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Stock Rating
Equal-weight

Industry View
In-Line

Initiation

NTPC

Initiating with Equal-weight: Generating Stable Returns

Conclusion: We initiate coverage of NTPC shares with an Equal-weight rating and a price target of Rs146, implying 9% downside potential from the current level. NTPC is the largest power generation company in India, and we expect it to increase its generation capacity from 26,350 MW to 41,780 MW between F2007 and F2012.

What's New: The Government's XIth Five year Plan (March 2007-12) envisages a total capacity addition of 68,869 MW (on top of 7,191 MW in capacity slippage from the Xth Plan period into the XIth Plan period) in the drive to plug the current shortfall in electricity supply and meet the growing needs of the future. In our view, NTPC will be the Government's key vehicle to achieve a substantial part of this target, and this augurs well for its earnings. We forecast that the company will add 15,430 MW over the next five years. While we are positive on NTPC's operations, we believe that all the various capacity additions announced by the company have already been priced in, thus limiting any near-term triggers for the stock. The current regulated tariff regime will continue for at least the next five years, and hence we assume NTPC will earn a 14% post-tax ROE on its regulated capital base, along with the various incentives stipulated by the CERC. Nevertheless, the company remains vulnerable to any regulatory changes or political intervention that may hamper its financial performance.

Implications: We estimate that NTPC will report 13% compound annual growth in revenues and an earnings CAGR of 9% between F2007 and F2009, thanks to the strong capacity addition program. The stock is trading at 18 times our F2008 earnings estimate and 17 times our F2009E. We believe the stock is fairly valued, and given the lack of near-term catalysts, we rate it Equal-weight.

Key Ratios and Statistics

Reuters: NTPC.BO Bloomberg: NATP IN
India Utilities

Price target	Rs146.00
Shr price, close (Apr 20, 2007)	Rs160.00
Mkt cap, curr (mn)	US$31,721
52-Week Range	Rs163.55-90.90
Sh out, basic, curr (mn)	8,245.5

Fiscal Year (Mar)	2006	2007e	2008e	2009e
ModelWare EPS (Rs)*	6.86	8.07	8.88	9.57
Revenue, net (Rs mn)	259,899	291,029	332,564	371,441
ModelWare net inc (Rs mn)	56,572	66,527	73,198	78,934
P/E	19.5	19.8	18.0	16.7
P/BV	2.5	2.7	2.5	2.3
EV/EBITDA	16.6	17.9	16.4	14.6
Div yld (%)	2.1	2.0	2.2	2.3

*** =** Please see explanation of Morgan Stanley ModelWare later in this note.
e = Morgan Stanley Research estimates

Financial Summary

Income Statement

Rs Mn(Year-end March)	F2005	F2006	F2007E	F2008E	F2009E
Total Revenues	**224,150**	**259,899**	**291,029**	**332,564**	**371,441**
Fuel cost	137,235	163,947	186,622	213,962	238,018
Employee cost	8,823	9,684	11,047	12,127	13,243
Generation, admin and other exp	12,062	12,721	14,112	15,754	17,362
Provisions for bad debts	75	357	0	0	0
Total operating expenses	158,195	186,709	211,780	241,843	268,623
EBITDA	**65,955**	**73,190**	**79,249**	**90,722**	**102,818**
Depreciation	19,584	20,477	21,922	24,814	28,930
EBIT	**46,371**	**52,713**	**57,327**	**65,908**	**73,888**
Other Income	21,288	23,456	25,766	26,149	27,469
Interest and finance charges	16,955	17,632	12,647	14,437	17,057
PBT	**50,704**	**58,537**	**70,447**	**77,620**	**84,301**
Taxation	2,262	1,965	3,920	4,422	5,367
Tax rate (%)	4.5%	3.4%	5.6%	5.7%	6.4%
PAT	**48,442**	**56,572**	**66,527**	**73,198**	**78,934**
Extraordinary items	9,628	1,630	619	0	0
PAT after extraordinary items	58,070	58,202	67,146	73,198	78,934
EPS (Rs)	5.87	6.86	8.07	8.88	9.57
DPS (Rs)	2.40	2.80	3.20	3.50	3.75

Balance Sheet

Rs Mn(Year-end March)	F2005	F2006	F2007E	F2008E	F2009E
Liabilities					
Share Capital	82,455	82,455	82,455	82,455	82,455
Total Reserves	335,308	367,132	404,199	444,497	488,182
Shareholders funds	417,763	449,587	486,654	526,952	570,637
Secured loans	44,407	57,327	67,327	82,327	132,327
Unsecured loans	126,471	144,646	159,646	179,646	229,646
Other Liabilities	3,375	4,409	4,629	4,861	5,104
Total Liabilities	**592,016**	**655,969**	**718,256**	**793,786**	**937,714**
Assets					
Gross Block	431,090	460,424	493,984	586,352	673,173
Accumulated Depreciation	-207,942	-229,529	-251,451	-276,265	-305,194
Net Block	223,148	230,895	242,534	310,087	367,979
CWIP & Construction Stores & Advances	99,252	136,340	153,906	211,218	222,891
Investments	180,575	189,054	185,466	173,290	161,114
Inventories	17,819	23,405	27,243	31,130	35,124
Sundry debtors	13,747	8,678	9,877	11,180	12,621
Cash and Cash Equivalents	88,185	88,551	127,872	92,399	180,040
Other current assets	36,757	40,448	41,158	41,897	42,667
Sundry creditors	23,808	24,749	28,594	32,550	36,629
Other current liabilities	43,659	36,653	41,205	44,863	48,093
Net current assets	89,041	99,680	136,350	99,192	185,730
Total Assets	**592,016**	**655,969**	**718,256**	**793,786**	**937,714**

E = Morgan Stanley Research Estimates
Source: Company data, Morgan Stanley Research

Cash Flow

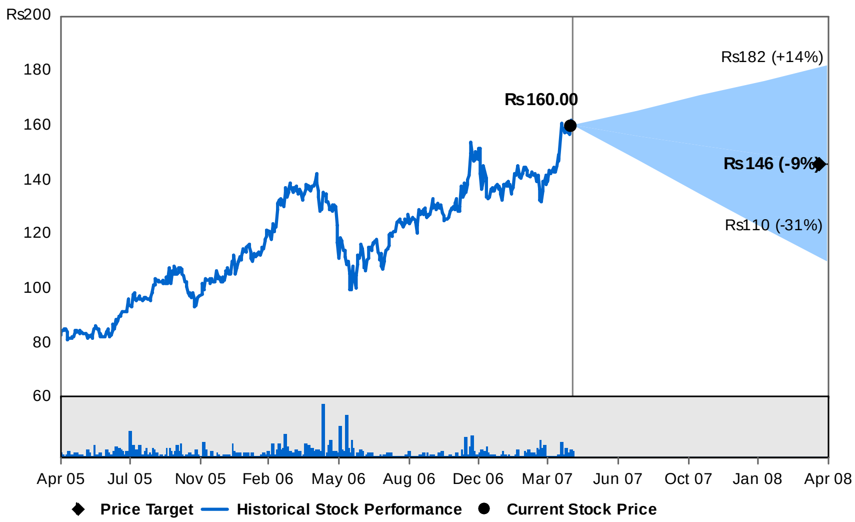
Rs Mn(Year-end March)	F2005	F2006	F2007E	F2008E	F2009E
PAT	**48,442**	**56,572**	**66,527**	**73,198**	**78,934**
Depreciation	19,584	20,477	21,922	24,814	28,930
Exceptional items	9,628	1,630	619	0	0
Interest	16,955	17,632	12,647	14,437	17,057
Changes in Working Capital	48,508	-6,511	-1,104	-1,135	-1,247
Cash flow from operations	**143,117**	**89,800**	**100,611**	**111,314**	**123,673**
(Purchase)/sale of fixed assets, net	-54,486	-65,312	-51,126	-149,679	-98,495
(Purchase)/sale of investment, net	-7,195	-8,479	3,588	12,176	12,176
Cash flow from investing activities	**-61,681**	**-73,791**	**-47,538**	**-137,503**	**-86,319**
Proceeds from equity issuance	26,664	0	0	0	0
Proceeds/(repayment) of loan	12,565	31,095	25,000	35,000	100,000
Dividend	23,397	30,087	26,325	30,079	32,899
Interest expense	16,955	17,632	12,647	14,437	17,057
Other items	1,781	981	220	231	243
Cash flow from financing activities	**658**	**-15,643**	**-13,752**	**-9,285**	**50,287**
Change in cash and cash equiv	82,094	366	39,321	-35,473	87,641
Opening cash and cash equiv	**6,091**	**88,185**	**88,551**	**127,872**	**92,399**
Closing cash and cash equiv	**88,185**	**88,551**	**127,872**	**92,399**	**180,040**

Ratio Analysis

(Year-end March)	F2005	F2006	F2007E	F2008E	F2009E
Growth (%)					
Revenues	19%	16%	12%	14%	12%
EBITDA	57%	11%	8%	14%	13%
EBIT	112%	14%	9%	15%	12%
EBT	2%	15%	20%	10%	9%
Net Profit	10%	17%	18%	10%	8%
EPS	4%	17%	18%	10%	8%
Margins (%)					
EBITDA	29.4%	28.2%	27.2%	27.3%	27.7%
EBIT	20.7%	20.3%	19.7%	19.8%	19.9%
EBT	22.6%	22.5%	24.2%	23.3%	22.7%
Net Profit	21.6%	21.8%	22.9%	22.0%	21.3%
Return (%)					
ROE	12.5%	13.0%	14.2%	14.4%	14.4%
ROCE	8.7%	9.1%	9.7%	9.7%	9.1%
ROA	7.7%	8.2%	8.8%	8.8%	8.3%
Gearing					
Debt/Equity	0.41	0.45	0.47	0.50	0.63
Net Debt/Equity	0.20	0.25	0.20	0.32	0.32
Valuations					
EV/EBITDA	21.3	19.6	17.9	16.4	14.6
P/E	27.2	23.3	19.8	18.0	16.7
P/BV	3.2	2.9	2.7	2.5	2.3
Dividend Yield (%)	1.5%	1.7%	2.0%	2.2%	2.3%
Turnover (days)					
Inventory	50	57	57	57	57
Debtors	24	13	13	13	13
Creditors	57	52	52	52	52

Risk-Reward Snapshot: NTPC (NTPC.BO, Rs160, EW, PT Rs146)

Risk-Reward View: Neutral



Price Target Rs146	Derived from Base Case
Bull Case Rs182	**Strong capacity addition program:** In this scenario, we assume the gas supply position in India improves, leading NTPC to go ahead with the implementation of an additional 2,600 MW of gas plants in Kawas and Gandhar, which increase the valuation by Rs9/share. Further, we assume the company makes additional savings from F2010 onwards due to efficient heat rate on the adoption of supercritical units, which increases the value by Rs18/share. Favorable regulatory environment and the thrust to add capacity increases the option value of financial assets, which we value at 2x book (assumed ROE of 20%) which increases the option value of financial assets by Rs9/share.
Base Case Rs146	**No slippage/delays in capacity addition:** We estimate NTPC to add 17,845 MW of capacity in F2007-12. Accordingly, we value the generation business at Rs82/share. We value the financial assets at 1.6x book and derive an option value of Rs64/share for them.
Bear Case Rs110	**Change in regulations/lack of opportunities:** In this scenario, we assume changes in regulations that reduce some of the benefits earned by NTPC (such as UI charges, savings on secondary fuel oil and lower interest on working capital). Accordingly, the value of the generation business reduces by Rs8/share. Further, we value the financial assets at book, i.e., Rs36/share, as there are limited options to deploy these assets in the core generation business.

