Equity Research

December 21, 2020
BSE Sensex: 45554

ICICI Securities Limited is the author and distributor of this report

Initiating coverage

Power

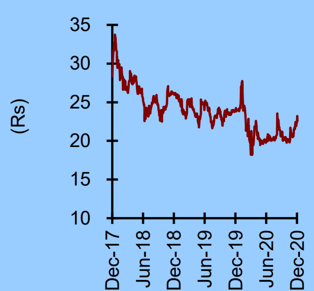
Target price: Rs34

Shareholding pattern

	Mar '20	Jun '20	Sep '20
Promoters	71.0	71.0	71.0
Institutional investors	18.8	18.7	18.7
MFs and others	5.8	5.9	6.1
Banks / FIs	0.6	0.6	0.6
Insurance Cos.	7.7	7.7	7.7
FIIs	4.7	4.5	4.3
Others	10.2	10.3	10.3

Source: NSE

Price chart



Research Analysts:

Rahul Modi
rahul.modi@icicisecurities.com
+91 22 6637 7373

Anshuman Ashit
anshuman.ashit@icicisecurities.com
+91 22 6637 7419

INDIA

NHPC

BUY

100% Green; 7% dividend yield

Rs22

NHPC Ltd, the largest hydroelectric power generation company in India, has 7GW operational capacity split 98%/2% in favour of hydro/renewables, making it the largest 'completely green' power generating company in India. Its regulated business model and capacity addition outlook (5 under-construction projects) provides earnings certainty, while ever improving operational performance resulting in higher incentives will provide the extra fillip to earnings. As a result, PAT is estimated to increase by 51% over FY20-FY24E (11% CAGR). Green credentials and hydro's must-run status backed by stricter RPO compliance requirements provide further comfort. We initiate coverage on the stock with BUY rating and DCF based target price of Rs34.

- **Earnings CAGR of 11% over FY20-24E led by capacity addition**: Increase in standalone capacity from 5,551MW to 8,351MW in FY24E takes regulated equity from Rs129bn at FY20-end to Rs221bn in FY24E, at CAGR of 14.5%. Further earnings boost is expected from revision of TLDP-IV's tariff order and Parbati-III reverting to original design energy post Parbati-II's commissioning (cumulative >Rs2bn p.a. addition to PAT). Considering commissioning of Parbati-II (800MW) in FY23 and Subansiri Lower (2GW) in FY24 (construction in full swing), NHPC's expected earnings CAGR for the period FY20-24E clocks 10.9% to reach Rs45.5bn (vs Rs30bn in FY20). Core RoE is expected to increase to 18% by FY24E from 17% currently.
- **High regulatory certainty; no expectation of RoE revision**: NHPC's earnings and revenue is set according to CERC tariff guidelines, which has maintained the existing RoE structure for 2019-2024. For NHPC, blended average RoE is ~16% (although core RoE is higher due to incentives earned). Although the next tariff guideline revision of CERC is in 2024-29, we do not expect any change to the existing RoE structure due to hydro projects' long gestation period and their strategic importance for the nation, as well as grid stability and peaking requirements.
- **'Completely green' and must run status to result in 100% offtake**: As per the draft Electricity Act (Amendment), 2020, hydro generation will now be considered renewable. Also, scope of RPO has been expanded to include hydro with stricter compliance, assuring 100% offtake. With 98%/2% of its installed capacity based on hydro/renewables, NHPC is the only 'completely green' PSU generating company as well as the largest in the country. It also spends significantly on CSR activities.
- **High dividend yield and attractive valuations**: NHPC follows the GoI mandated dividend policy (higher of 5% of net worth or 30% of PAT), which translates to >Rs1.5/sh. At CMP of Rs22/share, the stock is trading at 6.2 P/E and 0.6 P/B of FY23E basis. Its dividend yield is >7%. We value the stock on DCF basis and initiate with a BUY rating at a target price of Rs34.

Market Cap	Rs217bn/US$2.9bn
Reuters/Bloomberg	NHPC.BO/ NHPC IN
Shares Outstanding (mn)	10,045
52-week Range (Rs)	28/18
Free Float (%)	29.0
FII (%)	4.3
Daily Volume (US$'000)	1,836
Absolute Return 3m (%)	5.6
Absolute Return 12m (%)	(4.7)
Sensex Return 3m (%)	20.0
Sensex Return 12m (%)	10.6

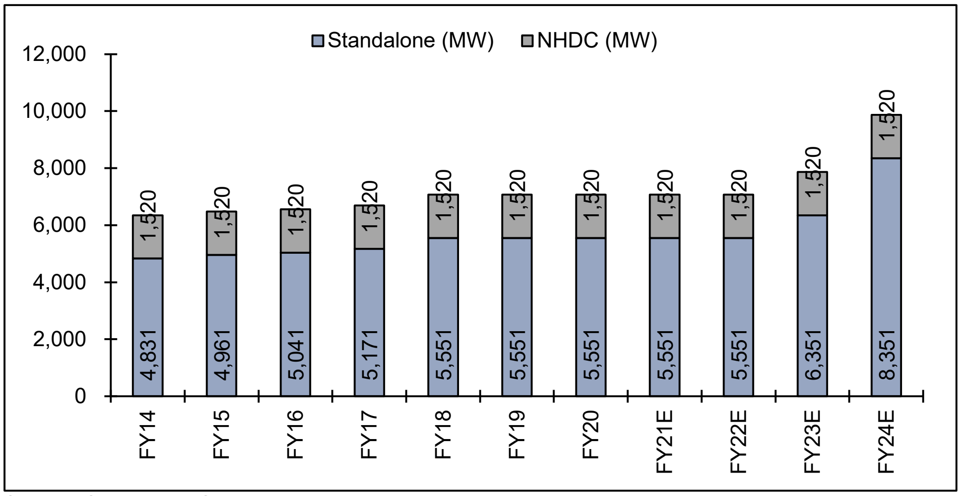
Year to Mar	FY20	FY21E	FY22E	FY23E
Revenue (Rs mn)	87,354	86,687	89,391	108,108
EBITDA(Rs mn)	30,072	28,617	29,560	34,997
Net Income (Rs mn)	3.0	2.8	2.9	3.5
EPS (Rs)	14.3	(4.8)	3.3	18.4
P/E (x)	7.2	7.6	7.4	6.2
CEPS (Rs)	4.5	4.2	4.2	5.2
EV/E (x)	9.8	9.8	10.1	7.7
Dividend Yield	6.9	6.9	7.2	7.5
RoCE (%)	6.9	6.2	5.8	7.0
RoE (%)	10.0	9.1	9.0	10.1

TABLE OF CONTENT

Story in charts 3
Earnings CAGR of 11% over FY20-24E led by capacity addition 6
High regulatory certainty and no expectation of RoE revision going forward 11
“Only green” and must run status to result in 100% offtake despite higher tariff in initial years 12
Higher water flow, reservoir levels and improved operational performance leading to higher incentives 13
Long-term growth prospects intact with several projects under clearance/pipeline 15
Renewables and power trading ventures have the potential to scale-up rapidly 16
High dividend yield and attractive valuations; RoE to improve 18
Risk to our thesis 18
Key financial trends 19
Company brief and history 23
Financial summary (standalone) 26
Index of Tables and Charts 28

