tilaiya
Equity-IRR	18.2%	37.5%	59.2%	26.4%	17.5%	44.7%	22.5%

**Krishnapatanam*
Source: Company, Centrum Research

Exhibit 7: Assumptions by project

Projects	Unit	Rosa I	Rosa II	Butibori	Kpatnam*	Sasan	Dadri (Gas)	Tilaiya
Project Size	MW	600	600	300	4,000	3960	7,500	3,960
Project Cost	Rs Mn	27,020	24,600	14,050	175,000	184,320	225,000	184,320
DER		80%	80%	80%	75%	75%	70%	75%
PLF	%	90%	90%	90%	90%	90%	80%	90%
Aux	%	7.5%	7.5%	7.5%	8.0%	7.0%	2.3%	7.0%
CV of Coal /(Gas)	(kcal/kg) or(kCal/scm)	3,700	3,700	4,638	4,400	4,900	8,500	4,400
Station Heat Rate	kcal/kwh	2,350	2,350	2,350	2,100	2,275	1,750	2,275
Coal/Gas Prices	Rs/ton or USD/mmbtu	1,200	1,200	1,650	1,920	526	$5.7/mmbtu	560
Strip Ratio	x					4		2.3
Interest on WC	% pa	12%	12%	12%	12%	12%	12%	12%
COD First Unit		Mar-10	Dec-10	Mar-11	Sep-12	Dec-11	Dec-11	Nov-14
Subsequent Units	months	3	3		6,6,3,3	3,3,3,3,3	4,4,4,4,4	4,4,4,4,4
Interest on Capex	% pa							
Tenor	years	15	15	15	15	15	15	15
USD Term Loan	USD Mn					417		
USD Interest Rate	% pa					4.7%		
USD Loan Tenor	years					15		
O&M Cost	Rs Mn/MW	1.2	1.2	1.5	1.5	1.3	1.0	1.3
O&M Escalation	% pa	4%	4%	4%	5%			
Fuel Escalation	% pa				6.61%	6.61%	6.61%	6.61%
Tariff (PPA/Merchant)	Rs/kwh	2.14	2.02	4.30	2.42	1.19	3.50	1.77

**Krishnapatanam*
Source: Company, Centrum Research

Quality coal reserves, smart debt structuring make Sasan profitable

The calorific value (or heating value) of the coal to be extracted from the coalmines (Moher, Moher-Amroli extension and Chattrasal coalmines in the Singrauli coalfields) allocated for the Sasan power project is 4,900kCal/kg - among the best domestic coal. According to industry sources, due to high calorific value of the coal, the coalmines were previously considered for producing coking coal.

At 4,900kCal/kg, RPower's cost of coal per unit works out to Rs0.27. This is about 30% lower if it were to use low calorific value (3,300kCal/kg) coal. Further, with interest rates declining, we expect the cost of borrowings to decline to about 10% in a year. RPower has carefully structured the debt with a one-year reset clause and long-term tenor to capture the benefit of falling interest rates and reduce the burden of cash flows.

We learn from industry sources that the repayment schedule for the loans has been structured as a mix of bullet loan (where the payment of the entire principal and interest is due at the end of the loan term) and amortization, to keep the repayment amount lower. According to our estimates, assuming nominal inflation rates, cost of generation works out to Rs1.16 per unit comprising average fuel cost per unit of Rs0.30 and fixed charges of Rs0.86.

Although the levelised tariff rate is Rs1.196/unit (arrived using a discount factor of 12% during bidding, currently due to low interest cost WACC comes to 8.9%), the average tariff rate, excluding first two years comes to Rs1.39/unit (assuming inflation of 6.6% for Fuel and 5.4% for O&M expenses). At an average tariff of about Rs1.39/unit the project would earn an ROE of around 15% and IRR of 17.5%.

Exhibit 8: Estimated cost structure of Sasan power project (Rs/unit)*

Rs/Unit(kWh)	Sasan
Energy Charges	
Coal cost (including fuel transportation charges)	0.27
Secondary Fuel	0.03
Total Energy charges	**0.30**
Capacity Charges	
O&M Expenses	0.21
Depreciation	0.21
Interest	0.41
Tax	0.03
Total capacity charges (excl. ROE)	**0.86**
Total Cost	**1.16**
Estimated Tariff	**1.39**
PAT (A)	**0.22**
Equity Investment (B)	**1.50**
ROE (A/B)	**15%**

** Note: Costs mentioned above are for FY16E, 5th year of operation.*
Source: Company, Centrum Research

Dadri project to be profitable even at $5.7/mmbtu gas cost

We understand that the clarity is yet to emerge on the fuel supply side for Dadri project and it depends on the ongoing court case between RIL and RNRL. In our opinion the ~35mmscmd requirement of gas would most probably be tied –up with RIL but at $4.2/mmbtu as RIL scales up its production from 40 mmscmd to 80 mmscmd in six months.

The project has several advantages to it that makes it profitable even at $5.7/mmbtu.

1. The station heat rate of gas projects is ~1650kCal/kWh which is ~20% more efficient compared to the 2100 kCal /kWh SHR of coal projects
2. Capex of gas projects are Rs30mn/MW which is 30% lower to Rs45mn/MW of coal based projects
3. Company plans to sell 60% under merchant category and 40% under long term agreement (Case 1).