Investment Thesis

- Strong momentum in capacity additions, triggered by the Indian Government's push to increase generation capacity
- Per capita consumption of electricity in India is amongst the lowest in the world, but this should increase, given strong economic growth and rising consumption.
- NTPC will remain the key vehicle for the government to increase installed capacity in India.

Key Value Drivers

- Strong momentum in capacity additions
- Higher predictability of earnings due to regulated returns

Key Risks

- Adverse changes in regulations
- Slippage in capacity additions
- Loss of market share due to tariff-based bidding going forward

Investment Case

Summary & Conclusions

We are initiating coverage of the shares of NTPC Limited with an Equal-weight rating and a price target of Rs146. Our investment thesis is based on the following key points:

1. NTPC is India's largest power generating company with an installed capacity of 26,350 MW as at the end of March 2007. The total electricity generation capacity in India is 128 GW, and hence NTPC accounts for about 21% of this capacity, making it the Government's key power generating company. India currently faces an electricity shortfall (demand vs. supply) of 14 GW at peak levels, which has been largely due to lack of adequate generation capacity, inefficiencies in generation plants, and high AT&C losses (Aggregate Technical and Commercial Losses) in the distribution system. This is despite the fact that per capita consumption of electricity in India is among the lowest in the developing countries. We expect electricity requirements to increase due to the pace of economic growth, and this augurs well for NTPC's earnings growth.

2. The Ministry of Power projects India's electricity demand to rise 9% a year during F2007-12. To meet this burgeoning demand for power, significant additions to the existing capacity will be required. The Government's XIth Five-year plan (March 2007-2012) envisages a total capacity addition of 68,869 GW (on top of 7,191 MW in capacity slippage from the Xth Plan period into the XIth Plan period). In our view, NTPC will continue to be the government's primary vehicle for augmenting power generation capacity in the country. We estimate NTPC to add 15,430 MW of commercial capacity (59% of current capacity) by March 2012, and hence we forecast a revenue CAGR of 12.5% and an earnings CAGR of 11% between F2007 and F2012. If NTPC were to increase its capacity addition program beyond 15,430 MW, it would be positive for the stock.

3. NTPC continues to operate in an environment where its activities are highly regulated and subject to significant political intervention. Any slippage/delay in capacity addition plans can be detrimental to its financial performance. Further, the state electricity boards that are NTPC's primary customers remain loss-making and financially distressed. This increases the difficulty of collecting debts, which can impede its working capital management. Finally, the Ministry of Power is moving towards a policy whereby projects will be awarded based on tariff-based bidding instead of the current regulated tariff basis. This will increase competition for NTPC and could limit its growth potential in the future.

4. We forecast NTPC to add 15,430 MW in F2008-12, which will result in an earnings CAGR of 11%. The stock is trading at 18 times our F2008E earnings and 17 times our F2009E. On a 12-month forward P/E basis, NTPC is trading at a 12% premium to the Sensex, while it has historically traded at a 3% premium to the Sensex. The stock has outperformed the Sensex by 2% in the last 12 months and 16% YTD.

Our Rs146 target price for NTPC shares is based on a sum-of-parts valuation methodology. Key downside risks to achieving our target price include any slippage/delay in capacity addition and non-deployment of its financial assets that would depress its ROE and future growth rate. A substantial increase in capacity addition would represent an upside risk to our target price. Industry risks that NTPC faces include vulnerability to regulatory changes and political intervention.

Company Description

NTPC is India's largest state-owned power-generating company, with an installed capacity of 26,350 MW. The company's power plants are largely coal-fired, but it has 3,955 MW of gas and hydro plants. NTPC was listed in November 2004, and the Government of India holds 89.5% of its equity.

India Utilities

Industry View: In-Line

The government's thrust to increase generation capacity will benefit companies. However, slow pace of reforms and political intervention continue to dampen positive sentiments.

MSCI Country: India

Asia Strategist's Recommended Weight: 1.6%
MSCI Asia/Pac All Country Ex Jp Weight: 6.3%

Investment Positives

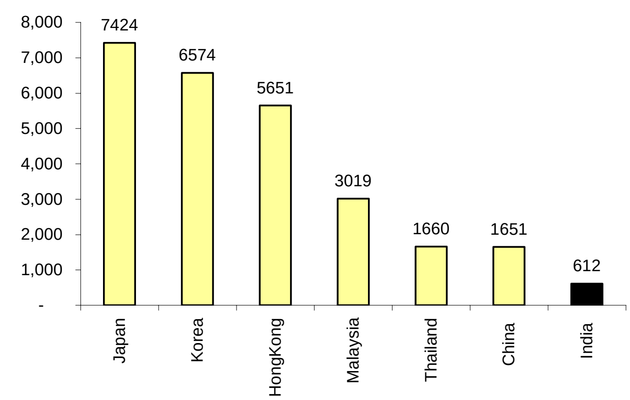
Industry has huge potential to grow

The total electricity generation capacity in India is 128 GW, with coal being the primary source of generation (54% of total capacity). The current shortfall (demand vs. supply) of electricity is estimated at nearly 14 GW at peak levels; this has been largely due to lack of adequate generation capacity, inefficiencies in generation plants, and high AT&C losses (Aggregate Technical and Commercial Losses) in the distribution system. The per capita consumption of electricity in India is among the lowest in the developing countries, but we expect this to increase as the economy grows and power consumption rises (Exhibit 1). The Ministry of Power projects India's electricity demand to rise 9% a year during F2007-12. To meet this burgeoning demand for power, significant additions to existing capacity will be required. The Government's XIth Five-year plan (March 2007-2012) envisages a total capacity addition of 68,869 MW (Exhibit 2) (on top of 7,191 MW in capacity slippage from the Xth Plan period into the XIth Plan period). In our view, NTPC will continue to be the government's primary vehicle for augmenting power generation capacity in the country. We estimate NTPC to add 15,430 MW of commercial capacity (59% of current capacity) by March 2012 (Exhibit 3).

Largest power generator in India

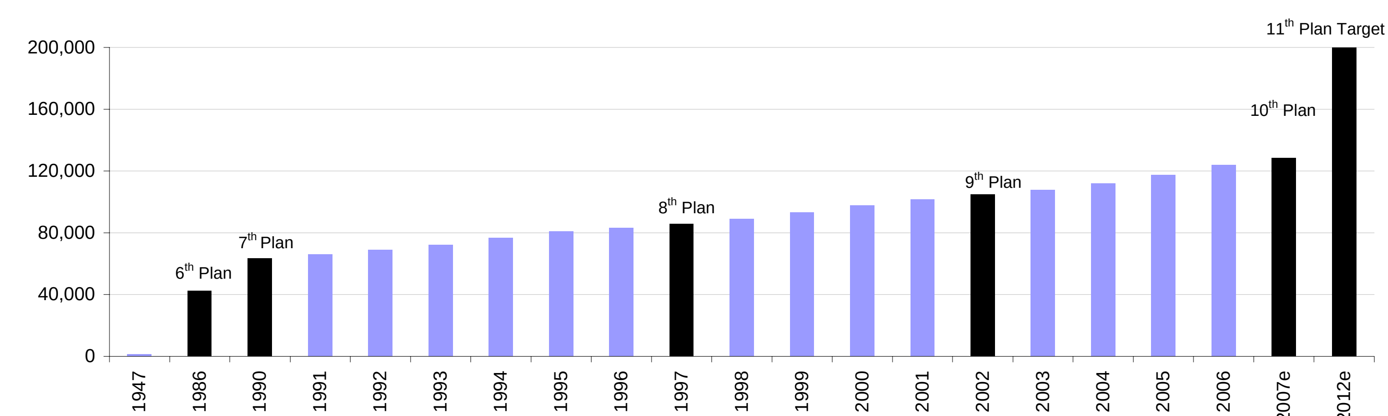
NTPC is the largest power generation company in India, with 21% of total generation capacity. Given the Government's increasing focus on reforming the power sector and making it more efficient, we believe NTPC will be a key beneficiary of improving trends. By the end of March 2012, we expect NTPC to have a total installed capacity of 41,780 MW.