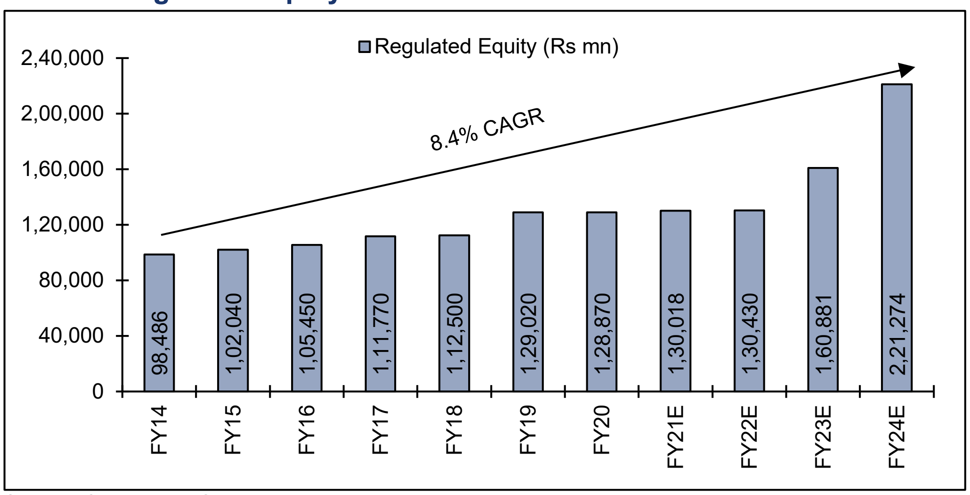
Story in charts

Chart 1: Consolidated capacity to increase to 9,871MW by FY24E



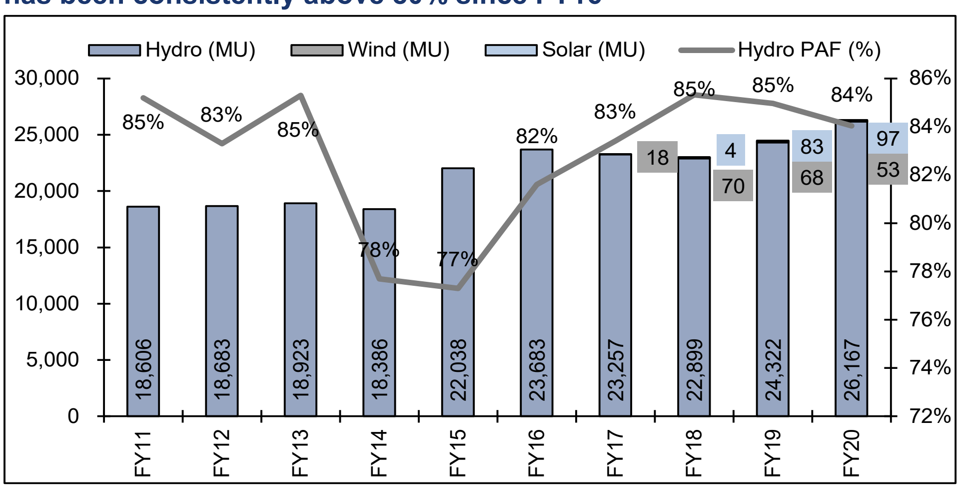
Source: Company, I-Sec research

Chart 2: Regulated equity increases to Rs221bn at 8.4% CAGR for FY14-24E



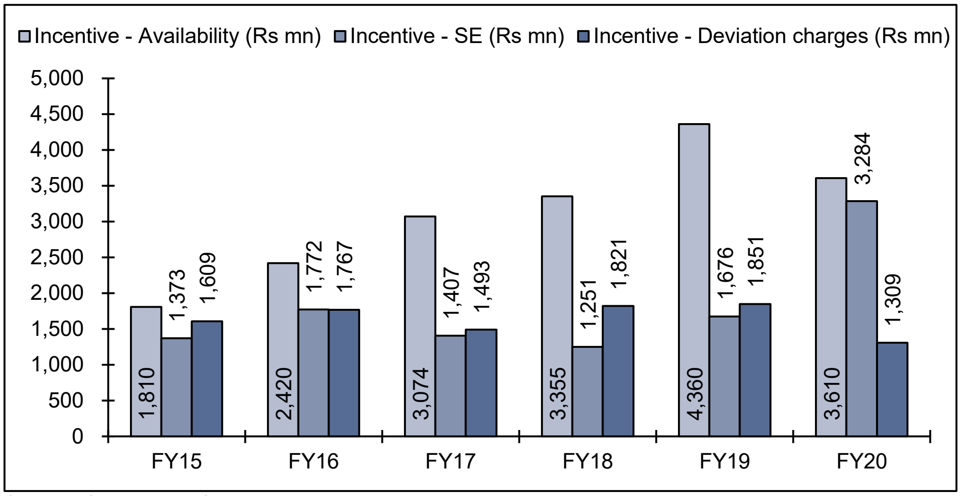
Source: Company, I-Sec research

Chart 3: NHPC's generation grew at CAGR of 4% during FY11-FY20, while PAF has been consistently above 80% since FY16



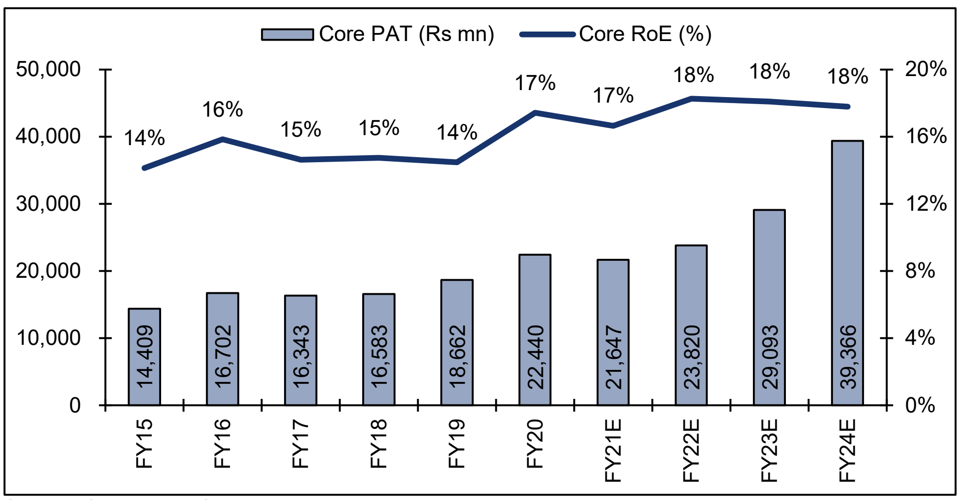
Source: Company, I-Sec research

Chart 4: PAF improvement, higher water flow resulted in higher incentives



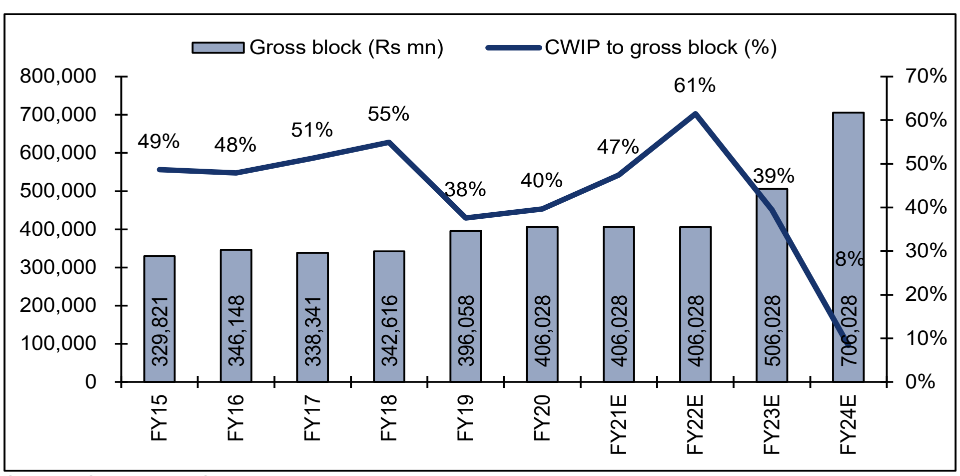
Source: Company, I-Sec research

Chart 5: Core PAT and core RoE are consistently increasing on capacity addition and improved operational performance



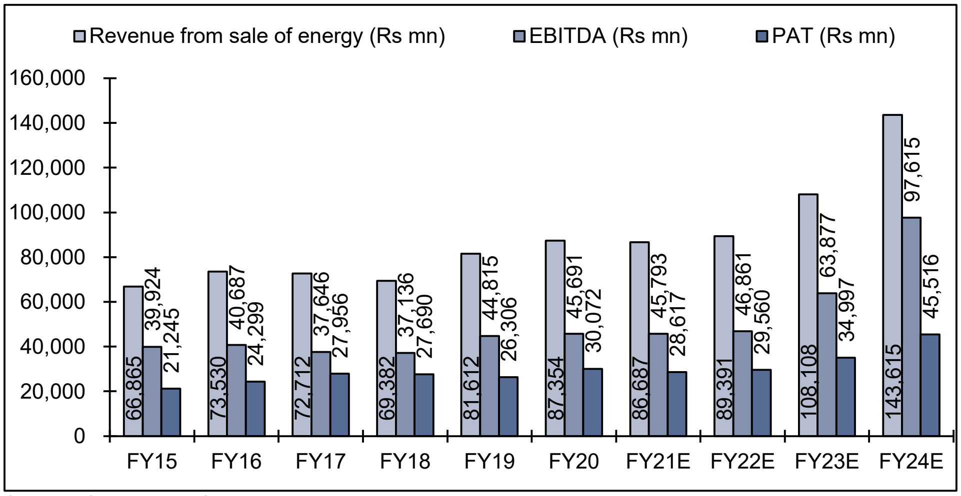
Source: Company, I-Sec research

Chart 6: CWIP to gross block to significantly decline as Parbati-II & Subansiri are commissioned



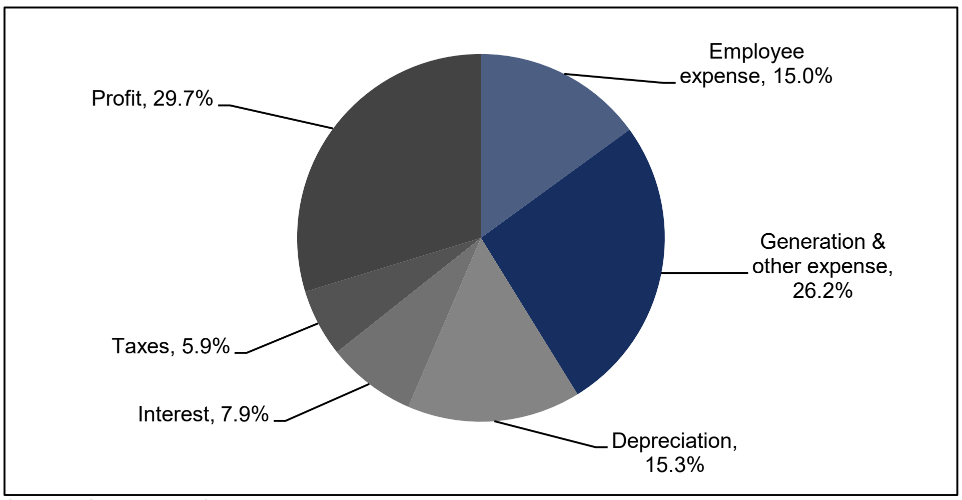
Source: Company, I-Sec research

Chart 7: Revenue, EBITDA and profit trends



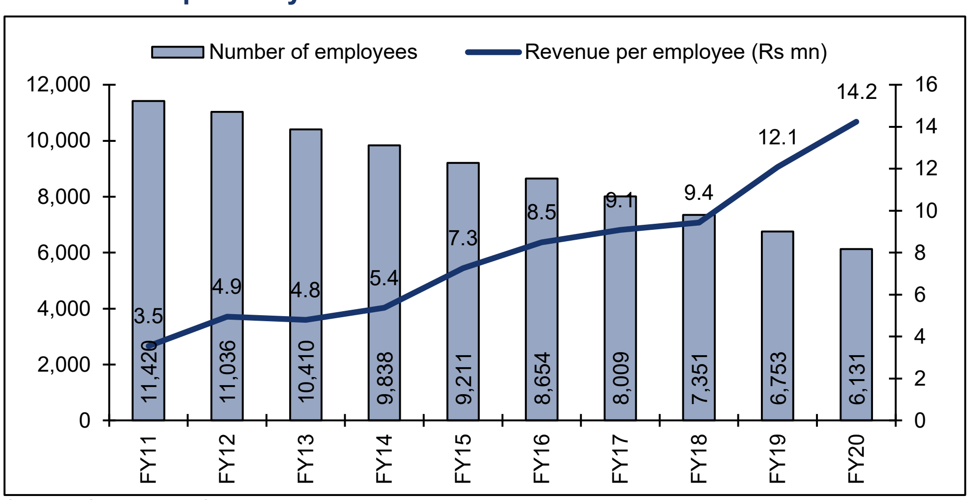
Source: Company, I-Sec research

Chart 8: FY20 income statement break-up



Source: Company, I-Sec research

Chart 9: PAT/employee is increasing as number of employees have almost halved in the past 10 years