Due to lower station heat rate and lower capex, the total cost of generation at Dadri would come to ~Rs2.82/unit, including a fuel cost of Rs2.1/unit and fixed charges of Rs0.72/unit. We have assumed a tariff cost of Rs3.5/unit considering that majority of the capacity (~60%) will be sold through merchant route and the remaining would be tied up under long term agreements. Our assumption of Rs3.5/unit is justified considering that spot prices were broadly trading between Rs8 to Rs6 /unit and tariff quoted under case 1 bidding are around Rs3.0/unit. At Rs3.5/unit the PAT per unit would be ~Rs0.68 which would result in an ROE of 52% and IRR of 44.7% and value per share of Rs39.

Exhibit 9: Dadri power project cost per unit by item

Rs/Unit(kWh)	Dadri
Energy Charges	
Coal cost (including fuel transportation charges)	2.10
Secondary Fuel	-
Total Energy charges	**2.10**
Capacity Charges	
O&M Expenses	0.27
Depreciation	0.14
Interest	0.22
Tax	0.09
Total capacity charges (excl. ROE)	**0.72**
Total Cost	**2.82**
Estimated Tariff	**3.50**
PAT (A)	**0.68**
Equity Investment (B)	**1.31**
ROE (A/B)	**52%**

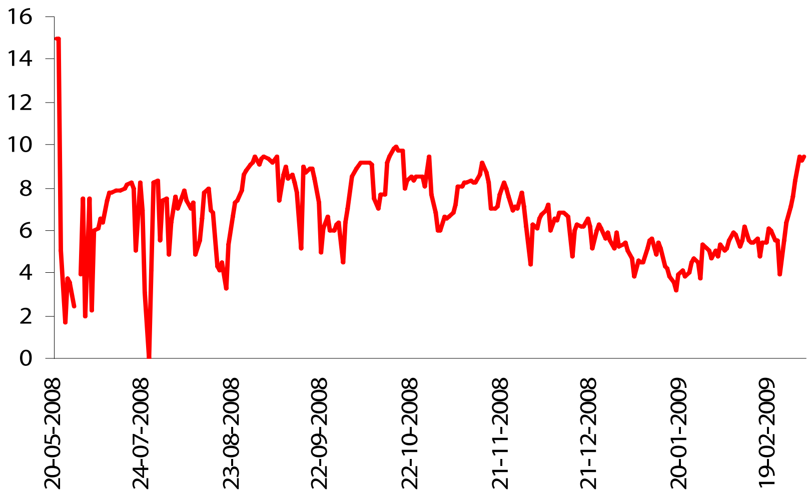
Source: Company, Centrum Research

Exhibit 10: Sensitivity of Dadri project's value per share (Rs) to fuel cost ($/mmbtu) and tariff (Rs/unit)

		Tariff (Rs/unit)				
		3.0	**3.5**	**4.0**	**4.5**	**5.0**
Gas cost from RIL ($/mmbtu)	2.34	107.5	147.1	186.7	226.4	266.0
	4.20	48.4	88.1	127.7	167.4	207.0
	5.70	0.8	**40.5**	80.1	119.8	159.4
	6.00	(8.7)	31.0	70.6	110.2	149.9

Source: Company, Centrum Research

Exhibit 11: Spot prices – Power (Rs)



Note: Spot price are taken from India Energy Exchange
Source: Company, Centrum Research

Krishnapatanam and Tilaiya projects – IRR of 26.4% and 22.5%, respectively

The equity IRR of the Krishnapatanam and Tilaiya projects are 26.4% and 22.5%, respectively. We have assumed cost of coal at $45/tonne for the Krishnapatanam project and Rs560/tonne for the Tilaiya project. Based on 4,400kCal/kg of calorific value and interest cost of 10%, we arrive at a cost of generation of Rs1.73 and Rs1.22 per unit, respectively. We have taken the actual tariff quoted with an allowable fuel and capacity charge escalation rate of 6.6% and 5.4%, respectively. The potential value of Krishnapatanam and Tilaiya projects estimated at Rs15.3 and Rs11.3 per share respectively. We expect the first unit of Krishnapatanam to come on stream by Sept 2012 and Tilaiya by Nov 2014.

Exhibit 12: Krishnapatanam and Tilaiya - Cost per unit item wise

Rs/Unit(kWh)	Krishnapatanam	Tilaiya
Energy Charges		
Coal cost (including fuel transportation charges)	0.64	0.34
Secondary Fuel	0.01	0.03
Total Energy charges	**0.66**	**0.37**
		-
Capacity Charges		-
O&M Expenses	0.26	0.20
Depreciation	0.27	0.20
Interest	0.43	0.34
Tax	0.11	0.11
Total capacity charges (excl. ROE)	**1.07**	**0.86**
		-
Total Cost	**1.73**	**1.22**
		-
Levelized Tariff	**2.62**	**2.08**
PAT	**0.89**	**0.85**
Equity per unit	**1.50**	**1.57**
ROE	**59.5%**	**54.5%**

Source: Company, Centrum Research

Rosa Phase 1 (600MW) to be commercialised by Mar 2010

We believe the Rosa Phase 1 (600MW) project would be commercialised by Mar 2010. The project is being developed under regulated return model and PPA has been entered with Uttar Pradesh Power Corp (UPPCL). We estimate the IRR of the project to be around 18% based on the existing Uttar Pradesh Electricity Regulatory Commission (UPERC) norms. If the UPERC adopts the new CERC norms, the IRR would rise to 19.5%.