Exhibit 1
Per Capita Consumption of Electricity in 2006



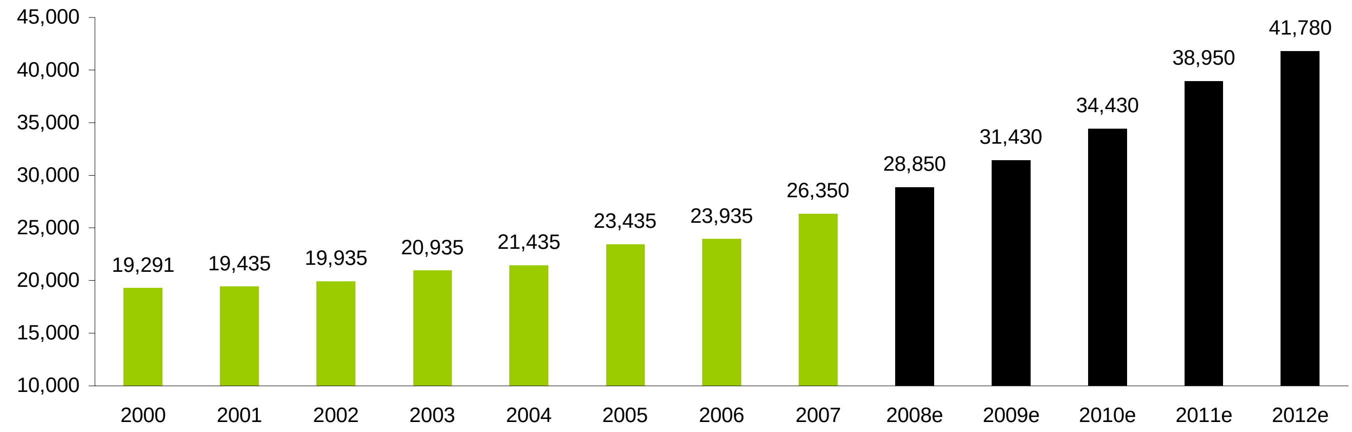
Source: MoP, CIA World Fact Book, Morgan Stanley Research

Exhibit 2
India: Evolution of Installed Capacity (MW)



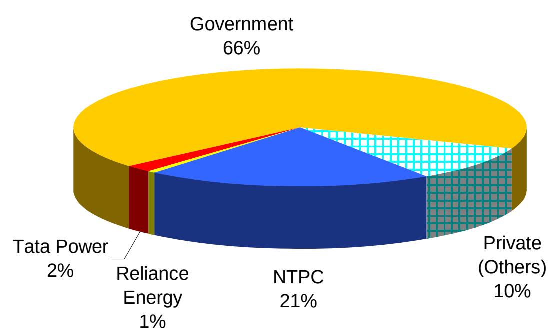
Source: Company data, Morgan Stanley Research

Exhibit 3
NTPC: Installed Capacity (MW)



Source: Company data, Morgan Stanley Research

Exhibit 4
Share of Installed Capacity by Various Players



Source: CEA, Morgan Stanley Research

Receivables from SEBs backed by RBI guarantee

Almost 99% of the power generated by NTPC is sold to state electricity boards (SEBs), which collectively remain in a precarious financial condition. In this context, NTPC's tripartite agreement with the state utilities and the Reserve Bank of India (RBI), which was put in place in 2003 and is effective up to F2016, provides unparalleled protection to the company's earnings and realization of receivables. So far, this 'payment security mechanism' has led to 100% recoveries for NTPC, without requiring the RBI guarantee to be invoked.

Efficiency-linked gains and incentives are substantial

As per the CERC (Central Electricity Regulatory Commission) regulations, NTPC earns a business-linked return that is calculated as 14% (post tax) of the equity portion (30%) of the original capital base. In addition, NTPC earns certain efficiency-linked gains and incentives that are as follows:

- PLF (plant load factor) linked incentive — for any generation in excess of a target PLF of 80%, NTPC is entitled to an incentive of Rs0.25 for every additional unit generated.
- UI (unscheduled interchange) charges — additional charges are payable to NTPC for any drawal of power in excess of scheduled drawal.
- O&M charges — a fixed amount has been prescribed by CERC as O&M charges. Any savings on these expenses is a gain for NTPC.
- Working capital — any savings due to better working capital management is a gain for NTPC.
- Others — savings due to lower auxiliary consumption, efficient heat rate, and lower consumption of secondary fuel are gainful for NTPC.

We believe the efficiency-linked gains and incentives accounted for nearly 32% of total profits in F2007. These efficiency-linked gains and incentives will continue to accrue until March 2009, after which any change in the CERC regulations will dictate the number going forward. However, our discussions with CERC suggest that they would not take any drastic steps that may significantly affect NTPC's earnings.

Reduction in rebates (financial charges) may help earnings

NTPC was offering a rebate of 4% to state electricity boards on the 8.5% tax-free bonds issued by the boards under the 'One Time Settlement scheme'. The total rebate offered by NTPC during F2006 was Rs8 billion. We believe this arrangement ended at the end of F2006. NTPC does not need to offer this rebate anymore, which means that it could add about Rs8 billion to its profits just on this basis. This, however, increases the risk of recovering the past receivables from the SEBs.

Adoption of supercritical technology will increase efficiencies

NTPC has announced plans to set up 17,660 MW of capacity using supercritical technology (excluding joint ventures and tie-ups with other players). We believe these units will help in increasing efficiencies and controlling costs, due to the following:

- Supercritical units require less fuel, due to higher efficiency, and because they burn less fuel, the emission levels are lower.
- Supercritical units can operate at lower pressure during part load conditions, thus saving fuel.
- Economies of scale kick in due to the greater size of the units. According to industry sources, the savings on setting up supercritical units could be Rs4.5 million for every MW.
- Supercritical units take approximately 100 minutes to reach synchronization from the first firing, as against 210 minutes for a sub-critical unit. This enables faster start time.

NTPC plans to adopt supercritical units for its future capacity expansion, which should benefit it substantially.

Exhibit 5

Some of the Supercritical Units Announced in India

Name of the Project/State	Company	Capacity (MW)
Dhopawe Coastal Project	MSEB	1,600
UMPP Sasan	Lanco-JSPL Consortium	4,000
UMPP Mundra	TATA POWER	4,000
IGTPP Bhaiyathan	CSEB	1,320
UMPP Krishnapatnam		4,000
Integrated Project Darlipalli	NTPC	3,200
Integrated Project Talcher	NTPC	3,200
Integrated Project Lara	NTPC	4,000
North Karanpura	NTPC	1,980
Barh STPP(I & II)	NTPC	3,300
Sipat I	NTPC	1,980
Total		**32,580**

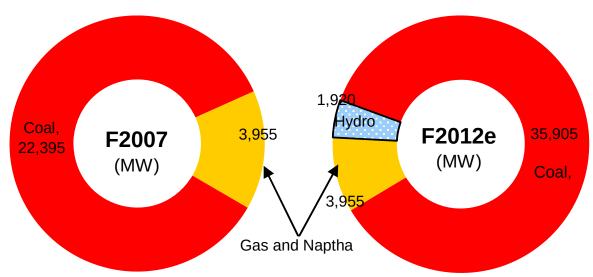
Source: Morgan Stanley Research

Reducing exposure to gas

NTPC has six gas-fired plants with a capacity of 3,605 MW and one naphtha-fired plant with a capacity of 350 MW. The plant load factor of the gas plants for the nine-month period ended December 2006 was 68.12% as against 87.16% for the coal-based plants. We believe non-availability of requisite gas supplies was the reason for the lower PLF. While NTPC has a long-term agreement with Gas Authority of India Limited for 12 mmscmd of gas, GAIL is able to supply only 7-8 mmscmd of gas. To meet the shortfall, NTPC fires its gas plants with naphtha or buys gas from the spot market, which results in higher cost of generation. The Indian power sector requires about 120 mmscmd of gas, while only 66 mmscmd is available, resulting in high prices and erratic supply of gas. We expect an increase in gas supply from F2009 onwards, but that, too, may not be sufficient to meet the growing demand. We believe NTPC is looking at adding a higher number of coal-fired plants as against gas plants, which would reduce its exposure to the gas market.

Exhibit 6

NTPC: Capacity Split by Fuel Type



Source: Company data, Morgan Stanley Research

Investment Concerns

Change in regulations could hamper earnings

The CERC regulations in force now are applicable until F2009. As NTPC's returns are regulated, a change in the regulations could affect revenue and earnings quite significantly. Some of the important clauses for NTPC are the 14% return on equity, operational incentives, and efficiency-linked gains (Exhibit 7). We believe that the efficiency-linked gains and incentives accounted for 32% of total profits in F2007, and hence, any change in regulations that curtails these benefits will negatively affect earnings. It will thus become important to look at future earnings on the basis of the revised CERC regulations.

Exhibit 7
Summary of Key CERC Regulations

	Unit	Coal	Gas/Liquid Fuel
ROE		14%	14%
Target Availability		80%	80%
Target PLF		80%	80%
Auxiliary Energy Consumption		7.5% or 9%	3%
Gross Station Heat Rate	kCal/kWh	2,450	2,030
Specific Fuel Oil Consumption	ml/kWh	2.0	-
O&M Cost	Rs mn/MW	10.8 or 9.7	5.4 or 8.1
Working Capital Calculations			
Cost of Coal/ Gas /Liquid Fuel	Months	1.5	1.0
Cost of Secondary Fuel	Months	2.0	
O&M Expenses	Months	1.0	1.0
Receivables	Months	2.0	2.0
Maintenance Spares	%	1%	1%
SBI PLR	%	10.25%	10.25%
PLF-linked Incentive	Rs/kWh	0.25	0.25

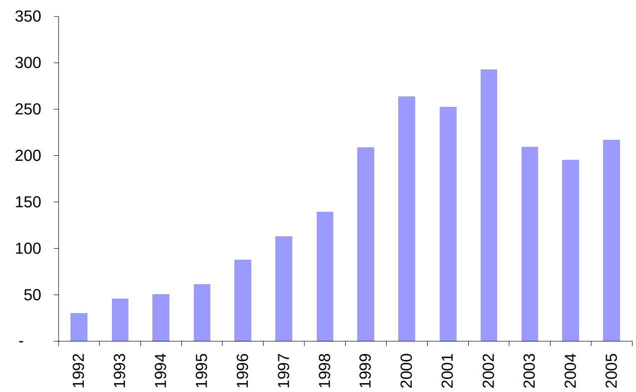
Notes:
(1) O&M costs escalate every year
(2) Figures for Gas/Liquid Fuel are for a Combined Cycle plant
(3) Maintenance spares expenses grow 6% YoY on their historical cost base

Source: CERC, Morgan Stanley Research

SEBs remain inefficient and financially distressed

NTPC supplies almost all of the electricity it generates to state electricity boards, which are loss-making. Cumulative losses of SEBs were around Rs2,166 billion at the end of F2005. Although NTPC has a tripartite agreement with the RBI, the government, and each SEB, which lends credibility to the recovery of the dues, the receivables risk will not diminish until the SEBs achieve financial viability, which is dependent on the Government's effort to reform the power sector and reduce AT&C losses. Any changes made by the government to the One Time Settlement scheme or any new regulations that may be positive for SEBs but negative for NTPC could be detrimental to the financial performance of NTPC.

Exhibit 8
SEB Losses (Rs bn)



Source: PFC, Planning Commission, Morgan Stanley Research

Slippage in capacity addition

NTPC's primary stream of income is the 14% (post tax) ROE that it earns on the regulated capital base (i.e., 30% of capital spending incurred on capacity addition). Further, the incentives and efficiency-linked gains are tied to the generation capacity. We have assumed NTPC will add 15,430 MW of capacity between F2007 and F2012, based on projects that are already under construction or are at the final stages of implementation. While we do not doubt the company's ability to execute on these projects, we cannot rule out the possibility of a slippage in addition plans, due to any of the following:

- Land availability
- Equipment
- Fuel linkage (primarily coal)
- Funding
- Government clearances

Any shortfall in addition relative to our estimates would negatively affect the company's earnings.