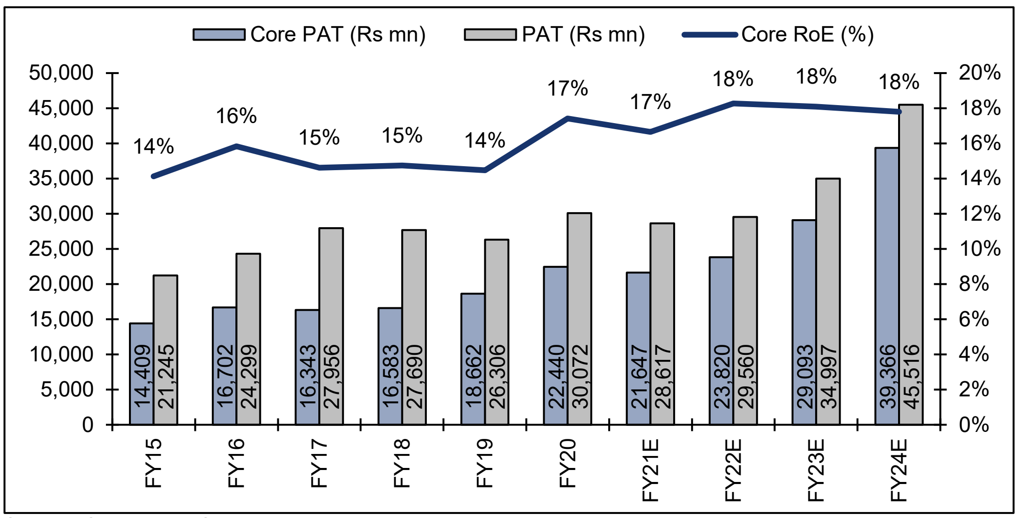


Source: Company, I-Sec research

Earnings CAGR of 11% over FY20-24E led by capacity addition

As per our estimates, considering the commissioning of Parbati-II in FY23 and Subansiri Lower in FY24, NHPC's expected earnings CAGR during FY20-24E can clock 10.9% to reach Rs45.5bn (vs Rs30bn in FY20). This will be on the back of increase in standalone capacity from 5,551MW currently to 8,351MW in FY24E, which consequently takes the regulated equity from Rs129bn at FY20-end to Rs221bn in FY24E, at a CAGR of 14.5%. Parbati-II, which is a run-of-the-river (RoR) project with small pondage, will add 800MW by early FY23 (4x200MW at Himachal Pradesh; units 1&2 have already been successfully synchronized while tunnel boring activities are ongoing for units 3&4). Subansiri Lower, which is a RoR pondage-based project and where work restarted in Dec'19, will add another 2,000MW by FY24 (8x250MW). NHPC's capex is estimated to range between Rs50-60bn annually for the next 2-3 years. Core RoE is expected to improve and reach 18% by FY24E.

Chart 10: PAT, core PAT and core RoE are on an increasing trajectory



Source: Company, I-Sec research

Three other projects totaling 2,124MW are currently under construction –

- **Teesta VI HEP** (Sikkim), which was acquired through NCLT (from Lanco) in Oct'19, is currently a 100% subsidiary, but NHPC is expected to merge it with its standalone entity, which will help in cheaper debt funding of the project. It is a 500MW (4x125MW) plant with design energy of 2,400MU, and an estimated project cost of Rs57.5bn (at Jul'18 price level), which includes NHPC's bid amount of Rs9bn for acquisition. The plant is expected to commission by FY25. The board of directors of Lanco Teesta HEP has been reconstituted and the project has already received CCEA approval for acquisition and execution of the balance work. Two lots of civil work, one lot of HM and 4 lots of E&M work have already been awarded.

- **Kiru HEP** (Jammu & Kashmir) is being executed through Chenab Valley Power Projects Private (CVPPPL), which is a JV between NHPC Ltd (49.89%), Jammu & Kashmir State Power Development Corporation (49.89%) and PTC India (0.22%). It is a 624MW (4*156MW) project with design energy of 2,272MU, and the current estimated cost of the project is Rs42.9bn (Jul'18 price level). Tenders for all the three packages for the project – civil, HM and E&M – have been awarded in Feb'20 and the project is estimated to commission by FY25. While the first year tariff is Rs4.27/unit, levelised tariff is Rs4.64/unit for the project.
- **Pakal Dul HEP** (Jammu & Kashmir) is also being executed through CVPPPL. It is a 1,000MW (4*250MW) project with design energy of 3,330MU, and the current estimated cost of the project is Rs81.1bn (Mar'13 price levels). Pakal Dul project work is being executed through five packages of major components – HRT-TBM, dam, power house, HM and E&M – and LoA for all the packages have been issued. The project is estimated to commission by FY26. While the first year tariff is Rs4.54/unit, levelised tariff is Rs4.28/unit for the project.

The commissioning of the above three projects will take the consolidated capacity to **12GW by FY26**.

In addition, **Ratle HEP** (850MW) has also received administrative approval for the MoU signed for the project execution on 28th Nov'20. This will kick off the tendering and construction activities and the estimated project completion time is 36 months from the start of construction. This project will be executed through Jammu Hydro Power Corporation – which will be a new JV between NHPC and JKPDC. The estimated cost of the project is Rs53bn.

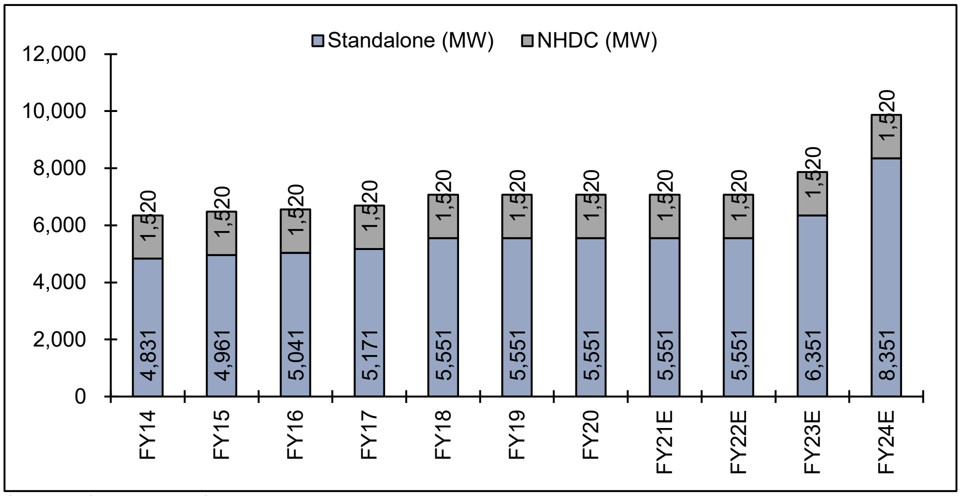
Nine other projects totaling 7,221MW are under clearance stage (on consolidated basis), which are expected to get commissioned over FY25-30, hence, implying further 13% CAGR in capacity. And with central and state governments pushing to clear pending hydro projects and expediting pending approvals, NHPC's growth potential is visible for the next 8-10 years.

Table 1: Brief profile of under-construction projects

S. No.	Project	State/UT	No. of units	Installed capacity (MW)	Design Energy (MU)	CCEA est. cost (Price level; Rs mn)	Anticipated project cost	Prov. Exp (till Sep'20; Rs mn)	Expected commissioning
Standalone									
1	Subansiri Lower	Assam/ Arunachal Pradesh	8	2,000	7,422	62,853	199,924	125,171	Q1FY24
2	Parbati II	HP	4	800	3,125	39,196	98,976	84,516	Q4FY22
Subsidiary									
1	Lanco Teesta HPL	Sikkim	4	500	2,400	5,748			
JV									
1	Pakal Dul	J&K	4	1,000	3,330	81,120			Q2FY25
2	Kiru	J&K	4	624	2,272	42,880			Q2FY24
	Grand Total			**4,924**	**18,549**				

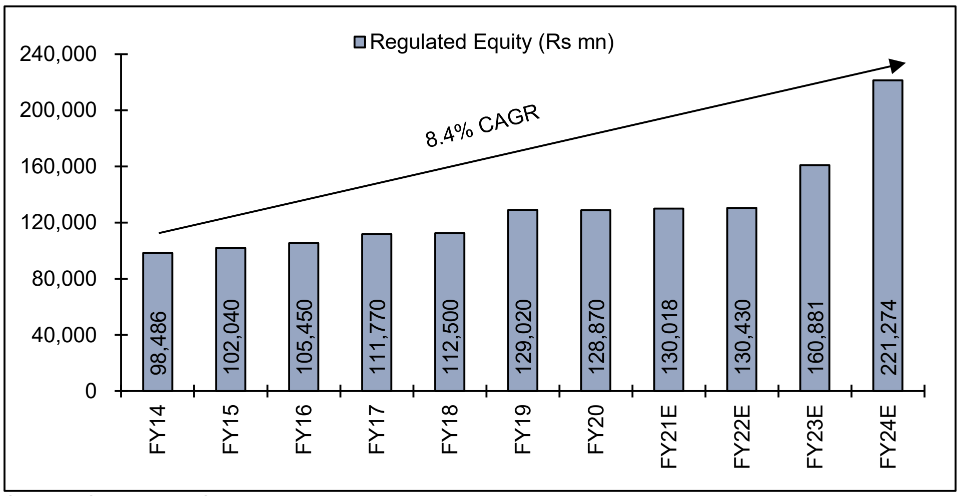
Source: Company, I-Sec research

Chart 11: Consolidated capacity to increase to 9.9GW by FY24E



Source: Company, I-Sec research

Chart 12: Regulated equity increases to Rs221bn, at 8.4% CAGR for FY14-24E



Source: Company, I-Sec research

Subansiri Lower project restart provides significant growth boost

Construction activity at Subansiri started in 2006, but stopped since 2011 due to agitation by local pressure groups. Thereafter, a number of committees appraised the project and suggested remedial measures, and by FY18-19, all technical apprehensions related to the project were assuaged and legal hurdles cleared. The project then received a favourable verdict from the NGT in Aug'19, wherein it dismissed the plea to reconstitute the environment ministry committee.

