

# Jaiprakash Hydro-Power Ltd

Relative to Sector: **Outperformer**

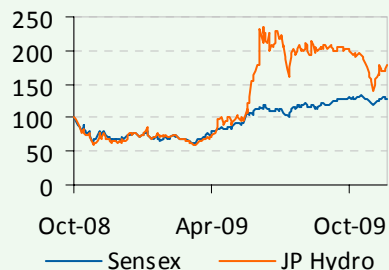
**POWER**

## Equity capital

No. of shares (Pre-merger) : 491 mn  
 No. of shares (Post-merger): 2,096 mn  
 Market cap (Pre-merger) : Rs. 35 bn  
 Market cap (Post-merger) : Rs. 150 bn  
 52 week high/low : Rs. 104/ Rs.24  
 Avg. daily vol. (6mth) : 15.4 mn shares  
 Bloomberg code : JHPL IB  
 Reuters code : JAPR.BO

Shareholding (%)	Pre	Post
Promoters (JPA)	63.3	76.3
JP Ventures	0.0	11.5
FII, FI, MFs	5.0	5.4
Public	31.7	6.8

## Relative Performance



Source: ENAM Research, Bloomberg

**Exponential growth with high margin of safety !**

## Financial summary #

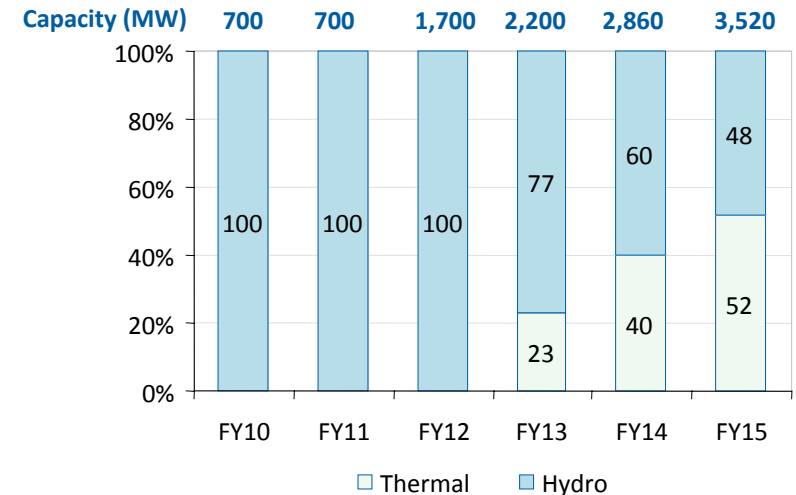
Y/E Mar	Sales (Rs bn)	PAT (Rs bn)	EPS (Rs.)	P/E (x)	P/B (x)	RoE (%)	EV/EBITDA (x)	Net D/E (x)	BVPS (Rs)
FY11E	7	2	0.9	83.1	3.9	4.8	36.7	2.1	18.3
FY12E	30	10	4.6	15.5	3.1	22.4	8.1	1.8	23.0
FY13E	42	15	7.0	10.3	2.4	26.4	7.5	1.8	30.0
FY14E	49	19	9.3	7.7	1.8	26.9	7.6	1.9	39.2

Source: Company, ENAM estimates; Prices as on 25<sup>th</sup> November 2009. # Calculated on post merger equity base

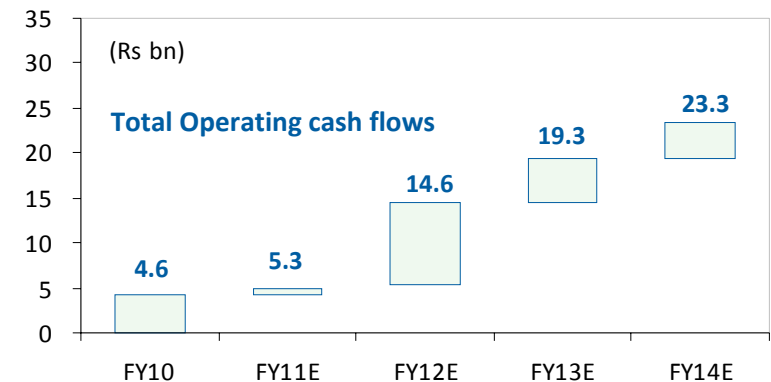
# Investment arguments

- ❖ **Post the merger with Jaiprakash Power Ventures (JPVL), Jaiprakash Hydro (JHPL) will become the largest pvt hydro-power co in India, with market cap of ~ USD 3.3 bn**
  - ❑ Each JPVL share in exchange of 3 JHPL shares
  - ❑ Post merger, fully diluted equity shares of JHPL= 2,096 mn
- ❖ **Demonstrated in-house EPC capability: A big positive**
  - ❑ Jaiprakash has 40 years of experience in E&C business
  - ❑ It has been involved in building 3<sup>rd</sup> party hydro projects of ~9,000 MW (1/4<sup>th</sup> of India's hydro capacity) in the last 7 yrs
- ❖ **Low execution risk: 1,500 MW in advanced stages of construction & 4,620 MW has key variables in place**
  - ❑ Currently, 700 MW of hydro operational
  - ❑ Karcham, a 1,000 MW hydro (~80% completed) starting March 2011 (20% merchant)
  - ❑ 500 MW Bina thermal (~25% completed) starting October 2011 (40% merchant)
  - ❑ Land, water, fuel (incl. captive mines), environment clearances & national grid connectivity in place for the balance 4,620 MW
- ❖ **Operating cash flow to zoom 3-fold in 2 yrs & 9-fold in 5 yrs**
  - ❑ Based on projects under construction – Karcham & Bina within 2 yrs & Nigrie in 5 yrs

**Optimal Hydro - Thermal mix**



**Operating cash flow rising exponentially**



Source: Company, ENAM estimates

# Investment summary contd...

## ❖ Superior operational performance & low maintenance expense

- ❑ Equipment sourced from established suppliers such as Alstom, BHEL, L&T-MHI, Siemens, Voith etc
- ❑ Better fuel efficiency & lower maintenance to more than compensate for higher capital costs

## ❖ Significant cash flows from high RoE PPAs

- ❑ Ensured a balance between steady cash flow (~2/3<sup>rd</sup> through PPAs) and Merchant tariff upside (*refer graph*)
- ❑ Operational hydro capacity of 700 MW (Baspa + Vishnu) & 800MW (Karcham) though being regulated businesses still earn core RoE of 25%+ due to benefits from operational efficiencies & carbon credits

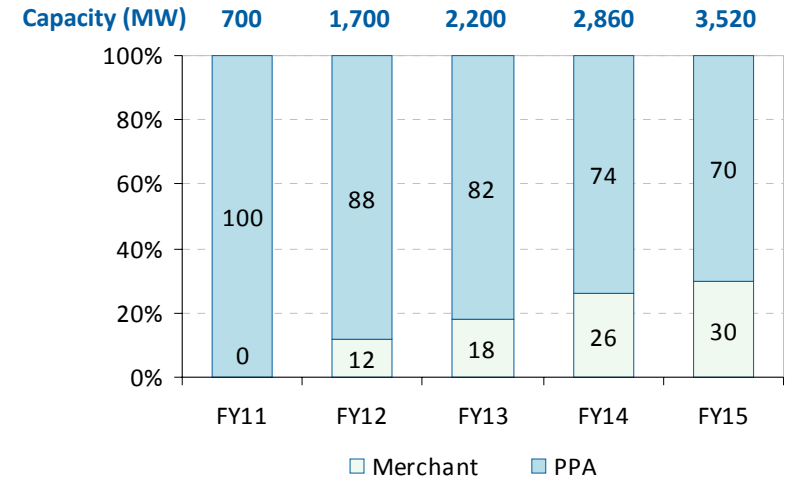
## ❖ Competitive cash costs ensure huge margin of safety

- ❑ Karcham, Bina & Nigrie have 20% or more in merchant capacities; their FY15 cash cost is low at Rs 1.5- 1.9/ kWh
- ❑ Thus, even if merchant rates fall below our LT projections of Rs 4.5, JHPL would still have high spreads

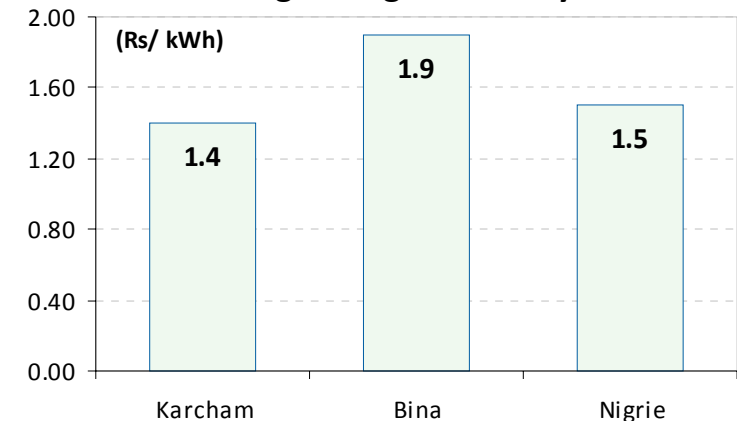
## ❖ Favorable risk-reward

- ❑ Current valuation of 8x FY13E OCF at CMP of Rs 72
- ❑ DCF valuation: Rs **100** (*refer pg 13*)
- ❑ PE valuation: Rs **106** (*refer pg 14*)

