# NTPC NTPC.NS NTPC IN

POWER & UTILITIES

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## Preferred IPP on relative fuel/payment security

# Adjusting estimates post clarity on 2QFY12 'normalised' financials

November 3, 2011

| | |
|---|---|
| **Rating** Remains | **Buy** |
| **Target price** Increased from 204 | INR 206 |
| **Closing price** November 2, 2011 | INR 176 |
| **Potential upside** | +17% |

### Action – Maintain Buy; forecast/TP adjusted for 1HFY12 financials

Incorporating its 2QFY12 financials (at Rs20.4bn, normalised PAT was 7% above our forecast), we tweak our FY12-14F normalised EPS forecast for NTPC by ~2%. We maintain that ~9GW wholly owned commercial capacity addition by March 2014, yielding FY12F-14F EPS CAGR of ~13%, will likely underpin price performance.

### Valuation – Stock trades ~20% below historical average multiples

Our TP of INR206 is a sum of the fair value of operating assets based on a residual income model (INR176), investment in JVs/subsidiaries (~INR10) and book value of FY12F non-operating financial assets (~INR21). Our TP implies FY13F P/BV at 2.1x (10% below its historical one-year forward P/BV of 2.3x).

### Catalysts: 5GW addition in 18 months; captive coal block restoration

Event-linked catalysts: 1) Restoration of the five de-allocated captive coal blocks by the MoC; 2) acquisition of equity stakes in overseas coal assets / securing long-term imported coal supply; and 3) bulk-tendering orders award by March 2014 to fructify FY2016-17F capacity growth prospects.

### Preferred IPP pick; ~20% RoE on regulated assets seems sustainable

As fuel constraints rise across the board, we maintain that among the IPPs under our coverage, NTPC offers high earnings visibility, the lowest funding risks and adequate fuel security (particularly as pricing is a pass-through).

| 31 Mar | FY11 | | FY12F | | FY13F | | FY14F |
|---|---|---|---|---|---|---|---|
| Currency (INR) | Actual | Old | New | Old | New | Old | New |
| **Revenue (mn)** | 543,937 | 603,959 | 625,353 | 703,511 | 730,774 | 797,286 | 828,192 |
| **Reported net profit (mn)** | 91,026 | 88,794 | 94,302 | 101,665 | 103,353 | 113,528 | 115,417 |
| **Normalised net profit (mn)** | 88,464 | 88,794 | 90,892 | 101,665 | 103,353 | 113,528 | 115,417 |
| **Normalised EPS** | 10.73 | 10.77 | 11.02 | 12.33 | 12.53 | 13.77 | 14.00 |
| **Norm. EPS growth (%)** | 10.9 | 0.4 | 2.7 | 14.5 | 13.7 | 11.7 | 11.7 |
| **Norm. P/E (x)** | 16.4 | N/A | 16.0 | N/A | 14.0 | N/A | 12.6 |
| **EV/EBITDA (x)** | 13.4 | 12.5 | 13.4 | 10.9 | 11.3 | 9.6 | 9.9 |
| **Price/book (x)** | 2.1 | N/A | 2.0 | N/A | 1.8 | N/A | 1.7 |
| **Dividend yield (%)** | 2.5 | N/A | 2.6 | N/A | 3.0 | N/A | 3.5 |
| **ROE (%)** | 14.0 | 12.6 | 13.3 | 13.4 | 13.5 | 13.9 | 13.9 |
| **Net debt/equity (%)** | 39.6 | 53.2 | 54.7 | 60.4 | 61.7 | 62.2 | 62.0 |

Source: Nomura estimates

**Key company data:** *See page 2 for company data and detailed price/index chart.*

### Anchor themes

We believe IPPs with operating capacity, front-ended capacity pipeline, credible execution capability, high fuel security (sourcing, pricing) and a healthy offtake mix are likely long-term winners.

### Nomura vs consensus

Our FY12/13F earnings estimates are 4%/1% below consensus, potentially due to our assumption of lower PAF/PLF and efficiency-linked incentives.

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See Appendix A-1 for analyst certification, important disclosures and the status of non-US analysts.

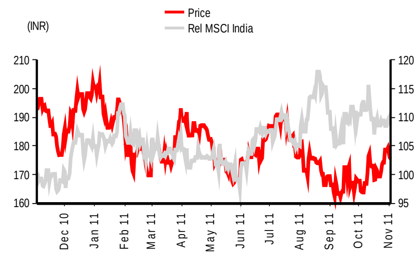
# Key data on NTPC

## Income statement (INRmn)

| Year-end 31 Mar | FY10 | FY11 | FY12F | FY13F | FY14F |
|---|---|---|---|---|---|
| **Revenue** | **462,584** | **543,937** | **625,353** | **730,774** | **828,192** |
| Cost of goods sold | -294,628 | -353,738 | -421,950 | -487,846 | -547,094 |
| **Gross profit** | **167,956** | **190,199** | **203,403** | **242,928** | **281,099** |
| SG&A | -54,359 | -58,609 | -63,515 | -69,123 | -78,246 |
| Employee share expense | -24,124 | -27,897 | -30,706 | -37,540 | -45,961 |
| **Operating profit** | **89,473** | **103,692** | **109,182** | **136,266** | **156,891** |
| | | | | | |
| **EBITDA** | **115,974** | **128,549** | **138,284** | **171,472** | **201,185** |
| Depreciation | -26,501 | -24,857 | -29,102 | -35,206 | -44,294 |
| Amortisation | | | | | |
| EBIT | 89,473 | 103,692 | 109,182 | 136,266 | 156,891 |
| Net interest expense | -11,149 | -13,219 | -18,805 | -21,944 | -26,945 |
| Associates & JCEs | | | | | |
| Other income | 28,271 | 24,296 | 28,435 | 20,566 | 21,437 |
| **Earnings before tax** | **106,595** | **114,770** | **118,812** | **134,887** | **151,383** |
| Income tax | -26,827 | -26,306 | -27,920 | -31,534 | -35,966 |
| **Net profit after tax** | **79,767** | **88,464** | **90,892** | **103,353** | **115,417** |
| Minority interests | | | | | |
| Other items | 0 | 0 | 0 | 0 | 0 |
| Preferred dividends | 0 | 0 | 0 | 0 | 0 |
| **Normalised NPAT** | **79,767** | **88,464** | **90,892** | **103,353** | **115,417** |
| Extraordinary items | 7,513 | 2,562 | 3,410 | 0 | 0 |
| **Reported NPAT** | **87,281** | **91,026** | **94,302** | **103,353** | **115,417** |
| Dividends | -36,608 | -36,507 | -38,358 | -43,149 | -50,337 |
| **Transfer to reserves** | **50,673** | **54,518** | **55,944** | **60,204** | **65,080** |
| | | | | | |
| **Valuation and ratio analysis** | | | | | |
| FD normalised P/E (x) | 18.2 | 16.4 | 16.0 | 14.0 | 12.6 |
| FD normalised P/E at price target (x) | 21.3 | 19.2 | 18.7 | 16.4 | 14.7 |
| Reported P/E (x) | 16.6 | 15.9 | 15.4 | 14.0 | 12.6 |
| Dividend yield (%) | 2.5 | 2.5 | 2.6 | 3.0 | 3.5 |
| Price/cashflow (x) | 14.6 | 12.7 | 13.0 | 11.1 | 9.0 |
| Price/book (x) | 2.3 | 2.1 | 2.0 | 1.8 | 1.7 |
| EV/EBITDA (x) | 14.4 | 13.4 | 13.4 | 11.3 | 9.9 |
| EV/EBIT (x) | 18.6 | 16.6 | 17.0 | 14.2 | 12.6 |
| Gross margin (%) | 36.3 | 35.0 | 32.5 | 33.2 | 33.9 |
| EBITDA margin (%) | 25.1 | 23.6 | 22.1 | 23.5 | 24.3 |
| EBIT margin (%) | 19.3 | 19.1 | 17.5 | 18.6 | 18.9 |
| Net margin (%) | 18.9 | 16.7 | 15.1 | 14.1 | 13.9 |
| Effective tax rate (%) | 25.2 | 22.9 | 23.5 | 23.4 | 23.8 |
| Dividend payout (%) | 41.9 | 40.1 | 40.7 | 41.7 | 43.6 |
| Capex to sales (%) | 22.0 | 24.1 | 33.8 | 25.0 | 19.3 |
| Capex to depreciation (x) | 3.8 | 5.3 | 7.3 | 5.2 | 3.6 |
| ROE (%) | 14.6 | 14.0 | 13.3 | 13.5 | 13.9 |
| ROA (pretax %) | 9.7 | 10.1 | 9.2 | 10.0 | 10.4 |
| | | | | | |
| **Growth (%)** | | | | | |
| Revenue | 12.9 | 17.6 | 15.0 | 16.9 | 13.3 |
| EBITDA | 23.1 | 10.8 | 7.6 | 24.0 | 17.3 |
| EBIT | 26.8 | 15.9 | 5.3 | 24.8 | 15.1 |
| Normalised EPS | 29.6 | 10.9 | 2.7 | 13.7 | 11.7 |
| Normalised FDEPS | 29.6 | 10.9 | 2.7 | 13.7 | 11.7 |
| | | | | | |
| **Per share** | | | | | |
| Reported EPS (INR) | 10.59 | 11.04 | 11.44 | 12.53 | 14.00 |
| Norm EPS (INR) | 9.67 | 10.73 | 11.02 | 12.53 | 14.00 |
| Fully diluted norm EPS (INR) | 9.67 | 10.73 | 11.02 | 12.53 | 14.00 |
| Book value per share (INR) | 75.72 | 82.34 | 89.12 | 96.43 | 104.32 |
| DPS (INR) | 4.44 | 4.43 | 4.65 | 5.23 | 6.10 |