Stuck for nine years, construction activities have now resumed on full swing, especially post monsoons. The project is estimated to add Rs12bn to NHPC's earnings (RoE), and this can further increase by an estimated Rs800m-1bn due to secondary energy-based incentives, since water flow in the river is extremely good.

Brief overview and current (Oct'20) status of the project:

- 2,000MW (8x250MW) capacity reservoir-based project, with design energy of 7,422MU, situated on Subansiri river (a tributary of Brahmaputra) at the border of Arunachal Pradesh and Assam.
- Revised cost of the project is Rs204bn (at Jan'20 price level). Nearly Rs125bn has been cumulatively spent on the project till Sep'20.
- First unit is expected to commission by Mar'22. Thereafter, the company estimates commissioning of the remaining seven units within 12-15 months.
- The project is expected to commission by FY24. It will add >Rs60bn to NHPC's regulated equity.
- NAPAF is expected to be 85-90%.
- Levelised tariff is Rs5.16/unit.
- Work restarted from 15th Oct'19 after clearance from NGT. However, work initially remained suspended for a month during Mar'20-Apr'20 due to the Covid-19 led lockdown and further got affected due to monsoon from May'20 till Sep'20. Thereafter, work has resumed at full swing.
- MoA has been signed with the government of Assam for implementation of the project in Aug'19 and for resumption of construction activities in Oct'19.
- The project is of national importance and is being monitored by the MoP on a regular basis.

Parbati-II project expected to be commissioned by FY23; will reduce under recovery of Parbati-III as well

For Parbati-II project, all major work related to the commissioning of the project has been completed except 2.5km of HRT. Once commissioned, the project, which is upstream on Parbati river, will help revert Pabati-II project (downstream) to its original design energy of 1,963MU and thereby, reduce its current under recovery on that account. In total, including the positive impact of ~Rs1bn due to Parbati-II, the project is estimated to add Rs6-7bn to NHPC's earnings (RoE).

Brief overview and current (Oct'20) status of the project:

- 800MW (4x200MW) capacity RoR with small pondage project having design energy of 3,125MU, situated on Parbati river in Kullu district of Himachal Pradesh.
- Revised cost of the project is Rs99bn (at Apr'20 price level). Nearly Rs85bn has been cumulatively spent on the project till Sep'20.
- The project is expected to commission by FY23. It will add >Rs30bn to NHPC's regulated equity.
- All units have been synchronised with grid at part load using water from Jiwa Nallah (stream). But poor geology of the head race tunnel has challenged the tunnel excavation completion, where 29km out of 31.5km has been completed by Oct'20, but the balance 2.5km is taking more than usual time. NHPC has now deployed tunnel boring machines from one side and drilling blast mechanism from

the other side of the tunnel and expects to complete the work in the next 12-18 months.

- Levelised tariff is Rs5.6/unit.

TLDP-IV project cost revision will also add Rs1.1bn to profitability

CERC is in the process of finalising the tariff order of TLDP-IV. Located in West Bengal, tariff order for the 160MW project was based on the original cost of Rs10bn. But the cost escalated due to various factors and the revised project cost at the time of commissioning in Aug'16 was Rs18.2bn. The approval for the revised cost was pending at the central government level due to which CERC was unable to issue the revised tariff order. But now CERC has recognised board level approval as enough for it to go ahead with the tariff order. The order is expected in FY21 itself. This will add another ~Rs1.1bn p.a. to NHPC's profit. Additionally, it will receive arrears (from its commissioning on Aug'16) which may add another ~Rs4bn (extraordinary income).

High regulatory certainty and no expectation of RoE revision going forward

NHPC's earnings and revenue are set according to CERC tariff guidelines. For 2019-2024 period, CERC has set RoE at 15.5% (cost plus) for run-of-the-river projects and 16.5% for pondage-based projects. For NHPC, due to a good mix of both the projects, blended average RoE is ~16%.

The company earns incentives of Rs8-9bn (~8%), while another Rs5bn (5%) are costs which are not pass through (Rs3bn of performance related pay (PRP), Rs1bn of CSR, etc). Hence, the company earns 2-3% higher RoE as net incentives over and above the regulated equity, implying core RoE of 18%.

While the next tariff guideline revision of CERC (2024-29) is some time away, we do not expect any change to the existing RoE structure due to the fact that hydro projects have a long gestation period and are strategically important for the nation as well as for grid stability and peaking requirements. Further, only 36% of the total hydro-electric potential of India (149GW) has been tapped till date (Nov'20).

Board approval now enough for tariff order approval from CERC

In another significant development for hydro projects during CY20, CERC has now taken a stance that it will go ahead with finalising revised tariff orders even if the project receives a board level or CEA approval for its revised cost. Earlier, CERC used to go ahead with finalising revised tariff approval only after the approval from the CCEA, which used to take a lot of time. This development will help NHPC expedite the tariff order process, since now there is a significantly higher certainty that it will receive the tariff order at the time of commissioning itself, and no truing-up will be required at a later date. This change has already helped in case of TLDP-IV project.

Table 2: India's hydro potential – river basin-wise (installed capacity above 25MW)

River basin	Total capacity (MW)	Capacity under operation (MW)	Capacity under construction (MW)
Indus	33,832	14,294	4,736
Ganga	20,711	5,317	1,645
Brahmaputra	66,065	4,274	3,553
Central Indian rivers	4,152	3,147	400
Western flowing rivers	9,430	5,632	100
Eastern flowing rivers	14,511	8,249	960
Total	**148,701**	**40,914**	**11,394**

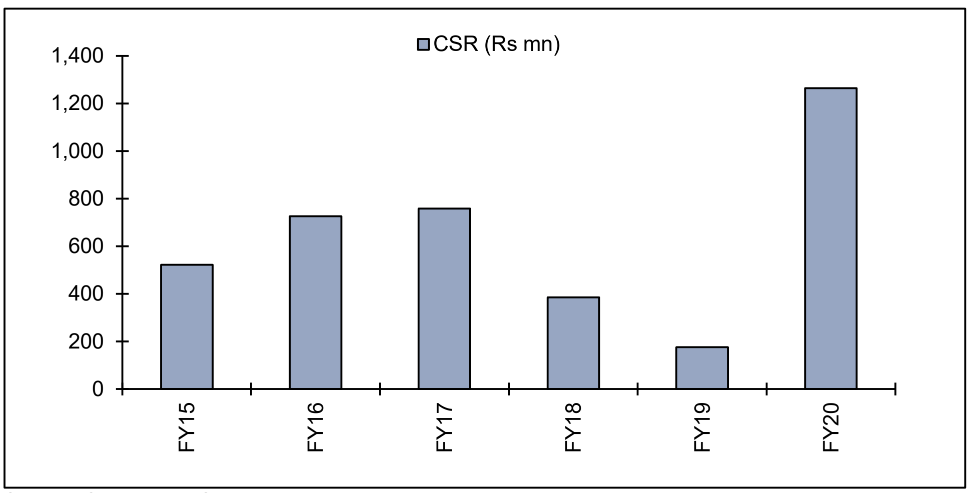
Source: CEA, I-Sec research

"Only green" and must run status to result in 100% offtake despite higher tariff in initial years

As per the draft Electricity Act Amendment, 2020, **hydro generation will now be considered as renewable generation**. Scope of RPO has also been expanded to include hydro sources and compliance to RPO has been made stricter as per the amendment. Further, a 'National Renewable Energy Policy' is being proposed, in consultation with states and the Centre, to promote generation of electricity from renewable sources of energy. Minimum percentage of purchase of electricity from renewable and hydro sources of energy will be prescribed. Also, from grid stability and peaking requirement perspectives, hydro power is a must for all the states. All these factors point towards 100% offtake for hydro power in years to come.

With consolidated entity having 98.6% of its installed capacity based on hydro power and the balance based on renewables (50MW solar and 50MW wind), NHPC is the **only completely 'green' PSU genco and the largest completely green power generating company in the country**. It also spends significantly on CSR activities. This places it at a very high pedestal in terms of carbon emission in the ESG framework.