### A good blend of merchant & PPA

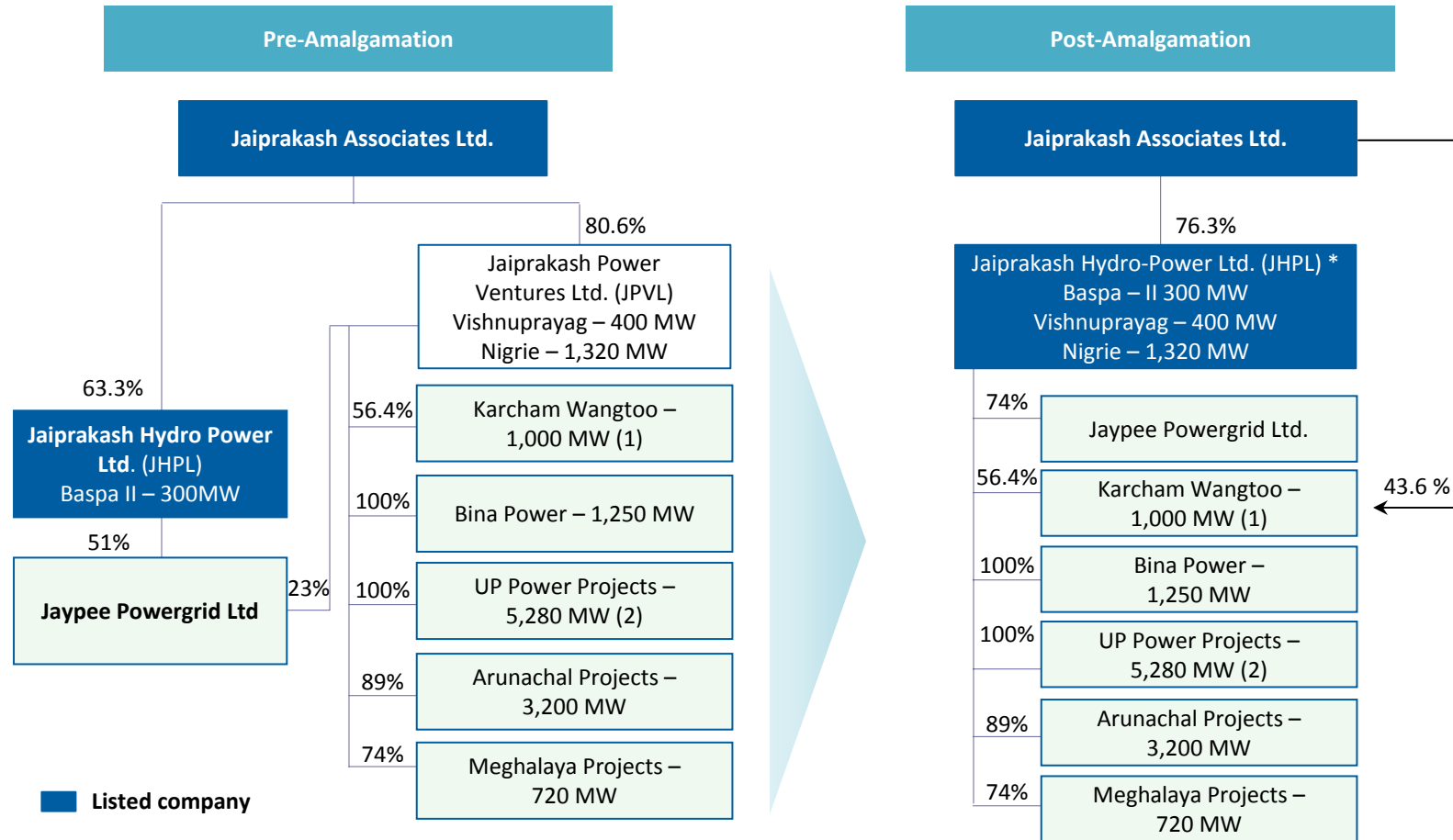


### Competitive cash cost (FY15) giving high margin of safety



Source: Company, ENAM estimates

# Post Merger with JPVL: 2.1 bn shares, ~ USD 3.3 bn mkt cap



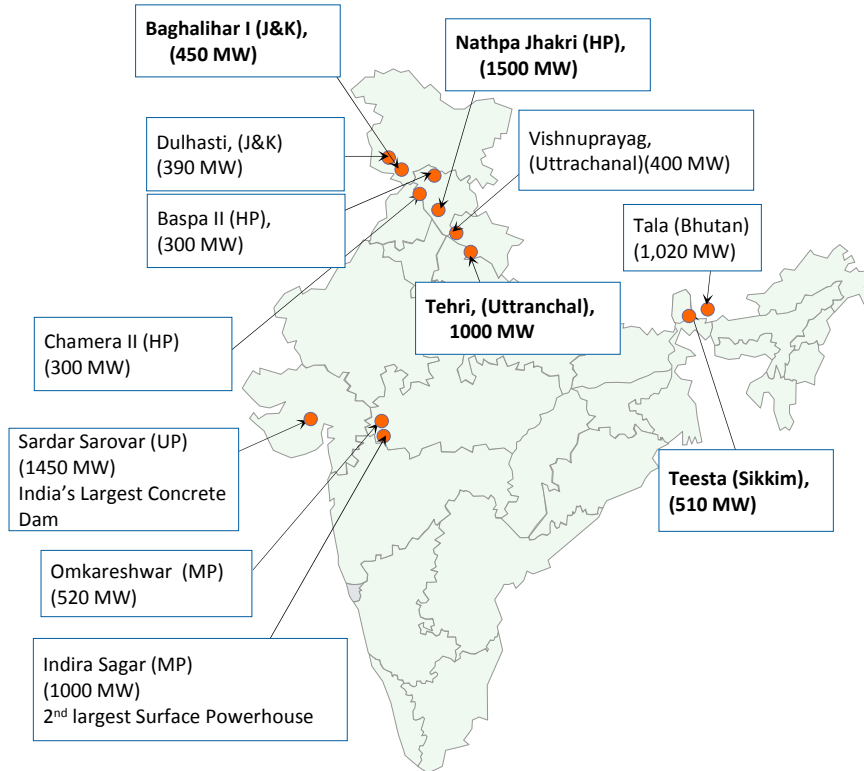
Source: Company, (1) The balance 43.55% is held by Jaiprakash Associates Limited; (2) Includes Karchana and Bara projects in the SPVs Sangam Power Generation Co. Ltd. and Prayagraj Power Generation Co. Ltd. Jaiprakash Associates Ltd. **has the right to subscribe up to 26% equity in these projects**  
 \* Jaiprakash Hydro-Power Limited will be renamed as Jaiprakash Power Ventures Ltd. post the amalgamation

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# Proven Execution Capability & Equipments from reputed mfrs reflects LT commitment

- ❖ Jaiprakash Associates (JAL), it's parent, has 40 years of experience in the E&C business
- ❖ Has been involved in building nearly 1/4th of India's installed hydroelectric generation capacity. 8,840 MW built in last 7 years



Source: Company

- ❖ Decision to source all their equipment from reputed manufactures with proven track record highlights management's LT commitment and emphasis on operational efficiency

<b>Baspa – II Hydro</b>	
Turbine & Generating System	VA Tech (Austria), Voith (Germany)
GIS	Alstom (France)
<b>Vishnuprayag-Hydro</b>	
Turbine & Generating System	Alstom (France)
GIS	Alstom (France)
<b>Karcham Wangtoo – Hydro</b>	
Turbine & Generating System	VA Tech (Austria), Voith (Germany)
GIS	Areva (France)
<b>Nigrie – Thermal</b>	
Boiler	L&T – MHI (India/Japan)
Turbine Generator	L&T – MHI (India/Japan)
<b>Bina Thermal</b>	
Boiler	BHEL (India)
Turbine Generator	BHEL (India)
<b>Bara Thermal</b>	
Boiler	BHEL (India), Alstom (France)
Turbine Generator	BHEL (India), Siemens (Germany)

# Capacity to grow by 5x in next 4 years

- ❖ **Bapsa II, 300 MW Hydro based capacity project began commercial operation in 2003 followed by Vishnuprayag, 400 MW Hydro capacity operational from 2006**

