

GVK Power & Infrastructure (GVKP.BO)

India: Utilities

May 19, 2006

 Stock rating: **Outperform**

 Coverage view: **Attractive**

Price: Rs276

Target price: Rs330

BSE-30: 10,939

Why read this report?

- **Initiating coverage**
- **Evaluating the impact of uncertainty of near-term gas supply on intrinsic value**

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Important disclosures appear at the back of this report.

Needs more gas. Non-availability of gas leads us to assume that 355 MW out of a total attributable capacity of 472 MW will likely be mothballed till end-FY2008. However, large gas finds in the KG basin suggest predictable and strong cash flows over the long term. We initiate coverage with an Outperform rating.

Part owner of three gas-based power plants—one operational

(1) 54%-owned GVK-I: 216 MW capacity operational since June 1997, (2) 54%-owned GVK-II: 220 MW capacity recently completed and awaiting gas allocation, (3) 51%-owned Gautami: 464 MW capacity (likely COD of September 2006) also faces uncertainty on the gas supply front.

Once operational, PPAs ensure high predictability of strong cash flows

Power Purchase Agreements (PPAs) for the three power plants provide for the pass-through of fuel cost, thus eliminating the risk to profitability from rising energy prices. The dual fuel capability of these plants also ensures optimal plant availability, which largely ensures full fixed-cost recovery (once the plants go operational). We estimate sustainable FCF-to-equity yield of 15% p.a. and more from FY2009 onwards.

Sum-of-the-parts (SOTP) value of Rs330/share

Our DCF-to-equity model yields Rs287/share for the three power plants and the O&M operations of GVKPIL. We assign Rs43/share as value enhancement from future projects. We estimate 36% upside on our target price, if GVK-II and Gautami get proportionate allocations of gas from GAIL and are able to recover full capacity charges as per the terms of the PPA.

Key risks

Key risks are (1) gas availability and pricing, (2) receivables pileup and (3) project execution. We believe these risks are largely mitigated by (i) large gas discoveries in the KG Basin, (ii) a reforming power sector and the lead taken by the Andhra Pradesh government in implementing power reforms and (iii) a good track record in implementing projects.

Company data and valuation summary

Company data	Stock data	High	Low	Price performance	1M	3M	12M
Rating: Outperform	52-week range (Rs)	400	240	Absolute (%)	(1.9)	NA	NA
	Yield (%)		—	Rel. to BSE-30 (%)	(8.1)	NA	NA
Current price (Rs)	Priced at close of: 18-May-06						
276	Capitalization			Forecasts/valuation			
	Market cap (Rs bn)		6.5	2006E	2007E	2008E	
	Net debt/(cash) (Rs bn)		16.9	EPS (Rs)	9.1	11.9	12.0
	Free float (%)		35.1	CEPS (Rs)	30.6	33.4	33.6
	Shares outstanding (mn)		23.6	P/E (X)	30.2	23.2	23.0
				EV/EBITDA (X)	26.5	23.4	24.7

Source: Company data, Kotak Institutional Equities estimates.

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The prices in this report are based on the market close of May 19, 2006.

Overview: Needs more gas

Exhibit 1: Forecasts and valuation

	Revenue		EBITDA		Net profit	EPS	Gth (%)	ROCE	ROE
	(Rs mn)	Gth (%)	(Rs mn)	Gth (%)	(Rs mn)	(Rs)		(%)	(%)
2004	71	(28.4)	39	(42.3)	25	4.8		115.9	70.7
2005	73	2.6	39	1.8	17	3.2	(33.3)	8.8	38.0
2006E	2,832	3,768	1,074	2,623	216	9.1	186.2	4.2	8.4
2007E	3,019	6.6	1,248	16.2	282	11.9	30.3	2.8	5.4
2008E	2,995	(0.8)	1,211	(3.0)	284	12.0	0.9	2.6	5.3
2009E	13,917	364.6	4,319	256.7	394	16.7	38.7	8.7	7.0
2010E	16,967	21.9	4,371	1.2	475	20.1	20.4	9.1	8.0

Note: Financials are consolidated from FY2006 for the holding in power projects

Source: Company data, Kotak Institutional Equities estimates.

Non-availability of gas makes us assume that 355 MW out of a total attributable capacity of 472 MW will likely be mothballed till end-FY2008. However, large gas finds in the KG basin are reassuring with regard to predictable and strong cash flows in the long term. Our sum-of-the-parts based target price of Rs330/share offers 19% upside to the current market price. We initiate coverage with an Outperform rating.

Financials: FY2009 captures contributions from all projects

We assume the mothballed plants will likely start operations in FY2009 when additional gas from alternate sources is available in the region. Earnings will likely climb further in FY2010 as we assume sufficient gas availability for optimal utilization levels in GVK-II and Gautami.

Valuation: Lack of gas supply adversely impacts intrinsic value

Our sum-of-the-parts (SOTP) value of Rs330/share comprises Rs287/share for the three power plants and the O&M operations of GVK Power and Infrastructure Limited (GVKPIL) and Rs43/share as value enhancement from future projects. We estimate a 36% upside if GVK-II and Gautami get proportionate allocations of gas from GAIL and are able to recover full capacity charges as per the terms of the PPA.

Attractive, sustainable FCF-to-invested-equity yield of 15%+ pa likely from FY2009

Our estimate of equity value is 1.7X the invested equity as it captures the attractive sustainable cash yield driven by the terms of the PPAs. The key assumptions of our DCF-to-equity model are (1) cost of equity assumed at 10%, (2) explicit forecasts for the full term of the PPA, and (3) terminal value estimated, based on CERC's tariff regulations for the period FY2004-09.

Gas supply: A near-term concern

The availability of natural gas will likely remain a matter of concern for GVKPIL over the next 24-36 months. The total gas requirement for 1,266 MW of installed gas-based generation capacity in Andhra Pradesh is currently about 5-6 mmscmd, while supply is about 4 mmscmd. Demand is likely to go up by about 7 mmscmd as 4 new power plants (1,500 MW combined capacity) go on stream over the next six months. As against this increased requirement, gas supply will likely increase by 5-6 mmscmd only by mid-2007.

Gas supply: Little cause for concern in the long term

Over the longer term, we believe potential for gas supply for GVKPIL's power plants exists from (1) Reliance Industry's gas discovery—it has already submitted the development plan with an initial potential of 40 mmscmd of gas from Dhirubhai 1, Dhirubhai 2 and Dhirubhai 3 and upside potential of up to 80 mmscmd (2) GSPC's gas discovery—the company's website mentions it as India's biggest gas reserve of 20 tcf. However, the directorate general of hydrocarbon is yet to certify this.

Smoothly functioning payment security mechanism/improving finances of buyers

GVK-I is receiving monthly payments from its consumers within five days of billing (in order to avail of the 2.5% rebate offered by the IPP) from the very beginning. This, in our view, reflects the improving finances of the state-owned distcoms that buy power from IPPs such as GVKPIL.

The PPAs provide for three levels of payment security mechanisms: (1) revolving letters of credit, (2) escrow account facility and (3) state government guarantee. The state-owned power utilities of Andhra Pradesh have consistently ranked amongst the top two in the annual rating exercise commissioned by the Ministry of Power.

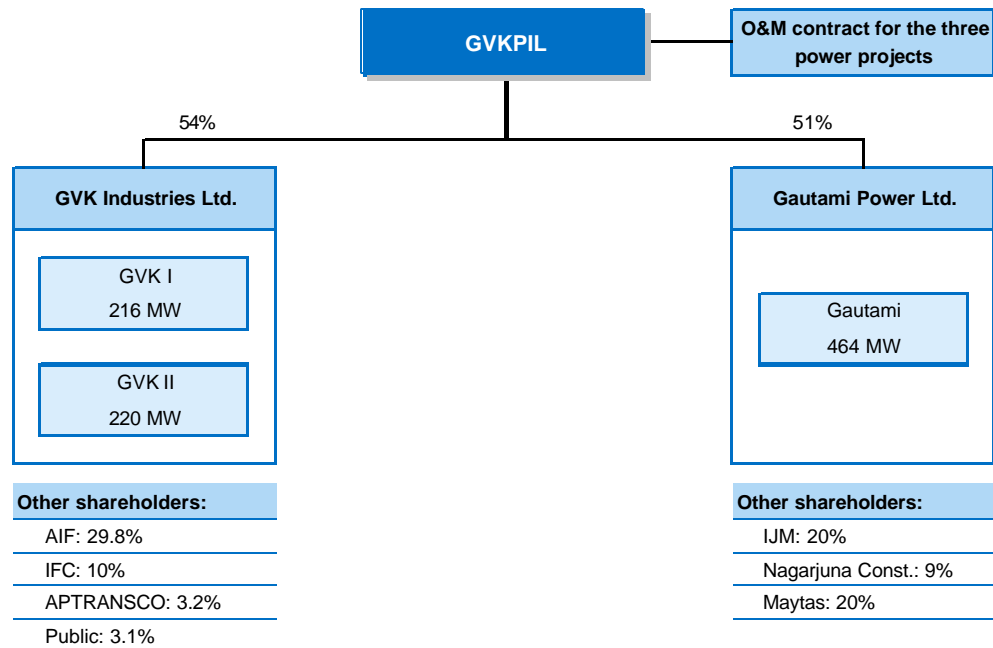
A reforming sector will likely throw up profitable investment opportunities

Several developments bode well for incumbents: (1) India's power sector currently has a broad policy and regulatory framework largely in place to usher in greater private-sector participation and competition; (2) The regulators have been issuing guidelines/orders that are enabling a nascent but evolving deregulated power market to emerge; and (3) Sector finances are on the mend.

GVK group pioneered private participation in the power sector in India with GVK-I being the first Independent Power Project (IPP) to be completed. GVK-II is the first 100% debt-financed power project in India's private sector. The group is actively evaluating several new potential projects, including hydropower, thermal (coal based) and wind power projects.

Company profile: Current focus is on generation

GVK Power & Infrastructure Limited (GVKPIL), promoted by G.V. Krishna Reddy, a first generation entrepreneur, is the holding company for three gas-based power projects in Andhra Pradesh with a cumulative generation capacity of 900 MW (attributable capacity of 472 MW). The company is also responsible for O&M of the three power plants.

Exhibit 2: Structure of GVK Power & Infrastructure Limited

Source: Company.

Exhibit 3: Attributable power generation capacity of 472 MW

GVK group investments in the power business

	GVK-I	GVK-II	Gautami
Capacity (MW)	216 MW	220 MW	464 MW
Ownership interest	53.96%	53.96%	51%
Attributable capacity (MW)	116 MW	118 MW	237 MW
Date of commercial operation (COD)*	Jun-97	Feb-06	Sep-06
Off-taker	APTRANSCO (to be assigned to APDISCOMs)		
Term of PPA	18 years from COD	15 years from COD	15 years from COD
Approved capital cost (Rs bn)	8.16	7.2	14.5
Means of finance	Debt: Equity of 70:30	100% debt financed	Debt: Equity of 70:30
O&M	Contracted to GVKPIL		

* Due to non-availability of natural gas, we assume GVK-II and Gautami to commission in FY2009.

Source: Company.

Valuation: Lack of gas supply adversely impacts intrinsic value

Our sum-of-the-parts (SOTP) value of Rs330/share comprises Rs287/share for the three power plants and the O&M operations of GVKPIL and Rs43/share as value enhancement from future projects. We estimate 36% upside if GVK-II and Gautami get proportionate allocation of gas from GAIL and are able to recover full capacity charges as per the terms of the PPA.

Our DCF-to-equity model yields a value of Rs287/share for the three projects

We use a DCF-to-equity model to value the three power projects and cash flows of the O&M business at Rs287/share. We factor in a loss of 14% towards dividend distribution tax upon consolidation of cash flows for dividend payout or investment in future projects. The key assumptions of our DCF-to-equity model are (1) cost of equity assumed at 10%-consistent with other utilities in our coverage, (2) explicit forecast for the full term of the PPA, and (3) terminal value estimated based on CERC's tariff regulations for the period FY2004-09.

Exhibit 4: SOTP value of Rs330/share

	Explicit forecast (PPA period)		PV of terminal value		Total value (Rs mn)	Equity Inv.		Attributable value	
	DCFe (Rs mn)	No. of years	(Rs mn)	Contr. (%)		(Rs mn)	(x) BV	(%)	(Rs mn)
GVK-I	3,533	9	2,185	38	5,718	2,620	2.2	54.0	3,085
GVK-II	(518)	15	937	224	419	1,077	0.4	54.0	226
Gautami	4,787	15	1,901	28	6,689	4,418	1.5	51.0	3,411
Sub total									6,722
14% lost as dividend distribution tax on consolidation									(943)
O&M business under GVKPIL	490	9	517	51	1,006	53	18.8	100.0	1,006
Total	8,291		5,540	40	13,831	8,168	1.7		6,786
Per share value (Rs)									287
Value enhancement from new projects (Rs)									43
Total value (Rs/share)									330

Note: The equity investment in GVK-II essentially represents the PV of negative FCF to equity in the initial few years

Source: Company data, Kotak Institutional Equities estimates.