Exhibit 13: Rosa Phase 1 progressing on schedule (Jan 2009)

Chimney completed

Boiler house under construction

Main Plant house under construction

Cooling towers

Switchyard under construction

Source: Company, Centrum Research

Butibori and Rosa Phase 2 (unit 2) projects to return high IRRs

The Rosa Phase 2 unit 2 and Butibori are high IRR projects primarily because Rosa Phase 2 (unit 2) capacity of 300MW would be sold on merchant route and Butibori power generated would be sold to industrial consumers at a discounted industrial tariff of Rs4.3/unit. We estimate the IRRs from the 300MW Butibori and 300MW Rosa Phase 2 projects to be 59.2% and 37.5% respectively.

Tariffs for the Butibori project are based on industrial tariffs since the project is being established under group captive concept. RPower won the project through bidding process, where they quoted the highest discount of Rs0.40 to the industrial tariff of Rs4.7/unit. Therefore, we have assumed a tariff of Rs4.3/unit. We estimate the cost of generation to be around Rs3.0/unit assuming coal price of Rs2,500/unit. About 51% of the capacity would be sold to a group of industrial houses situated in Vidharba in Maharashtra where the proposed project is coming up. According to the Power Ministry's regulations, 26% of voting rights should be held by industrial consumers. The company has structured the capital in such a way to reduce the minority interest to 2%. About 94% of the equity portion would come as preference capital therefore restricting the dilution of stake to other shareholders to 2% of equity.

In case of Rosa Phase 2 (unit 2), the power generated is likely to be sold under merchant model. The project has been earmarked for meeting the power supply requirements of New Delhi during the 2010 Commonwealth Games. The company is also likely to benefit from the ever increasing power deficit in northern part of India. We have assumed a tariff of Rs3per unit and accordingly arrive at an IRR of 56.5%. The IRR for Rosa Phase 2 600MW (both units 1 and 2) is expected to be 37.5%.

Shahapur and hydro projects are non starters

We have not factored any upside from the 3.3GW hydro projects. After RPower's IPO in Jan 2008, these projects have not really picked up momentum and are still near the detailed project report (DPR) stage. The 1,200MW Shahapur (Phase1) project was planned to be on regulated model and Phase 2 (2,400 MW gas-based project) on a merchant model. These projects are yet to complete land acquisition, fuel tie up, environmental clearance, therefore we expect the projects like Tilaiya, Chitrangi likely to get priority and such a move would be more value accretive.

Coal reserves – Icing on the cake

Excess coal reserves linked to UMPPs bring significant value

We believe the excess 1bn tonne reserves from the captive coal mines allocated to RPower for the Sasan and Tilaiya projects and the additional 1bn tonne coal reserves from its Indonesian mines are a significant value-add.

We expect the peak power deficit in India to increase. This, combined with less-than-expected capacity additions by private players is likely to push tariffs both in the spot market in power exchanges and that quoted under Case 1 bidding. This would provide ample scope for RPower to tie-up capacity from excess reserves at significantly higher tariffs with similar cost structure, thereby resulting in substantial value accretion.

We believe the excess reserves would facilitate a capacity addition of about ~12GW including the announced 4GW Chitrangi project and potential 8GW from Tilaiya's 700 million tonne excess coal reserves. We have factored in the upside from these reserves in our best case scenario.

2bn tonne excess reserves from UMPPs

RPower is likely to get on nomination basis coal reserves of up to 1bn tonnes, which is the excess coal in the respective captive coalmines allocated for the Sasan and Tilaiya projects. Further the company has acquired a coal mine with total reserve of 2bn tonnes (70% identified and 30% probable) which could result in an additional 1bn tonne of identified excess coal reserves after meeting the requirements of Krishnapatanam project.

The reserves from the coalmines allotted to Sasan and Tilaiya alone could be utilized to create a capacity of 12GW. The company has already announced the 4GW Chitrangi project in Madhya Pradesh would use 350mn tonnes excess coal reserve of Sasan project. The North Karanpura, Kerandari B&C block allocated for Tilaiya project too has got a reserve of 1bn tonnes, providing an excess reserve of around 700mn tonnes, although Government of India has not allotted/announced the intention to allot the excess reserve to RPower, we make the assumption on the basis that pre-bid conditions of both Sasan and Tilaiya are same.

Exhibit 14: Excess coal reserves from UMPPs

(mn tonne)	Coal reserve allocated or acquired	Identified reserve %	Identified reserve	Requirement for the project	Excess Reserve	Possible adnl capacity (MW)
Sasan	750	100%	750	355	395	4,000
Krishnapatanam	2000	70%	1400	357	1,043	11,000
Tilaiya	1028	100%	1028	398	630	7,000
	3,778		**3,178**	**1,109**	**2,069**	**21,000**