Project Name	Location	Stake (%)	Capacity (MW)	Capex (Rs bn)	Cost/MW (Rs mn)	D:E	Equity (Rs bn)	Company Assumption 1st unit CoD / full operation	ENAM Assumption 1st unit CoD / full operation
<b>Operational</b>			<b>700</b>	<b>34</b>	<b>48</b>	<b>68:32</b>	<b>11</b>		
Bapsa II (Hydro)	Himachal	100	300	17	56	65:35	5.8	Jun'03	
Vishnuprayag (Hydro)	Uttarakhand	100	400	17	42	70:30	5.1	Jun'06	
<b>Under Construction</b>			<b>6,120</b>	<b>370</b>	<b>61</b>	<b>72:28</b>	<b>102</b>		
Karcham Wangtoo	Himachal	56	1000	71	71	70:30	21.2	Mar'11	Mar'11
Bina Ph I	Madhya Pradesh	100	500	28	55	70:30	8.3	CY 2011	Oct'11
Nigrie	Madhya Pradesh	100	1,320	81	61	70:30	24.3	Apr'13	Oct'13
Karchana Ph I	Uttar Pradesh	100	1,320	76	58	75:25	19.0	CY 2014	Apr'15
Bara Ph I	Uttar Pradesh	100	1,980	115	58	75:25	28.8	CY 2014	Apr'15
<b>Under Planning</b>			<b>6,650</b>						
Bina Ph II	Madhya Pradesh	100	750					CY 2014	
Karchana Ph II	Uttar Pradesh	100	660						
Bara Ph II	Uttar Pradesh	100	1,320						
Lower Siang PH I	Arunachal	89	1,350					CY 2015	
Lower Siang PH II	Arunachal	89	1,350						
Hirong	Arunachal	89	500					CY 2018	
Kynshi	Meghalaya	74	450					CY2018	
Umngot	Chhattisgarh	74	270					CY 2018	

Source: Company, ENAM Research

# Basics in place for all Under-Construction projects...

	Fuel	Capacity (MW)	Land Acquired	Water + Environmental Clearance	Fuel Supply	Financial Closure
<b>Under Construction</b>						
Karcham Wangtoo	Hydro	1000	100%	✓	N/A	Debt tied, 50% equity infused
Bina Phase I	Thermal	500	100%	✓	Linkage (SECL)	Entire debt tied up, ~36% Equity Infused
Nigrie	Thermal	1320	90%*	✓	Captive Block (Land acquired)	Entire Debt tied up, ~24% Equity Infused
Karchana Phase I	Thermal	1320	~72%	✓	Linkage (NCL)	Debt Mandated, ~8% Equity Infused
Bara Phase I	Thermal	1980	100%	✓	Linkage (NCL)	Debt Mandated, ~5% Equity Infused
<b>Under Planning</b>						
Bina Phase II	Thermal	750	✓	✗	✗	
Lower Siang Phase I	Hydro	1200	✗	✗	✗	
Hirong	Hydro	500	✗	✓	N/A	
Kynshi	Hydro	450	✗	✗	N/A	
Umngot	Hydro	270	✗	✗	N/A	
Karchana Phase II	Thermal	660	✗	✗	N/A	
Bara Phase II	Thermal	1320	✗	✗	✗	
Lower Siang Phase II	Hydro	1500	✗	✗	✗	
<b>Total</b>		<b>12,770</b>				

Source: Company, Note : \* For Nigrie, full plant land acquired



# Critical Fuel Linkages Secured...

## Details of Fuel Linkages

Project	Specific fuel consumption (kg/kWh)	Coal reqd (mtpa)	Landed Cost (Rs/ton)	Coal Cost (Rs/kWh)	Comments
Bina Ph I	0.61	2.3	1,570	1.0	Linkage from South Eastern Coalfields & Central Coalfields. Mine location ~450 kms away from project site
Nigrie	0.49	4.8	919	0.5	Pithead Captive Coal Block. Development to be completed by CY10. Mine location only 40-50 kms away from the plant site
Karchana Ph I	0.51	5.0	1,707	0.9	Letter of Assurances (LOA) issued by Northern Coalfields for linkage. Specific mines Jayant & Dudhichua allocated within NCL. Mines to be operational by FY12. Mine location ~ 300 kms away from project site
Bara Ph I	0.51	7.5	1,707	0.9	Letter of Assurances (LOA) issued by Northern Coalfields for linkage. Specific mines Jayant & Dudhichua allocated within NCL. Mines to be operational by FY12. Mine location ~ 300 kms away from project site
<b>Total</b>		<b>19.6</b>	<b>1,491</b>	<b>0.8</b>	

Source: Company, ENAM Research

Note: Total coal requirement & landed cost taken is for the year of full operation for each project

- ❖ **To avoid bottlenecks, JHPL is closely monitoring progress of NCL's Jayant & Dudhichua mines for its UP projects**
- ❖ **10% lower fuel costs due to higher efficiency of equipments**
  - Critical supercritical BTG equipments for Nigrie, Bara & Karchana are from Alstom, Siemens, Bhel & L&T-MHI
  - These have 6-7% lower fuel consumption compared with the Chinese due to lower station heat rates. Also, auxiliary consumption is lower

# ...Selling Agreements with pass-through fuel costs where fuel cost not controlled

## ❖ Fuel Risk Abated

- ❑ Diversified fuel base with Hydro: Thermal mix of ~48:52
- ❑ All PPA for its thermal plants have the provision to pass the fuel cost

## PPA/ Evacuation agreement

Project	Capacity (MW)	% total	Off-taker	Time (yrs)	Levelised tariff	Comments
Baspa II (Hydro)	300	100%	HPSEB	40	Regulated @ 16%	Eligible for performance incentives + 1mn annual VERs. Project ROE's ~ of 22%.
Vishnuprayag (Hydro)	400	100%	UPPCL	30	Regulated @ 16%	Eligible for performance incentives + 1.32mn annual VERs. Project ROE's >30%
Karcham Wangtoo (Hydro)	800	80%	PTC	35	Regulated @ 15.5%	Eligible for performance incentives + 3.35mn annual VERs
	200	20%	-	-	Merchant	Expect Rs 6.5 / Unit for 4 years till FY15
Bina Ph I	300	60%	GOMP	25	~Rs 3.2 / Unit	CERC linked; 15.5% + Incentives
	200	40%	-	-	Merchant	Expect Rs 6.5 / Unit for 3 years till FY15
Nigrie	660	38%	GOMP	25	~Rs 2.96 / Unit	PPA assumed with target ROE @ 20%. Provision of fuel cost pass through
	660	50%	-	-	Merchant	Expect Rs 6.5 / Unit for 1.5 years till FY15
Karchana Ph I	1,188	90%	GOUP	25	~Rs 2.97 / Unit	Project awarded on Case II bidding with fuel cost pass through
	132	10%	-	-	Merchant	
Bara Ph I	1,782	90%	GOUP	25	~ Rs 3.02 / Unit	Project awarded on Case II bidding with fuel cost pass through
	198	10%	-	-		
<b>Total Regulated</b>	<b>5,430</b>	<b>80%</b>				
<b>Total Merchant</b>	<b>1,390</b>	<b>20%</b>				

Source: Company, ENAM Research

Note: \* HPSEB: Himachal Pradesh State Electricity Board, UPPCL: Uttar Pradesh Power Company Limited, PTC: Power Trading Company, GOMP: Government of Madhya Pradesh, GOUP: Government of Uttar Pradesh

# All projects have good margin of safety

Project	Full Operations	Net Generation	Fixed Cost	Fuel Cost	Total Cost	Blended Sales	Regulated Price	Merchant Price
	Year	(mn kWh)	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)	Price (Rs/kWh)	(Rs/kWh)	(Rs/kWh)
Baspa II (Hydro)	FY04	1,106	1.5	-	1.5	3.3	2.9	-
Vishnuprayag (Hydro)	FY07	1,993	1.2	-	1.2	2.4	2.2	-
Karcham Wangtoo (Hydro)	FY12	4,607	2.1	-	2.1	5.2	4.1	6.5
Bina Ph I	FY13	3,462	1.3	1.0	2.3	4.4	2.9	6.5
Nigrie	FY16	9,141	1.1	0.5	1.6	3.5	2.7	4.5
Karchana Ph I	FY17	9,141	1.1	0.9	2.1	2.9	2.8	4.5
Bara Ph I	FY17	13,711	1.1	0.9	2.1	3.0	2.8	4.5
<b>Weighted Average Total</b>		<b>43,160</b>	<b>1.3</b>		<b>1.9</b>	<b>3.4</b>		

Note: The above data on cost & selling price is on 1<sup>st</sup> full year of operation