Chart 13: NHPC has spent Rs3.8bn on CSR activities during FY15-20

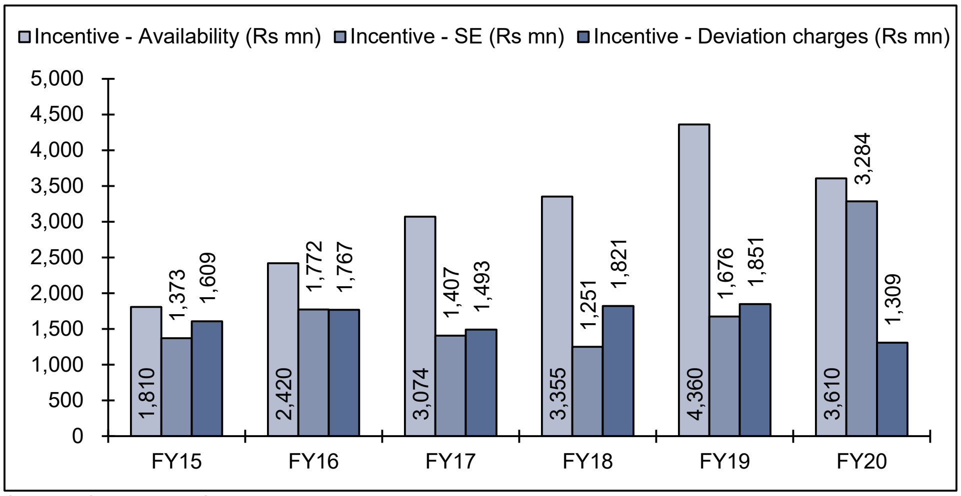


Source: Company, I-Sec research

Higher water flow, reservoir levels and improved operational performance leading to higher incentives

NHPC earned >30% incentives (Rs8.2bn) on its RoE for FY20 on account of availability, secondary energy and deviation charges, which comprised 27% of the total PAT (incentive as % of total PAT has averaged 25% during FY16-20). Based on the current performance and capacity (NHPC generation across plants averages 10% over design energy, thereby taking the post-tax core RoE to 17-18%), we estimate a cumulative incentive run-rate of Rs8-9bn annually on current operational capacity. This will further increase once Parbati-II and Subansiri Lower projects are commissioned (by an estimated Rs1-1.5bn).

Chart 14: PAF improvement and higher water flow have resulted in higher incentives



Source: Company, I-Sec research

NHPC earns following incentives

- **Secondary energy-based incentives**: Incentives are earned in case generation is higher than design energy. NHPC earns Rs1.2/unit for each unit of generation above design energy. Since water flow in most projects has been good in the last few years, mainly due to normal-to-good monsoons, NHPC has been able to earn >Rs3bn annually over the past few years on this front.
- **Availability-based incentives**: This is received in case the plant's availability is higher than the normative annual PAF (NAPAF).
- **Deviation charges-based incentives**: As per the CERC (DSM and related matters) regulations.

Parbati-III water flow related issue resolution post Parbati-III commissioning to add further Rs1bn annually to NHPC's RoE

Parbati-III, which is downstream on Parbati river, has original design energy of 1,963MU. Due to lower water flow as a consequence of Parbati-II commissioning delay, the design energy at the time of its testing post commissioning came out to be lower than the original due to which the plant loses ~Rs1bn of RoE every year. With the commissioning of Parbati-II, Parbati-III is expected to revert to its original design energy levels (and may even earn incentives based on higher secondary energy since the water flow is good), and add Rs1bn p.a. to NHPC's RoE.

Table 3: Overview of reservoir storage levels across regions during CY20 – storage levels across regions during the year have generally been higher than last 10 years' average storage levels

Region	No. of reservoirs monitored	Capacity at full res. level (BCM)	Storage as % of FRL														
			17.12.2020			1.10.2020			25.6.2020			26.3.2020			2.1.2020		
			Current year	Last year	Last 10 years avg.	Current year	Last year	Last 10 years avg.	Current year	Last year	Last 10 years avg.	Current year	Last year	Last 10 years avg.	Current year	Last year	Last 10 years avg.
North	8	19.17	52	73	64	74	91	86	38	36	29	48	47	31	68	65	55
East	19	19.65	69	85	73	79	85	79	37	16	19	64	44	47	83	63	68
West	42	35.24	87	90	62	93	92	73	34	10	17	57	24	36	86	41	53
Central	23	45.27	78	83	67	90	87	80	39	20	19	56	36	37	81	56	56
South	36	52.81	79	79	58	87	87	70	25	12	18	41	25	26	75	47	52
India	128	172.13	76	82	63	87	88	76	33	17	19	52	32	34	79	52	56

Source: CWC, I-Sec research

Note: Green coloured highlighted box depicts storage levels equal to or higher than last 10 years' average

Long-term growth prospects intact with several projects under clearance/pipeline

Nine projects totaling 7,221MW are under clearance stage (on consolidated basis), which are expected to get commissioned over FY24-28, hence, implying further 13% CAGR in capacity. And with central and state governments pushing to clear pending hydro projects and expediting pending approvals, NHPC's growth potential is visible for the next 8-10 years.

Table 4: Overview of projects under clearance

S. No.	Project	State/UT	No. of units	Installed capacity (MW)	Design Energy (MU)	CCEA est. cost (Price level; Rs mn)
Standalone						
1	Kotli Bhel-IA	Uttarakhand	3	195	1,026	23,210
2	Teesta-IV	Sikkim	4	520	2,252	58,110
3	Dibang	Arunachal Pradesh	12	2,880	11,223	298,390
4	Tawang-I	Arunachal Pradesh	3	600	2,963	53,420
5	Tawang-II	Arunachal Pradesh	4	800	3,622	67,690
	Total			4,995	21,086	500,820
Subsidiary						
1	Loktak D/S	Manipur	2	66	334	13,290
JV						
1	Kwar	J&K	4	540	1,976	49,480
2	Ratle	J&K	5	850	3,137	52,820
3	Chamkharchhu	Bhutan		770	3,344	70,207
	Grand Total			**12,216**	**50,962**	

Source: Company, I-Sec research

Table 5: Four more hydro projects totaling 2,080MW are under pipeline

S. No.	Project	State/UT	Installed capacity (MW)
1	Bursar	J&K	800
2	Garba Tawaghat	Uttarakhand	630
3	Dugar	Himachal Pradesh	500
4	Goriganga-II A	Uttarakhand	150
	Total		**2,080**

Source: Company, I-Sec research

Recent developments in a few large under-clearance projects

Ratle HEP (850MW; 4x205MW + 30MW) has also received administrative approval for the MoU signed for the project execution on 28th Nov'20. This will kick off tendering and construction activities and the estimated project completion time is 36 months from the start of construction. This project will be executed through Jammu Hydro Power Corporation – which will be a new JV between NHPC (51%) and JKPDC (49%). The design energy of the project is 3,137MU and estimated cost is Rs53bn (Nov'18 price level).

Dibang HEP (2,880MW; 12x240MW), situated in Arunachal Pradesh, has received the approval from public investment board (PIB) of the Department of Expenditure, Government of India. Approval from CCEA is expected in FY22. The design energy of the project is 11,223MU and estimated cost is ~Rs300bn (Oct'19 price level).

Renewables and power trading ventures have the potential to scale-up rapidly

Currently, NHPC has two operational renewable projects – 50MW solar PV plant in Rajasthan and 50MW wind power plant in Tamil Nadu.

Table 6: Overview of operational renewable assets

S. No.	Project	State/UT	Installed capacity (MW)	Design Energy (MU)	Commissioning year	Capital cost (as on FY19-end; Rs mn)	Tariff (FY19) (Rs/kWh)
1	Wind	Jaisalmer, Rajasthan	50	94	2016	3,304	3.67
2	Solar	Theni/Dindigul, TN	50	106	2018	2,906	4.41
	Total		**100**	**200**		**6,210**	

Source: Company, I-Sec research

NHPC is looking to expand significantly on renewables front, particularly through large scale floating solar projects and large solar parks (UMREPP) across the country:

- **500 MW floating solar project in Odisha:** MoU has been signed between NHPC Limited and Green Energy Development Corporation of Odisha (GEDCOL) in Jul'20 to form a JV to plan & develop techno-commercially feasible floating solar power projects of 500 MW in a phased manner, preferably in packages of 50MW each in Odisha under UMREPPs scheme of MNRE at an estimated investment of Rs25bn.
- **500 MW floating solar project in Telangana:** A JV between NHPC and Telangana State Renewable Energy Development Corporation (TSREDCO) is under discussion for jointly exploring and developing viable floating solar power projects with an aggregate capacity of 500MW in reservoir across the state. The approval is presently held up due to the ongoing Covid-19 pandemic.
- **50 MW floating solar project, Kerala:** The project is located in West Kallada, Kerala. Kerala State Electricity Board (KSEB) has given its consent for implementation of the full 50MW in one go under UMREPP Scheme of MNRE. Notice Inviting Tender (NIT) for EPC bids has been issued on June 30, 2020. PPA is under discussion with KSEB.
- **Explorations at other locations:** Development of UMREPPs at other locations is also being explored under the MNRE Scheme.
- **140 MW NHPC solar park in Odisha:** MNRE has provided its in-principle approval for enhancement of solar park capacity (from 100 MW to 140 MW) in Odisha, through two projects – 40MW in Ganjam District and 100 MW in Deogarh District. Approvals of State Technical Committee for both the projects have also been obtained and lands identified.
- **65MW solar power project in Uttar Pradesh:** Bundelkhand Saur Urja (BSUL), a JV between NHPC and UPNEDA has been formed to set up 65MW solar project (scaled up from 32MW) at Jalaun, UP. A fresh EPC tender has been invited for the project.
- **1,200MW solar park:** BSUL has also received in-principle approval from MNRE to develop 1,200MW solar power park in Jalaun, UP.

- **Other utility scale solar projects:** NHPC is also exploring the possibilities of other utility scale solar projects in different states/UTs such as Telangana (293 MW), Tamil Nadu (25X25 MW) and Leh (50 MW).
- **Kerala Wind Power Project (72MW):** NHPC has signed MoU with Power Department, Government of Kerala to develop wind power projects in the state. Kerala State Electricity Board (KSEB) has given its consent to explore the possibilities for implementation of entire 72MW. Necessary exploration of power evacuation arrangements and additional land for scaling up the project is in progress.

Power trading can become another large business

As part of business expansion and diversification, NHPC ventured into **power trading** in FY19 after receiving category-I trading licence in Apr'18 from CERC for interstate trading of electricity pan-India. NHPC is also registered at DEEP (Discovery of Efficient Electricity Price) e-bidding portal and has obtained trader membership in Indian Energy Exchange (IEX) and Power Exchange of India (PXIL). The company traded 2,022MU with turnover of Rs7bn (including agency nature of Power Trading Business) during FY20. The company has successfully executed tenders for Uttar Pradesh, Andhra Pradesh, Tamil Nadu and J&K during FY20.