Source: Nomura estimates

### Relative performance chart (one year)




Source: ThomsonReuters, Nomura research

| (%) | 1M | 3M | 12M |
|---|---|---|---|
| Absolute (INR) | 5.0 | -2.8 | -9.2 |
| Absolute (USD) | 4.4 | -12.6 | -18.1 |
| Relative to index | -1.4 | 0.4 | 6.8 |
| Market cap (USDmn) | 29,469.6 | | |
| Estimated free float (%) | 15.5 | | |
| 52-week range (INR) | 203.8/160 | | |
| 3-mth avg daily turnover (USDmn) | 9.66 | | |
| Major shareholders (%) | | | |
| Government of India | 84.5 | | |

Source: Thomson Reuters, Nomura research

### Notes

We expect RoE to inch up post a dip in FY12F

## Cashflow (INRmn)

| Year-end 31 Mar | FY10 | FY11 | FY12F | FY13F | FY14F |
|---|---|---|---|---|---|
| EBITDA | 115,974 | 128,549 | 138,284 | 171,472 | 201,185 |
| Change in working capital | -16,215 | -5,405 | -9,189 | -13,639 | -5,741 |
| Other operating cashflow | -101 | -8,730 | -17,113 | -27,125 | -34,896 |
| **Cashflow from operations** | **99,658** | **114,414** | **111,982** | **130,708** | **160,548** |
| Capital expenditure | -101,731 | -131,267 | -211,463 | -182,750 | -159,960 |
| **Free cashflow** | **-2,073** | **-16,853** | **-99,480** | **-52,042** | **589** |
| Reduction in investments | 9,334 | 6,938 | 10,249 | 7,522 | 7,532 |
| Net acquisitions | | | | | |
| Reduction in other LT assets | | 0 | 0 | 0 | 0 |
| Addition in other LT liabilities | 4,987 | -4,836 | -7,916 | 4,995 | 5,786 |
| Adjustments | -4,987 | 4,866 | 7,916 | -4,995 | -5,786 |
| **Cashflow after investing acts** | **7,262** | **-9,885** | **-89,231** | **-44,520** | **8,121** |
| Cash dividends | -36,608 | -36,507 | -38,358 | -43,149 | -50,337 |
| Equity issue | 0 | 0 | 0 | 0 | 0 |
| Debt issue | 26,014 | 54,738 | 112,533 | 90,311 | 90,662 |
| Convertible debt issue | | | | | |
| Others | 2,896 | -8,773 | -5,683 | -792 | -792 |
| **Cashflow from financial acts** | **-7,698** | **9,457** | **68,492** | **46,370** | **39,533** |
| **Net cashflow** | **-436** | **-427** | **-20,739** | **1,849** | **47,653** |
| Beginning cash | 164,466 | 164,030 | 163,603 | 142,864 | 144,713 |
| Ending cash | 164,030 | 163,603 | 142,864 | 144,713 | 192,367 |
| Ending net debt | 213,739 | 268,904 | 402,175 | 490,637 | 533,645 |