## Profits to jump by ~4x in FY13

Project name	Project size (MW)	FY13E (Rs mn)		
		Revenues	EBITDA	PAT
Baspa II (Hydro)	300	3,166	2,871	1,672
Vishnuprayag (Hydro)	400	3,912	3,603	1,907
Karcham (56%)	1,000	22,541	21,044	11,122
Bina Ph I	500	15,079	10,892	6,129
Nigrie	1,320	-	-	-
Karchana Ph I	1,320	-	-	-
Bara Ph I	1,980	-	-	-
Transmission		2,134	1,967	590
Minority / Parent interest				6,765
<b>Consolidated</b>		<b>46,833</b>	<b>40,377</b>	<b>14,656</b>

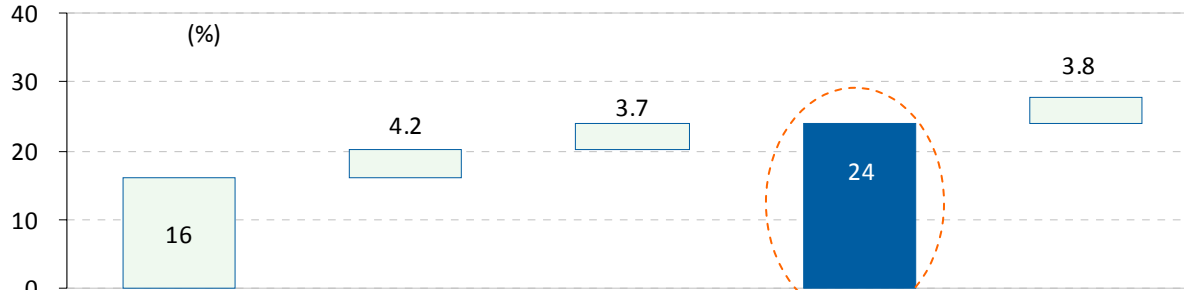
Source: ENAM Research, Company

## Key assumptions:

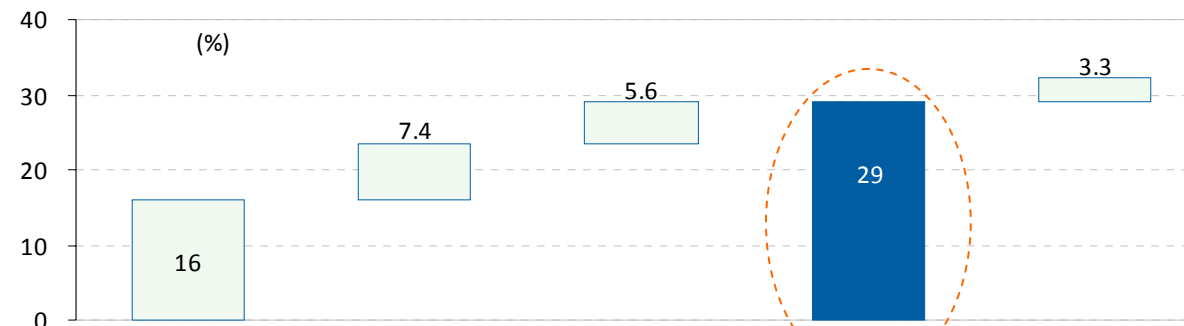
- ❖ **Selling price**
  - ❑ **Merchant tariff:** assumed Rs 6.5/ Kwh till FY15 and Rs 4.5/ Kwh from FY16 onwards
- ❖ **Linkage Coal : 15% price increase in FY11 assumed from Coal India and 5% escalation thereon**

# Sustainable Core RoE's for regulated hydro projects are in the range of 25-30%

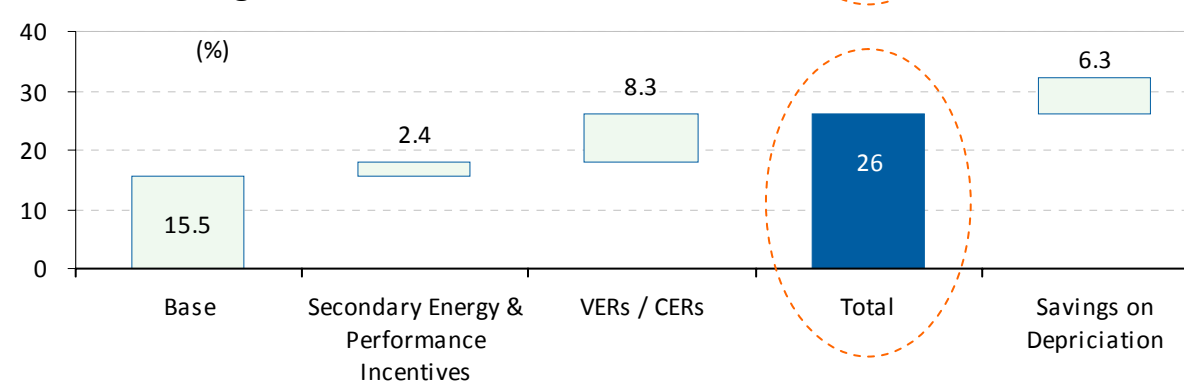
## Baspa



## Vishnuprayag



## Karcham Wangtoo



- VERs (Verified Emission Reduction) usually trade @ 30 - 50% discount to CERs (Certified Emission Reductions)
- Baspa & Vishnu are eligible for 1.0 & 1.3 mn VERs respectively. Price assumed is EUR 4 till FY17
- Karcham is eligible for 3.5 mn CER's. Price assumed is EUR 10 / CER till FY17 vs. CMP Eur 14 / CER

Savings from depreciation would be due to the different rate used for tariff calculation (CERC 5.72%) vs. book depreciation of 3%

NOTE: ROE calculations:  
 FY11 assumed for Baspa & Vishnu. FY17 assumed for Karcham as the CERs income should be sustainable after considering 50% of CER income benefit to be passed on to the consumers

# Valuations (DCF Based)..

Capacity (MW)	FY10E	FY11E	FY12E	FY13E	FY14E	FY15E	FY16E	FY17E
<b>Total</b>	<b>700</b>	<b>700</b>	<b>1,700</b>	<b>2,200</b>	<b>2,860</b>	<b>3,520</b>	<b>6,820</b>	<b>6,820</b>
Merchant		0	200	400	730	1,060	1,390	1,390
<b>Regulated</b>	700	700	1,500	1,800	2,130	2,460	5,430	5,430

Operating Cash Flows (Rs bn)	FY10E	FY11E	FY12E	FY13E	FY14E	FY15E	FY16E	FY17E
Baspa II	2.4	2.8	3.0	2.1	1.8	1.8	1.8	2.0
Vishnuprayag	2.3	2.5	2.6	2.4	2.4	2.4	2.4	2.1
Karcham (55%)			7.0	7.5	7.4	7.2	6.3	6.5
Bina Ph I			1.1	6.5	7.2	7.2	5.0	4.9
Nigrie					3.8	20.5	17.3	17.1
Karchana Ph I							6.9	8.7
Bara Ph I							10.7	13.3
Transmission			1.0	0.8	0.8	0.8	0.8	0.8
<b>Total CFO</b>	<b>5</b>	<b>5</b>	<b>15</b>	<b>19</b>	<b>23</b>	<b>40</b>	<b>51</b>	<b>55</b>
<b>Operating Cash Flow Yield</b>		<b>4%</b>	<b>10%</b>	<b>13%</b>	<b>15%</b>	<b>27%</b>		

FCF (Rs bn)	FY10E	FY11E	FY12E	FY13E	FY14E	FY15E	FY16E	FY17E
Baspa II	2.9	3.3	3.4	2.5	2.0	1.9	1.9	2.0
Vishnuprayag	3.2	3.4	3.4	3.1	3.0	2.9	2.8	2.4
Karcham (55%)	(6.0)	(12.0)	7.8	10.1	9.8	9.4	8.3	8.3
Bina Ph I	(8.3)	(8.3)	(3.9)	8.5	9.0	8.8	6.5	6.1
Nigrie		(8.1)	(20.3)	(24.3)	(15.2)	18.5	22.7	22.0
Karchana Ph I				(15.2)	(22.8)	(22.8)	(2.0)	14.4
Bara Ph I				(23.0)	(34.5)	(34.5)	(2.8)	22.1
Transmission	(1.9)	(1.9)	1.4	1.3	1.2	1.2	1.2	1.1
<b>Total FCF</b>	<b>(10)</b>	<b>(24)</b>	<b>(8)</b>	<b>(37)</b>	<b>(47)</b>	<b>(14)</b>	<b>38</b>	<b>78</b>

## Key assumptions

Conso WACC (%)	11.3%
Terminal Gwth (2025)	3.0%

## DCF Value

(Rs bn)	
PV of FCF (FY11-24)	117
(+) PV Terminal Value	150
(-) Net Debt on books	57
<b>NPV</b>	<b>210</b>
<b>NPV / sh (Rs)</b>	<b>100</b>

	COE	COD	WACC
	12.0%	12.5%	10.9%
	12.0%	12.5%	10.9%
	14.0%	12.0%	11.2%
	14.0%	12.0%	11.2%
	14.0%	12.0%	11.2%
	16.0%	12.0%	11.5%
	16.0%	12.0%	11.5%
	14.0%	12.0%	11.2%