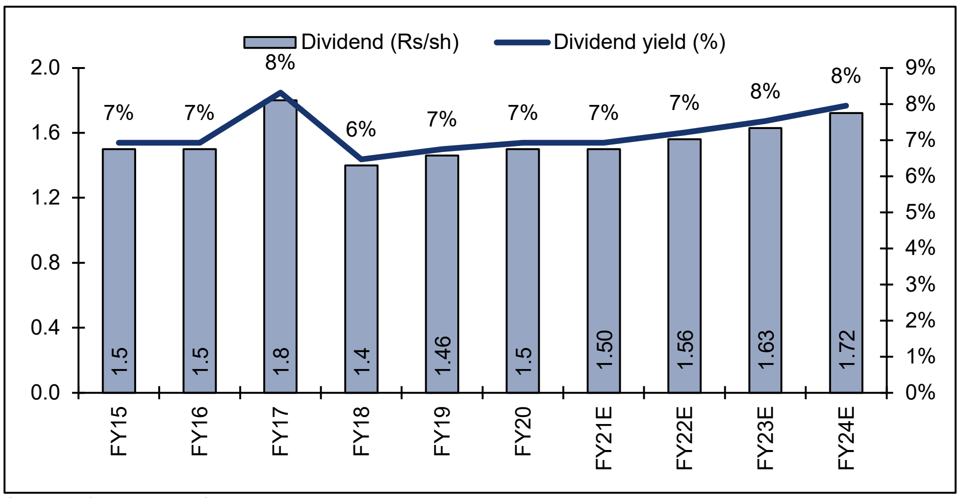
NHPC has also completed the letter of awards to developers for **2GW grid connected ISTS solar PV projects**. PPA and PSA have been signed for the entire capacity (PSA for 1,680MW at tariff of Rs2.55/unit and for 320MW at tariff of Rs2.56/unit for 25years). NHPC will earn **trading margins of Rs0.07/unit** during the period.

High dividend yield and attractive valuations; RoE to improve

High dividend yield

Being a PSU, NHPC follows the dividend policy as mandated by the government of India in which it has to payout higher of 5% of net worth or 30% of PAT for the year as annual dividends. In NHPC's case, currently 5% of net worth is higher at ~Rs15bn, and it is committed to payout the same. This translates to Rs1.5/sh. From FY24, with a PAT of ~45bn, post Rs15bn dividend and Rs11bn debt repayment, the company is left with Rs19bn which it aims to deploy as equity capex (at 30% equity capex requirement, company can easily do Rs60-70bn capex annually). The company intends to keep minimum cash balance (Rs20-25bn) going forward.

Chart 15: NHPC to remain a consistent dividend payer



Source: Company, I-Sec research

At CMP of Rs22/share, the stock is trading at 6.2 P/E and 0.6 P/B of FY23E basis. Its dividend yield is >7%. We value the stock on DCF basis and initiate with a **BUY** rating at a target price of Rs34.

Table 7: Valuation based on DCF

Component	Value (Rs mn)
Standalone core business NPV	325,429
NHDC stake (JV, 51%)	15,000
Cash	5,000
Total	**345,429**
Per share	**34**

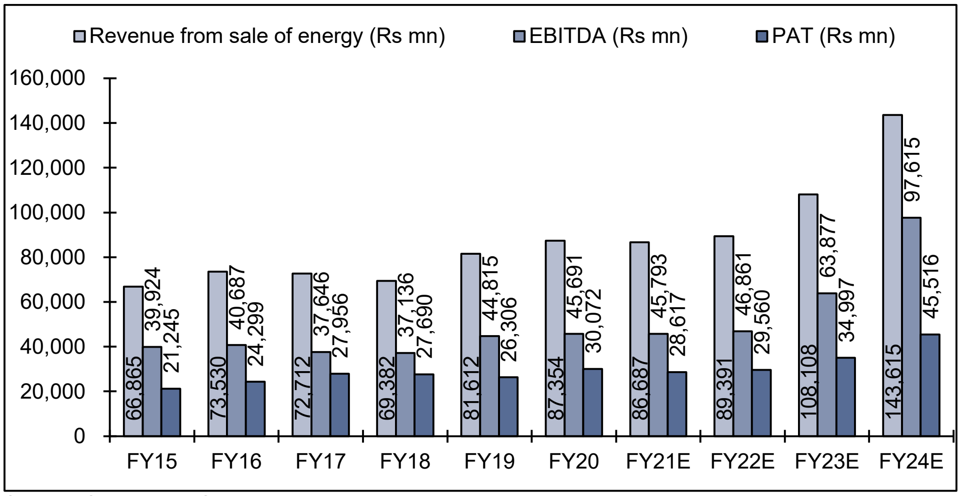
Source: I-Sec research

Risk to our thesis

- Delay in project commissioning
- Disallowance of project capex leading to lower profit
- Any adverse regulatory changes lowering regulated RoE by CERC in 2024-29 regulations