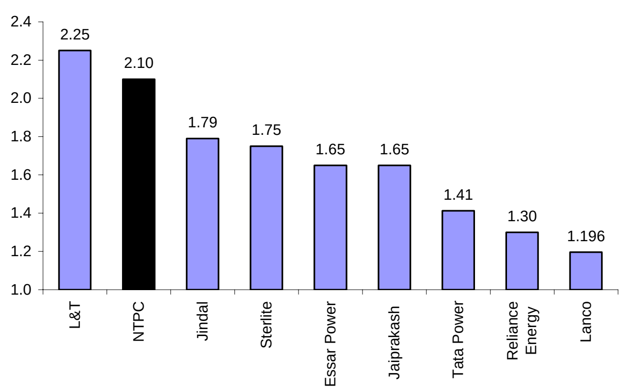
Threat due to tariff-based bidding

NTPC's revenue and earnings are primarily driven by CERC regulations, which, to an extent, shroud the efficiencies/

inefficiencies of the company. Recently, the Ministry of Power has introduced the concept of ultra mega power projects (UMPPs), where contracts are awarded on the basis of competitive tariff bidding. We believe an increasing number of projects going forward will be awarded on a competitive bidding basis, since generation companies will try to control costs to increase profitability, and this will, in turn, bring down the per unit cost of power. According to the National Electricity Policy, even public sector companies such as NTPC will have to bid for projects on a tariff basis after a period of five years.

In such a scenario, NTPC will need to build in better efficiencies to compete with private generation companies such as Reliance Energy, Tata Power, and Lanco for such projects. For example, NTPC's bid for Sasan UMPP was almost 100% higher than the lowest bid of Rs1.196/unit. Also, the CERC regulations may get more stringent in the future, which may shave off some of NTPC's excess profitability unless it institutes adequate measures to control costs and increase process efficiencies.

Exhibit 9
Bids for Sasan UMPP (Rs/unit)



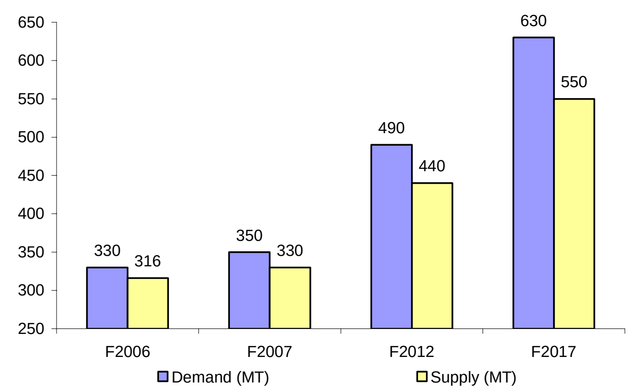
Source: CEA, Morgan Stanley Research

Coal shortages may hamper working capital management

NTPC consumed 111 million tones of coal in F2007 and imported 2.43 million tones to fill in for the short supply. We believe NTPC's coal requirement will increase substantially over the years due to new capacity addition. In our view, the shortfall of coal for the power industry was 14 million tones in F2006, and this may increase to 50 million tones by F2012. To fill this gap, generating companies will need to import coal from Indonesia, China, Australia, and South Africa. While coal from international mines is of superior quality in terms of calorific value, we believe imports will increase inventory handling days, which, in turn, will drive up investment in working capital.

Further, there could be delays in transporting coal from Indian ports to the site due to lack of adequate infrastructure at the ports, which cannot handle large ships (such as Capesize or Panamax), and also due to congestion. We believe NTPC earns a reasonable sum currently, thanks to efficient working capital management. With increasing inventory days, this efficiency-linked gain may start shrinking, thus affecting profitability. Another point to remember is that most of NTPC's coal plants are far from the coast, and hence the cost of transportation may raise the total cost of coal.

Exhibit 10
India: Coal Demand and Supply Scenario for the Power Sector



Source: MMTC, Morgan Stanley Research

Value chain consists primarily of government companies

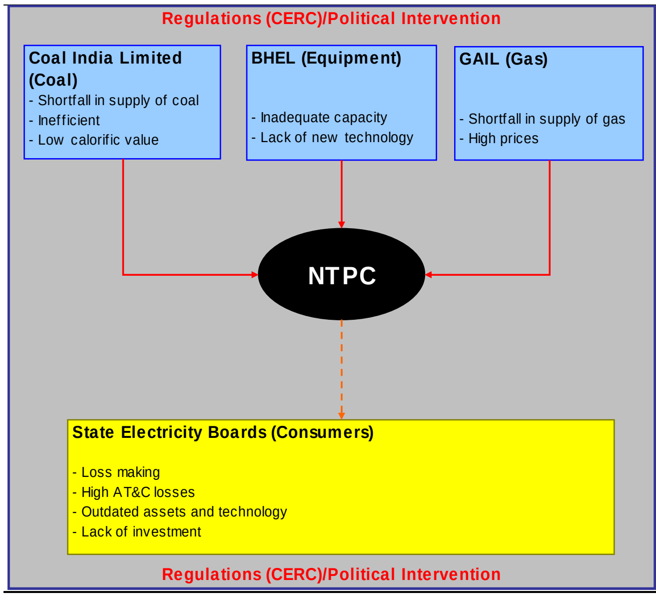
The entire value chain for NTPC is comprised of government companies, and this increases inefficiencies and political intervention (Exhibit 11). The main constituents of this chain are as under:

- **Equipment supplier:** NTPC procures most of its equipment such as gas turbines and generators from BHEL (Bharat Heavy Electricals Limited). We believe that even the supercritical units will be procured from BHEL. Such a situation may not be in the best interests of NTPC, as private players are procuring equipment on a global tender basis, which helps them obtain superior quality equipment at competitive prices. Such equipment may result in better PLF, cost savings, and hence lower tariff.

- **Fuel supplier:** NTPC's primary sources of fuel are coal and natural gas. Its primary supplier of coal is Coal India Limited (CIL) and of gas is Gas Authority of India Limited (GAIL). The quality of coal in India is high in ash content and lower in calorific value. This is magnified by the inefficiencies of CIL, which is unable to meet NTPC's entire fuel requirement. Further, while GAIL has signed a long-term agreement to supply 12 mmscmd of gas, it is able to supply only 7-8 mmscmd, thereby forcing NTPC to buy gas on the spot market, which raises the cost of generation.

- **Customers:** NTPC supplies most of its power to state electricity boards (SEBs), which are loss-making and inefficient. Hence, collection risk is the biggest threat faced by NTPC.

Exhibit 11
NTPC's Value Chain



Source: Morgan Stanley Research

Foray into coal mining and gas exploration may increase risk

With the objective of fuel security, NTPC is looking at captive coal mining and petroleum and gas exploration. While these initiatives may help NTPC secure fuel linkages, they will be a drain on cash resources and may increase the risk profile of the company, along with consuming management bandwidth. These ventures are still in the nascent stage, and hence, the outcome remains uncertain. For coal, NTPC has been allocated eight blocks, including two as part of the joint venture with CIL (Exhibit 12) which will reach a capacity of 50 mtpa by the end of F2017. In petroleum exploration, an NTPC-led consortium has been awarded a block in Arunachal Pradesh (South India) under NELP-V (New Exploration Licensing Policy-V). NTPC is exploring the possibility of participating in the gas business, too.

Exhibit 12
NTPC Captive Coal Blocks

Coal Mine	Capacity (MT)	Ownership
Pakri Barwadih	1,436	NTPC
Kerandari, North Karanpura	229	NTPC
Chatti Bariatu, North	243	NTPC
Chattrasal, Singrauli	150	NTPC
Dulanga, Ib Valley	260	NTPC
Talaipalli	965	NTPC
Brahmini	1,900	JV with Coal India
Chichro Patsimal	356	JV with Coal India

Source: Company data, Morgan Stanley Research

Reinvestment risk for bulging cash reserves

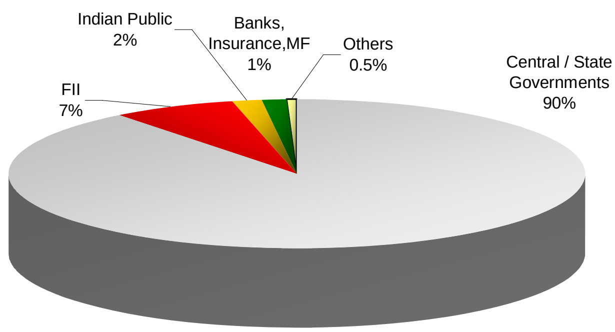
NTPC's cash balance at the end of March 2006 was Rs88.5 billion (14% of net assets), and we expect its annual operational cash flow (after meeting capex) during F2007 to be Rs50 billion. In addition, the outstanding SEB bonds aggregating Rs163 billion will be received biannually until F2016. In an effort to improve ROE (13% in F2006), the company would need to find avenues to invest these funds and earn a post-tax ROE of at least 14%; otherwise, it would need to increase dividend payout. If these funds remain as financial assets, they would dampen ROE.

Government holding reduces float

The Government of India holds nearly 90% of the equity capital of NTPC, and we believe this holding will remain at high levels even if the Government plans further equity dilution in the future. Also, even though NTPC has been given 'Navratna' status (which brings greater autonomy for the company's management), we believe that the government's substantial holding may result in operational interference that could be detrimental to its financial performance. For example, NTPC was asked to waive 60% of the surcharge imposed on SEBs as part of the One-Time Settlement, and if it is required to waive similar such charges in the future, this would affect its cash flows. However, NTPC also gains from its status as a central government utility, in terms of earnings visibility, regulatory clarity, and payment security.

Exhibit 13

NTPC Shareholding (December 2006)



Source: Company data, Morgan Stanley Research

Risks inherent in the sector

Some of the risks related to the sector are:

- **Highly regulated:** The Indian power sector is highly regulated, which reduces transparency and increases the risk profile of companies operating in the industry.

- **Political intervention:** Since both the Central and State governments have control over the sector, there is extensive political intervention, which is detrimental to the performance of the sector.

Valuation

Intrinsic value

To arrive at our target price of Rs146, we have used a sum-of-parts valuation methodology that includes the core generation business and the option value of cash and cash equivalents (including outstanding SEB bonds that will be received over a period of time) that form a reasonable portion of NTPC's total assets and have the potential to be re-deployed into its generation business.