- ❖ For Operational Projects: 12% Cost of Equity (COE) assumed
- ❖ For projects in advanced stages of Construction: 14% COE assumed
- ❖ For project under construction: 16% COE assumed

# Valuations (P/E Based)

Project name	Full Year Operations	In full year operations	
		PAT (Rs bn)	Target P/E (x)
Baspa II	FY11	1.7	12
Vishnuprayag	FY11	1.9	12
Karcham (55%)	FY12	6.4	10
Bina Ph I	FY13	6.1	10
Nigrie	FY15	19.1	10
Karchana Ph I	FY16	5.4	12
Bara Ph I	FY16	8.4	12
Transmission	FY11	0.0	12
<b>Discount Rate</b>		<b>25%</b>	
<b>Value today (Rs/sh)</b>		<b>106</b>	

	FY11E	FY12E	FY13E	FY14E	FY15E	FY16E
EPS	0.9	4.6	7.0	9.3	16.7	19.1
P/E (x)	83	16	10	8	4	4
P/B (x)	3.9	3.1	2.4	1.8	1.3	1.0
ROE (%)	5	22	26	27	35	29
Net Debt / Equity (x)	2.1	1.8	1.8	1.9	1.5	1.0

Source: ENAM Research

- ❖ For regulated projects: 12x target P/E assumed
- ❖ For projects with >15% merchant capacity: 10x target P/E assumed

Unlike peers, significant proportion of net worth coming from internal accruals

# Sensitivities

NPV Rs / sh		Terminal Growth				
		2.0%	2.5%	3.0%	3.5%	4.0%
WACC	9.8%	117	122	129	136	144
	10.8%	104	108	114	120	126
	11.3%	92	96	100	105	111
	11.8%	81	85	88	93	97
	12.8%	72	75	78	82	86

NPV Rs / sh		Mechat post FY 15				
		3.5	4.0	4.5	5.0	5.5
Merchat till FY 15	4.50	76	85	94	104	113
	5.50	79	88	97	107	116
	6.50	82	91	100	109	119
	7.50	85	94	103	112	122
	8.50	88	97	106	115	124

NPV Rs / sh		Terminal Growth				
		2.0%	2.5%	3.0%	3.5%	4.0%
PLF	70%	80	84	88	92	98
	80%	88	92	96	101	106
	85%	92	96	100	105	111
	90%	96	100	104	109	115
	95%	100	104	109	114	120

Source: ENAM Research

# Key Risks

- ❖ **Tariff:** We have assumed merchant tariff of Rs 6.5 / unit till FY 15 & Rs 4.5 thereafter. Lower tariff to impact our valuations
- ❖ **Geological risks:** Given the nature of the projects and their geographical location, hydropower plants are exposed to geological risks. While JP Group's in-house designing & EPC capabilities build in adequate risks in the initial designing phase itself, any unforeseen/ unexpected calamity can potentially forestall operations
- ❖ **Meteorological changes and water flow:** The amount of electricity generated by the power system is dependent upon available water flows. Water flows vary each year, depending on factors such as rainfall, snowfall and the rate of snowmelt. While the PPAs build in a clause of deemed generation that allow the recovery of fixed costs, these issues may limit the operating cash flows significantly
- ❖ **Changes in regulation:** Significant proportion of JHPL's cashflows are from bilateral PPA or CERC guidelines (Terms and Conditions of Tariff). Any change in the tariff structure, may significantly impact JHPL's future cash flows. However, given the energy shortage in India, any adverse changes in regulations that may deter investments in the sector are unlikely
- ❖ **Long gestation periods:** Hydro projects are subject to vagaries of nature due to which the construction may be delayed. However, we have conservatively not valued JHPL's under planning projects
- ❖ Jaiprakash Associates Ltd. has the right to subscribe up to 26% equity in Bara & Karchana projects. We have assumed JHPL's stake as 100%



# Comparative Valuation

USD mn	NTPC	NHPC	Tata	Adani	Reliance	Torrent	Indiabulls	JP Hydro	
Adj. Power Mcap (\$ mn)	38,321	8,245	6,830	4,468	7,582	3,304	1,402	3,254	
EV - Power	39,797	10,736	8,892	4,662	8,090	3,897	560	5,439	
Capacity (MW) -2010	32,794	5,295	2,748	1,320	600	1,647		700	
Capacity (MW) -2015	56,410	9,467	7,798	6,600	21,020	4,167	2,520	3,520	
RoE	FY10E	14	9	17	3	5	20	5	8
	FY11E	15	9	16	21	7	23	6	5
	FY12E	15	9	17	24	4	21	5	22
	FY13E	16	9	16	48	(2)	23	3	26
	FY14E	16	10	15	38	20		11	27
P/E	FY11E	18	17	13	15	36	14	25	83
	FY12E	16	15	10	10	53	14	32	16
	FY13E	14	14	9	3	(92)	10	55	10
	FY14E	13	12	8	3	8		12	8
P/B	FY10E	2.8	1.5	2.2	3.6	2.4	3.7	1.6	4.1
	FY11E	2.5	1.4	1.9	2.9	2.3	3.1	1.5	3.9
	FY12E	2.3	1.3	1.6	2.1	2.2	2.6	1.4	3.1
	FY13E	2.1	1.2	1.4	1.3	1.7	2.2	1.4	2.4
	FY14E	2.0	1.2	1.2	0.9	1.5		1.3	1.8
EV/ EBITDA	FY11E	13	13	10	15	49	9	20	37
	FY12E	12	12	7	8	31	9	51	8
	FY13E	11	11	6	3	23	7	133	7
	FY14E	10	9	5	2	8		15	8
EV/MW	FY10E	1.3	2.1	2.5	4.6	15.6	2.0	0.0	6.4
	FY11E	1.2	1.8	1.8	1.8	8.2	2.0	0.0	7.8
	FY12E	1.1	1.8	1.5	1.3	5.2	1.6	0.0	3.3
	FY13E	1.1	1.3	1.1	1.1	3.1	1.4	0.0	3.0
	FY14E	1.1	1.3	0.9	0.9	1.5		3.4	2.6

Source: Company, ENAM Research; Note: ALL the multiples are for core power business and for EV/MW previous year debt has been considered

# Company Financials

## Income statement

(Rs mn)

Y/E Mar	2011E	2012E	2013E	2014E
<b>Net sales</b>	<b>6,794</b>	<b>30,471</b>	<b>41,994</b>	<b>48,627</b>
Other operating income	603	4,828	4,828	4,828
<b>Total income</b>	<b>7,397</b>	<b>35,299</b>	<b>46,822</b>	<b>53,455</b>
Cost of goods sold	549	2,856	6,448	7,761
Contribution (%)	0	0	0	0
Advt/Sales/Distrn O/H	0	0	0	0
<b>Operating Profit</b>	<b>6,849</b>	<b>32,444</b>	<b>40,375</b>	<b>45,694</b>
Other income	0	0	0	0
<b>PBIDT</b>	<b>6,849</b>	<b>32,444</b>	<b>40,375</b>	<b>45,694</b>
Depreciation	911	3,781	4,609	5,251
Interest	3,397	10,487	11,725	10,655
Other pretax	0	0	0	0
<b>Pre-tax profit</b>	<b>2,541</b>	<b>18,176</b>	<b>24,040</b>	<b>29,788</b>
Tax provision	731	3,388	4,384	5,404
(-) Minority Interests	0	5,099	5,002	4,906
Associates	0	0	0	0
<b>Adjusted PAT</b>	<b>1,809</b>	<b>9,690</b>	<b>14,654</b>	<b>19,478</b>
E/o income / (Expense)	0	0	0	0
<b>Reported PAT</b>	<b>1,809</b>	<b>9,690</b>	<b>14,654</b>	<b>19,478</b>

## Key ratios

(%)

Y/E Mar	2011E	2012E	2013E	2014E
<b>Sales growth</b>	<b>(2.3)</b>	<b>348.5</b>	<b>37.8</b>	<b>15.8</b>
<b>OPM</b>	<b>100.8</b>	<b>106.5</b>	<b>96.1</b>	<b>94.0</b>
Oper. profit growth	(2.6)	373.7	24.4	13.2
COGS / Net sales	7.4	8.1	13.8	14.5
Overheads/Net sales	0.0	0.0	0.0	0.0
Depreciation / G. block	2.0	2.6	3.2	2.8
Effective interest rate	34.4	54.3	25.4	11.9
Net wkg.cap / Net sales (%)	28.3	5.2	4.7	5.1
Net sales / Gr block (x)	0.2	0.3	0.3	0.3
Incremental RoCE	(0.4)	88.6	12.1	6.4
<b>RoCE</b>	<b>4.3</b>	<b>16.9</b>	<b>16.6</b>	<b>14.7</b>
Debt / equity (x)	2.2	1.9	1.9	1.9
Effective tax rate	28.8	18.6	18.2	18.1
<b>RoE</b>	<b>3.8</b>	<b>17.3</b>	<b>20.1</b>	<b>20.5</b>
Payout ratio (Div/NP)	0.0	0.0	0.0	0.0
<b>EPS (Rs.)</b>	<b>0.9</b>	<b>4.6</b>	<b>7.0</b>	<b>9.3</b>
EPS Growth	(33)	436	51	33
CEPS (Rs.)	1.3	6.4	9.2	11.8
DPS (Rs.)	0.0	0.0	0.0	0.0