Source: Nomura estimates

**Notes**

Our FY12F capex assumes bulk-tender orders are awarded by March 2012

## Balance sheet (INRmn)

| As at 31 Mar | FY10 | FY11 | FY12F | FY13F | FY14F |
|---|---|---|---|---|---|
| Cash & equivalents | 164,030 | 163,603 | 142,864 | 144,713 | 192,367 |
| Marketable securities | 0 | 0 | 0 | 0 | 0 |
| Accounts receivable | 66,514 | 79,243 | 102,798 | 110,117 | 113,451 |
| Inventories | 33,477 | 36,391 | 37,652 | 40,851 | 43,743 |
| Other current assets | 63,571 | 76,481 | 75,599 | 83,680 | 91,702 |
| **Total current assets** | **327,592** | **355,718** | **358,913** | **379,361** | **441,263** |
| LT investments | 128,636 | 121,698 | 111,449 | 103,927 | 96,395 |
| Fixed assets | 668,656 | 775,066 | 957,426 | 1,104,970 | 1,220,635 |
| Goodwill | 0 | 0 | 0 | 0 | 0 |
| Other intangible assets | | | | | |
| Other LT assets | 0 | 0 | 0 | 0 | 0 |
| **Total assets** | **1,124,884** | **1,252,482** | **1,427,788** | **1,588,258** | **1,758,293** |
| Short-term debt | 0 | 0 | 0 | 0 | 0 |
| Accounts payable | 107,581 | 130,729 | 145,474 | 150,434 | 158,941 |
| Other current liabilities | | | | | |
| **Total current liabilities** | **107,581** | **130,729** | **145,474** | **150,434** | **158,941** |
| Long-term debt | 377,769 | 432,507 | 545,039 | 635,350 | 726,012 |
| Convertible debt | | | | | |
| Other LT liabilities | 15,160 | 10,324 | 2,408 | 7,403 | 13,190 |
| **Total liabilities** | **500,510** | **573,560** | **692,921** | **793,187** | **898,142** |
| Minority interest | | | | | |
| Preferred stock | 0 | 0 | 0 | 0 | 0 |
| Common stock | 82,455 | 82,455 | 82,455 | 82,455 | 82,455 |
| Retained earnings | 541,920 | 596,468 | 652,412 | 712,616 | 777,696 |
| Proposed dividends | | | | | |
| Other equity and reserves | | | | | |
| **Total shareholders' equity** | **624,374** | **678,923** | **734,867** | **795,070** | **860,151** |
| **Total equity & liabilities** | **1,124,884** | **1,252,482** | **1,427,788** | **1,588,258** | **1,758,293** |
| | | | | | |
| **Liquidity (x)** | | | | | |
| Current ratio | 3.05 | 2.72 | 2.47 | 2.52 | 2.78 |
| Interest cover | 8.0 | 7.8 | 5.8 | 6.2 | 5.8 |
| | | | | | |
| **Leverage** | | | | | |
| Net debt/EBITDA (x) | 1.84 | 2.09 | 2.91 | 2.86 | 2.65 |
| Net debt/equity (%) | 34.2 | 39.6 | 54.7 | 61.7 | 62.0 |
| | | | | | |
| **Activity (days)** | | | | | |
| Days receivable | 40.4 | 48.9 | 53.3 | 53.2 | 49.3 |
| Days inventory | 40.8 | 36.0 | 32.1 | 29.4 | 28.2 |
| Days payable | 132.8 | 122.9 | 119.8 | 110.7 | 103.2 |
| Cash cycle | -51.6 | -38.0 | -34.4 | -28.2 | -25.7 |

Source: Nomura estimates

**Notes**

We expect receivable days to remain in check

## Investment summary – Maintain BUY

*We maintain that NTPC is a reasonable 'portfolio insurance' option within the power utilities space as it arguably offers the highest earnings visibility, lowest funding risks, adequate fuel security (particularly on pricing, as fuel cost is a pass through). Capturing NTPC's reported financials for 1HFY12 and our interaction with management post its 2QFY12 earnings call, we tweak our FY12F-14F earnings forecast for NTPC (up by ~2%). Our revised TP of INR206 for the stock offers potential upside of ~17%; implied FY13F P/B target multiple is 2.1x. We expect ~5GW of wholly owned commercial generation capacity addition in the next 18 months, to underpin stock price performance.*

Maintain BUY. 12-mth TP pegged at Rs206 (Rs204 previously), implying 17% potential upside

Deciphering several adjustments outlined in the 2QFY12 earnings release, NTPC's commentary in the earnings call and clarifications on prior period items pertaining to both operating and non-operating income, by our calculations, NTPC's 2QFY12 normalised net profit was Rs20.4bn (7% ahead of our forecast and in line with consensus).

Incorporating NTPC's 1HFY12 key operating metrics and financials, we tweak our earnings forecast for the stock: our FY12F-14F normalised EPS forecast rises by ~2% and 12-month SOTP-based TP nudges higher to Rs206 (Rs204 previously). Our revised earnings outlook for NTPC pegs its FY12-17F EPS CAGR at ~11%, wherein we continue to assume long-term PAF/PLF of its coal-fired capacity at 88%/85% and applicability of minimum alternative tax (MAT) as the RoE gross-up tax rate from FY13F onwards (i.e. precludes potential savings in tax outgo on availing tax holidays for some projects). We maintain that NTPC will sustain an earnings spread of 400-500bps above the minimum post-tax RoE of 15.5% on its generation capacity (i.e. RoE of ~20% on its regulated assets) under the current regulatory regime.

Our revised TP of INR206 (up from INR204) is based on a sum of the fair value of NTPC's: 1) operating assets using a residual income (RI) model (IN176/share); 2) FY12F investment in JVs and subsidiaries (~INR10); and 3) book value of FY12F non-operating financial assets (~INR21). Our RI model for NTPC assumes 12.5% cost of equity, 18.5% perpetual RoE on core assets and 2% perpetual growth in core business income. At our price target, the stock would trade at 2.1x FY13E P/B, 10% below its average (two-year) one-year forward P/B multiple of 2.3x.

We expect ~9GW of wholly owned commercial capacity addition over next 30 months

While we expect ~9GW of wholly owned commercial generation capacity addition over the next 30 months yielding an FY12-14F EPS CAGR of ~13% as the undercurrent for stock price performance, specific potential upside catalysts could be (linked to corporate action / regulatory developments): 1) restoration of the five de-allocated captive coal blocks by the Ministry of Coal (MoC); 2) NTPC acquiring substantial interests in overseas coal assets/securing long-term imported coal supply thereby allaying concerns over longer-term fuel security; and 3) bulk-tendering orders award by March 2014.

Key risks to our investment thesis and price target include: 1) delays in commercial capacity accretion beyond our expected timeline; 2) deterioration in operational efficiency, PAF slipping below our assumed level due to fuel constraints; 3) reinvestment risks relating to growing cash chest; and 4) adverse regulatory developments.

**Fig. 1: NTPC – 12-mth TP moves up marginally to INR206/share (from INR204/share)**

Our RI-model assumes perpetual RoE of 18.5% (300bp spread over assured post-tax RoE) on regulated assets

| | New | Old | % change | Comments |
|---|---|---|---|---|
| Base BV* (FY12F) | 68.5 | 67.0 | 2.3 | |
| Explicit (FY13F-FY17F) | 10.5 | 10.9 | (4.1) | We build-in lower efficiency linked incentives due to lower PLF |
| Terminal | 97.1 | 95.3 | 1.8 | assumption; perpetual RoE lowered from 20% to 18.5% |
| **Residual Income** | **176.0** | **173.2** | **1.6** | |
| Non-Op Fin. Assets (FY12F) | 20.6 | 21.5 | (4.1) | We continue to value operational JVs (generation assets) at 2x |
| Inv. In JVs/subs | 9.8 | 9.8 | (0.2) | FY12F P/B |
| **Target price** | **206.0** | **204.0** | **1.0** | |

Notes: * Excluding cash & bonds; we peg NTPC's cost of equity at 12.5%

Source: Nomura estimates

### Fig. 2: NTPC – Nomura vs. consensus

Our FY12-14F EPS forecast for NTPC Is 1-5% below consensus

| (INR bn) | FY12F | FY13F | FY14F |
|---|---|---|---|
| **Revenue** | | | |
| Nomura | 625,353 | 730,774 | 828,192 |
| Consensus (Bloomberg Mean) | 614,973 | 698,307 | 802,847 |
| **Nomura Vs Consensus (%)** | **1.7** | **4.6** | **3.2** |
| **EBITDA** | | | |
| Nomura | 138,284 | 171,472 | 201,185 |
| Consensus (Bloomberg Mean) | 159,094 | 183,319 | 216,379 |
| **Nomura Vs Consensus (%)** | **(13.1)** | **(6.5)** | **(7.0)** |
| **Net Profit** | | | |
| Nomura | 90,892 | 103,353 | 115,417 |
| Consensus (Bloomberg Mean) | 94,290 | 104,411 | 121,210 |
| **Nomura Vs Consensus (%)** | **(3.6)** | **(1.0)** | **(4.8)** |