Exhibit 14
NTPC: Sum-of-Parts

	Exhibit #	Rs/share
Generation business	16	82
Option value of financial assets	17	64
Price Target		**146**

Source: Morgan Stanley Research

Generation business: We have used the residual income model to determine the value of the generation business. Residual income is defined as earnings (income) less the cost of capital times beginning-of-period book value. In our view, the residual income model is a good measure of the intrinsic value of the company's generation business, as it takes into consideration the current regulated capital base (equity portion of total installed capacity) and the present value of future residual income. NTPC's business should continue to see secular growth, thanks to the Government's aggressive plans to add capacity. Hence, earnings for the company can be estimated with a greater degree of predictability. NTPC's key earnings streams are as follows:

- A 14% post tax ROE on the regulatory capital base;
- Incentives for PLF greater than 80% and UI charges for overdrawal of power by offtakers;
- Efficiency-linked gains in the form of better working capital management, lower O&M charges, lower consumption of secondary fuel, and efficient heat rate.

Since NTPC operates in a highly regulated sector that is exposed to significant political intervention, there is always inherent risk pertaining to its financial performance that could come from a change in regulations or steps taken by the government that could impede its business operations. However, since NTPC is the largest power generation company in the country and the Indian Government is the largest shareholder in the company, we do not expect the government or the regulators to take any drastic steps that may significantly affect NTPC's business operations or eat into its earnings.

The XIth Five-Year Plan talks of aggressive capacity expansion, envisioning a total addition of 68,869 MW (on top of 7,191 MW that represents the capacity slippage from the Xth Plan period into the XIth Plan period) to ensure "power for all" by 2012. While we consider this plan ambitious given the historical hit rate (target vs. actual has been about 50-60%), we believe a large portion of this capacity addition will be executed by NTPC. Based on the projects on which construction has already started or projects for which equipment has already been ordered (signifying that a fair share of approvals have been obtained), we believe NTPC will add 15,430 MW between F2007 and F2012. We estimate NTPC's core earnings to grow at a 12% CAGR in F2005-12 and while this growth will moderate going forward, we believe the large requirement for generation capacity in the country will ensure reasonable growth for the company. Accordingly, we have used a terminal growth rate of 7.5%, which is similar to our India GDP growth forecast.

Our assumptions for cost of equity and terminal growth rate are in Exhibit 15, and our residual income model is in Exhibit 16.

Exhibit 15
Key Assumptions

Beta	0.80
Risk free rate	8.0%
Expected market premium	5.0%
Cost of equity	12.0%
Terminal growth rate	7.5%

Source: Bloomberg, Morgan Stanley Research

Exhibit 16
NTPC: RI Model for Generation Business

Rs mn	F2006	F2007E	F2008E	F2009E	F2010E	F2011E	F2012E
Capacity addition (MW)	500	1,415	2,250	1,910	2,610	4,420	4,080
Regulated capital base	**186,678**	**196,746**	**224,456**	**248,703**	**287,641**	**353,674**	**416,675**
Core business profit	43,308	44,739	51,530	56,890	61,563	68,525	79,611
ROE	*23.20%*	*22.74%*	*22.96%*	*22.87%*	*21.40%*	*19.38%*	*19.11%*
Residual income		20,048	21,559	24,409	23,385	21,214	25,133
Discounting factor			1.00	0.89	0.80	0.71	0.64
Beginning Capital base (Rs mn)		224,456					
PV of Forecast Period (Rs mn)		71,506					
PV of Continuing Value (Rs mn)		381,561					
Equity Value (Rs mn)		677,524					
No of Shares (mn)		8,245					
Price per share (Rs/share)		**82**					

Source: Company Data, Morgan Stanley Research; E = Morgan Stanley Research estimates

Option value of financial assets: We believe NTPC's total financial assets aggregated to Rs301 bn at the end of F2007, comprising cash and cash equivalents, proceeds from SEB bonds, and loans extended to state governments. These assets form about 42% of the company's net assets. We believe NTPC has the option to either deploy these financial assets into its core generation business or pay out a higher sum as dividend to its shareholders. In our view, NTPC will re-invest these assets in its generation business, given the huge electricity requirement in India. We have valued these financial assets at Rs64/share using a P/B of 1.75 times (Exhibit 17).

Exhibit 17
Option Value of Financial Assets

Column Headings	Rs mn
Cash and cash equivalents	127,989
SEB bonds outstanding	163,174
Loan to State Government	9,573
Total book value of financial assets	**300,736**
Value per share assuming P/B = 1 (Rs/share)	36
Assumptions for re-deployment of financial assets:	
ROE	18.0%
Cost of equity	12.0%
Growth rate	4.0%
Intrinsic Value	526,083
Implied P/B	1.75
Option value of financial assets (Rs/share)	**64**

Source: Company Data, Morgan Stanley Research

Risks to Our Price Target

The key upside risks to our target price are:

- Substantial increase in capacity addition plans beyond the 15,430 MW that we are estimating;
- Better gas supply position or increased fuel security that may cause NTPC to add more capacity.

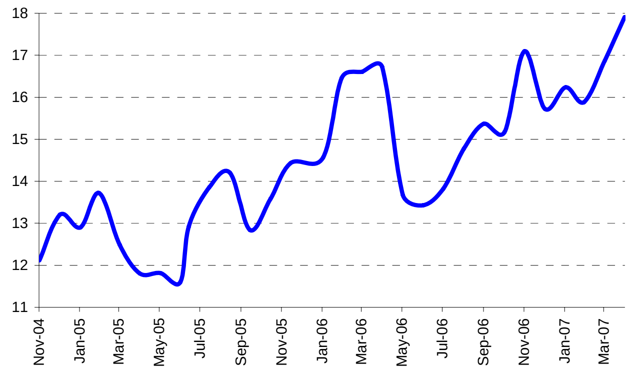
The key downside risks to our target price are:

- Significant change in regulations or political intervention that may curtail NTPC's activities or hamper its earnings;
- Slippage in capacity addition;
- Receivable risk due to further deterioration in the financial health of SEBs;
- Adverse interest rate trends in India that may increase the cost of capital.

Relative Valuations

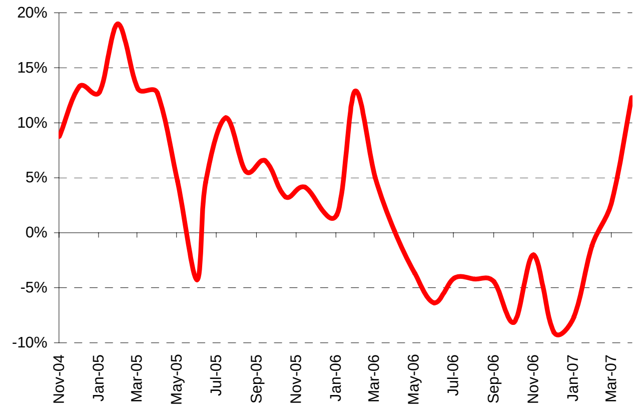
NTPC is currently trading at 18 times 12-month forward earnings, which represents a 12% premium to the Sensex. NTPC has traded at an average premium of 3% to the Sensex since its listing in November 2004. At our target price of Rs146, the stock would be trading at 16.3 times 12-month forward earnings and a premium of 2% to the Sensex, which we believe is reasonable.

Exhibit 18
NTPC: 12-Month Forward P/E



Source: Bloomberg, Morgan Stanley Research

Exhibit 19
P/E Premium/Discount to Sensex



Source: Bloomberg, Morgan Stanley Research

Exhibit 20

Global Valuation Comparables: P/E Multiples

Name	Currency	Month Reported	Stock Price * (Local Currency)	M Cap (US$mn)	EPS (Local Currency) Dec 05/Mar 06	EPS (Local Currency) Dec 06/Mar 07E	EPS (Local Currency) Dec 07E/Mar 08E	P/E Dec 05/Mar 06	P/E Dec 06/Mar 07E	P/E Dec 07E/Mar 08E	EPS CAGR
Asia-Pacific Companies											
Cheung Kong Infra.	HKD	Dec	28.1	8,108	1.76	1.59	1.98	16.0	17.7	14.2	6%
China Resources Power	HKD	Dec	13.5	6,580	0.49	0.62	0.70	27.5	21.7	19.2	20%
CLP Holdings	HKD	Dec	57.2	17,616	3.89	3.95	4.24	14.7	14.5	13.5	4%
Datang Int'l Power	CNY	Dec	9.3	6,396	0.44	0.49	0.60	21.3	19.0	15.5	17%
Hongkong Electric	HKD	Dec	42	11,378	3	3	3	12.7	13.0	12.4	1%
Huadian Power Int'l	CNY	Dec	3.4	2,628	0.18	0.20	0.20	19.3	17.1	17.4	5%
Huaneng Power	CNY	Dec	7.6	11,788	0.40	0.43	0.44	18.9	17.9	17.2	5%
Korea Electric Power	KRW	Dec	38,400	26,460	3,654	3,617	3,444	10.5	10.6	11.2	-3%
Shenergy	CNY	Dec	14	4,957	0.50	0.52	0.60	28.7	27.2	23.7	10%
Yangtze Power	CNY	Dec	13.4	14,186	0.41	0.43	0.50	32.8	30.9	26.7	11%
Tokyo Electric Power	JPY	Mar	4,060	46,260	180	214	200	22.5	18.9	20.3	5%
Malakoff Berhad	MYR	Aug	10	2,681	0.49	0.84	1.07	20.8	12.2	9.6	47%
Tenaga Nasional Bhd	MYR	Aug	12.0	14,429	0.35	0.53	0.85	34.3	22.9	14.1	56%
European Companies											
Drax	GBP	Dec	809	5,972	18.5	92.0	102.3	43.8	8.8	7.9	135%
E.ON	EUR	Dec	107.1	96,017	5.26	10.42	7.09	20.3	10.3	15.1	16%
EDF	EUR	Dec	62.2	154,259	1.99	2.50	2.95	31.3	24.9	21.1	22%
ENDESA	EUR	Dec	40.3	58,097	2.09	2.40	2.20	19.3	16.8	18.4	2%
ENEL	EUR	Dec	8	70,502	0.63	0.49	0.64	13.3	17.1	13.1	1%
RWE AG	EUR	Dec	79.5	60,818	4.41	5.20	5.66	18.0	15.3	14.1	13%
Suez	EUR	Dec	41	70,422	1.80	1.81	2.22	22.7	22.5	18.4	11%
Scottish & Southern	GBP	Mar	1,530	26,348	89.4	95.8	95.0	17.1	16.0	16.1	3%
American Companies											
Consolidated Edison	USD	Dec	51.9	13,477	2.95	2.95	3.15	17.6	17.6	16.5	3%
Dominion	USD	Dec	89.1	31,525	4.53	5.70	6.02	19.7	15.6	14.8	15%
TXU Corp	USD	Dec	64.7	30,378	3.32	5.56	5.44	19.5	8.3	6.1	28%
India Companies											
Lanco Infratech Ltd	INR	Mar	145.7	802	NA	7.80	10.54	NA	18.7	13.8	NA
NTPC	INR	Mar	160.0	31,918	6.86	8.07	8.88	23.3	19.8	18.0	14%
Reliance Energy	INR	Mar	511.1	2,786	33.88	34.03	38.14	15.1	15.0	13.4	6%
Tata Power	INR	Mar	546.3	2,540	26.05	28.05	30.74	21.0	19.5	17.8	9%