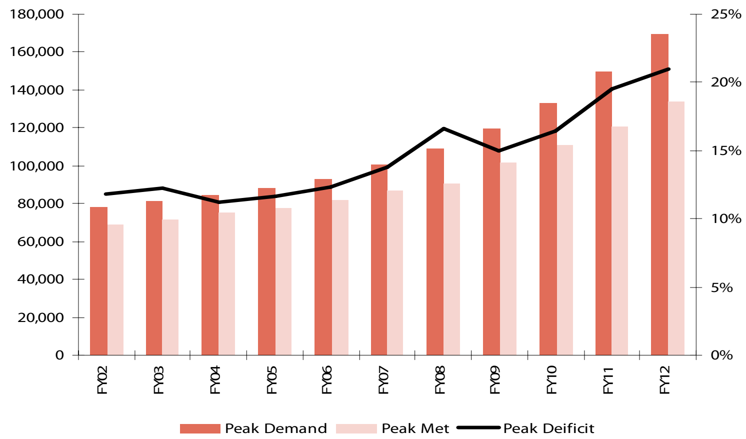
Source: Company, Centrum Research

Widening peak power deficit to boost tariff under bidding process

We expect the peak power deficit in India to widen by 500bp to 21% in FY12 from 16% in FY08, even though peak deficit levels declined during the first 8 months of FY09 due to industrial slowdown. Peak deficit has increased 480bp to 16.6% in FY08 from 11.8% in FY02, primarily due to slow capacity addition and higher GDP growth. We cite the following reasons for expected increase in power deficit:

1) India needs more power to meet sustained long-term average GDP growth of 8%
2) Per capita power consumption in India is still low at 643 units compared with about 2,000 units in China
3) Only half of the villages have proper access to electricity and most of the villages connected face load shedding of around 10-15 hours a day
4) Private sector investment in power is losing momentum due to coal shortages and financial crisis.

Exhibit 15: Peak power deficit to increase (in MW)



Source: Industry, Centrum Research

We have assumed capacity addition of 60GW until FY12E and 11% growth in per capita consumption, as more villages get electrified and life styles improve. We have assumed flat energy demand-to-GDP elasticity of 1.0x until FY12. Utility factor (peak capacity to installed capacity) is estimated at around 65% for FY09 and 69% for FY12. Accordingly, we expect power demand to increase 55% to 169GW and supply by 47% to 134GW, resulting in a deficit of 36GW in FY12.

Exhibit 16: Projected power deficit scenario

	FY08	FY09	FY10	FY11	FY12
Population Assumption (bn)	1.16	1.18	1.20	1.22	1.24
Per capita consumption (kWh)	637	707	785	871	967
GDP Growth (%)	*8*	*7*	*6*	*6*	*7*
Energy elasticity to GDP (x)	1.00	1.00	1.00	1.00	1.00
Peak Demand (in MW)	108,866	119,677	133,066	150,067	169,239
Peak Supply (in MW)	90,793	101,773	111,234	120,816	133,695
Peak Deficit (%)	*16.6*	*15.0*	*16.4*	*19.5*	*21.0*

Source: Centrum Research

In our opinion, the widening deficit and slowing momentum in private sector capacity addition would spark increase in the bid prices of Case 1 and 2 bidding processes. The tariffs quoted under bidding processes have risen by 28% from Rs2.4/unit last year to about Rs3.3/unit recently.

Just to highlight few recent examples, Lanco emerged as the lowest bidder for the Rajpura power project of Punjab at Rs3.31/unit and JP Associates won the Karchana and Bara project at Rs2.97 and Rs3.02/unit, respectively, under Case 2 bidding process. RPower itself won the bid to supply 1,241 MW in Madhya Pradesh at Rs2.41/unit and another 100MW for Haryana at Rs3.0/unit under Case 1 process. The list below highlights the winning bid prices for various Case 1 and Case 2 bid projects.

Exhibit 17: Levelised tariffs quoted in FY08

State	Company	MW	Fuel	Project Place	Levelised Tariff (Rs/unit)	Remarks
Haryana	Lanco	389	Coal	Orissa	2.35	Haryana intends to procure 2000MW through the case 1 bidding process. Lanco,Adani & GMR have won their bid to supply 2113MW
Haryana	GMR	300	Coal	Orissa	2.90	
Haryana	Adani Power	1311	Imported Coal	Mundra	2.94	
Gujarat	Adani Power	1000	Imported Coal	Mundra	2.89	Negotiated and revised from 3.24 to 2.89
Gujarat	Aryan Coal	200	Coal	Korba	2.40	The balance MW requirement is yet to be decided, currently into a legal court case is on
Gujarat	Adani Power	1000	Domestic Coal	Mundra	2.35	
Gujarat	Adani Power	1000	Domestic Coal	Mundra	3.45	
Maharashtra	Adani Power	1320	Domestic Coal	Mundra	2.64	
Punjab	Sterlite	2000	Coal	Mansa	2.86	Talwandi Sabo Project
Madhya Pradesh	Lanco	600	Coal	Orissa	2.34	
Madhya Pradesh	Reliance Power	300	Coal	Chitrangi	2.45	
Haryana	Reliance Power	100	Coal	Chitrangi	3.30	
Uttar Pradesh	JP Group	1980	Coal	Karchana	2.97	
Uttar Pradesh	JP Group	1320	Coal	Bara	3.02	
Punjab	Lanco	1200	Coal	Rajpura	3.31	Rajpura Thermal Power Project. Lanco was the sole bidder

Source: Centrum Research

Slowing momentum in private sector

Private players have turned cautious on their capacity expansion plans and this is visible from the lukewarm response received for the competitive bidding process followed by states. For instance, Lanco was the sole bidder for the Punjab government's Rajpura project. Only three bidders filed their financial bid for the Bara project in UP and the Tilaiya UMPP received only three bids compared with 12 for Sasan. Aggressive private sector companies who announced various projects are now focusing on completing current projects. For example, Adani Group has already announced its intention to scale-down capacity addition plans from 9.9GW to 6.6GW. The primary reason for the slowdown in momentum can be attributed to the lack of equity and critical linkages for the projects. This makes us even more sanguine on the prospects of RPower, given that the equity backup and critical linkages for its projects are already in place.