Source: Bloomberg, Nomura estimates

### Fig. 3: NTPC – Change in key financial estimates

We nudge our FY12-14F EPS higher by 1.7-2.4%

| | FY12F | FY13F | FY14F |
|---|---|---|---|
| **Revenue** | | | |
| New | 625,353 | 730,774 | 828,192 |
| Old | 603,959 | 703,511 | 797,286 |
| % change | 3.5 | 3.9 | 3.9 |
| **EBITDA** | | | |
| New | 138,284 | 171,472 | 201,185 |
| Old | 142,582 | 170,588 | 200,067 |
| % change | (3.0) | 0.5 | 0.6 |
| **Net Profit (Normalized)** | | | |
| New | 90,892 | 103,353 | 115,417 |
| Old | 88,794 | 101,665 | 113,528 |
| % change | 2.4 | 1.7 | 1.7 |

Note: Sales forecast are raised on the back of higher fuel cost assumption
Source: Nomura estimates

### Fig. 4: NTPC – Plant-wise commercial capacity addn. (MW)

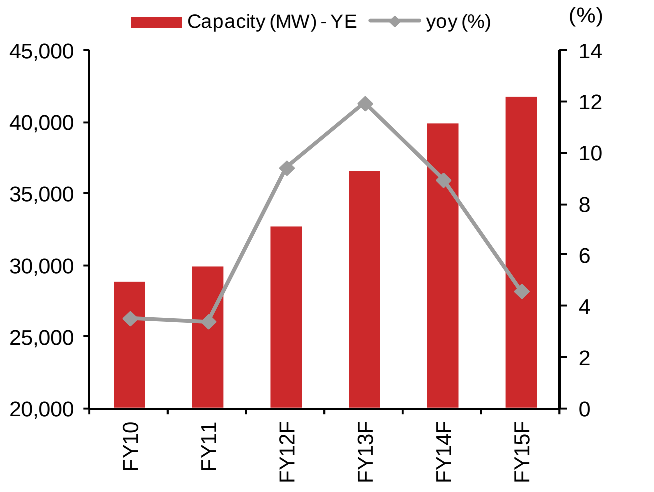
6x500MW brown-field capacity addition in the pipeline in FY13

| | FY11 | FY12F | FY13F | FY14F |
|---|---|---|---|---|
| ***North*** | | | | |
| Rihand | | | 1,000 | |
| Koldam * | | | | 800 |
| ***West*** | | | | |
| Sipat | | 1,320 | 660 | |
| Korba | 500 | | | |
| Vindhyachal | | | 1,000 | |
| Mauda | | | 1,000 | |
| ***South*** | | | | |
| Simhadri | | 1,000 | | |
| ***East*** | | | | |
| Farakka | | 500 | | |
| Kahalgaon | | | | |
| Barh | | | | 1,980 |
| Bongaigaon | | | 250 | 500 |
| ***NCR*** | | | | |
| Dadri | 490 | | | |
| **TOTAL** | **990** | **2,820** | **3,910** | **3,280** |

Note: * Hydro; remaining capacity is coal-fired; NCR = National Capital Region; only wholly owned capacity considered
Source: Company data, Nomura estimates

### Fig. 5: NTPC – Commercial capacity addition (MW)

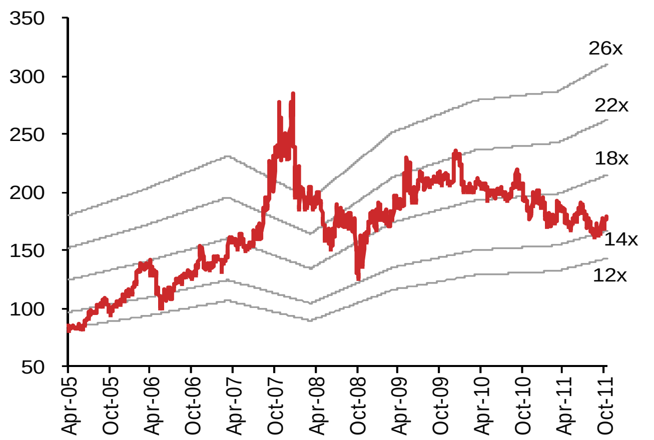
Expect ~10GW wholly owned capacity addition over the next 30 months




Note: Only wholly owned capacity considered
Source: Company data, Nomura estimates

### Fig. 6: NTPC – one-year forward P/E band

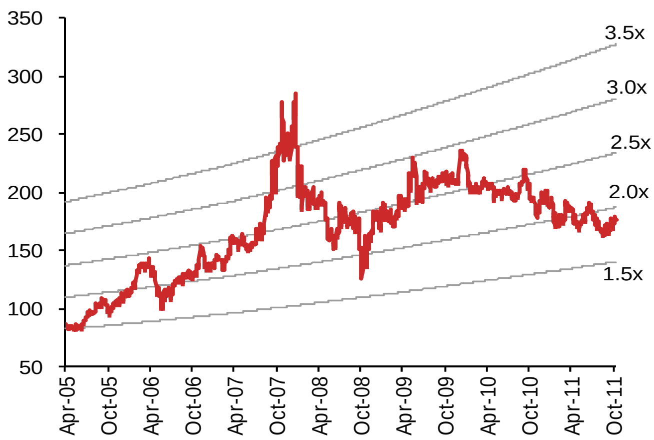
Stock trades at ~20% below 2-yr average of 17.5x




Source: Bloomberg, Nomura research

### Fig. 7: NTPC – one-year forward P/B band

Stock trades at 16% below 2-yr average of 2.3x




Source: Bloomberg, Nomura research

## Changes in key assumptions for forecast earnings

Overall, we raise our FY12/FY13/14 EPS forecast for NTPC by ~2% largely on the back of higher-than-expected non-operating income, particularly for FY12F. At the operating level, weaker-than-expected coal PLF and PAF in 1HFY12 prompt us to lower our FY12F coal PLF and PAF assumption to 85% and 89%, respectively. We also raise our fuel cost forecast for NTPC to reflect the 13% QoQ rise in the blended cost of coal in 2QFY12; being a cost-plus model, our FY12F-14F sales forecast rises by 3.5-4%.

**A spread of ~500bps over assured RoE (on regulated assets) appears sustainable**
As regards availability-linked cost recovery and efficiency-linked incentives, our calculations indicate that despite building in the likely downtrend in UI (unscheduled interchange) revenues, a lower PAF of 88% post FY2013 (previous three-year average of ~92%) and a lower PLF of ~85% for its coal fired stations (previous three-year average of 90%), NTPC would be able to generate a spread of ~500bps over the assured 15.5% post-tax RoE on regulated assets. In our current earnings forecast, which assumes the PAF/PLF for coal-fired stations for FY13F at 90%/85%, the effective RoE on regulated assets translates to ~23%.