Notes:
* : Stock Prices for India and Asia Pacific Companies are as of 20 April, 2007; prices for European and American companies are as of 19 April, 2007.
NA: Not Available; Since Lanco ITL was listed in Nov 2006 and hence outstanding shares not comparable
E = Morgan Stanley Research Estimates
Source: Company data, Morgan Stanley Research

Exhibit 21

Global Valuation Comparables: P/B and EV/EBITDA

Name	Currency	Month Reported	Stock Price * *(Local Currency)*	M Cap (US$mn)	Rev. (US$mn) Dec 05/Mar 06	P/B Dec 05/Mar 06	P/B Dec 06/Mar 07E	P/B Dec 07E/Mar 08E	EV/EBITDA Dec 05/Mar 06	EV/EBITDA Dec 06/Mar 07E	EV/EBITDA Dec 07E/Mar 08E
Asia-Pacific Companies											
Cheung Kong Infra.	HKD	Dec	28.10	8,108	290	1.7	1.9	1.8	11.1	16.7	12.9
China Resources Power	HKD	Dec	13.5	6,580	764	1.3	2.9	3.0	8.1	14.2	11.8
CLP Holdings	HKD	Dec	57.2	17,616	5,044	2.2	2.5	2.3	9.4	11.2	10.5
Datang Int'l Power	CNY	Dec	9.3	6,396	2,230	1.7	2.5	2.3	9.8	10.5	7.9
Hongkong Electric	HKD	Dec	41.7	11,378	1,499	2.0	1.9	1.8	8.9	9.3	8.6
Huadian Power Int'l	CNY	Dec	3.4	2,628	1,648	1.0	1.4	1.4	8.4	12.7	11.6
Huaneng Power	CNY	Dec	7.6	11,788	4,967	1.6	2.2	2.0	8.0	9.6	8.7
Korea Electric Power	KRW	Dec	38,400	26,460	24,587	0.6	0.6	0.5	5.6	5.7	5.4
Shenergy	CNY	Dec	14	4,957	987	1.5	3.5	3.2	5.8	12.2	11.9
Yangtze Power	CNY	Dec	13.4	14,186	900	2.5	4.4	4.0	10.8	18.1	15.2
Tokyo Electric Power	JPY	Mar	4,060.0	46,260	45,055	1.8	1.7	1.6	8.9	8.1	8.3
Malakoff Berhad	MYR	Aug	10.20	2,681	523	2.4	2.2	1.9	13.1	9.1	7.5
Tenaga Nasional Bhd	MYR	Aug	12.00	14,429	5,539	1.9	2.2	2.0	9.3	8.6	7.9
European Companies											
Drax	GBP	Dec	809	5,972	1,451	9.0	13.1	13.0	10.9	5.9	6.3
E.ON	EUR	Dec	107.1	96,017	66,471	1.3	1.4	1.4	6.2	6.2	6.2
EDF	EUR	Dec	62.2	154,259	60,445	2.7	4.5	4.1	8.0	10.2	9.5
ENDESA	EUR	Dec	40.33	58,097	21,583	1.8	3.0	2.8	7.0	9.1	8.9
ENEL	EUR	Dec	8.4	70,502	40,326	2.1	2.6	2.7	6.6	7.4	8.0
RWE AG	EUR	Dec	79.5	60,818	54,240	3.1	3.5	3.1	9.3	8.0	6.8
Suez	EUR	Dec	41	70,422	50,257	1.3	1.8	1.7	7.6	9.3	8.4
Scottish & Southern	GBP	Mar	1,530	26,348	20,493	4.9	4.3	4.0	11.1	10.4	10.3
American Companies											
Consolidated Edison	USD	Dec	51.9	13,477	10,504	1.8	1.8	1.8	9.1	9.4	9.9
Dominion	USD	Dec	89.1	31,525	18,041	2.8	2.5	1.5	10.3	9.2	6.0
TXU Corp	USD	Dec	64.7	30,378	10,437	50.8	15.4	13.0	9.3	7.5	7.5
India Companies											
Lanco Infratech Ltd	INR	Mar	145.7	802	201	0.8	2.1	1.7	4.6	11.3	13.0
NTPC	INR	Mar	160.0	31,918	6,188	3.0	2.7	2.5	19.8	18.1	16.6
Reliance Energy	INR	Mar	511.1	2,786	960	1.4	1.3	1.2	8.5	12.5	9.8
Tata Power	INR	Mar	546.3	2,540	1,086	2.1	2.0	1.9	13.2	13.6	12.6

Notes:
* : Stock Prices for India and Asia Pacific Companies are as of 20 April, 2007; prices for European and American companies are as of 19 April, 2007.
E = Morgan Stanley Research Estimates
Source: Company data, Morgan Stanley Research

Earnings Drivers

Capacity addition

NTPC's installed capacity at the end of March 2007 was 26,350 MW. It is the largest power generation company in India with 21% of total generation capacity as at March 2007. With the current shortfall in electricity, estimated at 14 GW at peak levels, the government has come up with ambitious capacity addition targets in the XIth Five-Year plan (March 2007-2012), which envisions a total capacity addition of 68,869 MW (in addition to 7,191 MW, which is the capacity slippage from the X^{th} Plan period into the XI^{th} Plan period).

We estimate that NTPC will add 15,430 MW of capacity between F2007 and F2012. NTPC should have a total installed capacity of 41,780 MW at the end of March 2012 (excluding projects that have not been approved yet and capacities that it may set up through joint ventures).

Based on the capacity addition forecast, we estimate that NTPC will earn Rs29,664 million by way of ROE income in 2008. We believe the proportion of ROE to total profits will increase from 45% in F2006 to 50% in F2012, due to the significant increase in the capital base.

Exhibit 22

NTPC: Existing and Forecast Commissioned Capacity

	F2006	F2007	F2008E	F2009E	F2010E	F2011E	F2012E
Total Capacity	**23,935**	**26,350**	**28,850**	**31,430**	**34,430**	**38,950**	**41,780**
Coal							
Existing	19,980						
Additions	500	2,415	2,500	1,980	2,800	3,660	2,570
Rihand	500	-	-	-	-	-	-
Unchahar		210	-	-	-	-	-
Dadri		-	-	-	980	-	-
Badarpur		705	-	-	-	1,000	-
Korba		-	-	-	500	-	-
Vindhyachal		1,000	-	-	-	-	-
Bhilai Expansion		-	500	-	-	-	-
Sipat -Chhatisgarh - II		-	1,000	-	-	-	-
Sipat-Chhatisgarh - I *		-	-	1,320	660	-	-
Mauda, Maharashtra		-	-	-	-	-	1,000
Farakka		-	-	-	-	500	-
Kahalgaon		500	1,000	-	-	-	-
Barh-Bihar		-	-	660	660	660	1,320
Bongaigaon TPP, Assam		-	-	-	-	500	250
Simhadri-II, Andhra Pradesh		-	-	-	-	1,000	-
Gas							
Existing	3,605						
Naphtha							
Existing	350						
Hydro							
Existing	-						
Additions	-	-	-	600	200	860	260
Kol Dam				600	200	-	-
Loharinag Pala				-	-	600	-
Tapovan Vishnuhad				-	-	260	260

Source: Company data, Morgan Stanley Research; E = Morgan Stanley Research estimates

Incentives/efficiency-linked gains

NTPC's earnings depend on the regulations effected by the CERC (Central Electricity Regulatory Commission). The main component of earnings is the ROE-based income, which depends on the capital base of the company. In addition to this, the regulations prescribe certain incentives and efficiency-linked gains that boost its earnings. The key components of these gains include savings on secondary fuel, better heat rate, better working capital management, lower O&M expenses, high PLF, and unscheduled interchange charges that it receives from offtakers. We believe these incentives and efficiency-linked gains contributed about 32% of NTPC's total earnings in F2007. While the scope for increasing earnings through these benefits is high, there is also a risk that a change in regulations may reduce/curtail these benefits. The current CERC regulations will be in effect through March 2009, and hence, we see no risk to earnings until then.

Our discussions with the regulators indicate that some of the regulations that may be reviewed are as follows:

- Secondary fuel consumption, which is currently 2ml/KWh, may be reviewed, since consumption has been low, due to better efficiencies adopted by generating companies.
- The debt equity mix of 70:30 may be reviewed, especially for old plants on which companies may incur high repair and maintenance cost.
- CERC may also look into depreciation and interest on loans.
- The regulator may check if generating companies are gaming the system to increase UI (unscheduled interchange) charges.

However, the key is that CERC may not want to curtail the earnings of generating companies, as this could have an impact on their operational efficiencies, which would be detrimental to the overall performance of the sector.

Exhibit 23
Breakdown of Total Profits

	2006	2007	2008	2009
Total profits	**56,572**	**66,527**	**73,198**	**78,934**
Business Return(ROE)	25,531	26,511	29,664	33,936
As a % of Total Profits	*45.1%*	*39.8%*	*40.5%*	*43.0%*
Incentives	8,904	10,033	10,610	11,056
As a % of Total Profits	*15.7%*	*15.1%*	*14.5%*	*14.0%*
Efficiency Linked gains	11,534	11,218	14,846	16,687
As a % of Total Profits	*20.4%*	*16.9%*	*20.3%*	*21.1%*
Other Income	10,603	18,765	18,078	17,255
As a % of Total Profits	*18.7%*	*28.2%*	*24.7%*	*21.9%*

Source: Company data, Morgan Stanley Research

Fuel cost

Coal and gas are the key inputs for NTPC's plants. As of March 2007, coal plants accounted for 85% of NTPC's total capacity, and gas and naphtha plants accounted for the remaining 15%. We believe that fuel costs represented 64% of revenue in 2007, with coal accounting for 69% of fuel cost and gas/oil/naphtha for 31%.

NTPC has a long-term arrangement with Coal India Limited for its coal requirements. We believe coal cost has not increased significantly in the past. NTPC has an arrangement with Gas Authority of India Limited (GAIL) for its gas requirements. While the arrangement is for 12 mmscmd of gas, we believe that GAIL is able to supply only 7 to 8 mmscmd. Hence, NTPC has been meeting the balance of its requirements either via the spot market or by using naphtha. The increase in fuel cost has been largely due to increases in naphtha and gas prices, we think. However, since fuel cost is passed through, it does not have an impact on the company's earnings.