Rs43/share (13% of value) accrues from future projects

Deployment of the surplus cash currently on books as well as the investible surplus generated over the next eight years from existing operations could likely add Rs43/share as value enhancement (see Exhibit 5).

Exhibit 5: Value enhancement from new projects

	Rs mn	Rs/share	Enhancement					
			(X)	(Rs/share)				
Total investible surplus on books	284	12	0.8	10				
Investible surplus likely generated over next 8-years	2,629	111	0.3	33				
Total enhancement				43				
Free cash flow to equity								
	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015
GVK-I (assuming 14% loss on dividend distribution tax)	407	124	230	197	195	192	190	188
GVK-II (assuming 14% loss on dividend distribution tax)	(296)	67	(9)	(8)	(26)	(10)	6	12
Gautami (assuming 14% loss on dividend distribution tax)	0	184	292	295	155	206	237	269
O&M business under GVKPIL	(2)	101	109	109	109	109	109	109
Total	109	476	621	593	433	497	543	578
Dividend payout (25%) plus div. tax	(81)	(112)	(135)	(143)	(156)	(180)	(198)	(215)
Investible surplus	28	364	486	450	276	317	346	363

Source: Kotak Institutional Equities estimates.

Significant contribution from terminal value as operating life exceeds the PPA term

Industry experts as well as the terms of the PPAs suggest that the likely life of a combined cycle gas based power plant is typically 30 years (versus the 15-18 year term of the PPAs). We assume shareholder value accretion of 1.26X book for terminal value calculation. The book value is the sum of (1) initial equity and (2) an assumed 30% equity funding for the required Renovation & Modernization (R&M). In Annexure IV, we elaborate further on our valuation framework.

We believe our assumptions for estimating the likely book value (for terminal value calculation) are also reasonable based on the likely buyout price to be calculated as per the terms of the PPAs. The PPAs provide for either (a) continuation of the existing agreement post their expiry on mutually agreeable terms or (b) buyout of the power plant as per a pre-determined formula.

The buyout price is defined as 50% of the depreciated replacement cost, which shall assume that the plant has an operating life of 30 years. The likely replacement cost is however subject to (1) inflation and (2) technological obsolescence.

FCF yield (on equity invested) depressed in the near-term

The near-term FCFE yield of the company is depressed due to delay in commissioning of GVK-II and Gautami. We assume the two projects will be commissioned in FY2009, operating at 50% PLF and going full steam in FY2010. While we assume capitalization of cost escalations and debt financing for Gautami, the interest and maintenance costs for GVK-II depresses the FCFE of the company. We expect steady improvement in FCFE yield in future years as increased gas availability eases off operational constraints. This will also be driven by the continuing recovery of fixed charge (at a fixed rate) in GVK-II and Gautami even when interest payments and principal repayments decline in future years.

Exhibit 6: Attributable FCF-to-equity and yields on equity investment

FCFE (Rs mn)	Equity share	2004	2005	2006E	2007E	2008E	2009E	2010E	2011E	2012E
	(%)									
GVK I	54.0%	355	181	69	63	473	145	267	229	226
GVK II		94	220	(381)	(285)	(344)	78	(11)	(9)	(31)
Gautami	51.0%	(217)	(118)	(1,368)	(268)	—	213	340	342	181
O&M business under GVKPIL	100.0%	6	42	(0)	(1)	(2)	101	109	109	109
Total		238	325	(1,681)	(491)	127	537	704	672	485

Yields (%)	Attr.	2004	2005	2006E	2007E	2008E	2009E	2010E	2011E	2012E
	Investment									
	(Rs mn)									
GVK I	1,414	25	13	5	4	33	10	19	16	16
GVK II	—									
Gautami	2,253	(10)	(5)	(61)	(12)	—	9	15	15	8
O&M business under GVKPIL	—									
Total	3,667	6	9	(46)	(13)	3	15	19	18	13

Source: Company data, Kotak Institutional Equities estimates.

We elaborate more on the different cash flow streams:

(a) GVK-I: FY2011 yield reflects steady state for the remaining period of the PPA

The estimated likely drop in FCFE yield in FY2006 and FY2007 (see Exhibit 6) is on account of low plant load factor (PLF) (as natural gas availability is an issue) and hence, incentive returns are not being accounted for. The sharp jump in yield in FY2008 is due to the full repayment of debt in the previous year. However, the yield comes off in FY2009 as (1) the project largely exhausts the depreciation charge that is recoverable through the tariff and (2) as we expect PLF to increase with better availability of gas, working capital requirements would rise in tandem. However, as the project becomes eligible for incentive returns, this partly helps in shoring up cash yields.

(b) GVK-II: Full debt funded and cost escalations result in negative cash flows to equity initially

Increase in project costs due to the delay in CoD without a commensurate increase in tariffs and a high leverage (100% debt finance) results in negative FCF-to-equity in the initial years. The FCF-to-equity turns positive during the latter period of the PPA as debt repayment gets completed.

(c) Gautami: Sustainable cash yields of 13-16%

Steadily increasing cash yields come off in FY2012 due to higher debt repayments. However, cash yields steadily climb thereon as debt repayment reduces interest burden as well, while tariffs essentially remain unchanged. FCFE yields will improve if the company gets compensated for project cost escalations through higher tariffs.

(d) O&M operations: New projects to aid growth in FCF-to-equity from FY2009

The drop in FCF-to-equity till FY2008 is on account of nil fee compensation from GVK-I as we expect the PLF to drop below the 75% hurdle level. The improvement in subsequent years is driven by fees derived from (i) new projects coming on stream (GVK-II and Gautami) and (ii) the assumption that the PLF for GVK-I will climb above 75% in FY2009 upon adequate availability of natural gas.

Proportionate allocation of existing gas and consequent recovery of capacity charges to provide an upside of 36%

We estimate our value for GVKPIL to increase to Rs448/share, providing 36% upside to our current estimates (Rs330/share) if the proportionate allocation of gas by GAIL results in the two power plants getting commissioned and start recovering their fixed costs. Our current valuation is based on mothballing of the two plants – GVK-II and Gautami for the next two years. We believe that the company will likely approach the Court to resolve the matter and allocation of gas by GAIL.

While our current projections factor project cost escalations due to delays in CoD, we have kept our tariff assumptions unchanged. We believe that the company will likely approach the APERC to recover higher costs incurred due to the delay in commissioning the projects (due to non-allocation of gas by GAIL).

Rupee depreciation a marginal positive (0.6% increase in fair value for 2.4% depreciation)

The positive impact is primarily on account of foreign equity enjoying the benefit of protection from currency movements. GVK-I has foreign equity of US\$44 mn and DM7.5 mn. The PPAs for GVK-II and Gautami both provide for a part of the fixed cost charge to be dollar denominated (see Annexures I, II & III for more details on PPA terms) thus insulating the projects from adverse currency movements. GVK-I's PPA provides for currency fluctuations to be passed into tariffs.

Exhibit 7: Currency depreciation has a positive impact on equity valuation

Rs/US\$	% Depreciation	Per share value (Rs)	% change
42		326	
43	2.4	328	0.6
44	2.3	330	0.6
45	2.3	332	0.6
46	2.2	334	0.6

Source: Kotak Institutional Equities estimates.

Exhibit 8: Summary valuation of Utility companies

Category	Rating	Mkt Cap US\$ bn	Price 18-May	EV/EBITDA			P/E			Cash P/E			P/BV			Net debt/	Div yield (%)		ROCE (%)			ROE (%)			
				2006E	2007E	2008E	2006E	2007E	2008E	2006E	2007E	2008E	2006E	2007E	2008E	2006E	2006E	2007E	2006E	2007E	2008E	2006E	2007E	2008E	
Reliance Energy	Int	OP	2,228	514	11.9	12.2	9.3	16.4	19.5	15.4	9.6	10.8	10.1	1.6	1.5	12	(51)	0.8	1.5	8.8	7.8	8.1	10.0	7.9	8.1
Reliance Energy - Adj.	Int				8.3	8.4	7.8	10.0	12.4	11.3															
Tata Power	Int	OP	2,475	565	13.8	11.9	10.3	32.1	29.8	25.2	15.9	14.5	13.2	2.1	2.0	1.8	24	1.2	1.3	7.7	8.3	9.0	7.3	7.4	7.9
Tata Power - adj.	Int				10.6	9.1	7.8	21.0	17.7	15.6															
CESC	Int	OP	0,586	313	6.6	6.3	5.7	11.8	13.9	12.5	5.3	5.7	5.2	2.0	1.7	1.5	142	1.3	1.1	12.0	11.8	13.1	15.3	13.1	12.4
NTPC	Gen	OP	21,197	117	12.4	11.8	9.0	15.6	15.2	13.7	10.0	10.3	12.3	2.4	2.2	1.8	(13.8)	2.0	2.3	11.3	9.7	9.5	14.3	13.6	13.9
NTPC - adj.					11.7	11.1	7.6	19.6	18.4	13.5				4.1	3.9	2.5									
GVKPIL	Gen	OP	0.14	276	26.5	23.4	24.7	30.2	23.2	23.0	9.0	8.3	8.2	1.3	1.2	1.2	184.3	0.8	1.1	4.2	2.8	2.6	8.4	5.4	5.3

Categories:

Gen = Generation; Int = Integrated

Note:

Tata Power-adj. Reflects the adjustment made for the value of investment portfolio and treasury investments

Reliance Energy- adj. Reflects the adjustment made for the value of Delhi distcoms & net treasury investments

NTPC - adj.: (1) EV/EBITDA - adjusted for the tax accounting policy of the company; (2) P/E and P/BV - adjusted for the treasury portfolio and income

Source: Kotak Institutional Equities estimates.

Business strategy: Compounding returns

GVKPIL has the opportunity to enhance shareholder value by reinvesting the cash flows generated from existing projects into its core business. We believe the reforming Indian power sector yields significant opportunities for incumbents to reinvest cash flows very profitably in new projects.

Potential for shareholder value accretion from new generation projects

We believe incumbents in the reforming Indian power sector currently face an explosion of business opportunities given (1) the supply deficit environment due to under investment in the past, (2) improving finances of the sector as A,T&C losses reduce at the distribution end of the business, (3) an enabling regulatory and legislative environment provided by the legislation of Electricity Act 2003 and related regulatory developments and (4) a nascent but fast-evolving deregulated power market.

Projects in the pipeline

GVK group pioneered private participation in the power sector in India with GVK-I being the country's first Independent Power Project (IPP) to be completed. GVK-II is the first 100% debt financed power project in the private sector in India. In a bid to diversify its interests in the power sector, currently restricted to three gas-based power plants in Andhra Pradesh, GVK is actively working on a number of new projects, including hydropower and thermal (coal based) power projects. GVK will likely try to diversify its customer base from the present single customer (APTRANSCO). Exhibit 9 lists the various projects at different stages of progress.

Exhibit 9: Diversifying customers and fuel mix

Projects in the pipeline

Customer	Fuel	Capacity (MW)	Location	Status
Punjab State Electricity Board	Coal	520	Gobindwal Sahib, Amritsar	Coal mine allocated in Jharkhand; Financial closure expected by Dec 2006
UPPCL	Hydro	330	Alaknanda, Uttaranchal	PPA being reviewed by UPERC; Financial closure expected by Sept 2006
Merchant power	Hydro	200	Mapang, Uttaranchal	Preliminary stage
Merchant power	Hydro	170	Sirkari Bagodia, Uttaranchal	Preliminary stage
Power Trading Corporation	Hydro	80	Dhaultsidh, HP	

Source: Company, Media reports.

Equity investment potential of Rs2.9 bn (Rs123/share) in the next eight years

The investment potential of the company comprises (1) Cash flows from existing projects and those under implementation (post completion), and (2) Existing cash on books. We have factored in cash flow losses on account of dividend distribution tax (for cumulating the cash flows of the three projects into the holding company) and also assume a steady 25% dividend payout.

Payment security and sector finances

GVK-I has always received monthly payments from its consumer within five days of billing (in order to avail of the 2.5% rebate offered by the IPP). In our view, this reflects the improving finances of the state-owned discoms that buy power from IPPs such as those of GVKPIL.

A smoothly functioning payment security mechanism

The Power Purchase Agreements (PPAs) provide for three levels of payment security mechanism for all the three combined-cycle, gas-based power plants.

- Revolving letter of credit:** (a) This is irrevocable and issued in favor of a company by a scheduled commercial bank, (b) it has a term of 12 months and (c) the LC amount is more than sufficient to cover average monthly billings.
- Escrow account facility:** (a) Payments to be deposited each month aggregating an amount equal to and not less than one month's average bill of the company, (b) GVK-I has dedicated collection centers (22 in Hyderabad and Secundrabad) depositing money in the escrow account. GVK-II and Gautami have the protection of collections on designated days in a pooled escrow account that has a monthly deposit of Rs7 bn (Rs3.2 bn is the escrow requirement for all the IPPs in the state).
- State government guarantee.**

Improving financial performance of state-owned discoms

The state-owned power utilities of Andhra Pradesh have consistently ranked amongst the top two in the annual rating exercise commissioned by the Ministry of Power. The latest rating exercise is based on financial data of FY2003-04 and other information available until end December 2004.