**Fig. 8: NTPC – Changes in key operational assumptions/financials**
We lower FY12F PLF/ PAF and adjust fuel charges for a higher-than-expected spike in coal cost

| | FY12F | FY13F | FY14F |
|---|---|---|---|
| **Coal PLF (%)** | | | |
| New | 85.0% | 85.0% | 85.0% |
| Old | 86.0% | 85.0% | 85.0% |
| Change (bps) | (100) | - | - |
| **Coal PAF (%)** | | | |
| New | 89.0% | 90.0% | 88.0% |
| Old | 90.0% | 90.0% | 88.0% |
| Change (bps) | (100) | - | - |
| **Fuel Expenditure (INR m)** | | | |
| New | 421,950 | 487,846 | 547,094 |
| Old | 399,968 | 462,141 | 518,037 |
| % change | 5.5 | 5.6 | 5.6 |

Source: Nomura estimates

**Fig. 9: NTPC – Post-tax earnings breakdown**
We expect effective RoE on regulated power generation assets at 22-23% in FY13F/14F

| (Rs bn) | FY12F | FY13F | FY14F |
|---|---|---|---|
| Return on Equity (Regulated) | 42.8 | 52.6 | 60.1 |
| Efficiency-linked Incentives | 10.6 | 21.7 | 24.2 |
| **Return on Regulated Assets** | **53.5** | **74.3** | **84.4** |
| Effective RoE on Core Business | 19.5% | 22.7% | 22.1% |
| Other core operating income | 1.6 | 2.3 | 2.7 |
| Net non-core Income | 35.8 | 26.7 | 28.4 |
| **Net Profit** | **90.9** | **103.4** | **115.4** |
| YoY | 2.7% | 13.7% | 11.7% |
| **Earnings composition (%)** | | | |
| Return on Equity (Regulated) | 47.1 | 50.9 | 52.1 |
| Incentives | 11.7 | 21.0 | 21.0 |
| Other core operating income | 1.8 | 2.3 | 2.3 |
| Net non-core Income | 39.4 | 25.9 | 24.6 |

Source: Nomura estimates

## 2QFY12 normalised PAT at Rs20.4bn, 7% above our forecast

Based on clarifications by management on one-off items in the reported 2QFY12 financials, we calculate NTPC's 2QFY12 normalised net profit at Rs20.4bn – 7% above our forecast and in line with consensus (summarised in Figure 10).

**Three key takeaways from NTPC's 2QFY12 earnings call**

*Coal fired stations – PAF drops to 83.4%, PLF drops to 78.4%*

Management indicated that bulk of the 310bps YoY drop in plant availability (PAF) and 450bps YoY drop in plant utilisation (PLF) for coal-fired stations in 2QFY12 was on account higher outages (mostly planned) rather than lack of fuel. Loss in generation due to lack of coal was 1.94bn kWh (3.9% of actual commercial generation) while loss in generation due to grid restrictions / back-down instructions was 5.41bn kWh.

*Sundry debtors – Payment period has lengthened to 50-65 days, but no default*

Management emphasised that the 40% rise in sundry debtors to Rs111.6bn as of Sep-2011 (up from Rs79bn as of March 2011) is largely on account of beneficiaries being billed in accordance with provisional tariff orders (based on 2009-14 regulations) in 2QFY12 – the additional dues are to be recovered in six monthly instalments in 2HFY12. In addition, management stated that [1] beneficiaries (SEBs) has lengthened, but there has been no default in payment, and [2] as compared to 65% payment being received on day #1 (of the billing cycle) and 5-10% payment being received close to day #60 of the billing cycle in the past, currently, NTPC receives 30-40% of payment on day#1 of the billing cycle and 20-25% close to day #60 of the billing cycle.

*Coal supply – NTPC expects to retain 'priority status' in securing e-auction coal*

Management stated that the 'priority status' given to NTPC by the Ministry of Coal to secure e-auction coal (for the month of October) would continue. NTPC did not face any bottleneck in movement of imported coal; FY13F imported coal requirement is pegged at 14-15MT.

**Fig. 10: NTPC – 2QFY12 earnings snapshot**

Normalised PAT was 7% above our forecast, in line with consensus

| Qtrly Snapshot | 2QFY12 Sep-11 | 2QFY11 Sep-10 | yoy (%) | 1QFY12 Jun-11 | qoq (%) | 2QFY12F Sep-11 | Act vs Est | Comments |
|---|---|---|---|---|---|---|---|---|
| **Oprational Metrics** | | | | | | | | |
| Coal | | | | | | | | |
| PAF(%) | 83.4% | 86.5% | | 89.9% | | | | |
| PLF(%) | 78.4% | 82.9% | | 86.9% | | | | Qty supplied under FSA was >90% of ACQ |
| Gas | | | | | | | | |
| PAF(%) | 92.3% | 92.1% | | 89.8% | | | | |
| PLF(%) | 60.8% | 68.0% | | 62.6% | | | | Back-down instructions dent generation |
| Generation (BUs) | 50.3 | 52.2 | | 54.6 | | 51.0 | -1.3% | |
| Sales (BUs) | 46.9 | 48.8 | | 51.1 | | 47.5 | -1.3% | |
| Realization (Rs/kWh) | 3.11 | 2.62 | | 2.82 | | 2.88 | 8.0% | Higher-than-expected realization driven by fuel cost |
| Fuel Cost (Rs/kWh) | 2.14 | 1.77 | | 1.91 | | 1.97 | 8.8% | Blended coal cost up 13% QoQ |
| **Key Financials (INR m)** | | | | | | | | |
| **Revenues** | **146,186** | **128,080** | **14.1%** | **144,120** | **1.4%** | **137,094** | **6.6%** | Adj. for prior period sales (Rs7.6bn) |
| Fuel cost | (100,597) | (86,073) | 16.9% | (97,498) | 3.2% | (93,608) | 7.5% | Adj. for prior period fuel cost (Rs5.9bn) |
| O&M expenses | (16,697) | (13,719) | 21.7% | (15,554) | 7.3% | (14,927) | 11.9% | Adj. for prior period w/back (Rs1.8bn) |
| **EBITDA** | **28,892** | **28,288** | **2.1%** | **31,068** | **-7.0%** | **28,560** | **1.2%** | In-line |
| Margin | 19.8% | 22.1% | | 21.6% | | 20.8% | | |
| Depreciation | (6,583) | (5,063) | 30.0% | (6,411) | 2.7% | (6,604) | -0.3% | |
| **EBIT** | **22,309** | **23,225** | **-3.9%** | **24,656** | **-9.5%** | **21,956** | **1.6%** | In-line |
| Interest expense | (5,300) | (5,479) | -3.3% | (3,343) | 58.5% | (3,477) | 52.4% | Adj. for prior period w/back (Rs2bn) |
| Other income | 9,015 | 6,147 | 46.7% | 7,328 | 23.0% | 7,000 | 28.8% | Adj. for one-off interest from customers (Rs1.1bn) |
| **Profit before tax** | **26,024** | **23,893** | **8.9%** | **28,641** | **-9.1%** | **25,479** | **2.1%** | |
| Tax | (5,612) | (5,174) | 8.5% | (7,065) | -20.6% | (6,370) | -11.9% | Deferred tax w/back vs. provision lowers tax rate |
| tax rate | 21.6% | 21.7% | | 24.7% | | 25.0% | | |
| **Adjusted PAT** | **20,412** | **18,719** | **9.0%** | **21,576** | **-5.4%** | **19,109** | **6.8%** | |
| Extraordinary items | 3,829 | 2,355 | NM | (819) | NM | - | | Incl. prior period tax w/back (Rs2.7bn) |
| **Reported PAT** | **24,241** | **21,074** | **15.0%** | **20,758** | **16.8%** | **19,109** | **26.9%** | |