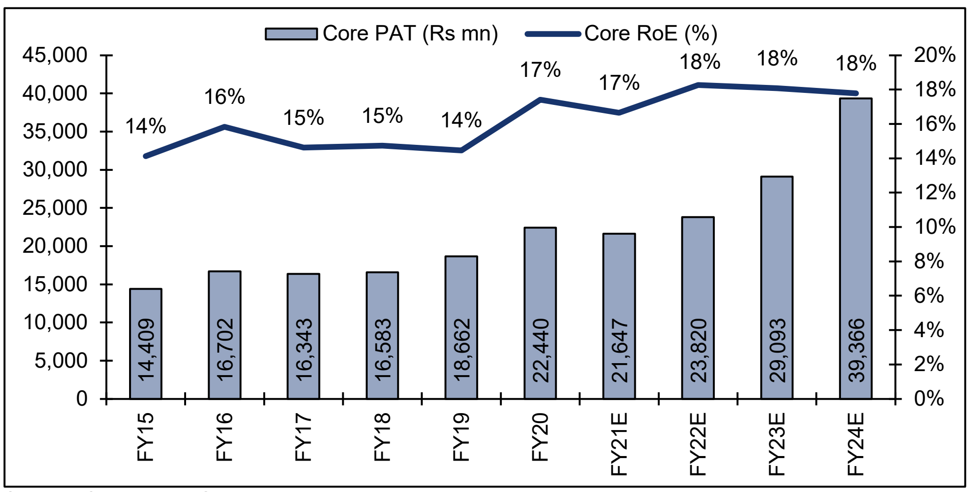
Key financial trends

Chart 16: Revenue, EBITDA and EBITDA margin



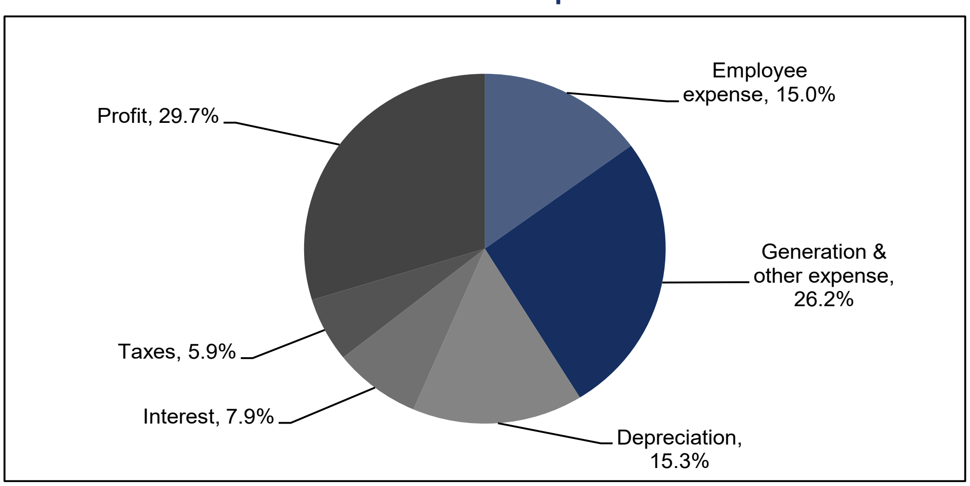
Source: Company, I-Sec research

Chart 17: Core PAT and core RoE are improving YoY



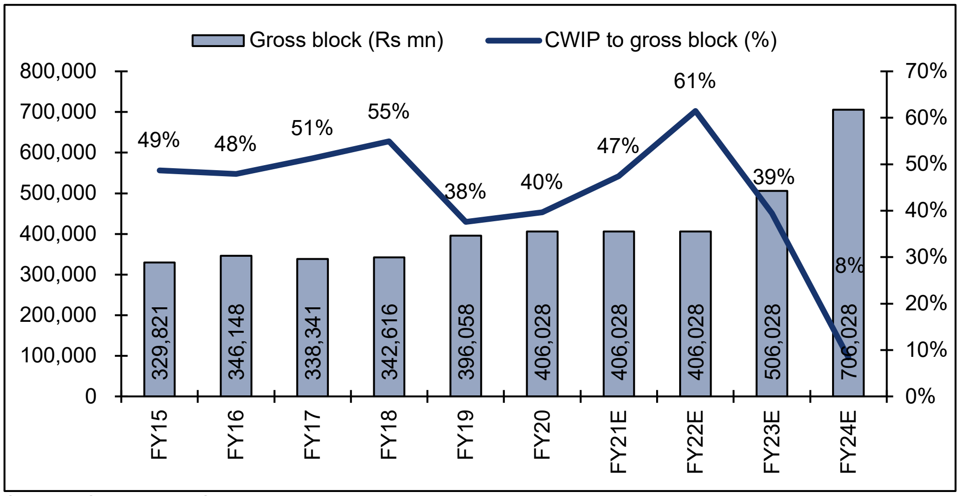
Source: Company, I-Sec research

Chart 18: FY20 income statement break-up



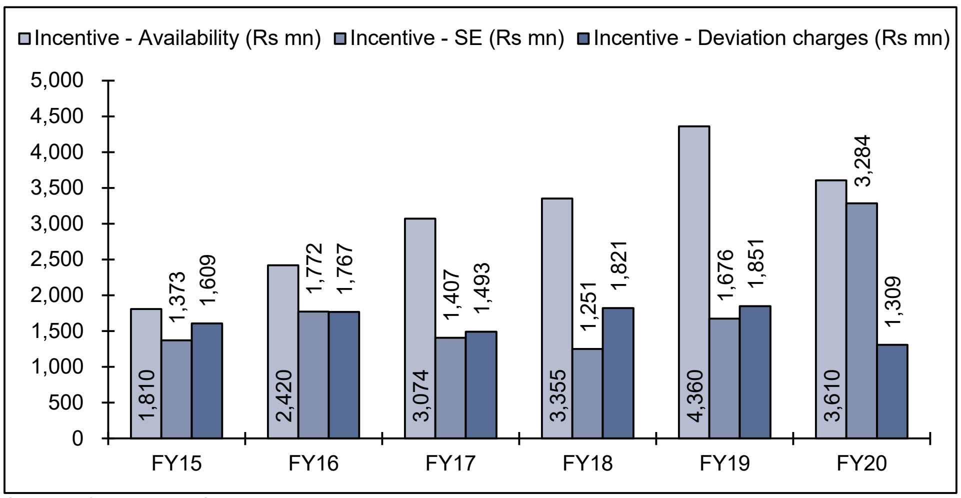
Source: Company, I-Sec research

Chart 19: Gross block and CWIP to gross block



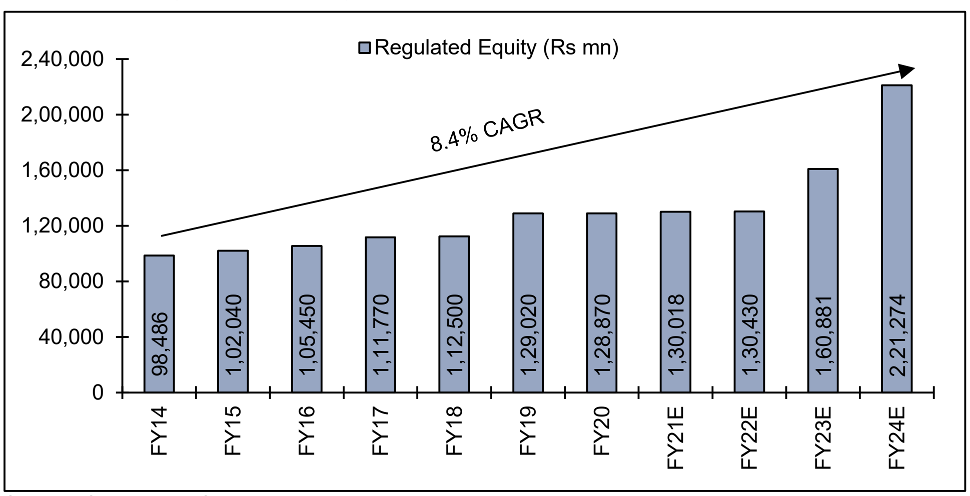
Source: Company, I-Sec research

Chart 20: Incentives



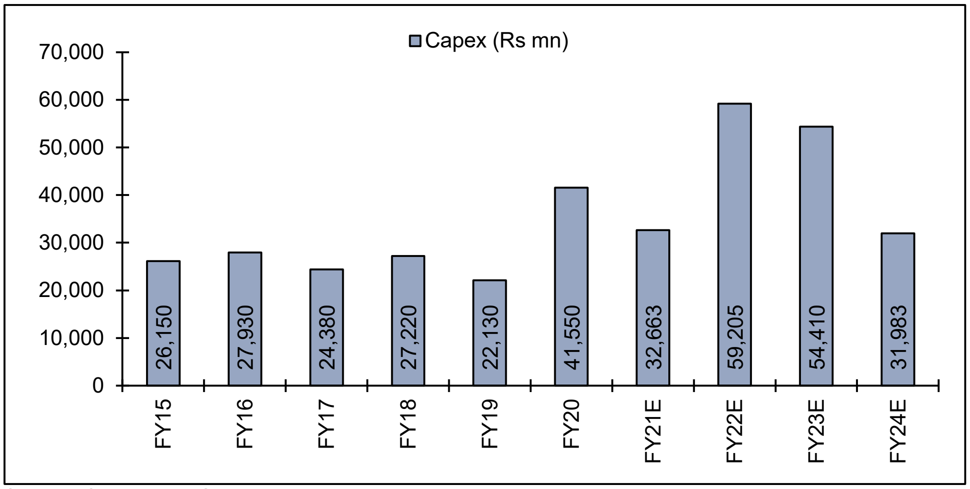
Source: Company, I-Sec research

Chart 21: Regulated equity



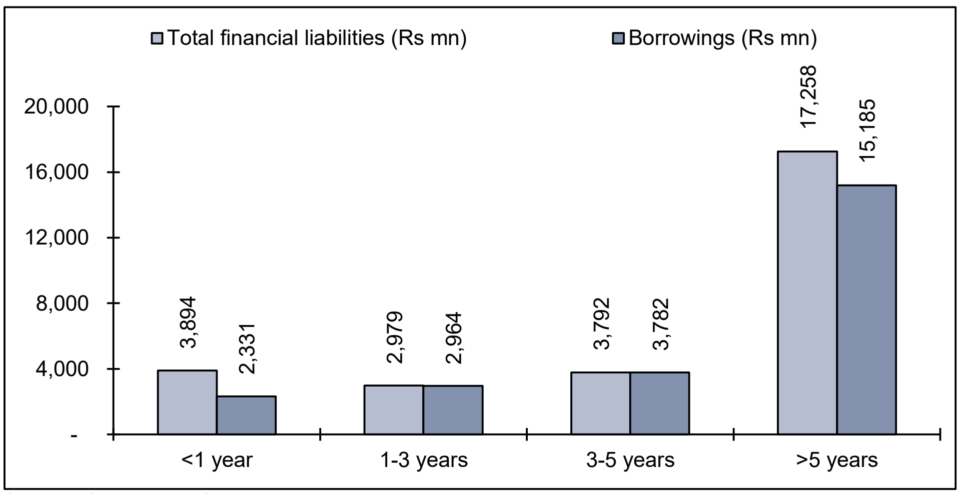
Source: Company, I-Sec research

Chart 22: Capex



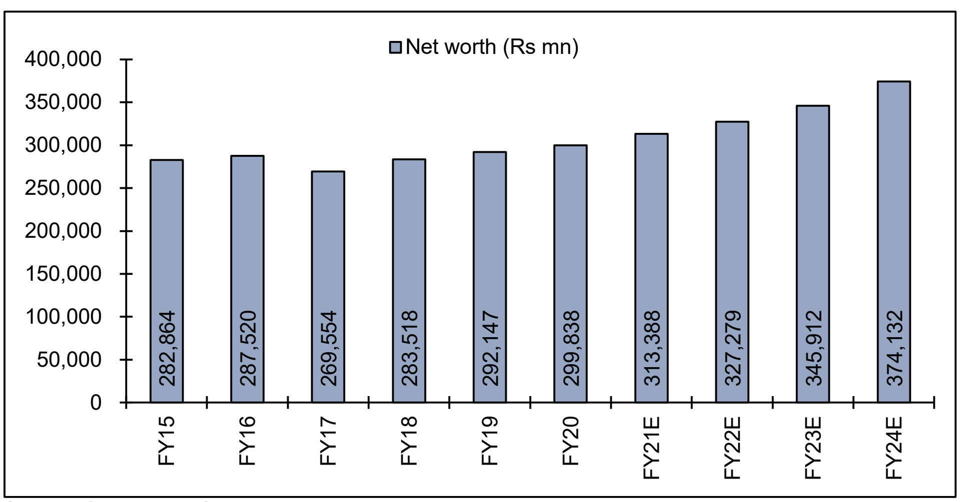
Source: Company, I-Sec research

Chart 23: Debt profile



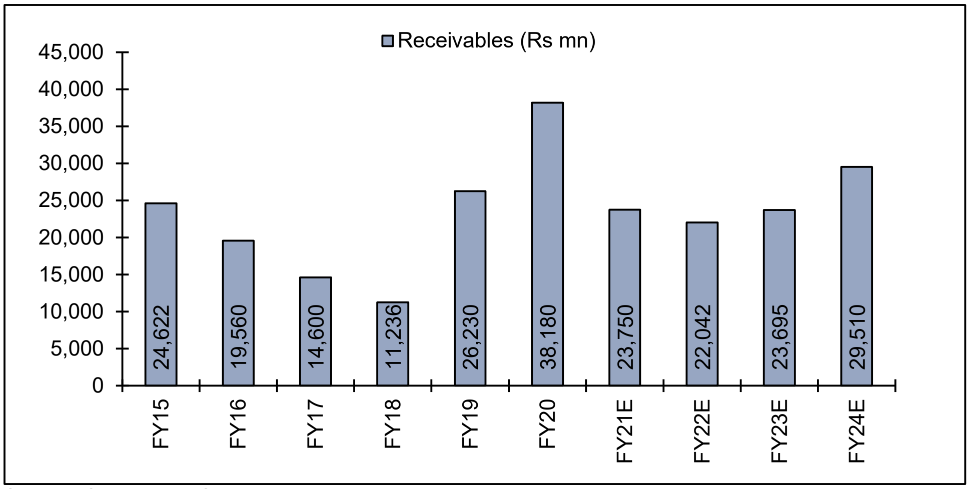
Source: Company, I-Sec research

Chart 24: Net worth



Source: Company, I-Sec research

Chart 25: Receivables



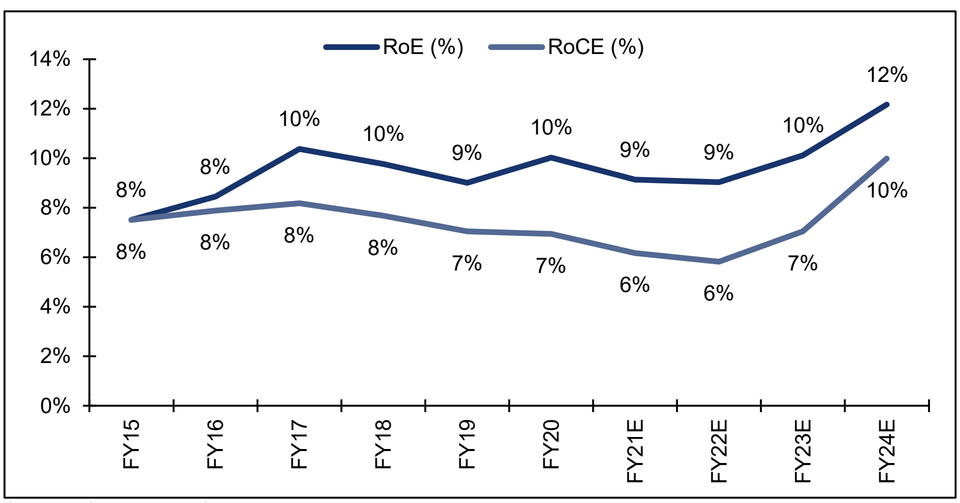
Source: Company, I-Sec research

Table 8: NHPC receivables – top 5 discoms' over the past three years

S. No.	FY18 Discom	FY18 Amount (Rs mn)	FY19 Discom	FY19 Amount (Rs mn)	FY20 Discom	FY20 Amount (Rs mn)
Total receivables						
1	PDD, J&K	6,245	PDD, J&K	9,770	PDD, J&K	14,500
2	BYPL, Delhi	1,799	UPPCL, UP	7,800	UPPCL, UP	12,800
3	UPPCL, UP	879	BYPL, Delhi	2,410	JDVNL, Raj	1,570
4	WBSEDCL, WB	782	PSPCL, Punjab	1,880	PSPCL, Punjab	1,350
5	PSPCL, Punjab	491	WBSEDCL, WB	1,070	WBSEDCL, WB	1,260
Receivables >45/60 days						
1	PDD, J&K	5,419	PDD, J&K	6,840	PDD, J&K	13,890
2	BYPL, Delhi	1,799	UPPCL, UP	5,730	UPPCL, UP	12,260
3	MeCL, Meghalaya	123	BYPL, Delhi	2,150	JDVNL, Raj	1,430
4	JDVNL, Raj	87	PSPCL, Punjab	340	PSPCL, Punjab	980
5					WBSEDCL, WB	890

Source: Company, I-Sec research

Chart 26: RoE, RoCE

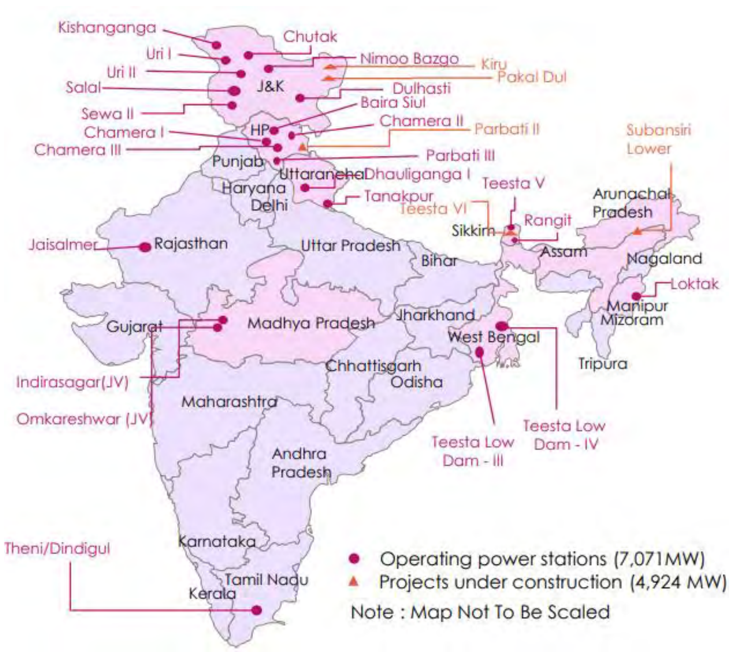


Source: Company, I-Sec research

Company brief and history

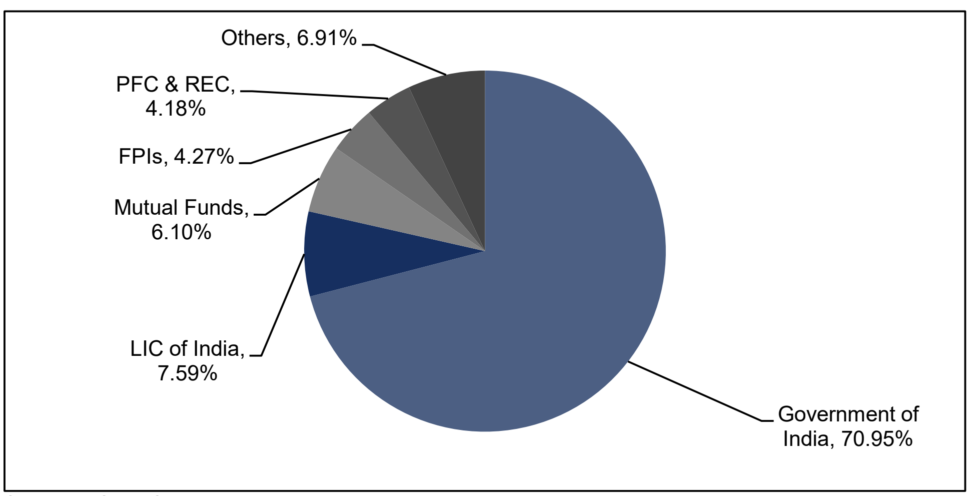
Incorporated in 1975, NHPC Ltd is a Mini Ratna-I PSU, with majority shareholding by government of India (70.95%). The company has 24 operational projects – 20 hydro projects totaling 5,451MW, one solar PV (50MW) and one wind (50MW) under the standalone entity, and two projects through NHDC Ltd (JV with the government of Madhya Pradesh). The installed capacity of the projects range from 44MW Chutak HEP to the ongoing 2,000MW Lower Subansiri HEP. The company has pan-India presence. Further, it has 4,924MW of projects under construction (5 projects), 7,221MW under clearance (9 projects) and 2,080MW under pipeline (2 projects) – all hydro power projects. On renewables front, the company is planning to install over 2GW in the next few years. It has also diversified successfully into power trading.