Exhibit 10: Year-wise rating of state power utilities by CRISIL/ICRA for MoP (2003-05)

January 2003			January 2004			March 2005		
Rank	State	Score	Rank	State	Score	Rank	State	Score
1	Andhra Pradesh	71.5	1	Delhi	57.0	1	Andhra Pradesh	57.0
2	Karnataka	68.0	2	Andhra Pradesh	56.8	2	Gujarat	53.6
3	Haryana	64.0	3	Goa	52.2	3	Delhi	51.9
4	Rajasthan	64.0	4	Karnataka	51.3	4	Karnataka	51.5
5	Maharashtra	60.0	5	Gujarat	51.0	5	Tamil Nadu	50.9
6	Delhi	52.5	6	Haryana	49.6	6	Goa	50.5
7	Gujarat	51.4	7	Punjab	46.0	7	Himachal Pradesh	49.9
8	Himachal Pr.	49.4	8	Himachal Pr.	44.2	8	West Bengal	44.6
9	Tamilnadu	47.5	9	Uttar Pr.	41.9	9	Uttar Pradesh	42.1
10	Punjab	45.0	10	Rajasthan	41.8	10	Chhattisgarh	39.9

Source: Ministry of Power report: 'Power sector rating'.

The absolute score has shown a decline, attributed to changes undertaken in the rating exercise since the first review. The more significant of such changes are:

- Explicit evaluation of the progress made by the state utilities in terms of implementing the various provisions of the Electricity Act, 2003 towards attaining commercial viability.
- A more stringent scoring framework for assessing the coverage of costs from own revenues.
- Use of negative marking in case of any policy announcements/ developments which, in the opinion of the rating agencies, could adversely impact the progress towards attaining commercial viability.

The parameters used and the weights attached in the rating exercise are elaborated in Exhibit 10 and 11.

Exhibit 11: Rating parameters and weightage

Parameter	January 2003	January 2004	March 2005
External	40	30	32
State government parameters	20	17	17
ERC related parameters	20	13	15
Internal	60	70	68
Business risk analysis	25	27	27
Generation	6	6	6
Transmission & Distribution	19	21	21
Financial risk analysis	30	23	20
Others	5	5	5
Progress in attaining commercial viability	NA	15	16

Source: Ministry of Power report: 'Power sector rating'.

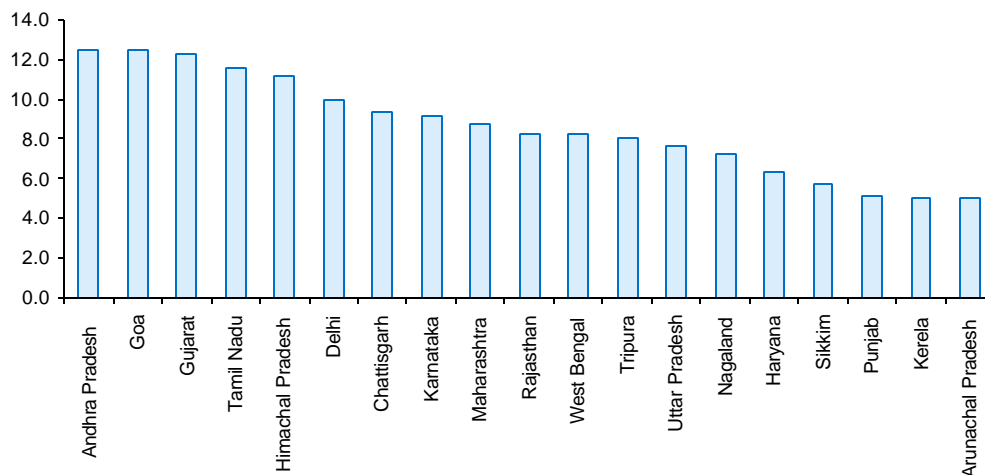
Power utilities of Andhra Pradesh score high on financial risk analysis parameters

The scores (see Exhibit 12) reflect the improving trend in receivables seen in the case of most of the state-owned utilities and progress in funding pension and gratuity liabilities. The report on the power sector rating further elaborates on the finances of the state-owned utilities.

Key positives: Financials of the integrated entity (generation, transmission and distribution) have improved in FY2004 compared to FY2002. The cash coverage of costs stands at about 89% for FY2004. Adjusted book losses have also reduced in FY2004 compared to FY2002. The improvement in the finances is the result of the reduction in AT&C losses to about 24% in FY2004. The transmission and distribution utilities had been regular in servicing debt service obligations. A master trust has been created for meeting the pension and gratuity liabilities of employees.

Areas of improvement: The government of Andhra Pradesh's policy of providing free power to agriculture consumers will likely impact financials of entities in the power sector in the long run. The gearing of the consolidated entity is on the higher side at 3.59X. This is also due to the long-term bonds issued by the generation entity for meeting pension payments. The debtors, though showing a declining trend, are still at about three months of sales for FY2004. The creditors too are high at 77 days of payables for FY2004, which is higher than the benchmark of 60 days payables.

Exhibit 12: Financial risk analysis scores



Source: Ministry of Power report: 'Power sector rating'.

The cumulative cash profits (on revenue and subsidy realized basis) of the state power utilities in Andhra Pradesh has increased to Rs12.31 bn in FY2005 from Rs8.55 bn in FY2003.

Outlook for natural gas availability

Availability of natural gas will likely remain a matter of concern for GVKPIL over the next 24-36 months. The PLF of existing power plants will likely remain at sub-optimal levels too, as any near-term new gas supplies will flow to new generation projects. However, significant discoveries of gas reserves in the KG Basin suggest that gas supply concerns will likely remain for the limited period mentioned.

Current supply is broadly rationed on a proportionate requirement basis

Exhibit 13: Current demand and availability scenario of natural gas in Andhra Pradesh (mmscmd)

Consumer Power	Capacity (MW)	Capacity			Total	Achievable PLF with firm allocation (%)	FY2006 PLF (%)	Mar 2006 PLF (%)
		Firm	Fallback					
AP Gas Power Corp. Ltd.	272	1.22	0.10	1.32	90%	77%	72%	
GVK	216	0.90	0.15	1.05	79%	68%	69%	
Spectrum Power	208	0.90	0.15	1.05	86%	73%	71%	
Lanco Kondapalli	350	1.46	0.29	1.75	83%	69%	71%	
Reliance Energy	220	0.64	0.36	1.00	58%	44%	45%	
Vathsasa Power	NA	0.07		0.07				
Total		5.19	1.05	6.24				
Nagarjuna Fertilizer Corp. Ltd.		2.14	0.61	2.75				
Other small consumers		0.337	0.39	0.73				
Total		7.66	2.05	9.71				

Source: Infraline, Industry.

Upcoming new power projects will likely get gas only from incremental supplies

Exhibit 14: Incremental demand from power sector in the near-term in Andhra Pradesh (mmscmd)

Power	Capacity (MW)	Allocation	Achievable PLF with firm allocation (%)	Status
Vemagiri Power	370	1.64	88	Gas turbine synchronized on 13.01.2006
GVK Industries (GVK II)	220	1.10	96	Gas turbine synchronized on 09.10.2005 & steam turbine synchronized on 11.11.2005
Konaseema Power Corp.	445	2.00	90	Expected date for gas turbines synchronization was March 2006 and for steam turbine August 2006
Gautami Power Ltd.	464	1.96	84	Expected date for COD is September 2006
Total		6.70		
Spectrum Power Generation Ltd.		0.75		Recommended for review of allocation/cancellation

Source: Infraline, CEA, Industry.

Expected increase in supply over the next 24-36 months to fall short of likely demand increase

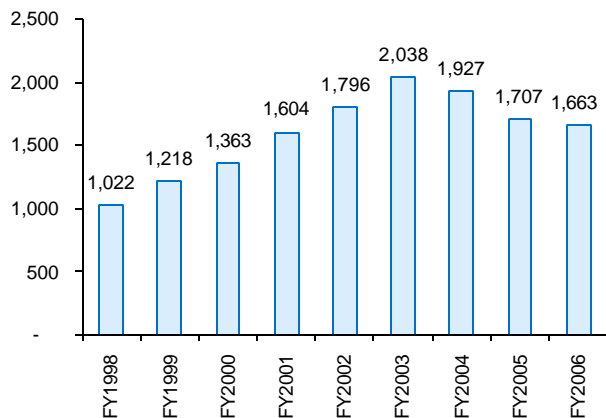
Exhibit 15: Incremental supply in the near-term in Andhra Pradesh (mmscmd)

Supplier	Amount	Availability date	Comments
ONGC's G-1 & GS-15 structure	2.7	March-April 2007	Initial supply of about 1.15 mmscmd that will be gradually enhanced
Ravva-II	3	April-June 2007	Supply dependent upon commercial arrangement
Total	5.7		

Source: Infraline, Industry.

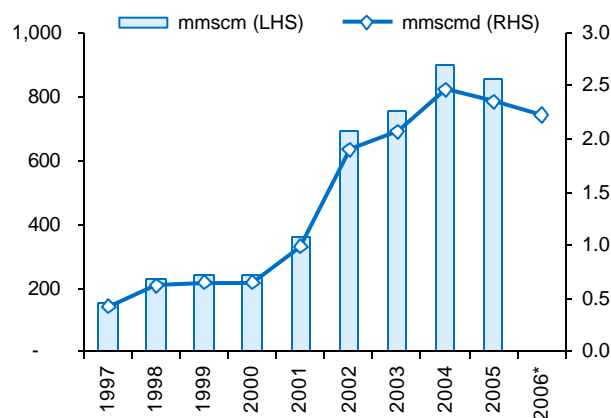
Gas supplies from existing producing fields are showing a flattening to falling trend

Exhibit 16: Natural gas production trend of ONGC in Andhra Pradesh (mmscm)



Source: Infraline.

Exhibit 17: Natural gas production trend of Ravva in Andhra Pradesh (mmscm)



* Till March 2006 end

Source: Infraline, Cairn energy Plc.

Exhibit 18: Natural gas reserves and current production in Andhra Pradesh

Reserves (bcm)		
ONGC		
Onshore		42.3
Offshore		28.8
Total		71.0
Private/JV companies		
Offshore		343.5
Grand total		414.5

Production		
	FY2006/CY2005 (mmscm)	Mar-06 (mmscmd)
ONGC (Onshore)	1,663	4.5
Cairn (Ravva)	858	2.2
Total		6.8

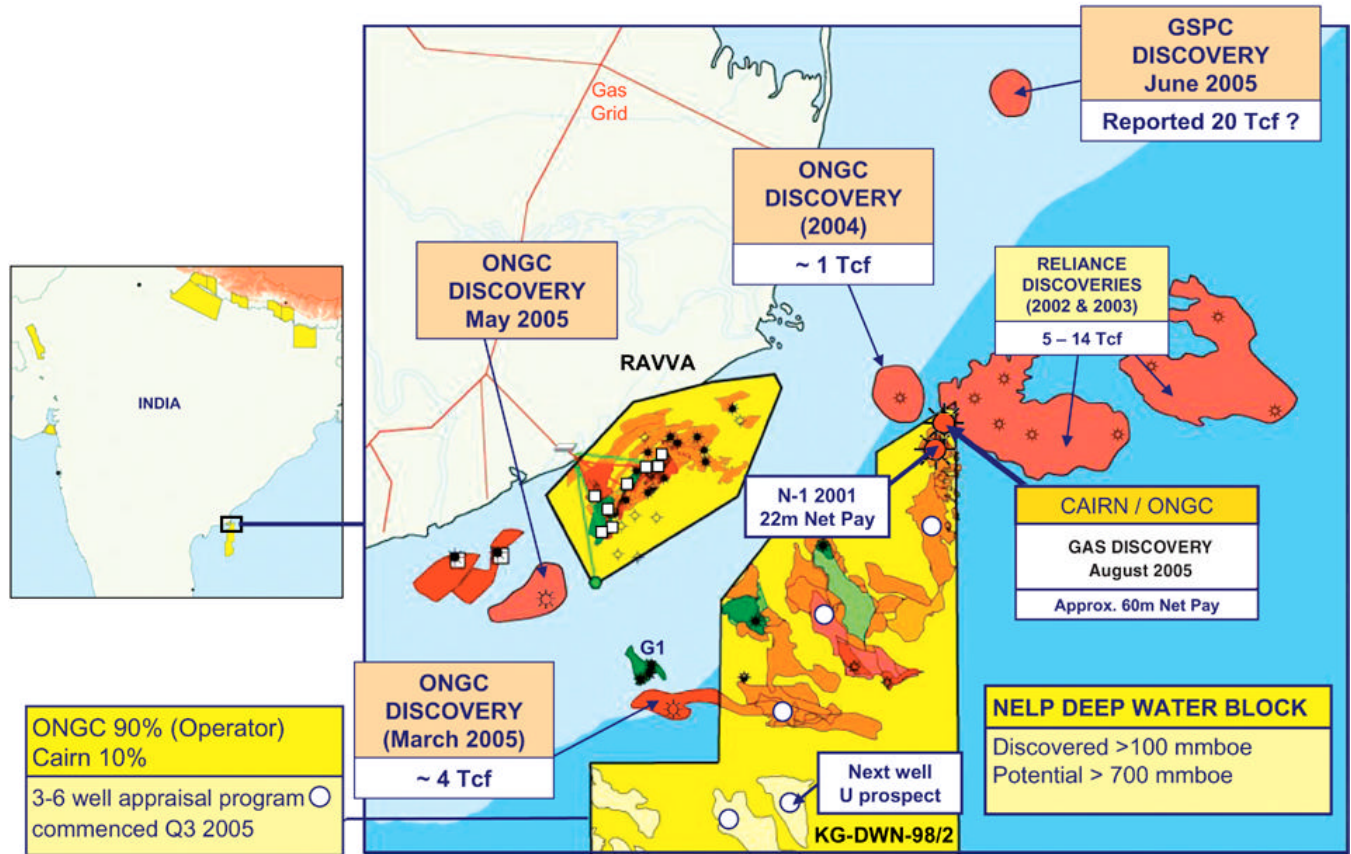
Note: Private/JV reserves include 323BCM of Reliance discoveries of Dhirubhai-1 & 3 fields that have been declared commercial

Source: Infraline, Cairn Energy Plc. Ministry of petroleum & natural gas.