Chitrangi and Tilaiya II projects look attractive

With the power deficit to increase, RPower seems well-placed to capitalise on rising tariffs with its new projects using the excess coal reserves. The IRR of these projects are likely to be significantly higher than Sasan and Tilaiya due to almost similar cost structures but almost double tariff price possibilities. Assuming a conservative tariff rate of Rs2.5/unit for the total capacity, we estimate the IRRs of Chitrangi and Tilaiya II (possible 8GW capacity from the excess reserves) projects at around 55.1% and 35.8%, respectively, translating into potential upside of Rs58 and Rs69 per share, respectively. Even if we assume conservatively the tariff of these projects to be ~2/unit, the potential upside comes to Rs36 and Rs40 respectively from the Chitrangi and Tilaiya II projects.

Chitrangi project to benefit from higher tariffs

The 4GW Chitrangi project would use excess coal reserves from the captive mines allocated to the Sasan project. The project is likely to deliver higher returns due to higher tariff and same cost structure compared to Sasan. RPower has already won supply of 1,241MW under Case 1 bidding at Rs2.41/unit in Madhya Pradesh and another 100MW at Rs3/unit in Haryana. This is more than double the levelised tariff of Rs1.196/unit quoted for Sasan project.

The Chitrangi project is still at a nascent stage and also depends on the outcome of court case between the GoI and Tata Power. But we believe RPower would probably get the right to use the surplus coal for the Chitrangi project since the decision on that is entirely with the GoI and coal mines have been allocated to the private sector players on nomination basis in India in the past. Further, the GoI in its recent draft Mines and Minerals (Development and Regulation) Amendment (MMDRA) Bill, 2008 has stated "Competitive bidding shall not be applicable to an area containing coal where such an area is considered for allocation to a company or corporation that has been awarded a power project on the basis of competitive bids for tariff including ultra mega power projects". This clarifies government's stance that excess reserves from coal blocks allocated for a project awarded through competitive bidding would be on nomination basis. This provides visibility on whether RPower would get the excess reserves.

The cost of generation comes to ~Rs1.25/unit. We have assumed cost of coal at Rs551/tonne, coal calorific value of 4,900kCal/kg similar to Sasan and interest cost of 10% and repayment term of 15 years. Accordingly, we arrive at a fuel cost of Rs0.27/unit and fixed cost of Rs0.98. Assuming a levelised tariff of Rs2.91/unit, (arrived by adjusting Rs2.5 levelised tariff adjusted for time value of money in the same structure in which Sasan was bidded) the PAT comes to Rs1.66/unit, resulting in an ROE of 93%, IRR of 55.1% and per share value of Rs58. Even if assume levelised tariff of Rs2 we still arrive at a value of Rs36/share.

Exhibit 18: Estimated cost structure for Chitrangi project (Rs/unit)

Rs/Unit(kWh)	Chitrangi
Energy Charges	
Coal cost (including fuel transportation charges)	0.24
Secondary Fuel	0.03
Total Energy charges	**0.27**
Capacity Charges	
O&M Expenses	0.23
Depreciation	0.20
Interest	0.34
Tax	0.22
Total capacity charges (excl. ROE)	**0.98**
Total Cost	**1.25**
Estimated Tariff	**2.91**
PAT (A)	**1.66**
Equity Investment (B)	**1.79**
ROE (A/B)	**93.0%**

Note: Cost mentioned above is for FY17E, 5th year of operation.
Source: Company, Centrum Research

Exhibit 19: Sensitivity of value per share (Rs) tariff rate

Tariff (Rs/kWh)	2	2.5	3	3.5
Rs/Share	36	58	81	104

Source: Centrum Research

Excess coal from Tilaiya project could provide Rs69 upside in best case scenario

In line with our argument in Chitrangi project there is all the possibility of the excess 700 mt of coal reserve in coal block allocated to Tilaiya project too getting allotted to RPower. With 700 MT of coal reserve 8 GW project capacity can be built. We have assumed the cost structure of Tilaiya-II to be same as Tilaiya and tariff to be Rs2.5/unit (levelised). Accordingly we arrive at an upside of Rs69/share and an IRR of 36%. Assuming a tariff of Rs2/unit we still arrive at an upside of Rs38/share.

Exhibit 20: Cost per unit and ROE of Tilaiya - II

Rs/Unit(kWh)	Tilaiya - II
Energy Charges	
Coal cost (including fuel transportation charges)	0.36
Secondary Fuel	0.03
Total Energy charges	**0.39**
Capacity Charges	
O&M Expenses	0.23
Depreciation	0.20
Interest	0.23
Tax	0.21
Total capacity charges (excl. ROE)	**0.87**
Total Cost	**1.25**
Estimated Tariff	**2.86**
PAT	**1.61**
Equity per unit	**1.62**
ROE	**100%**

Source: Company, Centrum Research

Exhibit 21: Value of Indonesian coal mine

Coal Indonesia	
Capacity (MTPA)	40
Price USD/tonne	40
PAT Margin	15%
PAT (US$mn)	240
PE Multiple (x)	3.0
Valuation (US$mn)	720
Rsmn	34,560
Per share value (Rs)	14