Source: Company, ENAM Research

# Company Financials

## Balance sheet

(Rs mn)

Y/E Mar	2011E	2012E	2013E	2014E
<b>Total assets</b>	<b>153,514</b>	<b>186,543</b>	<b>244,123</b>	<b>307,921</b>
Gross block	45,543	143,883	143,883	184,383
Net fixed assets	39,799	134,358	129,748	164,998
CWIP	97,392	28,350	90,850	127,900
Investments	0	0	0	0
Wkg. cap. (excl cash)	1,510	1,647	2,278	2,642
Cash / Bank balance	4,117	11,492	10,550	1,684
Others/Def tax assets	10,697	10,697	10,697	10,697
<b>Capital employed</b>	<b>153,514</b>	<b>186,543</b>	<b>244,123</b>	<b>307,921</b>
Equity capital	20,956	20,956	20,956	20,956
Reserves	27,511	42,299	61,956	86,339
Borrowings	105,047	123,288	161,212	200,625
Others	0	0	0	0

## Cash flow

(Rs mn)

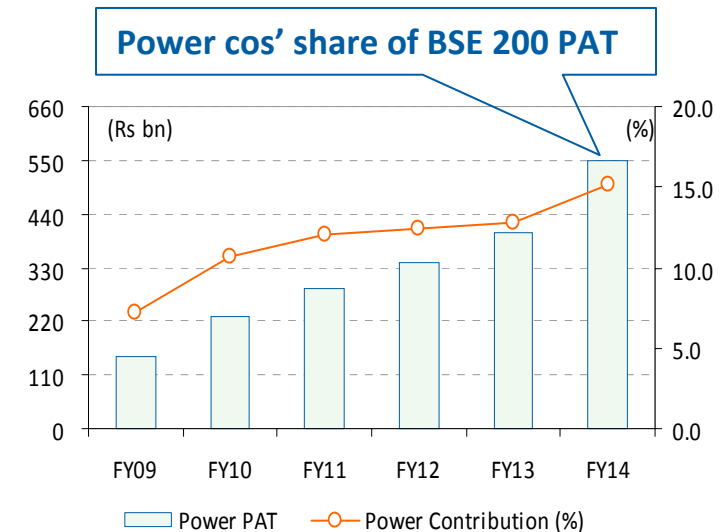
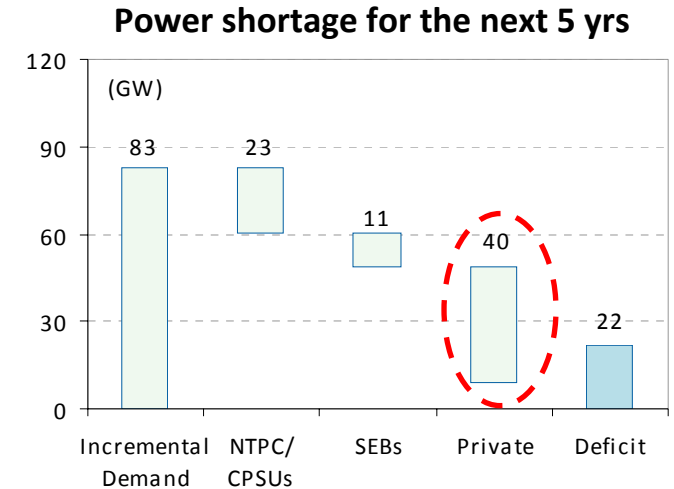
Y/E Mar	2011E	2012E	2013E	2014E
<b>Sources</b>	<b>34,241</b>	<b>36,810</b>	<b>62,189</b>	<b>69,048</b>
Cash profit	2,720	18,569	24,266	29,634
(-) Dividends	0	0	0	0
Retained earnings	2,720	18,569	24,266	29,634
Issue of equity	0	0	0	0
Borrowings	31,520	18,241	37,924	39,414
Others	0	0	0	0
<b>Applications</b>	<b>34,241</b>	<b>36,810</b>	<b>62,189</b>	<b>69,048</b>
Capital expenditure	47,602	29,298	62,500	77,550
Investments	0	0	0	0
Net current assets	(821)	137	631	363
Change in cash	(12,541)	7,375	(942)	(8,865)

Source: Company, ENAM Research

# Brief on the Industry

# Investment summary: Why we like Power

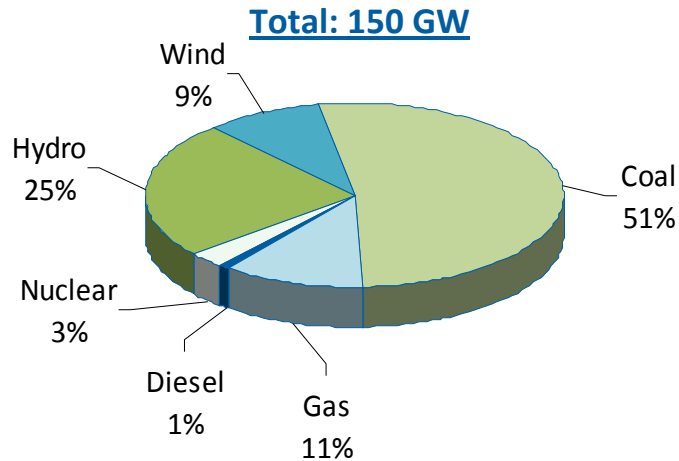
- ❖ **Power shortage here to stay for the next 5 yrs**
  - ❑ Large pent up demand & **demand elasticity already up from 0.8x to 1.1x** as standard of living improves
  - ❑ In 2007-12, Expect 45-50 GW of addition vs govt. target of 78 GW
  - ❑ **Merchant tariffs to remain as high as power deficit is expected to be in double-digits**
  
- ❖ **Private players will be winners if they can execute:**
  - ❑ Right blend of merchant/ PPA + Fast execution + Low generation cost= Super Normal Profits
  - ❑ Aggregating contiguous Land (1,000 acres/ 1GW), Water (1 GW requires ~25-30 mn cu mtrs p.a., Fuel linkage and Transmission availability are key challenges
  - ❑ In the long run, companies with least cost of generation i.e. Pit-head plant with captive coal block or Hyrdo to emerge winners
  
- ❖ **Prefer Private players with significant capacity & flexibility to supply on merchant basis with a competitive cost base**
  - ❑ JSPL, Adani, JP Hydro, Sterlite & Torrent – Key winners
  
- ❖ **Prefer DCF valuation methodology as these are Infrastructure assets with predictable cash flows on Commissioning**
  - ❑ The valuations not expensive, as most companies are trading at a 5-8 year pay back



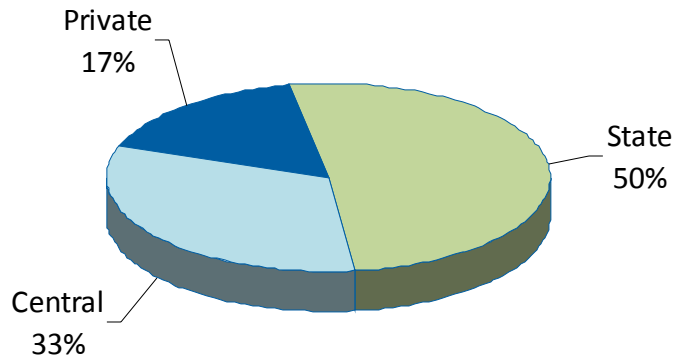
Source: ENAM Research

# India needs 160 GW by 2017

## Installed Generation Capacity as on June 09



Source: Ministry of Power, Power Scenario at Glance July 09



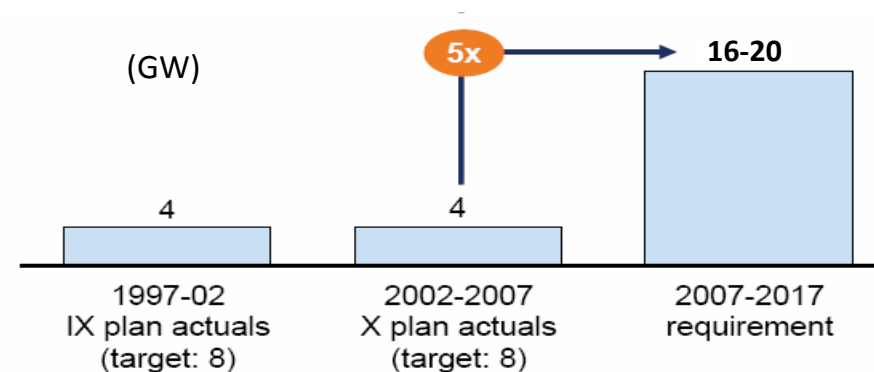
Source: Central Electricity Authority

As per Govt estimates, even at demand elasticity of 0.8x, Capacity needs to double by 2017...