Significant discoveries in the KG Basin are reassuring regarding long-term gas supply

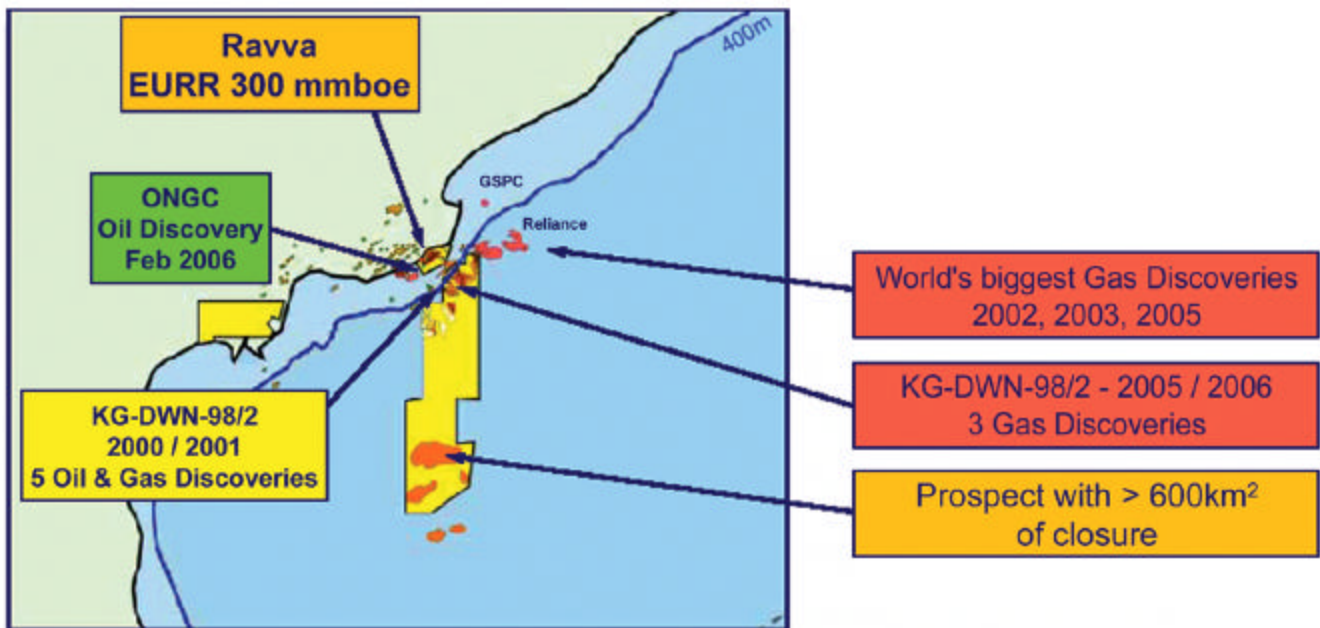
We believe the potential for gas supply for GVKPIL's power plants exists from (1) Reliance Industry's gas discovery—it has already submitted the development plan with an initial potential of 40 mmscmd of gas from Dhirubhai 1, Dhirubhai 2 and Dhirubhai 3 and an upside potential of upto 80 mmscmd. The government has approved the development plan and production is scheduled to commence from mid 2008. According to the submitted plans, the ongoing efforts in exploration make the company very confident about discovering more reserves; and (2) GSPC's gas discovery—the company's website mentions it as India's biggest gas reserve of 20 tcf. However, the directorate general of hydrocarbon is yet to certify this.

Exhibit 19: Recent discoveries in KG Basin in Andhra Pradesh



Source: Cairn Energy PLC.

Exhibit 20: Recent discoveries in KG Basin in Andhra Pradesh



Source: Cairn Energy PLC.

Outlook for natural gas prices

Over the PPA period, there appears little risk to cash flows from rising energy prices in our view as fuel costs are a pass-through as per the terms of the PPAs for all three power plants. Moreover, we believe that even on assuming relatively high gas prices power tariff of GVK's power plant appear reasonable. Longer-term domestic natural gas pricing remains a complex issue given the upward spiral in global energy prices. However, we believe that given the disproportionate consumption share of the power sector, competing fuel prices (especially domestic coal) will likely ensure competitively-priced domestic gas for the power sector going forward.

Reasonable tariff at reasonably high gas prices

We estimate the tariff for the power plants to be a still viable Rs2.5-2.6/unit (see Exhibit 21) on increasing the natural gas price to US\$5/mmBtu in FY2010 (when all the plants will likely operate at optimal capacity). During the past year, the average power purchase costs for PTC (reported on a quarterly basis) have consistently been higher than Rs2.75/unit. The average cost of power purchased during 4QFY06 is Rs2.8/unit.

Exhibit 21: Delivering power at reasonable rates

Assumptions for natural gas - pricing and availability

	2004	2005	2006E	2007E	2008E	2009E	2010E	2011E	2012E
GCV of gas (kcal/SCM)	9,563	9,583	9,583	9,583	9,583	9,583	9,583	9,583	9,583
Gas price (Rs/1000SCM)	4,290	4,509	4,644	4,644	4,644	8,366	8,366	8,366	8,366
Gas price (\$/mBtu)	2.5	2.6	2.8	2.8	2.8	5.0	5.0	5.0	5.0
Forex rate (Rs/US\$)	45.8	44.9	44.0	44.0	44.0	44.0	44.0	44.0	44.0
Gas used per day (mmscmd)	0.9	0.8	0.7	0.7	0.7	2.6	3.6	3.6	3.6
GVK I	0.89	0.84	0.74	0.74	0.74	0.91	0.91	0.91	0.91
GVK II	—	—	—	—	—	0.54	0.87	0.87	0.87
Gautami	—	—	—	—	—	1.19	1.83	1.83	1.83
PLF (%)									
GVK I	79	76	65	65	65	85	85	85	85
GVK II	—	—	—	—	—	50	85	85	85
Gautami	—	—	—	—	—	50	85	85	85
Electricity tariff (Rs/unit)									
GVK I	2.12	2.24	2.38	2.54	2.52	2.78	2.55	2.56	2.56
GVK II	—	—	—	—	—	3.21	2.58	2.58	2.58
Gautami	—	—	—	—	—	3.28	2.63	2.62	2.62

Source: Company data, Kotak Institutional Equities estimates.

Rationed natural gas supply for the power sector at a regulated price

The price of APM gas is linked to a basket of fuels with a floor and a ceiling. Prices have breached the ceiling of Rs2,850/tcm (US\$1.6/mmBtu) since October 1999. After much deliberation, the government increased the price from July 2005 to Rs3,200/tcm (US\$1.83/mmBtu) for the several customers: (a) the power sector, (b) the fertilizer sector, (c) Agra-Ferozabad region customers, (d) CNG distribution, (e) customers drawing less than 0.05 mmscmd and for (f) fuel consumption by GAIL in the HVJ pipeline system.

For all the other industrial customers, the price is fixed at around US\$3.86/mmBtu (Rs6,740/tcm). For the northeast, the natural gas price is pegged at 60% of the new price. Transmission charges for the HVJ pipeline have not been increased and are maintained at Rs1,150/tcm (for a calorific value of 8,500 Kcal).

Exhibit 22: Current domestic gas production (mmscmd)

	FY2006	Mar-06
ONGC	61.9	63.2
OIL	6.2	6.2
Private/JVC	20.2	21.8
Onshore	4.3	4.7
Offshore	15.9	17.1
Total gas supply	88.2	91.2

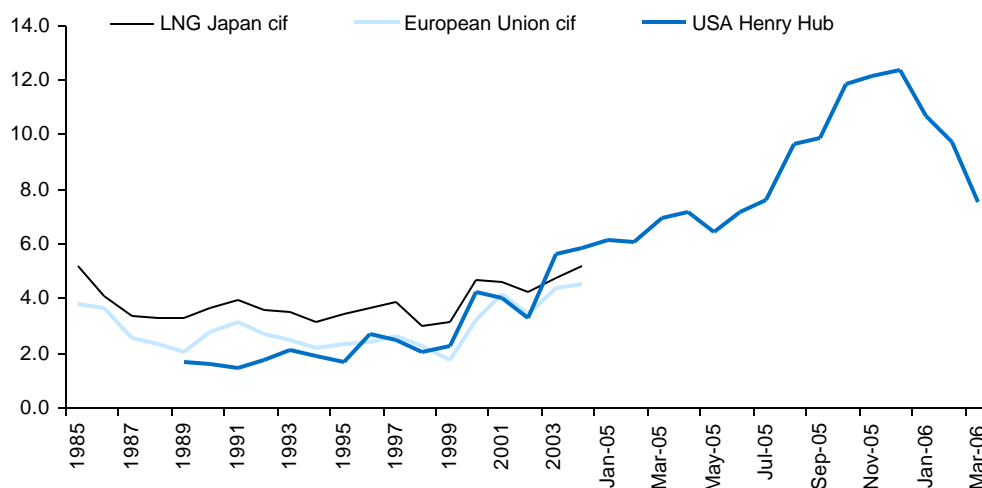
Source: Ministry of petroleum & natural gas.

Part of natural gas sold at market-determined rate, benchmarked to R-LNG prices

The Panna Mukta Tapti (PMT) field (supplies around 10.6 mmscmd), production-sharing contract allowed for a revision in prices from April 2005. After much deliberation, the government permitted the PMT consortium (i.e. ONGC, Reliance Industries and British Gas) to directly sell around 4.8 mmscmd of gas at the market-determined rate. The consortium is currently selling the gas at around US\$4.75/mmBtu (excluding transportation)—hiked from US\$4/mmBtu w.e.f. April 1 2006. The remaining 5.5-6 mmscmd is available for sale via GAIL to existing customers along the HVJ network. Similarly, a part of the Ravva gas is also supplied at market determined prices.

Global natural gas prices are coming off from the peak

Exhibit 23: Natural gas price trend (US\$/mmBtu)

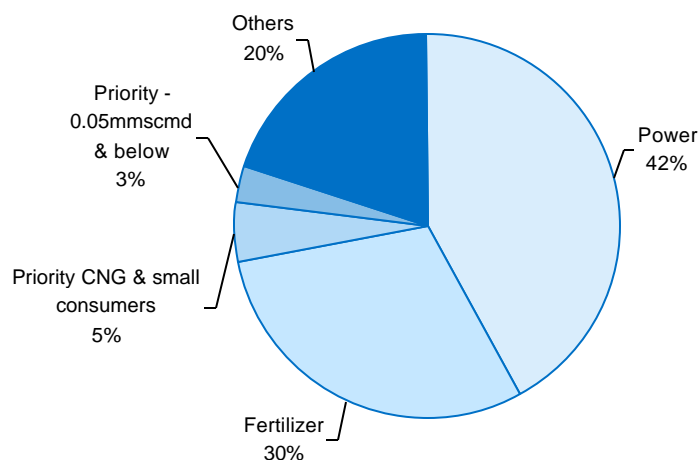


Source: BP, Heren Energy Ltd., Natural Gas Week.

Competing fuel prices for power will likely restrain domestic gas prices

Reliance Industries won the NTPC tender for the supply of natural gas to the latter's Kawas and Gandhar plants in Gujarat, agreeing to supply gas at a delivered all-inclusive price of US\$2.97/mmBtu in FY2006. While energy prices have moved up since, we believe the price to the power sector will have to be reasonable as (1) the power sector is the largest customer of natural gas in the country and accounts for 42% of current consumption (see Exhibit 24), (2) the sector assures long-term contracts and offtake of large quantities and (3) competing fuel prices and especially cheap domestic coal will likely restrain domestic natural gas prices (see Exhibit 25).

Exhibit 24: Composition of domestic natural gas consumption in India in FY2005 (%)



Source: Infraline.