Source: Company, Centrum Research

Indonesian coal mine a 2bn tonne reserve

RPower acquired an Indonesian coalmine in South Sumatra having 2bn tonne of coal reserves is capable of meeting the requirement of upto 25GW of power capacity for 25 years. It plans to develop these mines in a phased manner and is contemplating structures to use the reserves. One of the plans is to sell the excess coal in the open market at spot prices. If the entire mine is developed over a period of 25 years, it could provide a capacity of 67.5mtpa of excess coal after meeting the requirement in Krishnapatanam UMPP, but in our opinion the mine will be developed over a phased manner. Even, if we assume that ~40mtpa of coal would be sold in the open market, at US$40/tonne (30% lower to benchmark NEWC coal index considering the low calorific value) and assuming a conservative 15% PAT margin, the initial value of the mine would be anywhere around US$720mn translating into Rs14/share (implied PE of 3x).

Valuation

Valuation highly attractive in the best case scenario

We have valued RPower under three different scenarios. In the bear case, where we have considered only 9.5GW of 33GW projects, we have accordingly arrived at a value of Rs90 (2% downside from CMP). In the base case, we assumed upside from 21GW projects and have arrived at a valuation of Rs140 which is our target price (52% upside to the CMP). To our base case assumptions we added the potential upside from capacities likely to come from the excess coal reserves attached to UMPPs. This provides a potential upside of 207% from current levels.

Base case value of Rs140 provides 52% upside

We have arrived at our base case value of Rs140 using DCF valuation methodology consolidating the cash flows of the Sasan, Krishnapatanam, Rosa Phases 1 and 2 and Butibori projects and separately adding the value from the Dadri and Tilaiya projects.

Exhibit 22: Capacity assumption under scenarios (MW)

	Bear Case	Base Case	Best Case
Rosa 1	600	600	600
Butibori	300	300	300
Rosa 2	600	600	600
Sasan	4,000	3,960	3,960
Krishnapatanam	4,000	4,000	4,000
Dadri		7,500	7,500
Tilaiya		3,960	3,960
Chitrangi			4,000
Tilaiya - II*			8,000
Total	**9,500**	**20,920**	**32,920**

Source: Company, Centrum Research

DCF assumptions aggressive considering the inherent risk of execution

In our DCF valuation, we have captured the inherent risk emanating due to likely delays in achieving financial closure, lower-than-expected tariffs and more-than-expected costs by assigning a higher beta of 1.2x. This is 69% and 85% higher than the beta of 0.71x assumed for NTPC and 0.65x assumed for Power Grid. Accordingly, our cost of equity comes to 14.2%.

We have assumed an interest cost of 10% and tax rate of 11.33% under MAT for the initial 10 years since all the projects are established under SPV model and 33.99% after 10 years. We have adjusted cost of debt with tax benefit of interest, since the same has not been factored in tax calculation in the DCF sheet (we have applied corporate tax rate directly on EBIT).

Since RPower's debt-equity ratio is moving up significantly from the estimated 0.16x in FY09E to around 0.61x in FY10E, we have factored in a forward WACC adjusted for yearly change in the debt-equity ratio. We have factored in a conservative terminal growth rate of 1%.

Exhibit 23: Base case valuation – DCF estimations

Rsmn	FY09E	FY10E	FY11E	FY12E	FY13E	FY14E	FY15E	FY16E	FY17E	FY18E	FY19E	FY20E	FY21E	FY22E	FY23E	FY24E
EBIT	(727)	(897)	641	10,634	16,519	42,822	75,818	74,302	71,018	68,972	68,174	65,858	60,529	56,735	55,457	54,044
Less: Tax	-	-	73	1,205	1,872	4,852	8,590	8,418	8,046	7,815	7,724	7,462	6,858	6,428	6,283	18,369
Add: Depreciation	-	-	893	4,384	9,113	14,848	18,382	18,382	18,382	18,382	18,382	18,382	18,382	18,382	18,382	18,382
Less: Capex	34,849	62,019	103,367	89,732	77,474	33,755	-	-	-	-	-	-	-	-	-	-
Less: Increase in WC	1,752	3,082	3,256	2,263	437	23	(1,469)	(18)	(25)	3	60	2	1,731	(87)	60	61
FCFF	(37,328)	(65,997)	(105,162)	(78,182)	(54,150)	19,041	87,079	84,283	81,378	79,536	78,772	76,776	70,322	68,776	67,495	53,995
Terminal Value																608,005
Total CF to Firm	(37,328)	(65,997)	(105,162)	(78,182)	(54,150)	19,041	87,079	84,283	81,378	79,536	78,772	76,776	70,322	68,776	67,495	662,000
PV	(37,328)	(58,524)	(83,997)	(56,749)	(35,784)	11,370	46,261	39,557	33,600	28,784	24,900	21,138	16,872	14,309	12,134	107,942
NPV	84,486															
Less: Net Debt	213															
Equity Value	**84,273**															

	Rsmn	Rs/Share
Equity Value	**84,273**	**35**
Cash equivalents (FY08)	**131,234**	**55**
Total Value	**215,507**	**90**
Dadri (4GW)	93,597	39
Tilaiya Project	27,119	11
Total value (incl. Dadri)	**336,222**	**140**