Source: Company data, Nomura estimates

# NTPC – Coal demand/supply snapshot

**Fig. 11: NTPC – Gauging the coal demand-availability balance**

Dependence on linkage / imported coal supply to hover around 30% by FY2014, ramp-up of captive coal supply is critical

| | FY11 | FY12F | FY13F | FY14F | FY15F | FY16F | FY17F |
|---|---|---|---|---|---|---|---|
| **Coal-fired Capacity** | | | | | | | |
| YE Commercial capacity (MW) | 25,875 | 28,695 | 32,605 | 35,085 | 36,405 | 38,725 | 45,365 |
| Effective Commercial capaciy (MW) | 25,225 | 27,061 | 30,529 | 33,048 | 35,527 | 36,552 | 41,382 |
| Commercial Generation (bn kWh) | 195 | 201 | 227 | 246 | 265 | 272 | 308 |
| | | | | | | | |
| **Coal Demand (mt)** | | | | | | | |
| Requirement (kg/kWh) | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 |
| Total – Incl. Imported @domestic GCV | 144 | 149 | 165 | 178 | 190 | 194 | 217 |
| Incremental | | 5 | 16 | 13 | 12 | 4 | 23 |
| | | | | | | | |
| **Coal Availability (mt)** | | | | | | | |
| FSA (CIL) + Linkage (SCCL) | 119 | 119 | 119 | 119 | 119 | 119 | 119 |
| Bilateral | 4 | 3 | 2 | - | - | - | - |
| Captive | - | - | 1 | 3 | 8 | 18 | 30 |
| **Gap (Imported @domestic GCV)** | **21** | **27** | **44** | **56** | **64** | **58** | **68** |
| **% of total demand** | **14.7%** | **18.0%** | **26.4%** | **31.7%** | **33.5%** | **29.8%** | **31.3%** |

Note: Coal demand and gap indicated above is adjusted for higher GCV of imported coal

Source: Company data, Nomura estimates

**Fig. 12: NTPC – Coal inventory at power plants**

By and large, coal inventory at power plants has improved over the past fortnight

| | | Capacity | Coal Inventory (days) | | |
|---|---|---|---|---|---|
| | ***Plant type*** | **(MW)** | **15-Sep-11** | **13-Oct-11** | **31-Oct-11** |
| ***Northern Region*** | | | | | |
| Singrauli | Pit-head | 2,000 | 5 | 0 | 0 |
| Rihand | Pit-head | 2,000 | 7 | 3 | 3 |
| Tanda | Non Pit-head | 440 | 36 | 20 | 9 |
| Unchahar | Non Pit-head | 1,050 | 5 | 3 | 3 |
| ***Western Region*** | | | | | |
| Sipat | Pit-head | 1,660 | 12 | 3 | 8 |
| Korba | Pit-head | 2,600 | 9 | 18 | 15 |
| Vindhyachal | Pit-head | 3,260 | 1 | 0 | 0 |
| ***Southern Region*** | | | | | |
| Ramagundam | Pit-head | 2,600 | 1 | 3 | 2 |
| Simhadri | Non Pit-head | 1,500 | 5 | 2 | 2 |
| ***Eastern Region*** | | | | | |
| Farakka | Pit-head * | 2,100 | 12 | 3 | 1 |
| Kahalgaon | Pit-head * | 2,340 | 2 | 2 | 3 |
| Talcher STPS | Pit-head | 3,000 | 7 | 3 | 2 |
| Talcher TPS | Pit-head | 470 | 13 | 9 | 8 |
| ***National Capital Region*** | | | | | |
| Dadri Thermal | Non Pit-head | 1,820 | 7 | 2 | 4 |
| Badarpur | Non Pit-head | 705 | 12 | 1 | 10 |

Note: * Issues with transportation bottlenecks, Most of the coal sourced is not from the related

Source: CEA

# NTPC – TP calculation & valuation

**Fig. 13: NTPC – Price target based on residual income model**

TP (INR206) = Residual Income (INR176/sh) + Non-operating financial assets & Investment in JVs/Subs (INR30/sh)

| | FY10 | FY11 | FY12F | FY13F | FY14F | FY15F | FY16F | FY17F | Terminal |
|---|---|---|---|---|---|---|---|---|---|
| BVPS (Excl. Cash & Bonds) | 49.1 | 57.8 | 68.5 | 74.6 | 81.3 | 88.5 | 96.0 | 105.0 | 164.9 |
| EPS | 9.7 | 10.7 | 8.2 | 10.4 | 11.9 | 13.0 | 13.6 | 16.7 | |
| YoY EPS (g) | 29.6% | 10.9% | -23.7% | 27.7% | 13.5% | 9.6% | 4.8% | 22.5% | 2.0% |
| Payout Ratio | 41.9% | 40.1% | 40.7% | 41.7% | 43.6% | 44.4% | 45.2% | 46.2% | |
| **Residual Income** | **4.6** | **4.6** | **1.0** | **1.9** | **2.5** | **2.8** | **2.6** | **4.7** | |
| RI - Discounted Value | | | 1.0 | 1.8 | 2.1 | 2.1 | 1.7 | 2.8 | 97.1 |

| Build up of PT | Rs/Share |
|---|---|
| Base BV (FY12F) | 68.5 |
| Explicit (FY13F-FY17F) | 10.5 |
| Terminal | 97.1 |
| **Residual Income** | **176.0** |
| Non-Op Fin. Assets (FY12F) | 20.6 |
| Inv. In JVs/subs | 9.8 |
| **Target Price (rounded)** | **206.0** |

| Key assumptions | |
|---|---|
| Cost of Equity (CoE) | 12.5% |
| Terminal year RoE* | 18.5% |
| Terminal growth | 2.0% |

Note: * Based on regulated equity; For the RI model, non-operational financial assets exclude 30% cash on hand, which is deemed to be invested YoY in operating assets