Exhibit 25: Fuel cost comparison

	Fuel cost			GCV	Unit	Heat rate kCal/kwh	Cost of generation (Rs/kwh)
	(US\$/mmBtu)	Rs	Unit				
Domestic natural gas	2.75	4,911	Rs/tcm	10,000	Kcal/M	1,800	0.86
LNG (Petronet)	4.00	7,143	Rs/tcm	10,000	Kcal/M	1,800	1.31
Coal (domestic pithead)	1.30	850	Rs/ton	3,650	Kcal/Kg	2,600	0.60
Coal (imported)	2.41	2,925	Rs/ton	6,800	Kcal/Kg	2,600	1.43
Naphtha	15.92	31,280	Rs/ton	11,000	Kcal/Kg	1,900	2.62
Fuel oil	12.51	21,000	Rs/ton	9,400	Kcal/Kg	1,600	1.74

Source: CRISINFAC, Kotak Institutional Equities.

Power sector outlook

Several developments bode well for incumbents. A broad policy and regulatory framework is largely in place to usher in greater private sector participation and competition in the Indian power sector. The regulators have been issuing guidelines/orders regularly, enabling a nascent but evolving deregulated power market to emerge. And finally, sector finances are on the mend.

The reforming Indian power market

Exhibit 26: Pace of power sector reforms picking up

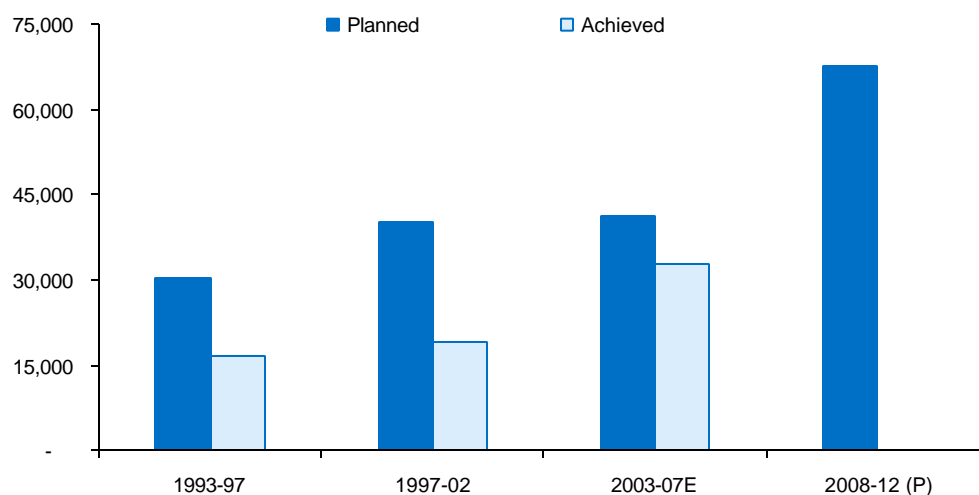
Reforms timeline, 1993-2012

	1993- 2002	2003-2012	Beyond 2012
Reforms initiated	Mega Power policy announced. Foreign participation encouraged in power sector.	Electricity Act 2003 passed - envisaging active private participation. National Electricity Policy notified in February 2005 Unbundling of SEB's. OTSS of outstanding dues. APDRP scheme for improving infrastructure and reducing A,T&C losses.	A thriving deregulated power market with active private participation.
Response	Generated interest from foreign utility companies. Several projects were announced.	Increased capacity addition by private players. Aggressive capacity addition CPSU's and SEB's on the back of improving finances. Private participation in distribution (Delhi, Orissa and perhaps few more states). Open access in transmission & distribution.	
Outcome	Poor financial health of SEB's and mounting receivables prevented any significant capacity addition.	Improving track record of capacity expansion compared to plan targets. A,T&C losses start reducing esp. under private participation. Progressive reduction in cross-subsidies. Merchant power plants and power trading to take off.	

Source: Kotak Institutional Equities.

Exhibit 27: Improving track record in achieving targeted capacity additions

Actual capacity addition versus planned capacity addition (MW)

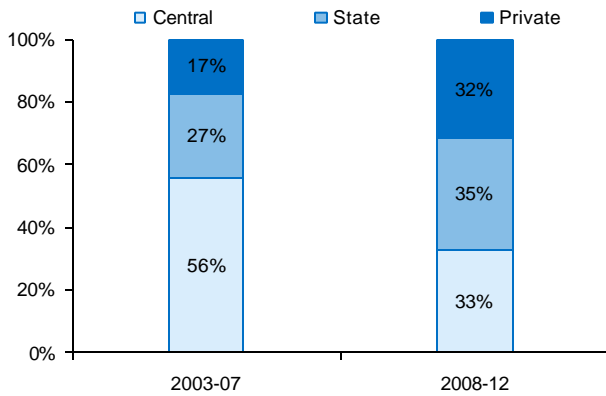


Source: CEA, Plan documents, Kotak Institutional Equities estimates.

Power investments growth will likely be higher than nominal GDP growth

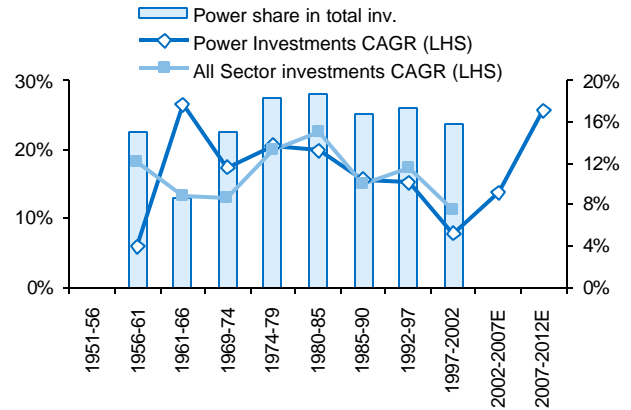
1. Ongoing reforms process improving sector viability, increasing private sector participation and bringing in competitive market forces;
2. Improved cash flows of distribution companies (or SEBs);
3. Increasing the opportunities available for private participation – in generation, transmission and distribution.

Exhibit 28: Increasing share of private sector investments in generation



Source: CEA, Kotak Institutional Equities.

Exhibit 29: Sharp spike in power investment likely on the back of reforms, assured cash flows and investment requirements



Source: The working of State Electricity Boards & Electricity Departments, Planning Commission May 2002, Kotak Institutional Equities estimates.

Key risks

We believe that the key risks of (1) gas unavailability and fluctuating prices (2) receivables pileup (3) project execution and (4) re-working of PPA, are largely mitigated by (i) large natural gas discoveries in KG Basin (ii) a reforming power sector and the lead taken by the Andhra Pradesh government in implementing power reforms and (iii) good track record in implementing GVK-I.

Gas availability and pricing

Availability of natural gas will likely remain a matter of concern over the next 24-36 months. However, significant discoveries of natural gas reserves in the KG Basin suggest that these concerns will likely remain for the limited period mentioned.

The commissioning of GVK-II has been delayed due to non-allocation of natural gas by GAIL. Gautami, scheduled to commission later during the year, will likely face a similar situation. We have assumed a two-year delay in the commissioning of these power plants in our projections and any allocation of gas or cost-recoveries in the interim will provide an upside to our estimates.

Over the PPA period, there appears little risk to cash flows from rising energy prices in our view as the three PPAs permit pass-through of fuel costs. Longer-term domestic natural gas pricing remains complex given the upward spiral in global energy prices. However, we believe that given the disproportionate consumption share of the power sector, competing fuel prices (especially domestic coal) will ensure competitively priced domestic natural gas supply to the power sector going forward.

Receivables pile-up risk

The risk of receivables pile-up arises from the deficit cash flow of the state-government-owned discoms. However, we believe that given the track record of timely payment and the good track record of the state in implementing power reforms as well as reducing A,T&C losses of the discoms, there is little risk of receivables pile up. Moreover, the three-tier payment security mechanism provides sufficient comfort (see the chapter on *Payment Security and Sector Finances* for more details).

Project execution risk

Given the GVK group's good track record in implementing GVK-I, we believe there is little project execution risk. GVK-I is the only fast track project completed (eight were approved under the fast track project scheme of Government of India) despite the policy environment that made it difficult to implement Independent Power Projects (IPPs). The delay in commissioning GVK-II and Gautami due to non-allocation of gas necessitates re-working interest and debt repayments. In case lenders do not agree to reschedule the principal repayments leading to a default, there could be a risk in obtaining funding for future projects.

Re-working of PPA of GVK-I

APTRANSCO had approached the Andhra Pradesh Electricity Regulatory Commission (APEREC) for a review of certain terms of the PPA of GVK-I. The company management is of the view that as the APEREC came into existence after the signing of the PPA, the latter does not have jurisdiction over it. The High Court has issued a stay order preventing APEREC from making any modifications to the PPA.

The PPAs of GVK-II and Gautami have been approved by the APEREC.

Financials: Gas shortage depresses earnings, defers cash flows

Continuing scarcity of natural gas till FY2008 and the failure of GAIL to supply gas to the new gas-based power plants getting commissioned is likely to result in the mothballing of the two projects – GVK-II and Gautami. Delay in CoD will also result in non-recovery of fixed-costs based on plant availability as envisaged in the PPAs. The resultant delay in revenues and cash flows depresses the earnings of GVKPIL during FY2007 and FY2008. Upside risk to our conservative estimates emanates from additional gas supplies in FY2009 or proportionate allocation of gas by GAIL to existing as well as new projects as envisaged earlier.

Near-term profitability hit by non-commissioning of GVK-II and Gautami

We assume mothballing of the plants and expect them to restart in FY2009 when additional natural gas from alternate sources is available in the region. GVK-II was scheduled to commence operation in February 2006 and Gautami is expected to commission in September 2006. However, in the absence of gas allocation by GAIL, GVK-II has not been commissioned and Gautami will likely face a similar situation. We factor in a postponement of debt repayments for two years in line with the delay in CoD for the two projects.

Non-commissioning of GVK-II and Gautami will likely impact near-term profitability of the company, in our view. GVKPIL plans to capitalize interest and associated maintenance costs for the two projects till CoD. However as per the agreement with the lenders, GVKPIL will continue to pay the interest costs associated with the GVK-II from cash flows of GVK-I depressing the cash flows of the company till FY2008 (see Exhibit 30). We have not built in any commensurate increase in recoverable tariffs to compensate for project cost escalations. We assume capitalization of expenses and debt funding for project cost escalation in case of Gautami.

Upside exits in the case of resolution of natural gas allocation. The PPAs of GVK-II and Gautami provide for full recovery of capital charges based on plant availability and hence, robust profit and cash flows if the projects get commissioned. GAIL has not started supplying natural gas as per proportionate allocation between existing and new users envisaged earlier. Resolution of the dispute on natural gas allocation and proportionate allocation of gas amongst projects as envisaged earlier will help GVK-II and Gautami to be commissioned. Upside to our estimates is also likely from any upward revision in tariffs to compensate for higher project cost due to the delay in CoD.

Exhibit 30: Mothballing of GVK-II and Gautami in the absence of gas supplies from GAIL
Consolidated financials, March fiscal year-ends (Rs mn)

	2004	2005	2006E	2007E	2008E	2009E	2010E
Revenue flows							
GVK-I	3,071	2,970	2,798	2,984	2,959	4,274	3,926
GVK-II	—	—	—	—	—	2,959	4,036
Gautami	—	—	—	—	—	6,355	8,669
O&M business	71	73	34	35	36	329	336
Total	3,143	3,043	2,832	3,019	2,995	13,917	16,967
EBITDA flows							
GVK-I	1,225	1,136	1,076	1,250	1,213	921	561
GVK-II	—	—	—	—	—	1,045	1,105
Gautami	—	—	—	—	—	2,190	2,540
O&M business	39	39	(2)	(2)	(2)	163	164
Total	1,264	1,175	1,074	1,248	1,211	4,319	4,371
Net profit							
GVK-I	538	495	472	524	529	354	125
GVK-II	—	—	—	—	—	17	91
Gautami	—	—	—	—	—	166	487
O&M business	25	17	(39)	(1)	(1)	109	110
Total	563	512	434	523	528	646	813
Minority interest	—	—	(217)	(241)	(243)	(252)	(338)
Attributable profit	—	—	216	282	284	394	475
FCF-equity							
GVK-I	657	335	127	116	877	268	495
GVK-II	—	—	(705)	(528)	(637)	144	(20)
Gautami	—	—	—	(525)	—	419	666
O&M business*	6	42	—	(1)	(2)	101	109

Source: Company data, Kotak Institutional Equities estimates.

Exhibit 31: Delivering power at competitive rates, March fiscal year-ends
Assumptions for natural gas - pricing and availability

	2004	2005	2006E	2007E	2008E	2009E	2010E
GCV of gas (kcal/SCM)	9,563	9,583	9,583	9,583	9,583	9,583	9,583
Gas price (Rs/1000SCM)	4,290	4,509	4,644	4,644	4,644	8,366	8,366
Gas price (\$/mBtu)	2.5	2.6	2.8	2.8	2.8	5.0	5.0
Forex rate (Rs/US\$)	45.8	44.9	44.0	44.0	44.0	44.0	44.0
Gas used per day (mmscmd)							
GVK I	0.89	0.84	0.74	0.74	0.74	0.91	0.91
GVK II	—	—	—	—	—	0.54	0.87
Gautami	—	—	—	—	—	1.19	1.83
Electricity tariff (Rs/ unit)							
GVK I	2.12	2.24	2.38	2.54	2.52	2.78	2.55
GVK II	—	—	—	—	—	3.21	2.58
Gautami	—	—	—	—	—	3.28	2.63

Source: Company data, Kotak Institutional Equities estimates.