Year	Total Energy Requirement (bn KWh)		Projected Peak Demand (GW)		Installed Capacity Required (GW)		Capacity Addition Required (GW)	
	@ GDP Growth Rate				@ GDP Growth Rate			
	8%	9%	8%	9%	8%	9%	8%	9%
2007-11	1,097	1,167	158	168	220	233	67	78
2012-17	1,524	1,687	226	250	306	337	86	104
2021-22	2,118	2,438	323	372	425	488	119	151

Source: CEA, Integrated Energy Policy

## ...Translating into 5x scale-up in execution



In recent years Power demand elasticity to GDP has risen to 1.1x from 0.8x !

# Gov Policy has encouraged Pvt capex

## The Electricity Act, 2003

- ❑ Unbundle Generation, Transmission & Distribution of the state government
- ❑ De-license setting up Power generation
- ❑ **Payment security mechanism through revolving LC**
- ❑ Establishes Open Access in transmission and distribution
- ❑ Enables Trading of electricity

## National Electricity Policy - 2005

- ❑ Access to Electricity for all by 2012 – **“Rural Electrification”**
- ❑ Reach per capita availability of 1000 kWh by 2012 ( current 600 kWh)

## National Tariff Policy

- ❑ PPA for Private players through competitive bids – Removal of cap on RoE
- ❑ Post 2011, PPA with PSUs through competitive bids & NOT cost pass through
- ❑ Allowing Spot / Merchant sales to maximize returns

## Captive Coal Blocks

- ❑ Allocated 12 captive coal blocks to 18 to PSU companies
- ❑ Allocated 15 captive coal blocks to 31 private companies

## Distribution Reforms

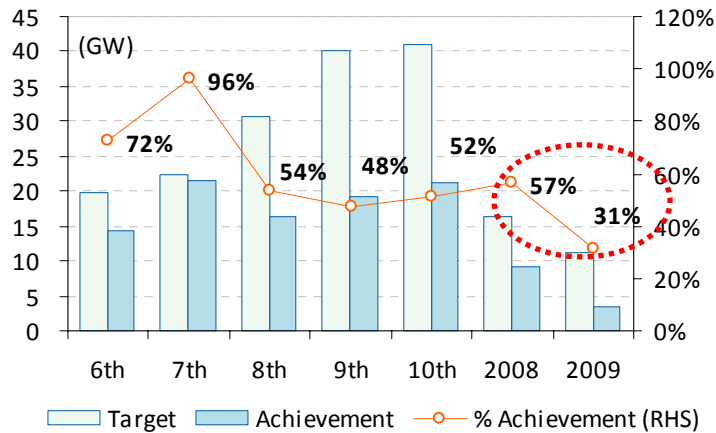
- ❑ Incentive to SEBs by way of grants through APDRP to reduce T&D losses
- ❑ Privatization of distribution through Franchisee route

- ❑ **Encouragement of private sector investments through removal of cap on returns**
- ❑ **Improvement of financial viability through Payment security**
- ❑ **Allocation of coal blocks for fuel security**
- ❑ **Increased efficiency and transparency - UMPP**
- ❑ **Privatization of state-owned entities to ensure LT viability of the sector**

\*APDRP - Accelerated Power Development and Reform Program

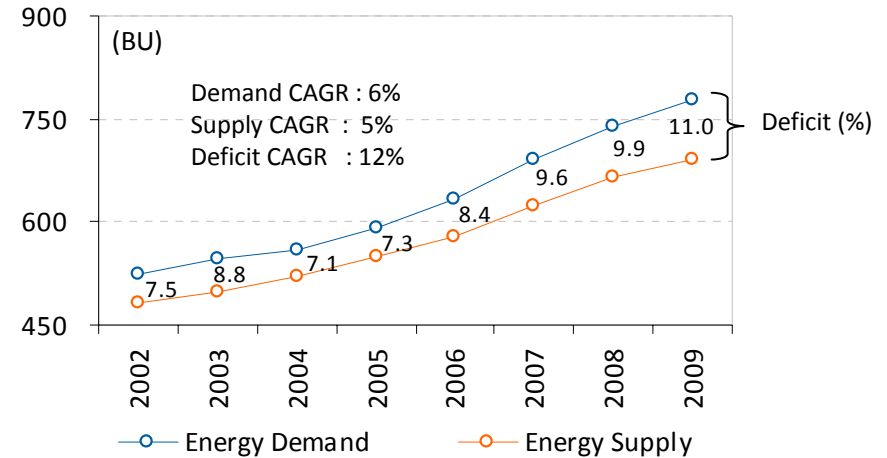
# Projected deficit >10% despite Pvt. capex...

### Historical Target Plan Achievement



Source: Ministry of Power, Power Scenario at Glance July 09

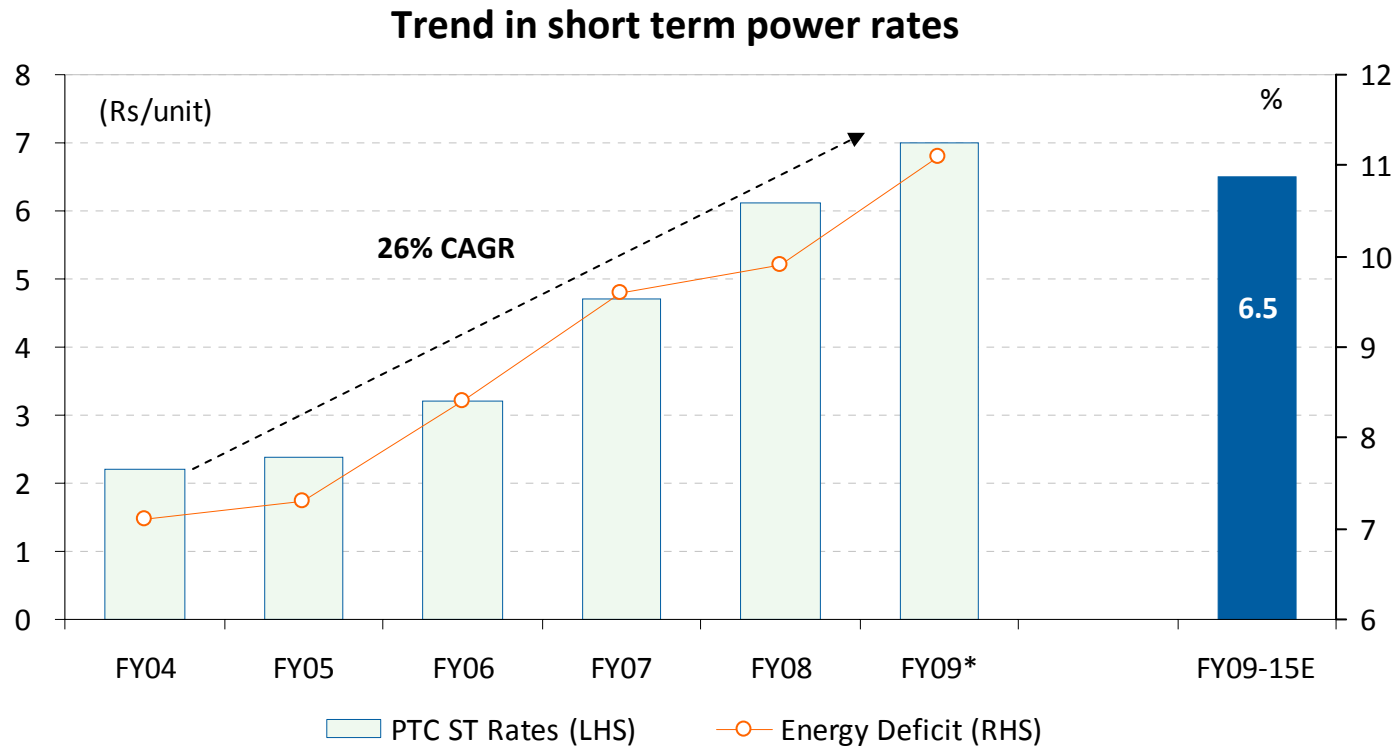
### Power Deficit of 11% in FY09



- ❖ India requires incremental power capacity of ~90 GW over next 5 yrs to meet the current shortfall (assuming 10% supply- & GDP-led demand growth; demand has been constrained by supply historically)
- ❖ NTPC and other central PSUs that have a strong balance sheet have planned addition of ~23 GW
- ❖ State Electricity Boards (SEB) are financially constrained due to high power subsidies (19% of state's gross fiscal deficits), thus are unable to aggressively add large capacities. Planned addition of 11 GW by 2015
- ❖ **Thus, the onus is on private players, who intend to add ~40 GW by 2015, facilitated by the government's fast track measures – land acquisition, fuel linkages, regulatory clearances & UMPP policy**
- ❖ **Yet the deficit is unlikely to be bridged due to high probability of execution delay – as empirical data indicates such execution shortfalls by SEBs and Central PSUs**