Source: Company, Centrum Research

Exhibit 24: Assumptions for DCF estimations

	FY09E	FY10E	FY11E	FY12E	FY13E	FY14E	FY15E	FY16E	FY17E	FY18E	FY19E	FY20E	FY21E	FY22E	FY23E	FY24E
Debt to total capital	0.18	0.35	0.51	0.59	0.63	0.63	0.57	0.51	0.46	0.42	0.37	0.33	0.29	0.25	0.21	0.18
Forward WACC	13.2%	12.3%	11.5%	11.1%	10.8%	10.9%	11.2%	11.5%	11.7%	12.0%	12.2%	12.5%	12.6%	12.9%	13.1%	12.8%
WACC	**13.2%**	**12.8%**	**11.9%**	**11.3%**	**10.9%**	**10.9%**	**11.1%**	**11.4%**	**11.7%**	**12.0%**	**12.2%**	**12.4%**	**12.6%**	**12.8%**	**13.0%**	**12.9%**
Cost of Debt (adj. for MAT)	**8.9%**															
Cost of equity	**14.2%**															
Beta	1.2															
Risk Free rate	7%															
Market Premium	6%															
Terminal Growth	0.0%															
Number of Shares (mn)	2,396.8															

Source: Company, Centrum Research

Assumption for scenarios

Bear case scenario

For this scenario, we have only considered projects that are under construction, with fuel linkage and land acquisition almost complete and have received government approvals and don't face any litigation. The projects that meet these criteria are Rosa Phase 1 and 2, Butibori, Sasan and Krishnapatanam and accordingly arrive at a value of Rs90.

Key risks

- Financial closure of the Krishnapatanam and Sasan projects getting delayed
- Increase in freight costs for importing coal from Indonesia
- Any major change in Indonesian coal laws adversely impacting the coal mining works in the country.

Base case scenario

In addition to our bear case scenario, we have factored in the potential upside from Dadri and Tilaiya projects.

Key risks

- The Dadri project failing to get the required 35mmscmd gas supply from KG-D6 basin of Reliance Industries
- Cost of gas crossing the expected $5.7/mmbtu.
- Financial closure of Tilaiya project delayed and calorific value of coal less than assumed 4,400kCal/kg
- Inability to raise equity for the project

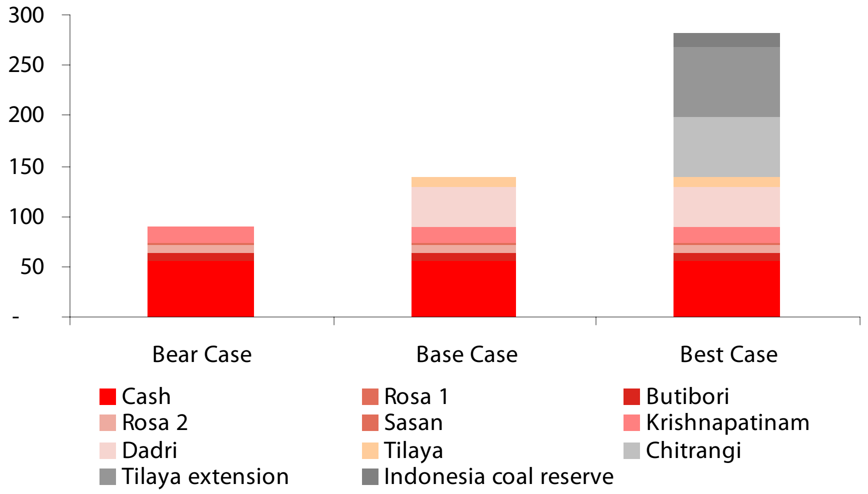
Best case scenario

In addition to the base case and bear case, we have considered the upside potential from the excess coal reserves from captive coalmines allocated to its UMPPs and Indonesian coal mine.

Key risks

- Delay in allocation of excess reserve from coalmines allocated for the Sasan and Tilaiya projects
- Ruling going negative in the court case related to excess coal reserve in Moher, Moher – Amroli extension and Chattrasal coalmines in the Singrauli coalfields for Chitrangi project. Outcome of the case would more or less decide the allocation of excess coal reserve for Tilaiya extension projects as well.

Exhibit 25: Scenario Valuation (Rs/sh)



Source: Company, Centrum Research

Exhibit 26: Project wise valuation under scenarios

Rs/Share	Bear Case	Base Case	Best Case
Cash	54.8	54.8	54.8
Rosa 1	0.6	0.6	0.6
Butibori	8.9	8.9	8.9
Rosa 2	7.0	7.0	7.0
Sasan	3.0	3.0	3.0
Krishnapatanam	15.3	15.3	15.3
Tilaiya		11.3	11.3
Dadri		39.1	39.1
Chitrangi			58.4
Tilaiya extension			68.9
Indonesia coal reserve			14.4
Total Value per share	**90**	**140**	**282**