Rebate on SEB bonds

According to the one-time settlement scheme that NTPC had with the various SEBs, NTPC received bonds against outstanding dues from SEBs. These bonds carried an interest rate of 8.5% and were tax-free. Further, NTPC had to offer a 4% rebate on this interest as per the scheme. This rebate of 4% ended in F2006 and hence was no longer applicable in F2007. The total rebate given by NTPC in F2006 was Rs8 billion. The savings because of this rebate would have boosted earnings in F2007.

Exhibit 24
Detailed Income Statement

	F2002	F2003	F2004	F2005	F2006	F2007E	F2008E	F2009E
Gross Energy sales	**178,654**	**191,636**	**190,930**	**227,026**	**261,962**	**293,303**	**335,131**	**374,253**
Less: Electricity duty	957	1,346	1,432	1,674	1,757	1,967	2,248	2,510
Less: Net advance against depreciation	-	271	1,320	1,783	1,034	1,158	1,323	1,477
Net Energy Sales	**177,697**	**190,019**	**188,178**	**223,569**	**259,171**	**290,178**	**331,560**	**370,265**
Energy Internally Consumed	171	187	193	248	276	309	353	394
Consultancy projects	285	269	313	333	452	542	651	781
Growth (%)	44.0%	-5.7%	16.4%	6.4%	35.7%	20.0%	20.0%	20.0%
Total Revenues	**178,153**	**190,475**	**188,684**	**224,150**	**259,899**	**291,029**	**332,564**	**371,441**
Growth (%)	-6.2%	6.9%	-0.9%	18.8%	15.9%	12.0%	14.3%	11.7%
FUEL CHARGES	103,991	110,312	122,150	137,235	163,947	186,622	213,962	238,018
% of energy sales	58.5%	58.0%	64.8%	61.3%	63.2%	64.2%	64.5%	64.2%
EMPLOYEE COSTS	8,036	8,213	8,835	8,823	9,684	11,047	12,127	13,243
Number of employees - Yr end	21,383	21,408	20,971	21,420	21,870	24,077	26,361	28,718
Number of employees - Average for year	21,336	21,396	21,190	21,196	21,645	22,973	25,219	27,540
GENERATION, ADMIN & OTHER EXPENSES	11,640	10,869	9,813	12,062	12,721	14,112	15,754	17,362
o/w Repairs Plant	5,546	5,381	5,423	6,249	7,051	7,762	8,499	9,259
o/w Travel Expenses	594	632	722	818	930	1,041	1,190	1,329
o/w Security Expenses	731	776	830	893	1,002	1,122	1,282	1,432
o/w Others	4,769	4,080	2,838	4,102	3,738	4,186	4,783	5,342
PROVISIONS FOR BAD DEBT	1,836	5,555	5,835	75	357	-	-	-
OPERATING EXPENSES	**125,503**	**134,949**	**146,633**	**158,195**	**186,709**	**211,780**	**241,843**	**268,623**
% of total revenue	70.4%	70.8%	77.7%	70.6%	71.8%	72.8%	72.7%	72.3%
EBITDA	**52,650**	**55,526**	**42,051**	**65,955**	**73,190**	**79,249**	**90,722**	**102,818**
Growth %	-16.3%	5.5%	-24.3%	56.8%	11.0%	8.3%	14.5%	13.3%
DEPRECIATION	**13,784**	**15,291**	**20,180**	**19,584**	**20,477**	**21,922**	**24,814**	**28,930**
OTHER INCOME	**6,725**	**4,036**	**61,310**	**21,288**	**23,456**	**25,766**	**26,149**	**27,469**
Growth (%)	-26.6%	-40.0%	1,419.1%	-65.3%	10.2%	9.8%	1.5%	5.0%
SEB Bond Income	4,841	3,460	34,854	11,708	14,255	14,235	13,140	11,680
% of SEB bonds	14.2%	12.7%	36.8%	7.1%	8.5%	8.5%	8.5%	8.5%
Income from Public Deposit from GOI	601	1,087	2,751	3,573	-	-	-	-
Indian Banks	26	157	59	1,065	4,780	5,853	5,957	7,368
% of cash and bank balances	0.3%	1.8%	1.0%	2.3%	5.4%	5.4%	5.4%	5.4%
Surcharge on Late Payment from Customers	109	5	22,641	2,460	384	430	491	549
% of sales	0.1%	0.0%	12.0%	1.1%	0.1%	0.1%	0.1%	0.1%
Other Non Operating Income	1,148	-673	1,005	2,482	4,037	5,248	6,560	7,872
INTEREST AND FINANCE CHARGES	**8,680**	**9,916**	**33,697**	**16,955**	**17,632**	**12,647**	**14,437**	**17,057**
Interest expense less capitalization	7,224	5,842	6,491	4,640	4,473	5,146	5,866	7,485
% of total debt	6.8%	4.7%	4.5%	2.8%	2.4%	2.4%	2.4%	2.4%
Rebate on SEB bonds	-	-	21,311	6,813	8,047	-	-	-
% of SEB bonds	0.0%	0.0%	22.5%	4.2%	4.8%	0.0%	0.0%	0.0%
Rebate to customers	853	3,557	4,941	3,828	4,244	6,529	7,460	8,331
% of net energy sales	0.5%	1.9%	2.6%	1.7%	1.6%	2.3%	2.3%	2.3%
Other interest cost	603	517	954	1,674	868	972	1,111	1,241
Profit Before Tax	36,911	34,355	49,484	50,704	58,537	70,447	77,620	84,301
Net Taxation	2,119	1,341	5,279	2,262	1,965	3,920	4,422	5,367
NET PROFIT	**34,792**	**33,014**	**44,205**	**48,442**	**56,572**	**66,527**	**73,198**	**78,934**
Growth (%)	0.1%	-5.1%	33.9%	9.6%	16.8%	17.6%	10.0%	7.8%
Net Extraordinary items	604	3,061	8,403	9,628	1,630	619	-	-
REPORTED NET PROFIT	**35,396**	**36,075**	**52,608**	**58,070**	**58,202**	**67,146**	**73,198**	**78,934**

Source: Company data, Morgan Stanley Research E = Morgan Stanley Research Estimates

Exhibit 25
Detailed Balance Sheet

	F2002	F2003	F2004	F2005	F2006	F2007E	F2008E	F2009E
Sources of Funds								
Net Worth	**286,453**	**315,040**	**355,501**	**417,763**	**449,587**	**486,654**	**526,952**	**570,637**
Share Capital	78,125	78,125	78,125	82,455	82,455	82,455	82,455	82,455
Total Reserves	208,328	236,915	277,376	335,308	367,132	404,199	444,497	488,182
Share Premium	-	-	-	22,334	22,281	22,281	22,281	22,281
General Reserve	205,000	232,500	271,476	304,476	333,476	370,543	410,841	454,526
P/L	1,496	681	566	812	752	752	752	752
Capital Reserve	1,127	1,229	1,259	1,279	1,308	1,308	1,308	1,308
Bonds Redemption Reserve	701	2,501	4,071	6,405	9,315	9,315	9,315	9,315
Foreign Project Reserve	4	4	4	2	-	-	-	-
Total debt	**115,812**	**132,157**	**158,313**	**170,878**	**201,973**	**226,973**	**261,973**	**361,973**
Secured loans	16,455	41,226	45,844	44,407	57,327	67,327	82,327	132,327
Unsecured loans	99,357	90,931	108,684	126,471	144,646	159,646	179,646	229,646
Development Surcharge Fund	-	-	3,785	-	-	-	-	-
Deferred Tax Liability	-	1	1	1	1	1	1	1
Deferred Revenue on a/c of AAD	-	271	1,591	3,374	4,408	4,628	4,860	5,103
TOTAL LIABILITIES	**402,265**	**447,469**	**515,406**	**592,016**	**655,969**	**718,256**	**793,786**	**937,714**
Applications of Funds								
Fixed Assets: Gross Block	328,912	366,106	400,307	431,090	460,424	493,984	586,352	673,173
Less: Depreciation	(152,131)	(167,456)	(187,762)	(207,942)	(229,529)	(251,451)	(276,265)	(305,194)
Net Block	**176,781**	**198,650**	**212,545**	**223,148**	**230,895**	**242,534**	**310,087**	**367,979**
Capital Work-in-Progress/ Capital advance	**52,038**	**51,543**	**56,413**	**67,063**	**103,999**	**124,267**	**176,037**	**182,500**
Construction stores and advances	**13,512**	**12,320**	**18,540**	**32,189**	**32,341**	**29,639**	**35,181**	**40,390**
Investments	**40,281**	**36,674**	**173,380**	**180,575**	**189,054**	**185,466**	**173,290**	**161,114**
Bonds received from SEBs	29,088	25,365	164,107	164,107	171,762	163,174	145,998	128,822
Investment in JV/Subsidiaries	-	6	1,140	1,570	7,122	12,122	17,122	22,122
Other investments	11,193	11,303	8,133	14,898	10,170	10,170	10,170	10,170
Current Assets, Loans & Advances								
Inventories	20,176	17,712	17,380	17,819	23,405	27,243	31,130	35,124
Sundry debtors	115,328	124,349	4,699	13,747	8,678	9,877	11,180	12,621
Cash and Cash Equivalents	12,048	5,447	6,091	88,185	88,551	127,872	92,399	180,040
Other Current Assets	4,501	7,782	80,019	9,764	10,161	10,669	11,203	11,763
Loan to State Government	1,010	17,360	10,603	9,573	9,573	9,573	9,573	9,573
Advance tax less provision	5,143	8,248	3,845	6,984	10,628	10,628	10,628	10,628
Other Loans and Advances	9,593	13,234	12,831	10,436	10,086	10,288	10,493	10,703
Total Current Assets	**167,799**	**194,132**	**135,468**	**156,508**	**161,082**	**206,150**	**176,605**	**270,452**
Sundry creditors	21,409	23,940	23,639	23,808	24,749	28,594	32,550	36,629
Deposits and retention money	7,063	7,860	8,354	9,360	11,180	11,739	12,326	12,942
Advance from customers	200	337	30,676	14,431	9,886	9,886	9,886	9,886
Other current liabilities	3,209	2,064	2,574	4,707	3,287	3,287	3,287	3,287
Proposed dividend	7,079	3,475	12,210	11,283	7,521	11,275	14,095	16,445
Other provisions	9,186	8,174	3,487	3,878	4,779	5,018	5,269	5,532
Total Current Liabilities and Provisions	**48,146**	**45,850**	**80,940**	**67,467**	**61,402**	**69,799**	**77,413**	**84,722**
Net Current Assets	**119,653**	**148,282**	**54,528**	**89,041**	**99,680**	**136,350**	**99,192**	**185,730**
TOTAL ASSETS	**402,265**	**447,469**	**515,406**	**592,016**	**655,969**	**718,256**	**793,786**	**937,714**