# Merchant tariff trends



Source: PTC Placement document, \*9MFY09 data of PTC,

- ❖ Historically, ST rates have increase at 26% p.a. as power deficit increased
- ❖ Being an election year FY09 saw ST avg. tariffs of > Rs 7/ unit. While avg ST rates in May'09 came off to Rs 4-5/ unit because of the pre-election burst of ~Rs 11/ unit in April'09, they are expected to sustain at ~ Rs 6.5/ unit

# Can the consumer pay?

Consumer ALREADY pay Rs 4-5/unit; distributors CAN recover high merchant tariffs

	FY09			FY15			FY20		
	Prop (%)	BU	Rate	Prop (%)	BU	Rate	Prop (%)	BU	Rate
Residential	15	106	3.4	16	188	4.1	17	303	4.5
Commercial	5	37	5.6	6	70	6.4	7	118	7.0
Industrial	25	171	4.4	27	321	4.9	30	540	5.2
Railways	2	12	4.6	2	21	5.2	2	33	5.7
Others	4	24	4.4	4	43	4.9	4	70	5.5
<b>Paying Cust.</b>	<b>51</b>	<b>351</b>	<b>4.2</b>	<b>54</b>	<b>643</b>	<b>4.9</b>	<b>60</b>	<b>1,064</b>	<b>5.2</b>
Agricultural	16	110	0.7	16	195	0.8	16	286	0.9
AT & C Loss	33	228	0.0	30	353	0.0	24	424	0.0
<b>Other Cust.</b>	<b>49</b>	<b>338</b>	<b>0.2</b>	<b>46</b>	<b>548</b>	<b>0.3</b>	<b>40</b>	<b>710</b>	<b>0.4</b>
<b>Total</b>	<b>100</b>	<b>689</b>	<b>2.3</b>	<b>100</b>	<b>1,191</b>	<b>2.8</b>	<b>100</b>	<b>1,774</b>	<b>3.3</b>

- ❖ Average merchant rate in FY09 was ~ Rs 7.6/ unit
- ❖ Affordability not a major issue as “Paying consumer” already pays Rs 4.2/ unit!
- ❖ However, average rate looks optically low due to AT&C losses and subsidized customers

**Consumers already paying Rs 4/ unit**

# How will it impact average tariffs?

Merchant plants = 7% of India's capacity in 2015 & hence small impact on avg. tariffs

Particulars	FY09			FY15			FY20		
	Capacity (GW)	Prop. (%)	Rate Rs / unit	Capacity (GW)	Prop. (%)	Rate Rs / unit	Capacity (GW)	Prop. (%)	Rate Rs / unit
NTPC	24	28	1.9	42	26	2.3	57	24	2.9
Other C'tral	11	12	1.4	19	12	1.5	32	13	2.0
States	40	47	2.3	52	32	3.0	69	28	3.7
Private	11	12	3.8	50	31	3.6	85	35	3.8
- Regulated	8	9	2.6	39	24	2.8	64	26	3.5
- Merchant	3	3	7.6	11	7	6.5	22	9	4.5
<b>Total</b>	<b>86</b>	<b>100</b>	<b>2.3</b>	<b>163</b>	<b>100</b>	<b>2.8</b>	<b>242</b>	<b>100</b>	<b>3.3</b>

Note: The above data of capacity is PLF adjusted capacity to establish actual supply & will differ from installed capacity

- ❖ Given the sustained deficit, Distributors will have to buy merchant power over prevailing prices
- ❖ Even at Rs 6.5/ unit Merchant tariffs by FY15 (30% over consumer prices), blended tariffs for the country would rise at a non-threatening rate of ~4% vs historical inflation in consumer tariff of 6 - 8%

**At merchant tariff of Rs 6.5/ unit till FY15, average tariff increases by only 4%**

# Bet on cos with significant capacity by FY13 and good merchant mix...

Cumulative capacity (MW)	FY11	FY12	FY13	FY14	Ratios (%)
Merchant	320	870	1,740	1,848	28
Regulated	2,320	1,770	4,860	4,752	72
<b>Adani Power Ltd</b>	<b>2,640</b>	<b>3,630</b>	<b>6,215</b>	<b>6,600</b>	
Merchant	1,270	1,675	1,675	2,235	44
Captive / Regulated	610	1,015	1,015	2,855	56
<b>Jindal Steel &amp; Power</b>	<b>1,880</b>	<b>2,690</b>	<b>2,690</b>	<b>5,090</b>	
Merchant	600	600	900	900	6
Regulated	900	2,220	4,860	13,600	94
<b>Reliance Power</b>	<b>1,500</b>	<b>2,820</b>	<b>5,760</b>	<b>14,500</b>	
Merchant	347	727	727	727	30
Regulated	1,300	1,300	1,680	1,680	70
<b>Torrent Power</b>	<b>1,647</b>	<b>2,027</b>	<b>2,407</b>	<b>2,407</b>	
Merchant	-	200	400	730	26
Regulated	700	1,500	1,800	2,130	74
<b>Jaiprakash Hydro</b>	<b>700</b>	<b>1,700</b>	<b>2,200</b>	<b>2,860</b>	
Merchant	366	366	366	516	13
Regulated	2,136	3,406	3,406	3,406	87
<b>Lanco</b>	<b>2,502</b>	<b>3,772</b>	<b>3,772</b>	<b>3,922</b>	
Merchant	313	313	313	970	33
Regulated	510	510	510	2,003	67
<b>GMR</b>	<b>823</b>	<b>823</b>	<b>823</b>	<b>2,973</b>	
Merchant	3,746	5,523	7,193	10,579	20
Regulated	15,437	19,992	28,802	42,886	80
<b>Total Private</b>	<b>19,183</b>	<b>25,515</b>	<b>35,995</b>	<b>53,465</b>	

**Supernormal profits= Speedy Execution + Merchant sales + Control on fuel assets !**

# With critical clearances & requisites in place...

## ❖ Points to monitor

- ❑ Land, water, environment & other statutory clearances
- ❑ Fuel - captive mines preferred
- ❑ Dedicated transmission infrastructure connected to national grid

MW	Planned				Status of under construction & development projects				
	Existing	Under	Under	Total	Environmental		Fuel		Financial Closure
		Construction	Development		Land	Clearance	Thermal	Hydro	
Adani	-	6,600	3,300	<b>9,900</b>	6,600	6,600	6,600	-	6,600
Reliance Power	-	5,460	17,580	<b>23,040</b>	17,240	17,240	13,460	2,100	5,460
Tata Power	<b>2,964</b>	5,170	5,670	<b>13,804</b>	5,170	5,170	7,170	-	5,170
Lanco	<b>511</b>	3,913	3,960	<b>8,384</b>	3,918	5,238	3,166	737	3,766
Jindal Power	<b>1,000</b>	3,750	6,480	<b>11,230</b>	3,720	3,720	3,720	-	2,400
Strelite Energy	-	2,400	2,000	<b>4,400</b>	2,400	2,400	2,400	-	2,400
Jaiprakash	<b>700</b>	2,820	4,500	<b>8,020</b>	6,120	6,120	5,120	1,200	2,820
Torrent	<b>1,650</b>	760	5,740	<b>8,150</b>	6,500	6,500	760	-	760
GVK	<b>901</b>	870	370	<b>2,141</b>	870	870	540	700	870
GMR	<b>807</b>	1,790	5,010	<b>7,607</b>	2,390	2,390	1,350	1,190	1,790
Indiabulls	-	-	3,840	<b>3,840</b>	3,840	3,840	3,840	-	2,520
<b>Total</b>	<b>8,533</b>	<b>33,533</b>	<b>58,450</b>	<b>100,516</b>	<b>58,768</b>	<b>60,088</b>	<b>48,126</b>	<b>5,927</b>	<b>34,556</b>

Note: Hydro has been considered as fuel tie-up in place

## ENAM Securities Pvt. Ltd.

7, Tulsiani Chambers, Free Press Journal Marg, Nariman Point, Mumbai – 400 021, India..

**Tel:- Board +91-22 6754 7600; Dealing +91-22 2280 0167;**

**Fax:- Research +91-22 6754 7679; Dealing +91-22 6754 7575**

### CONFLICT OF INTEREST DISCLOSURE

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3. Directors ownership of the stock	Yes
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