Source: Centrum Research

Financials

Exhibit 27: Income Statement

Y/E Mar (Rsmn)	FY08	FY09E	FY10E	FY11E
Revenues	-	-	-	**4,379**
Growth in revenues (%)	-	-	-	-
Cost of fuel and power	-	-	-	*1,903.9*
% of Revenue	-	-	-	*43.5*
Employee cost	*31.3*	*246.8*	*256.7*	*515.5*
% of Sales	-	-	-	*11.8*
O&M expenses	*181.0*	*480.0*	*640.0*	*726.3*
% of Sales	-	-	-	*16.6*
EBITDA	**(212)**	**(727)**	**(897)**	**1,234**
EBITDA Margin	-	-	-	*28.2*
Depreciation	-	-	-	593
PBIT	**(212)**	**(727)**	**(897)**	**641**
Interest expenses	-	-	-	1,057
PBIT from operations	**(212)**	**(727)**	**(897)**	**(416)**
Other non op. income	1,328	6,387	5,895	4,878
PBT bef. extra-ord. items	1,116	5,660	4,998	4,462
Extra-ord. income/ (exp)	(194.5)	-	-	-
PBT	**921**	**5,660**	**4,998**	**4,462**
Provision for tax	68	371	383	522
Effective tax rate	*7.4*	*6.6*	*7.7*	*11.7*
Minority interest	-	-	-	-
PAT	**854**	**5,289**	**4,616**	**3,940**
Adj. for Extraord. items	188	-	-	-
Adjusted PAT	**666**	**5,289**	**4,616**	**3,940**
Growth in PAT (%)	-	*694.4*	*(12.7)*	*(14.6)*
PAT margin	-	-	-	*90.0*

Source: Company, Centrum Research

Exhibit 28: Balance Sheet

Y/E Mar (Rsmn)	FY08	FY09E	FY10E	FY11E
Share Capital	22,600	22,600	22,600	22,600
Reserves	112,735	118,023	122,639	125,791
Shareholders' fund	**135,334**	**140,623**	**145,238**	**148,391**
Debt	4,483	31,598	79,037	157,735
Deferred Tax Liability	-	-	-	-
Advance against dep.	-	-	-	300
Minority Interest	0	11	24	38
Total Cap. Employed	**139,817**	**172,232**	**224,299**	**306,464**
Gross Block	2,144	2,144	2,144	27,302
Accumulated dep.	16.88	16.88	16.88	609.93
Net Block	2,127	2,127	2,127	26,692
Capital WIP	8,178	43,027	105,046	183,255
Total Fixed Assets	10,310	45,158	107,177	209,951
Investments	131,234	124,234	111,565	83,565
Inventories	-	-	-	79
Debtors	-	-	-	195
Cash & bank balances	4,270	7,084	6,719	10,854
Loans and Advances	606	1,780	4,400	7,470
Total current assets	4,876	8,865	11,119	18,669
Current lia & prov.	6,603	6,025	5,563	5,722
Net current assets	(1,727)	2,840	5,557	12,947
Misc. Expenditure	-	-	-	-
Total Assets	**139,817**	**172,232**	**224,299**	**306,464**

Source: Company, Centrum Research

Exhibit 29: Cash flow

Y/E Mar (Rsmn)	FY08	FY09E	FY10E	FY11E
CF from operating				
Profit before tax	921	5,660	4,998	4,462
Depreciation	-	-	-	593
Interest expenses	-	-	-	1,057
OP profit bef WC change	**(404)**	**(727)**	**(897)**	**1,534**
Working capital adju.	(167)	(1,752)	(3,082)	(3,256)
Gross cash from op.	**(571)**	**(2,479)**	**(3,979)**	**(1,722)**
Direct taxes paid	**(65)**	**(371)**	**(383)**	**(522)**
Cash from operations	**(637)**	**(2,850)**	**(4,361)**	**(2,244)**
CF from investing				
Capex	(3,615)	(31,994)	(56,011)	(93,393)
Investment	(119,539)	13,387	18,564	32,878
Cash from investment	**(123,149)**	**(18,607)**	**(37,447)**	**(60,515)**
CF from financing				
Proceeds from sh cap & prem.	126,412	-	-	-
Borrowings/ (Repayments)	1,627	27,116	47,438	78,699
Interest paid	0	(2,855)	(6,008)	(11,031)
Dividend paid	-	-	-	(788)
Cash from financing	**128,038**	**24,271**	**41,443**	**66,894**
Net cash increase/ (dec)	**4,253**	**2,814**	**(365)**	**4,135**

Source: Company, Centrum Research

Exhibit 30: Key Ratios

Y/E Mar	FY08	FY09E	FY10E	FY11E
Margin Ratios (%)				
EBITDA Margin	-	-	-	28.2
PBIT Margin	-	-	-	126.0
PBT Margin	-	-	-	101.9
PAT Margin	-	-	-	90.0
Growth Ratios (%)				
Revenues	-	-	-	-
EBITDA	-	242.4	23.4	(237.6)
Net Profit	-	694.4	(12.7)	(14.6)
Return Ratios (%)				
ROCE	0.7	3.4	2.3	1.9
ROIC	(53.0)	(27.1)	(14.2)	3.0
ROE	0.5	3.8	3.2	2.7
Turnover Ratios				
Asset turnover ratio (x)	-	-	-	0.0
Inventory holding (days)	-	-	-	7.6
Avg collection period (days)	-	-	-	8.1
Avg payment period (days)	-	-	-	-
Per share (Rs)				
Fully diluted EPS	0.3	2.2	1.9	1.6
CEPS	0.3	2.2	1.9	1.9
Book Value	56.5	58.7	60.6	61.9
Solvency ratios				
Debt/ Equity	0.0	0.2	0.5	1.1
Interest coverage ratio	-	-	-	5.2
Valuation parameters (x)				
P/E	331.2	41.7	47.8	56.0
P/BV	1.6	1.6	1.5	1.5
EV/ EBITDA				
EV/ Sales				
M-Cap/ Sales				

Source: Company, Centrum Research

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