GVK-I: the operating plant providing earnings and cash flows

The PPA of GVK-I is based on the common two-part tariff formula earning 16% post-tax returns on invested equity. We estimate GVK-I to operate at a lower PLF of 65% (see Exhibit 32) till FY2008 as natural gas supplies in Andhra Pradesh are estimated to remain in short supply. Though deemed and notional generation ensures recovery of full-capacity charges as well as incentives for GVK-I, we have not built in any incentives during the next 2-3 years. GVK-I is currently not receiving any incentives based on notional generation. The incentive claim is currently under dispute before the courts and the company has stopped booking any revenues pertaining to these incentives in its income calculations. Operating at a low PLF, the plant also incurs higher than normative gas consumption till FY2008.

Exhibit 32: Key assumptions for GVK-I, March fiscal year-ends (Rs mn)

	2004	2005	2006E	2007E	2008E	2009E	2010E
Hurdle PLF %	68%	68%	68%	68%	68%	68%	68%
Plant Load Factor (PLF) %	79%	76%	65%	65%	65%	85%	85%
Gross generation (mn units)	1,508	1,435	1,235	1,235	1,235	1,614	1,614
Share of gas in gross generation (%)	100%	100%	100%	100%	100%	100%	100%
Auxiliary consumption (%)	2.3%	2.3%	2.3%	2.3%	2.3%	2.2%	2.2%
Net generation (mn units)	1,472	1,401	1,206	1,206	1,206	1,579	1,579
Actual station heat rate (kcal/kwh)		2,049	2,100	2,100	2,100	1,980	1,980
Actual auxiliary consumption (%)		2.3%	2.3%	2.3%	2.3%	2.2%	2.2%
Normative station heat rate (kcal/kwh)			2,000				
Normative auxiliary consumption (%)			3%				
						} Used for fuel cost reimbursement	
Net revenues	3,071	2,970	2,798	2,984	2,959	4,274	3,926
EBITDA	1,225	1,136	1,076	1,250	1,213	921	561
EBITDA margin (%)	40%	38%	38%	42%	41%	22%	14%
PBT	510	550	510	753	743	464	111
PAT	538	495	472	524	529	354	125
Free cash flow to equity (FCFE)	657	335	127	116	877	268	495

Source: Company data, Kotak Institutional Equities estimates.

GVK-I has been in operation for the past eight years and most of its debt has been paid off. While the balance debt gets paid off during the next two years, GVK-I continues to be reimbursed for depreciation until FY2008, ensuring high cash yield in FY2008 despite low PLF (see Exhibit 32). The depreciation available for tariff calculation ends in FY2009 while book depreciation continues, resulting in a sharp drop in reported earnings. However, the project continues to give healthy cash yields even post 2010.

GVK-II: Commissioning delayed—straining cash flows in the interim

In the absence of gas allocation by GAIL, the commissioning of GVK-II (scheduled for February 2006) has been postponed. We estimate a delay of two years and expect the plant to be commissioned when additional natural gas is available from new sources in the region. We estimate the plant to operate at a PLF of 50% in FY2009 based on our estimates of additional natural gas availability, and operate at normal 85% PLF beyond that. Our projections factor in the postponement of debt repayments by two years due to the delay in project commissioning. However, according to the understanding reached with the lenders, GVKPIL will continue to meet the interest expenses in the interim from the cash flows of GVK-I. GVK-II will also have to bear expenses for insurance and maintenance of the mothballed plant.

Exhibit 33: Delay in commissioning resulting in initial losses, March fiscal year-ends
Key assumptions for GVK-II (Rs mn)

	2006E	2007E	2008E	2009E	2010E
Plant Availability Factor (PAF) %				85%	85%
Plant Load Factor (PLF) %				50%	85%
Gross generation (mn units)				964	1,638
Share of gas in gross generation (%)				100%	100%
Auxiliary consumption (%)				2.0%	2.0%
Net generation (mn units)				944	1,605
Actual station heat rate (kcal/kwh)				1,950	1,850
Actual O&M costs (as % of capital cost)				3.8%	3.9%
Normative station heat rate (kcal/kwh)	1,850			} Used for fuel cost reimbursement	
Normative auxiliary consumption (%)	3%				
Net revenues	—	—	—	2,959	4,036
EBITDA	—	—	—	1,045	1,105
EBITDA margin (%)	—	—	—	35%	27%
PBT	—	—	—	103	187
Tax	—	—	—	(12)	(21)
Deferred tax	—	—	—	(75)	(75)
PAT	—	—	—	17	91
Free cash flow to equity (FCFE)	(705)	(528)	(637)	144	(20)

Source: Company data, Kotak Institutional Equities estimates.

GVK-II has been financed with zero equity, making it the first 100% debt financed power project in India. As a result of high debt leverage, cash flows to equity will remain negative for a longer duration than other power projects. Post the debt payout, cash flows from the fixed capacity charges would be available to equity holders. However, the cash deficit in the initial years (due to delay in commissioning) necessitates equity support for the project.

Positive surprises to our estimates could flow from (1) Any upward revision in tariffs to compensate for higher project cost (due to delay in CoD). Our estimates do not factor in the recovery of higher charges while the additional interest burden is met from the cash flows of GVK-I; and (2) A proportionate allocation of gas by GAIL amongst projects as envisaged earlier will help GVK-II to recover full capital charges as envisaged in the PPA with APTRANSCO.

Gautami: Positive cash flows from first year of operation in FY2009

We believe that the commissioning of Gautami will be delayed by two years due to non-allocation of natural gas by GAIL. We estimate Gautami to operate at a PLF of 50% in FY2009 based on our estimates of additional natural gas availability. Our projections factor in the postponement of debt repayments by two years due to the delay in project commissioning and we assume capitalization of interest during this period. As per our estimates, Gautami returns to profitability and positive cash flows in FY2009. In the interim, we assume capitalization of expenses on insurance and maintenance of the mothballed plant.

Exhibit 34: Postponement of CoD by 2 years due to non-allocation of gas results in cash generation from FY2009, March fiscal year-ends

Key assumptions for Gautami (Rs mn)

	2006E	2007E	2008E	2009E	2010E
Plant Availability Factor (PAF) %				85%	85%
Plant Load Factor (PLF) %				50%	85%
Gross generation (mn units)				2,032	3,455
Share of gas in gross generation (%)				100%	100%
Auxiliary consumption (%)				2.2%	2.2%
Net generation (mn units)				1,988	3,379
Actual station heat rate (kcal/kwh)				2,050	1,850
Actual O&M costs (as % of capital cost)				3.6%	3.8%
Normative station heat rate (kcal/kwh)	1,850			} Used for fuel cost reimbursement	
Normative auxiliary consumption (%)	3%				
Net revenues	—	—	—	6,355	8,669
EBITDA	—	—	—	2,190	2,540
EBITDA margin (%)				34%	29%
PBT	—	—	—	346	734
Tax	—	—	—	(39)	(106)
Deferred tax	—	—	—	(141)	(141)
PAT	—	—	—	166	487
Free cash flow to equity (FCFE)	(2,683)	(525)	—	419	666

Source: Company data, Kotak Institutional Equities estimates.

Positive surprises to our estimates could flow from two situations: (1) Any upward revision in tariffs to compensate for higher project costs due to capitalization of additional interest on delay of CoD. Our estimates do not factor in a recovery of higher charges while we assume additional interest burden on the company; and (2) Proportionate allocation of gas by GAIL amongst projects as envisaged earlier would help Gautami recover full capital charges as envisaged in the PPA with APTRANSCO.

GVKPIL: O&M business

GVKPIL is also responsible for the O&M for all the three power plants. It gets reimbursed on the costs incurred through billable expenses and operating fees. For GVK-I, the operating fee is structured as base fees and incentives / penalties based on performance. The O&M contracts for GVK-II and Gautami are based on flat operating fees only. A small amount of bonuses and liquidated damages are also applicable upon achievement of defined performance parameters.

We estimate negative EBITDA during FY2006-08 due to the absence of incentives on account of lower PLF, which results in a decline in O&M revenues from GVK-I. Revenues and EBITDA show a dramatic improvement in FY2009, when revenues from Gautami and GVK-II as well as incentives from GVK-I start flowing in.

Exhibit 35: Capturing the efficiencies, March fiscal year-ends
O&M business (Rs mn)

	2004	2005	2006E	2007E	2008E	2009E
Net revenues	71	73	34	35	36	329
EBITDA	39	39	(2)	(2)	(2)	163
EBITDA %	54%	54%	-6%	-6%	-7%	50%

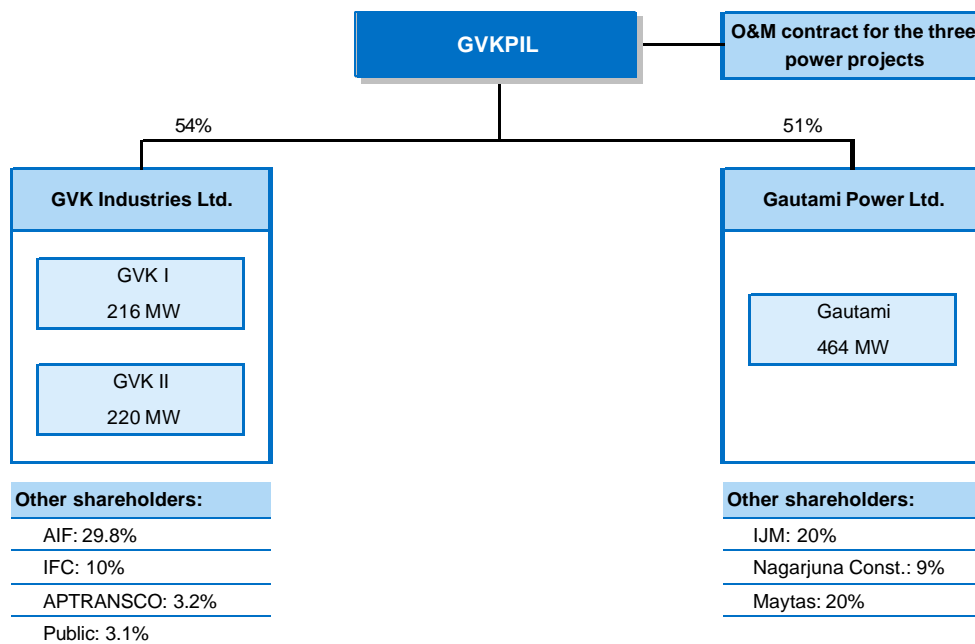
Lower O&M revenues in the absence of incentives as GVK-I operates at low PLF

Incentive earnings from GVK-I and revenue flows from GVK-II and Gautami

Source: Company data, Kotak Institutional Equities estimates.

GVK Power & Infrastructure Limited: Holding structure

Exhibit 36: Structure of GVK Power & Infrastructure Limited



Source: Company.

For projections, we have consolidated the financials of GVKPIL to include the revenues from O&M operations as well as the financials of the three power plants. During FY2005, GVKPIL held only a 33% stake in GVK Industries. Post the capitalization of reserves, GVKPIL has increased its stake in GVK Industries to 54% and purchased a 38.4% stake in Gautami. GVKPIL raised equity from the promoters to fund these purchases. GVKPIL issued 8.3 mn fresh shares to raise about Rs2.6 bn and used the proceeds to repay debt and increase its stake in Gautami to 51%.

Exhibit 37: GVK Power & Infrastructure Limited—Consolidated profit model, March fiscal year-ends. 2004-2010E (Rs mn)

	2004	2005	2006E	2007E	2008E	2009E	2010E
Net revenues	71	73	2,832	3,019	2,995	13,917	16,967
Cost of goods sold	(16)	(14)	(1,688)	(1,698)	(1,709)	(8,644)	(11,604)
Gross profit	56	59	1,144	1,321	1,286	5,273	5,363
Selling general & admin exp	(17)	(19)	(70)	(73)	(75)	(953)	(992)
EBITDA	39	39	1,074	1,248	1,211	4,319	4,371
Depreciation & amortization	(0)	(0)	(508)	(509)	(510)	(1,774)	(1,775)
EBIT	39	39	566	739	701	2,546	2,596
Interest (expense)	—	(9)	(134)	(36)	(26)	(1,549)	(1,489)
Interest/treasury income	1	1	14	24	42	57	65
Other income/(expense)	1	—	25	25	25	25	25
Pre-tax profit	41	32	471	753	742	1,078	1,197
Income tax	(15)	(15)	(117)	(320)	(315)	(325)	(285)
Deferred tax	(1)	—	79	90	100	(107)	(99)
Minority interest	—	—	(217)	(241)	(243)	(252)	(338)
Net profit	25	17	216	282	284	394	475
Extraordinary items	—	1	—	—	—	—	—
Profit attributable to shareholders	25	18	216	282	284	394	475
EPS (Rs)	728.3	485.8	9.1	11.9	12.0	16.7	20.1
CEPS (Rs)	729.1	486.5	30.6	33.4	33.6	91.7	95.1
Dividend per share (Rs)	790.0	—	2.3	3.0	3.0	4.2	5.0
Weighted avg. share (m)	0.035	0.035	23.6	23.6	23.6	23.6	23.6
Share outstanding (m)	0.035	0.035	23.6	23.6	23.6	23.6	23.6
Ratios (%)							
Revenue growth	(28.4)	2.6	3,768	6.6	(0.8)	364.6	21.9
EBITDA margin	54.3	53.9	37.9	41.3	40.4	31.0	25.8
EBITDA growth	(42.3)	1.8	2,623	16.2	(3.0)	256.7	1.2
Income tax rate	37.8	46.7	33.6	33.6	33.6	33.6	33.6
Dividend payout ratio	108.5	—	25.0	25.0	25.0	25.0	25.0
EPS growth	—	(33.3)	(98.1)	30.3	0.9	38.7	20.4

Note: Financials are consolidated from FY2006 for the holding in power projects.