Source: Company data, Morgan Stanley Research E = Morgan Stanley Research Estimates

Exhibit 26

Detailed Cash Flow

	F2002	F2003	F2004	F2005	F2006	F2007E	F2008E	F2009E
PAT	**34,792**	**33,014**	**44,205**	**48,442**	**56,572**	**66,527**	**73,198**	**78,934**
Depreciation	13,784	15,291	20,180	19,584	20,477	21,922	24,814	28,930
Exceptional items	604	3,061	8,403	9,628	1,630	619	-	-
Interest	8,680	9,916	33,697	16,955	17,632	12,647	14,437	17,057
Changes to Working Capital	-16,851	-31,626	85,663	48,508	-6,511	-1,104	-1,135	-1,247
Current Assets								
(Inc)/dec in Inventory	-1,820	2,464	332	-439	-5,586	-3,838	-3,887	-3,994
(Inc)/dec in Debtors	-19,477	-9,021	119,650	-9,048	5,069	-1,199	-1,303	-1,442
(Inc)/dec in Other Current Assets	-1,297	-3,281	-72,237	70,255	-397	-508	-533	-560
(Inc)/dec in Loans to State Govt.	5,490	-16,350	6,757	1,030	-	-	-	-
(Inc)/dec in Advance Tax Less Provision	18,556	-3,105	4,403	-3,139	-3,644	-	-	-
(Inc)/dec in Other Loans and Advances	-280	-3,641	403	2,395	350	-202	-206	-210
Current Liabilities								
Inc/(dec) in creditors	3,518	2,531	-301	169	941	3,845	3,956	4,079
Inc/(dec) in Deposits and Retention Money	968	797	494	1,006	1,820	559	587	616
Inc/(dec) in other current Liabilities	-425	-1,145	510	2,133	-1,420	-	-	-
Inc/(dec) in Advance from Customers	200	137	30,339	-16,245	-4,545	-	-	-
Inc/(dec) in Other Provisions	-22,283	-1,012	-4,687	391	901	239	251	263
Cash flow from operations	**41,009**	**29,656**	**192,148**	**143,117**	**89,800**	**100,611**	**111,314**	**123,673**
(Purchase)/sale of fixed assets, net	-33,296	-35,473	-45,165	-54,486	-65,312	-51,126	-149,679	-98,495
(Purchase)/sale of investment, net	-366	3,607	-136,706	-7,195	-8,479	3,588	12,176	12,176
Cash flow from investing activities	**-33,662**	**-31,866**	**-181,871**	**-61,681**	**-73,791**	**-47,538**	**-137,503**	**-86,319**
Proceeds from equity issuance	-	-	-	26,664	-	-	-	-
Proceeds/(repayment) of loan	17,765	16,345	26,156	12,565	31,095	25,000	35,000	100,000
Dividend	8,232	11,079	3,475	23,397	30,087	26,325	30,079	32,899
Interest expense	8,680	9,916	33,697	16,955	17,632	12,647	14,437	17,057
Other items	19	259	1,383	1,781	981	220	231	243
Cash flow from financing activities	**872**	**-4,391**	**-9,633**	**658**	**-15,643**	**-13,752**	**-9,285**	**50,287**
Change in cash and cash equiv	8,219	-6,601	644	82,094	366	39,321	-35,473	87,641
Opening cash and cash equiv	3,829	12,048	5,447	6,091	88,185	88,551	127,872	92,399
Closing cash and cash equiv	12,048	5,447	6,091	88,185	88,551	127,872	92,399	180,040

Source: Company Data, Morgan Stanley Research E = Morgan Stanley Research Estimates

Appendix 1: Criteria for Capacity Inclusion (Between F2008-12)

	Capacity (MW)	Land acquisition	Environmental clearance	Fuel linkage	Equipment order	Construction
Projects Included						
Dadri	980	+	✓	+	+	✗
Badarpur	1,000	✓	+	+	NI	NI
Korba	500	✓	+	✓	+	+
Bhilai Expansion	500	✓	✓	✓	✓	+
Sipat -Chhatisgarh - II	1,000	✓	NI	✓	+	+
Sipat-Chhatisgarh - I	1,980	✓	NI	✓	+	+
Mauda, Maharashtra	1,000	NI	+	+	NI	NI
Farakka	500	✓	+	✓	✓	NI
Kahalgaon	1,000	✓	NI	✓	+	+
Barh-Bihar	3,300	✓	NI	✓	+	+
Bongaigaon TPP, Assam	750	✓	+	✓	NI	NI
Simhadri-II, Andhra Pradesh(Refer note below)	1,000					
Kol Dam	800	✓	✓	✓	+	+
Loharinag Pala	600	+	✓	✓	+	+
Tapovan Vishnugad	520	✓	✓	✓	NI	NI
Total Capacity Included	**15,430**					
Projects Not Included						
Kawas	1,300	NI	+	✗	+	✗
Gandhar	1,300	NI	+	✗	+	✗
North Karanpura	1,980	✗	✗	✗	✗	✗
Rajiv Gandhi CCPP-II at Kayamkulam,Kerala:Ex	1,950	✓	✓	✗	✗	✗
Darlipalli, Orissa IPP	3,200	NI	NI	NI	NI	NI
Lara:Chattisgarh	4,000	+	+	✓	NI	NI
Lata Tapovan HEPP,Uttaranchal	171	+	+	✓	NI	NI
Ramman III HEPP,West Bengal	120	NI	NI	✓	NI	NI
Capacity Not Included	14,021					

Key:

✓	Issue Settled
+	Issue in Progress
✗	Issue Not Settled
NI	No Information Available

Source: Company data, Morgan Stanley Research
Note: There are no details available on Simhadri. However, since this will be an addition to the existing 1,000 MW, we believe the probability of addition is high

Appendix 2: NTPC JV Capacity

Existing JV Capacity	MW	Planned JV Capacity	MW
Coal	**314**	Bhilai:JV with SAIL	500
Durgapur, West Bengal	120	Nabinagar,Bihar : JV with Railways	1000
Rourkela, Orissa	120	Jhajjar by Aravali Power Co Ltd.	1500
Bhilai, Chhattisgarh	74	Ennore,Tamil Nadu: JV with TNEB	1000
Naptha/LNG	**740**	MTPS,JV with Bihar SEB	220
RGPPL,Maharashtra	740	**Planned JV Capacity**	**422**0
Total JV Installed Capacity	**1054**		

Source: Company data, Morgan Stanley Research
Note: JV capacities have not been included

MORGAN STANLEY ModelWare	**Morgan Stanley ModelWare is a proprietary analytic framework that helps clients uncover value, adjusting for distortions and ambiguities created by local accounting regulations.** For example, ModelWare EPS adjusts for one-time events, capitalizes operating leases (where their use is significant), and converts inventory from LIFO costing to a FIFO basis. ModelWare also emphasizes the separation of operating performance of a company from its financing for a more complete view of how a company generates earnings.

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Global Stock Ratings Distribution

(as of March 31, 2007)

For disclosure purposes only (in accordance with NASD and NYSE requirements), we include the category headings of Buy, Hold, and Sell alongside our ratings of Overweight, Equal-weight and Underweight. Morgan Stanley does not assign ratings of Buy, Hold or Sell to the stocks we cover. Overweight, Equal-weight, and Underweight are not the equivalent of buy, hold, and sell but represent recommended relative weightings (see definitions below). To satisfy regulatory requirements, we correspond Overweight, our most positive stock rating, with a buy recommendation; we correspond Equal-weight and Underweight to hold and sell recommendations, respectively.

	Coverage Universe		Investment Banking Clients (IBC)		
Stock Rating Category	Count	% of Total	Count	% of Total IBC	% of Rating Category
Overweight/Buy	**843**	**38%**	**292**	**44%**	**35%**
Equal-weight/Hold	**991**	**45%**	**284**	**42%**	**28%**
Underweight/Sell	**364**	**17%**	**95**	**14%**	**26%**
Total	**2,198**		**671**		

Data include common stock and ADRs currently assigned ratings. An investor's decision to buy or sell a stock should depend on individual circumstances (such as the investor's existing holdings) and other considerations. Investment Banking Clients are companies from whom Morgan Stanley or an affiliate received investment banking compensation in the last 12 months.

Analyst Stock Ratings

Overweight (O or Over) - The stock's total return is expected to exceed the total return of the relevant country MSCI Index, on a risk-adjusted basis over the next 12-18 months.

Equal-weight (E or Equal) - The stock's total return is expected to be in line with the total return of the relevant country MSCI Index, on a risk-adjusted basis over the next 12-18 months.

Underweight (U or Under) - The stock's total return is expected to be below the total return of the relevant country MSCI Index, on a risk-adjusted basis, over the next 12-18 months.

More volatile (V) - We estimate that this stock has more than a 25% chance of a price move (up or down) of more than 25% in a month, based on a quantitative assessment of historical data, or in the analyst's view, it is likely to become materially more volatile over the next 1-12 months compared with the past three years. Stocks with less than one year of trading history are automatically rated as more volatile (unless otherwise noted). We note that securities that we do not currently consider "more volatile" can still perform in that manner.

Unless otherwise specified, the time frame for price targets included in this report is 12 to 18 months.

Analyst Industry Views

Attractive (A): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be attractive vs. the relevant broad market benchmark, as indicated below.

In-Line (I): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be in line with the relevant broad market benchmark, as indicated below.

Cautious (C): The analyst views the performance of his or her industry coverage universe over the next 12-18 months with caution vs. the relevant broad market benchmark, as indicated below.

Benchmarks for each region are as follows: North America - S&P 500; Latin America - relevant MSCI country index or MSCI Latin America Index; Europe - MSCI Europe; Japan - TOPIX; Asia - relevant MSCI country index.

Stock price charts and rating histories for companies discussed in this report are available at www.morganstanley.com/companycharts or from your local investment representative. You may also request this information by writing to Morgan Stanley at 1585 Broadway, (Attention: Equity Research Management), New York, NY, 10036 USA.

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Industry Coverage:India Utilities

Company (Ticker)	Rating (as of)	Price (04/20/2007)
Parag Gupta		
LANCO Infratech Ltd (LAIN.BO)	E-V (04/23/2007)	Rs145.70
NTPC (NTPC.BO)	E (04/23/2007)	Rs160
Reliance Energy (RLEN.BO)	O (04/23/2007)	Rs511.05
Tata Power Co (TTPW.BO)	O (04/23/2007)	Rs546.3

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