Source: Company data, Nomura estimates

**Fig. 14: NTPC – Valuation comparison**

Multiples remain at a premium to industry average; but below historical averages by ~20%

| | | | M. Cap | Price | P/E | | | P/B | | | ROE (%) | | | EV/EBITDA | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Company** | **Ticker** | **Rating** | **(US$m)** | **(INR)** | **11** | **12F** | **13F** | **11** | **12F** | **13F** | **11** | **12F** | **13F** | **11** | **12F** | **13F** |
| **COVERAGE** | | | | | | | | | | | | | | | | |
| Adani Power | ADANI IN | Neutral | 3,854 | 87.0 | 36.9 | 8.7 | 5.6 | 3.0 | 2.2 | 1.6 | 8.5 | 29.2 | 33.8 | 29.0 | 10.4 | 6.5 |
| JSW Energy | JSW IN | Reduce | 1,734 | 52.0 | 10.1 | 6.1 | 6.4 | 1.5 | 1.2 | 1.0 | 16.2 | 22.2 | 17.5 | 10.2 | 6.0 | 6.3 |
| Lanco | LANCI IN | Buy | 773 | 15.8 | 11.0 | 33.3 | 4.3 | 0.8 | 0.8 | 0.7 | 8.5 | 2.4 | 17.0 | 10.1 | 12.4 | 7.4 |
| **NTPC** | **NTPC IN** | **Buy** | **29,495** | **176.0** | **16.4** | **16.0** | **14.0** | **2.1** | **2.0** | **1.8** | **14.0** | **13.3** | **13.5** | **13.4** | **13.5** | **11.4** |
| Power Grid | PWGR IN | Buy | 9,704 | 103.1 | 17.7 | 15.9 | 13.5 | 2.2 | 2.1 | 1.9 | 14.5 | 13.5 | 14.6 | 12.4 | 10.7 | 9.7 |
| Reliance Power | RPWR IN | Reduce | 5,637 | 98.9 | 33.2 | 28.7 | 11.1 | 1.6 | 1.5 | 1.3 | 4.8 | 5.5 | 12.8 | 120.0 | 37.9 | 13.4 |
| **Average** | | | | | **18.4** | **16.0** | **8.8** | **1.9** | **1.7** | **1.4** | **12.3** | **16.1** | **19.3** | **15.0** | **10.6** | **8.2** |
| **COVERAGE @TP** | | | | | | | | | | | | | | | | |
| Adani Power | | | | | 48.9 | 11.5 | 7.3 | 4.0 | 2.9 | 2.2 | | | | 39.9 | 13.3 | 8.1 |
| JSW Energy | | | | | 12.7 | 7.6 | 8.0 | 1.9 | 1.5 | 1.3 | | | | 15.3 | 8.7 | 8.7 |
| Lanco | | | | | 20.8 | 63.1 | 8.2 | 1.6 | 1.5 | 1.3 | | | | 11.9 | 13.7 | 8.0 |
| **NTPC** | | | | | **19.2** | **18.7** | **16.4** | **2.5** | **2.3** | **2.1** | | | | **15.4** | **15.2** | **12.8** |
| Power Grid | | | | | 20.6 | 18.5 | 15.7 | 2.6 | 2.4 | 2.2 | | | | 13.6 | 11.6 | 10.5 |
| Reliance Power | | | | | 46.4 | 40.0 | 15.6 | 2.3 | 2.1 | 1.9 | | | | 160.9 | 46.9 | 15.7 |
| **NON COVERAGE** | | | | | | | | | | | | | | | | |
| CESC | CESC IN | NR | 691 | 272.2 | 9.3 | 6.6 | 5.9 | 0.6 | 0.6 | 0.6 | 7.6 | 9.9 | 9.0 | 10.0 | 9.6 | 8.4 |
| JPVL | JPVL IN | NR | 1,953 | 36.6 | 20.7 | 12.1 | 7.5 | 1.7 | 1.3 | n.a | 9.4 | 13.2 | 13.0 | 35.8 | 18.2 | 14.3 |
| JSPL | JSP IN | NR | 10,657 | 561.0 | 12.4 | 10.9 | 8.6 | 2.9 | 2.3 | 1.8 | 25.8 | 23.6 | 22.8 | 9.6 | 9.5 | 8.4 |
| KSK | KSK IN | NR | 764 | 100.9 | 14.0 | 10.1 | 5.4 | 1.3 | 1.2 | 1.1 | 8.8 | 11.7 | 24.7 | 17.3 | 14.7 | 14.2 |
| NHPC | NHPC IN | NR | 6,152 | 24.6 | 13.7 | 12.2 | 11.4 | 1.1 | 1.0 | 1.0 | 8.1 | 8.4 | 8.9 | 11.8 | 10.1 | 9.0 |
| Satluj Jal | SJVN IN | NR | 1,859 | 22.1 | 9.3 | 7.9 | 5.7 | 1.1 | 1.0 | 0.9 | 10.9 | 11.4 | 13.6 | n.a | n.a | n.a |
| Tata Power | TPWR IN | NR | 4,923 | 102.1 | 10.7 | 10.8 | 11.2 | 1.5 | 1.4 | 1.3 | 15.6 | 14.0 | 13.8 | 10.2 | 8.5 | 7.4 |
| Torrent Power | TPW IN | NR | 2,257 | 235.0 | n.a | 10.6 | n.a | n.a | n.a | n.a | 21.0 | 18.4 | n.a | 6.3 | n.a | n.a |
| **Average** | | | | | **12.9** | **10.2** | **8.0** | **1.5** | **1.3** | **1.1** | **13.4** | **13.8** | **15.1** | **14.4** | **11.8** | **10.3** |
| **Overall Average** | | | | | **15.2** | **12.4** | **8.3** | **1.7** | **1.4** | **1.2** | **13.0** | **14.7** | **16.9** | **14.7** | **11.2** | **9.4** |

Note: Priced as on 2 Nov, 2011; All averages exclude RPWR;

Source: Bloomberg consensus for not-rated stocks, Nomura estimates for covered companies

# Appendix A-1

## Analyst Certification

I, Anirudh Gangahar, hereby certify (1) that the views expressed in this Research report accurately reflect my personal views about any or all of the subject securities or issuers referred to in this Research report, (2) no part of my compensation was, is or will be directly or indirectly related to the specific recommendations or views expressed in this Research report and (3) no part of my compensation is tied to any specific investment banking transactions performed by Nomura Securities International, Inc., Nomura International plc or any other Nomura Group company.

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**Mentioned companies**

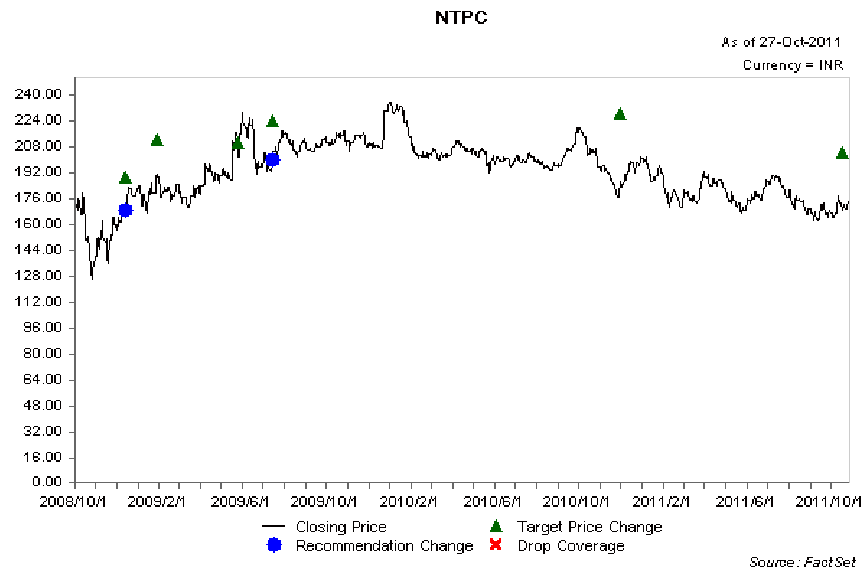
| Issuer name | Ticker | Price | Price date | Stock rating | Sector rating | Disclosures |
|---|---|---|---|---|---|---|
| NTPC | NTPC IN | INR 176 | 02-Nov-2011 | Buy | Not rated | |