Source: Company data, Kotak Institutional Equities estimates.

Exhibit 38: GVK Power & Infrastructure Limited—Consolidated balance sheet, March fiscal year-ends. 2004-2010E (Rs mn)

	2004	2005	2006E	2007E	2008E	2009E	2010E
Fixed assets - net	0.2	0.1	13,271	27,756	28,720	26,971	25,222
Capital WIP	—	—	12,545	—	—	—	—
Investments	—	892	—	—	—	—	—
Miscellaneous expenses not w/o	—	—	283	178	178	178	178
Current assets	42	7	1,858	1,732	1,922	3,250	4,251
Cash & bank balances	17	1	440	284	477	183	842
Accounts receivable	16	2	846	863	861	991	959
Inventories	—	—	311	312	314	612	614
Loans & advances	1	1	255	272	270	390	358
Others	7	2	7	—	—	1,075	1,477
Current liabilities	6	4	254	458	453	491	375
Short-term debt	—	—	—	—	—	—	—
Accounts payable	1	—	95	95	96	188	188
Other liabilities	3	2	42	43	43	84	84
Prov. for income tax	1	—	117	320	315	219	102
Other provisions	2	2	—	—	—	—	—
Net current assets	35	3	1,605	1,274	1,469	2,760	3,876
Employment of capital	35	895	27,703	29,209	30,367	29,909	29,276
Total debt	—	842	17,333	17,978	18,789	17,691	16,281
Paid-up common stock	—	—	236	236	236	236	236
Share premium	—	—	4,026	4,026	4,026	4,026	4,026
Reserves and surplus	36	53	820	1,021	1,224	1,506	1,846
Shareholders' funds	36	53	5,082	5,284	5,487	5,769	6,108
Def. tax liability/def. revenue/dev. surcharge fund	(1)	(1)	1,202	1,112	1,012	1,119	1,218
Minority interest	—	—	4,085	4,835	5,079	5,331	5,669
Capital employed	35	895	27,703	29,209	30,367	29,909	29,276
Ratios (%)							
Net debt/ equity	(48)	1,574	184	175	173	158	131
Pre-tax ROCE	116	8.8	4.2	2.8	2.6	8.7	9.1
Return on equity	70.7	38.0	8.4	5.4	5.3	7.0	8.0
Book value per share (Rs)	1,030	1,526	215	223	232	244	258

Note: Financials are consolidated from FY2006 for the holding in power projects.

Source: Company data, Kotak Institutional Equities estimates.

Exhibit 39: GVK Power & Infrastructure Limited—Consolidated cash flow statement, March fiscal year-ends. 2004-2010E (Rs mn)

	2004	2005	2006E	2007E	2008E	2009E	2010E
Operational cashflows							
Earnings before tax	41	33	471	753	742	1,078	1,197
less taxes paid	(15)	(16)	—	(117)	(320)	(420)	(402)
plus depreciation	—	—	508	509	510	1,774	1,775
decrease / (increase) in working capital	(19)	17	(1,280)	(29)	3	(1,490)	(340)
Total operational cashflow	7	34	(301)	1,116	936	942	2,230
Investment cashflow							
(Additions) / disposals of fixed assets	(0)	—	(26,323)	(2,449)	(1,474)	(25)	(25)
decr / (incr) in intangibles & capitalised assets	—	—	(283)	105	—	—	—
decr / (incr) in investments and advances	—	(892)	892	—	—	—	—
Add Others	—	—	—	—	—	—	—
Total investment cashflow	(0)	(892)	(25,714)	(2,344)	(1,474)	(25)	(25)
Financing cashflow							
incr / (decr) in other long term liabilities	—	—	—	—	—	—	—
incr / (decr) in common shares	—	—	236	—	—	—	—
incr / (decr) in share premium/Other reserves	41	(0)	10,708	509	—	—	—
less dividends paid	(31)	—	(62)	(80)	(81)	(112)	(135)
incr / (decr) in short term debt	—	—	—	—	—	—	—
incr / (decr) in long term debt	—	842	16,491	644	812	(1,098)	(1,410)
Total financing cashflow	10	842	27,373	1,073	731	(1,211)	(1,545)
Net cashflow	17	(16)	1,358	(156)	192	(294)	660
Cash at beginning of year	—	17	1	440	284	477	183
Cash at end of year	17	1	440	284	477	183	842

Note: Financials are consolidated from FY2006 for the holding in power projects.

Source: Company data, Kotak Institutional Equities estimates.

Company profile: Current focus is on generation

GVK Power & Infrastructure Limited (GVKPIL), promoted by G V Krishna Reddy, a first generation entrepreneur, is the holding company for three gas-based power projects in Andhra Pradesh with a cumulative generation capacity of 900 MW (attributable capacity of 472 MW). The company is also responsible for O&M of the three power plants.

GVKPIL, incorporated as Jegurupadu Operation and Maintenance Company (JOMC), a private company with unlimited liability on December 2, 1994, became a public limited company on May 19, 2005 and was renamed GVK Power & Infrastructure Limited on July 13, 2005. In March 2006, GVKPIL issued 8.3 mn shares to raise Rs2.6 bn and has listed on the NSE and BSE.

Investments in power business

The power interests of the GVK group comprise three gas-based power projects in Andhra Pradesh, a state in southern India. GVKPIL is the holding company and is also responsible for the O&M of the three power projects.

Exhibit 40: Attributable power generation capacity of 472MW

Investments in power business

	GVK-I	GVK-II	Gautami
Capacity (MW)	216 MW	220 MW	464 MW
Ownership interest	53.96%	53.96%	51%
Attributable capacity (MW)	116 MW	118 MW	237 MW
Date of commercial operation (COD)*	Jun-97	Feb-06	Sep-06
Off-taker	APTRANSCO (to be assigned to APDISCOMs)		
Term of PPA	18 years from COD	15 years from COD	15 years from COD
Approved capital cost (Rs bn)	8.16	7.2	14.5
Means of finance	Debt: Equity of 70:30	100% debt financed	Debt: Equity of 70:30
O&M	Contracted to GVKPIL		

* Due to non-availability of natural gas, we assume GVK-II and Gautami to commission in FY2009.

Source: Company.

Promoter group

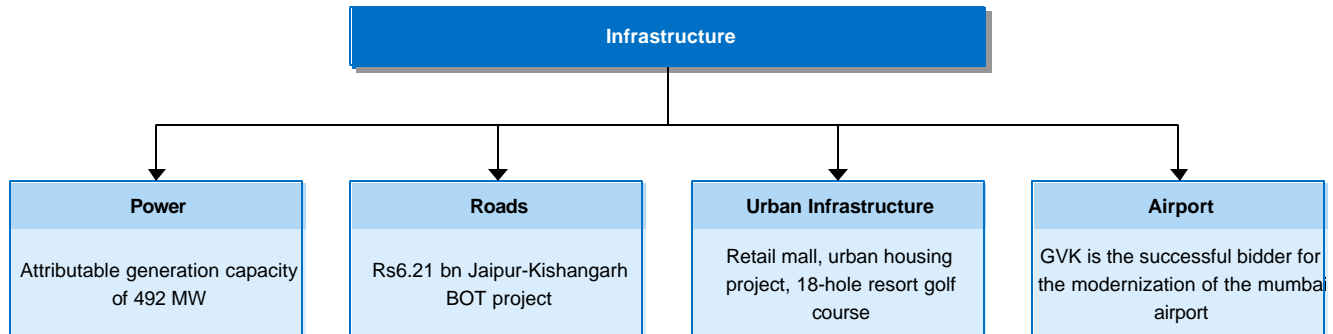
Infrastructure focus. GVK Group, largely based in Andhra Pradesh, has four decades of experience in infrastructure projects—power, roads and urban infrastructure. As contractors, the GVK Group worked on the Nagarjunasagar Dam, the world's largest masonry dam, in the 1960s.

GVK executed India's first BOT six-lane expressway between Jaipur and Kishengarh with a project value of Rs7.06 bn, including a grant of the Rs2.11 bn from the National Highways Authority of India. As part of the agreement, GVK has a concession period of 20 years, including the construction period, to operate and levy tolls. The road was opened in May 2005, six months ahead of its scheduled completion of thirty months. GVK has also bid for the Hyderabad MRTS Project.

Airport operator. GVK has won the contract to privatize and modernize the Chhatrapati Shivaji International Airport at Mumbai (Mumbai airport). GVK group will undertake this project together along with Airports Company South Africa Limited (ACSA) and the Bidvest Group Limited and Airports Authority of India (AAI). In April 2006, GVK group signed the OMDA (Operation, Maintenance and Development Agreement) for the Mumbai airport. GVK group holds 37% in the operating company with the balance held by the South African strategic partner (37%) and Airports Authority of India (26%).

Exhibit 41: Focused on infrastructure

GVK group's interests in infrastructure projects



Source: Company.

Hotels: TajGVK Hotels and Resorts Limited (market cap: Rs18.2 bn), a JV between GVK and Taj Group (India Hotels - a Tata enterprise) controls three hotel properties in Hyderabad and one in Chandigarh, Punjab. The company reported revenues of Rs1.89 bn and net profit of Rs0.46 bn in FY2006.

Pre-laminated particleboards: Novopan Industries (market cap: Rs0.71 bn) pioneered the concept of ready-to-use pre-laminated particleboard in India. Novo Furniture is the GVK group's strategic forward-integration enterprise that manufactures machine-made furniture. GVK Petrochemicals is the group's backward-integration link with facilities for formulating and manufacturing hi-tech thermosetting resins.

Contract research: GVK group has partnered with Dr D. S. Brar to form GVK Biosciences, a contract research organization that offers a range of products and services in the areas of informatics, medicinal chemistry, clinical trials and diagnostics to address the needs of global biotech and pharmaceutical companies.

Annexure I: GVK-I Power Purchase Agreement – key terms and conditions

Signed on 17 June 1993 and effective for a period of 18 years from the commercial operation date (COD) of the last generating unit (June 1997). The two-part tariff is a sum of:

- The fixed charge, and
- The variable charge.

The PPA also provides for incentives/disincentives and allows for recovery of taxes paid.

Operating norms for cost recovery

- Target availability for recovery of full capacity (fixed) charges: 68.49% (if the PLF for any tariff year is below the stated figure, fixed charges recovery will be permitted on a proportionate basis).
- Operating norms for (1) Gross station heat rate: 2000 kCal/unit (2) Auxiliary energy consumption: 3%.

Computation of fixed charge

- Interest on loan capital: Actuals
- Depreciation: (1) As per the rates specified by the GOI on the date hereof, under the Electricity Supply Act, 1948 (7.84% for gas based power plants). (2) Depreciation shall cease as soon as its net book value equals the residual value (10% of its original cost as included in the capital cost).
- Return on equity: 16% (post-tax) and in the case of foreign equity converted to rupees at the relevant currency rate of exchange.
- Operations and maintenance (O&M) expenses: (1) 2% of the capital cost for the initial tariff year (2) Annual increase permitted based on a formula that gives 30% weightage to consumer price index and 70% weightage to wholesale price index.
- Foreign exchange variation: For debt repayment in respect of each foreign debt repayment, that is scheduled to fall due.
- Insurance Premia: As per actuals but not exceeding 1% of the capital cost.
- Interest on working capital:

(1) Working Capital defined as equal to the sum of the following amount:

- a) O&M expenses for one month;
- b) Actual cost of one month inventory of maintenance spares not exceeding 1% of the capital cost (less one fifth of the value of spares included in capital cost procured along with the equipment for the first five years);

- c) An amount equal to difference between (1) Fuel cost equal to half a month's consumption based on actual average monthly consumption of the preceding 12 months (but not to exceed half a month's consumption based on 68.5% PLF) and (2) Fuel cost of gas for half a month's consumption based on average actual monthly gas consumption of the preceding 12 months provided however, if such difference is a negative number it shall be deemed to equal zero provided further that such amount shall be limited to actual stocks of Naphtha relating to 68.5% PLF;
- d) Twice the sum of (1) estimated monthly Fixed charge amount and (2) the average actual monthly Variable charge payment for the preceding tariff year disregarding monthly generation in excess of 68.5% PLF.

(2) Interest is the rate specified by SBI as its lending rate offered to its most creditworthy commercial customers for a working capital loan.

Computation of energy (variable) charges:

Variable charge component of tariff of energy unit delivered in paise/kWh = U_0

$$= (10hC)/g(100-A)$$

h = Station Heat Rate (kCal/kWh)

g = GCV of gas (kCal/cubic meter)

C = Fuel cost of gas at gas metering point (Rs/1000 cubic meter)

A = Auxiliary consumption (% of gross generation)

Incentive:

$$\text{Incentive payment} = \text{Equity} * (\text{PLF} - 68.5) * 0.00525$$

Incentive is payable on actual and notional generation (However, AP Transco is not paying incentive on notional generation if actual generation is short. The matter is under arbitration).

Incentive paid is on a pre-tax basis.

Rebate:

2.5% if payment is made not later than five days from the date of presentation of the bill.
1% if payment made later than 5 days but within 30 days.

Annexure II: GVK-II Power Purchase Agreement – key terms and conditions

The PPA is effective for a period of 15 years from the commercial operation date (COD) of the last generating unit (COD has been delayed from earlier scheduled February 2006 due to non-allocation of gas by GAIL).

The tariff is a sum of:

- The capacity charge, and
- The energy charge.

Unlike most regulated tariffs prevailing in the country, the GVK-II PPA is highly performance oriented and tariffs are fixed on a per unit basis leaving the onus of controlling costs on the company and earn the differential. The PPA also provides for incentives or disincentives and allows recovery of taxes paid.

Capacity charge – fixed rate and not linked to actual costs

The project needs to supply at the generator terminals energy units corresponding to a Plant Availability Factor (PAF) of 85% for the recovery of full capacity charges. Capacity charge to be paid upto the delivered energy corresponding to a PAF of 85% less Committed Incentive Energy (initial 96.36 mn units delivered in a tariff year amounting to 5% of generation capacity).

Capacity charge (per unit) = Foreign Debt Service Charge (FDSC) of US\$0.006
+
Other Fixed Charges (OFC) of Rs0.669

Committed Incentive Energy earns Rs0.0669 per unit (10% of Other Fixed Charges).

FDSC is payable only until the period ending the 11th annual anniversary of the project's commercial operation date (COD). Against the payment of capacity charge, the company has to bear all costs pertaining to interest, depreciation, O&M expenses, Insurance premia etc.

Energy (variable) charges – reimbursement of normative fuel costs

Variable charge component of Tariff of Energy Unit delivered in paise/kWh = U_0

$$= Eu \cdot (hC) / g(1 - A/100)$$

Eu = Number of energy units delivered at the inter-connection point

h = Station Heat Rate of 1,850 kCal/kWh after scheduled date of completion (SDOC) or project commercial operation date (COD), whichever is earlier

g = GCV of fuel (kCal/unit)

C = Per unit fuel cost at the fuel metering point

A = Auxiliary consumption of 3% of gross generation after SDOC or COD, whichever is earlier.

The actual fuel costs however may differ depending on the actual plant performance in Station Heat Rate and Auxiliary consumption, the difference (positive as well as negative) accruing to the company.

Incentive

Incentive based on achieving a PLF (calculated using 3% auxiliary consumption on delivered energy units) of more than 85% is payable as a percentage of OFC. Incentive paid is on a pre-tax basis.

PLF (%)	Incentive (%)
85%	Nil
Above 85% to 90%	2% for every 1% increase in PLF
Above 90%	Same as for 90% i.e. 10% of OFC

Disincentive

Disincentive for failing to achieve a PAF of 73.5% is payable as a percentage of OFC.

PAF (%)	Disincentive (%)
73.5%	Nil
Below 73.5% to 65.5%	2% for every 1% shortfall in PAF
Below 65.5% to 55.5%	3% for every 1% shortfall in PAF
Below 55.5%	Same as for 55.5% (46%)

Rebates and Late charges

A rebate of 2.5% is allowed if payment is made within 5 days of date of presentation of the bill. The rebate applicable reduces to 1%, if payment is made later than 5 days but before the due date of payment (later of 30 days from metering date or 25 days from date of bill presentation).

Payment made beyond the due date of payment shall include a late charge to take care of working capital costs incurred due to delay and liability incurred for delay in debt repayment due to delay in payment.

Annexure III: Gautami Power Purchase Agreement – key terms and conditions

GVK group took over the responsibility of implementing the 464MW project from the original promoters in July 2003. The PPA for the project is effective for a period of 15 years from the commercial operation date (COD) of the last generating unit (COD likely to be delayed from scheduled September 2006 due to non-allocation of gas by GAIL).

The tariff is a sum of:

- The capacity charge, and
- The energy charge.

Similar to GVK-II PPA in reward structure, the Gautami PPA also is highly performance oriented and tariffs are fixed on a per unit basis leaving the onus of controlling costs on the company and earn the differential. The PPA also provides for incentives or disincentives and allows recovery of taxes paid.

Capacity charge – fixed rate and not linked to actual costs

The project needs to supply at the generator terminals energy units corresponding to a Plant Availability Factor (PAF) of 85% for the recovery of full capacity charges. Capacity charge to be paid upto the delivered energy corresponding to a PAF of 85% less Committed Incentive Energy (initial 203.23 mn units delivered in a tariff year amounting to 5% of generation capacity).

$$\begin{aligned} \text{Capacity charge (per unit)} = & \text{Foreign Debt Service Charge (FDSC) of US\$0.006} \\ & + \\ & \text{Other Fixed Charges (OFC) of Rs0.699} \end{aligned}$$

Committed Incentive Energy earns Rs0.0699 per unit (10% of Other Fixed Charges).

FDSC is payable only until the period ending the 11th annual anniversary of the project commercial operation date (COD). Against the payment of capacity charge, the company has to bear all costs pertaining to interest, depreciation, O&M expenses, Insurance premia etc.

Energy (variable) charges – reimbursement of normative fuel costs

$$\begin{aligned} \text{Variable charge component of Tariff of Energy Unit delivered in paise/kWh} &= U_o \\ &= E_u * (hC) / g(1-A/100) \end{aligned}$$

E_u = Number of energy units delivered at the inter connection point

h = Station Heat Rate of 1,850 kCal/kWh after scheduled date of completion (SDOC) or project commercial operation (COD), whichever is earlier

g = GCV of fuel (kCal/unit)

C = Per unit fuel cost at the fuel metering point

A = Auxiliary consumption of 3% of gross generation after SDOC or COD, whichever is earlier.

The actual fuel costs however may differ depending on the actual plant performance in Station Heat Rate and Auxiliary consumption, the difference (positive as well as negative) accruing to the company.

Incentive:

Incentive based on achieving a PLF (calculated using 3% auxiliary consumption on delivered energy units) of more than 85% is payable as a percentage of OFC. Incentive paid is on a pre-tax basis.

PLF (%)	Incentive (%)
85%	Nil
Above 85% to 90%	2% for every 1% increase in PLF
Above 90%	Same as for 90% (10% of OFC)

Disincentive:

Disincentive for failing to achieve a PAF of 73.5% is payable as a percentage of OFC.

PAF (%)	Disincentive (%)
73.5%	Nil
Below 73.5% to 65.5%	2% for every 1% shortfall in PAF
Below 65.5% to 55.5%	3% for every 1% shortfall in PAF
Below 55.5%	Same as for 55.5% (46%)

Rebates and Late charges:

A rebate of 2.5% is allowed if payment is made within 5 days of date of presentation of the bill. The rebate applicable reduces to 1%, if payment is made later than 5 days but before the due date of payment (later of 30 days from metering date or 25 days from date of bill presentation).

Payment made beyond the due date of payment shall include a late charge to take care of working capital costs incurred due to delay and liability incurred for delay in debt repayment due to delay in payment.

Annexure IV: Valuation framework for gas-based power plant under regulatory regime

Shareholder value accretion of 1.26-1.6x from a new gas-based thermal power project

Shareholder value accretion of 1.26X (excluding the terminal value) also gives us an indication on the kind of terminal value that the gas-based power projects of GVK may attract at the expiry of the current PPAs. The current PPA's envisage renegotiation of terms at the end of the term of the current PPA's (18 years for GVK-I and 15 years for GVK-II and Gautami), leaving a residual life of 12-15 years for these plants. Thus we assign a value of 1.26X on the equity invested as terminal value for the projects. The equity comprises of initial project equity (normative in case of GVK-II) as well as equity investment required for R&M.

Exhibit 42: Value accretion of 1.26-1.6X on equity invested in a gas-based power plant under CERC formula

Assumptions for gas-based power plant under CERC formula

Assumptions			
Capacity (MW)	1,000	R&M after 15 years (Rs bn)	18
PLF (%)	85	Return on Equity (%)	12
Life of plant (years)	30	Construction period (months)	30
Total investment (Rs bn)	35	Moratorium after CoD (years)	1
Debt: Equity	70: 30	Debt repayment (years)	10
Free Cash Flow Analysis			
Discount rate (%)	10.0	PV of FCFE (Rs bn)	5.1
Equity investment (Rs bn)	10.5	PV of terminal value (Rs bn)	—
		NPV (Rs bn)	5.1
IRR (%)			15.5
Shareholder value accretion (X)			1.50
Shareholder value accretion (excl. terminal value) (X)			1.26

Source: Kotak Institutional Equities estimates.

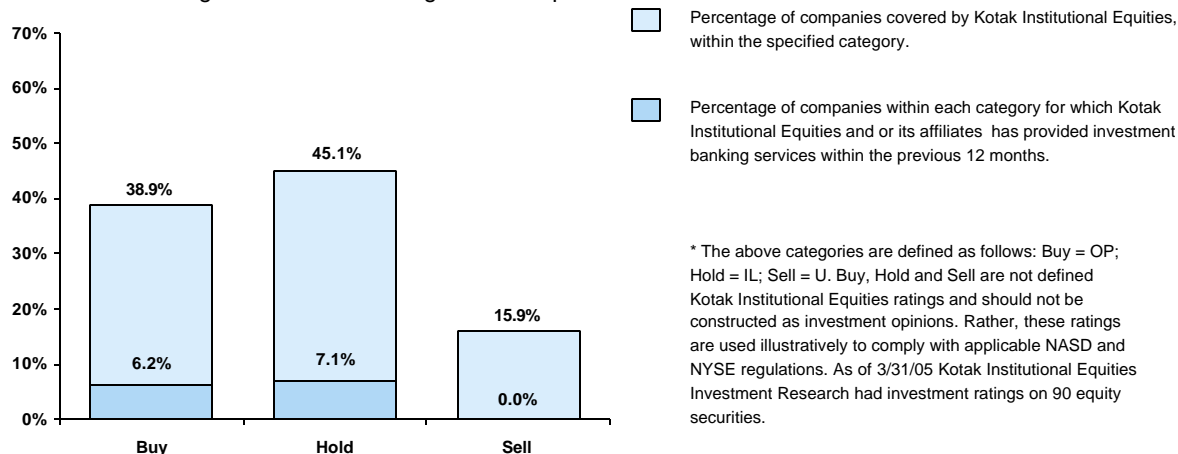
Our 15-yr analysis of the FCF-to-equity along with a zero terminal year growth gives us a valuation similar to our 30-yr FCF-to-equity analysis while assuming a major renovation and modernization (R&M) at the end of 15 years.

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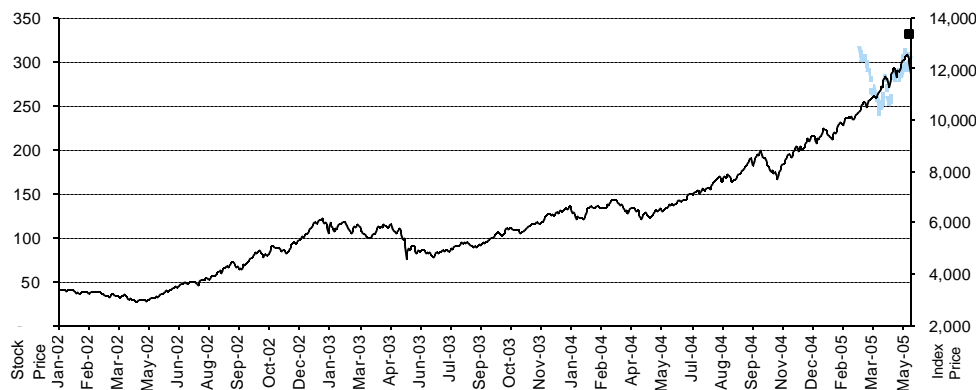


Source: Kotak Institutional Equities.

As of March 31, 2006

GVK Power & Infrastructure. (GVKP.BO)

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Source: Kotak Institutional Equities Research for ratings and price targets, Bloomberg for daily closing prices.

Rating
 Price target
 Price target removal
 Covered by Sujay Mishra
 Not covered by current analyst
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Source: Kotak Institutional Equities Research.

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