**Previous Rating**

| Issuer name | Previous Rating | Date of change |
|---|---|---|
| NTPC | Neutral | 15-Jul-2009 |

**NTPC (NTPC IN)** **INR 176 (02-Nov-2011)** Buy (Sector rating: Not rated)

Rating and target price chart (three year history)




| Date | Rating | Target price | Closing price |
|---|---|---|---|
| 17-Oct-2011 | | 204.00 | 168.45 |
| 01-Dec-2010 | | 228.00 | 186.35 |
| 15-Jul-2009 | | 224.00 | 199.50 |
| 15-Jul-2009 | Buy | | 199.50 |
| 26-May-2009 | | 210.00 | 201.40 |
| 29-Jan-2009 | | 212.00 | 189.95 |
| 15-Dec-2008 | | 189.00 | 168.50 |
| 15-Dec-2008 | Neutral | | 168.50 |

For explanation of ratings refer to the stock rating keys located after chart(s)

**Valuation Methodology** Our TP of INR206 is a sum of the fair value of operating assets based on a residual income model (INR176), investment in JVs/subsidiaries (~INR10) and book value of FY12F non-operating financial assets (~INR21). Key assumptions of our model are 1) Cost of equity - 12.5%; 2) Terminal RoE - 18.5%; and 3) terminal growth rate - 2%.

**Risks that may impede the achievement of the target price** 1) Project execution delays; 2) lower coal supplies under already signed FSAs/LoAs; 3) reinvestment risk; and 4) adverse regulatory changes.

# Important Disclosures

## Online availability of research and additional conflict-of-interest disclosures

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The rating system is a relative system indicating expected performance against a specific benchmark identified for each individual stock. Analysts may also indicate absolute upside to target price defined as (fair value - current price)/current price, subject to limited management discretion. In most cases, the fair value will equal the analyst's assessment of the current intrinsic fair value of the stock using an appropriate valuation methodology such as discounted cash flow or multiple analysis, etc.

#### STOCKS

A rating of '**Buy'**, indicates that the analyst expects the stock to outperform the Benchmark over the next 12 months. A rating of '**Neutral'**, indicates that the analyst expects the stock to perform in line with the Benchmark over the next 12 months. A rating of '**Reduce'**, indicates that the analyst expects the stock to underperform the Benchmark over the next 12 months. A rating of '**Suspended'**, indicates that the rating, target price and estimates have been suspended temporarily to comply with applicable regulations and/or firm policies in certain circumstances including, but not limited to, when Nomura is acting in an advisory capacity in a merger or strategic transaction involving the company.
Benchmarks are as follows: **United States/Europe**: Please see valuation methodologies for explanations of relevant benchmarks for stocks (accessible through the left hand side of the Nomura Disclosure web page: http://go.nomuranow.com/research/globalresearchportal);**Global Emerging Markets (ex-Asia):** MSCI Emerging Markets ex-Asia, unless otherwise stated in the valuation methodology.

#### SECTORS

A '**Bullish'** stance, indicates that the analyst expects the sector to outperform the Benchmark during the next 12 months. A '**Neutral'** stance, indicates that the analyst expects the sector to perform in line with the Benchmark during the next 12 months. A '**Bearish'** stance, indicates that the analyst expects the sector to underperform the Benchmark during the next 12 months.
Benchmarks are as follows: **United States**: S&P 500; **Europe**: Dow Jones STOXX 600; **Global Emerging Markets (ex-Asia)**: MSCI Emerging Markets ex-Asia.

### Explanation of Nomura's equity research rating system for Asian companies under coverage ex Japan published from 30 October 2008 and in Japan from 6 January 2009

#### STOCKS

Stock recommendations are based on absolute valuation upside (downside), which is defined as (Target Price - Current Price) / Current Price, subject to limited management discretion. In most cases, the Target Price will equal the analyst's 12-month intrinsic valuation of the stock, based on an appropriate valuation methodology such as discounted cash flow, multiple analysis, etc.
A '**Buy'** recommendation indicates that potential upside is 15% or more. A '**Neutral'** recommendation indicates that potential upside is less than 15% or downside is less than 5%. A '**Reduce'** recommendation indicates that potential downside is 5% or more. A rating of '**Suspended'** indicates that the rating and target price have been suspended temporarily to comply with applicable regulations and/or firm policies in certain circumstances including when Nomura is acting in an advisory capacity in a merger or strategic transaction involving the subject company.

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### Explanation of Nomura's equity research rating system in Japan published prior to 6 January 2009 (and ratings in Europe, Middle East and Africa, US and Latin America published prior to 27 October 2008)

**STOCKS**

A rating of '1' or '**Strong buy'**, indicates that the analyst expects the stock to outperform the Benchmark by 15% or more over the next six months. A rating of '2' or '**Buy'**, indicates that the analyst expects the stock to outperform the Benchmark by 5% or more but less than 15% over the next six months. A rating of '3' or '**Neutral'**, indicates that the analyst expects the stock to either outperform or underperform the Benchmark by less than 5% over the next six months. A rating of '4' or '**Reduce'**, indicates that the analyst expects the stock to underperform the Benchmark by 5% or more but less than 15% over the next six months. A rating of '5' or '**Sell'**, indicates that the analyst expects the stock to underperform the Benchmark by 15% or more over the next six months.
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**SECTORS**

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Benchmarks are as follows: **Japan**: TOPIX; **United States**: S&P 500, MSCI World Technology Hardware & Equipment; **Europe**, by sector - *Hardware/Semiconductors*: FTSE W Europe IT Hardware; *Telecoms*: FTSE W Europe Business Services; *Business Services*: FTSE W Europe; *Auto & Components*: FTSE W Europe Auto & Parts; *Communications equipment*: FTSE W Europe IT Hardware; **Ecology Focus**: Bloomberg World Energy Alternate Sources; **Global Emerging Markets**: MSCI Emerging Markets ex-Asia.

### Explanation of Nomura's equity research rating system for Asian companies under coverage ex Japan published prior to 30 October 2008

**STOCKS**

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A '**Strong buy'** recommendation indicates that upside is more than 20%. A '**Buy'** recommendation indicates that upside is between 10% and 20%. A '**Neutral'** recommendation indicates that upside or downside is less than 10%. A '**Reduce'** recommendation indicates that downside is between 10% and 20%. A '**Sell'** recommendation indicates that downside is more than 20%.

**SECTORS**

A '**Bullish'** rating means most stocks in the sector have (or the weighted average recommendation of the stocks under coverage is) a positive absolute recommendation. A '**Neutral'** rating means most stocks in the sector have (or the weighted average recommendation of the stocks under coverage is) a neutral absolute recommendation. A '**Bearish'** rating means most stocks in the sector have (or the weighted average recommendation of the stocks under coverage is) a negative absolute recommendation.

### Target Price

A Target Price, if discussed, reflect in part the analyst's estimates for the company's earnings. The achievement of any target price may be impeded by general market and macroeconomic trends, and by other risks related to the company or the market, and may not occur if the company's earnings differ from estimates.

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