Chart 27: Overview of plant locations



Source: Company

Chart 28: Shareholding profile (Sep'20-end)



Source: BSE, I-Sec research

Table 9: Overview of operational assets - Standalone

S. No.	Project name	State/UT	No. of units	Installed capacity (MW)	Design Energy (MU)	Commissioning year	Capital cost (FY19-end Rs mn)	Tariff (FY19) (Rs/kWh)	Project Type
1	Baira Siul	HP	3	180	779	Sep-81	2,049	2.04	RoR with small pondage
2	Loktak	Manipur	3	105	448	May-83	1,954	3.86	Storage
3	Salal	J&K	6	690	3,082	Nov-87	10,501	2.34	RoR
4	Tanakpur	Uttarakhand	3	94	452	Apr-92	4,213	3.30	RoR
5	Chamera-I	HP	3	540	1,665	Apr-94	20,919	2.28	Storage
6	Uri-I	J&K	4	480	2,587	Apr-97	34,425	2.10	RoR
7	Rangit	Sikkim	3	60	339	Feb-00	5,049	3.81	RoR with pondage
8	Chamera-II	HP	3	300	1,500	Feb-04	20,186	2.01	RoR with pondage
9	Dhauliganga	Uttarakhand	4	280	1,135	Oct-05	17,691	2.43	RoR with pondage
10	Dulhasti	J&K	3	390	1,907	Mar-07	52,429	5.99	RoR with pondage
11	Teesta-V	Sikkim	3	510	2,573	Mar-08	27,967	2.33	RoR with pondage
12	Sewa-II	J&K	3	120	534	Jun-10	11,517	5.48	RoR with pondage
13	Chamera-III	HP	3	231	1,108	Jun-12	21,291	5.48	RoR with pondage
14	Chutak	J&K	4	44	213	Jan-13	9,374	8.73	RoR
15	TLDP-III	West Bengal	4	132	594	Mar-13	19,315	4.75	RoR with pondage
16	Nimoo Bazgo	J&K	3	45	239	Jan-13	10,720	10.03	RoR with pondage
17	Uri-II	J&K	4	240	1,124	Feb-14	23,314	5.14	RoR
18	Parbati-III	HP	4	520	1,963	May-14	27,221	3.08	RoR with pondage
19	TLDP-IV	West Bengal	4	160	720	Aug-16	18,230	2.89	RoR with small pondage
20	Kishanganga	J&K	3	330	1,713	Mar-18	58,127	4.10	RoR with pondage
	Total			**5,451**	**24,674**		**396,488**	**3.34**	
RE (standalone)									
1	Wind	Jaisalmer, Rajasthan		50	94	2016	3,304	3.67	
2	Solar	Theni/ Dindigul, TN		50	106	2018	2,906	4.41	
	Total			**100**	**200**		**6,210**		
Standalone total				**5,551**	**24,874**		**402,698**	**3.35**	

Source: Company, I-Sec research

Table 10: Overview of operational assets - Subsidiary

S. No.	Project name	State/UT	No. of units	Installed capacity (MW)	Design Energy (MU)	Commissioning year	Capital cost (FY19-end; Rs mn)	Tariff (FY19) (Rs/kWh)	Project Type
1	Indrasagar	MP	8	1,000	1,443	2005	48,651	3.71	Storage
2	Omkareshwar	MP	8	520	677	2007	31,527	5.96	Storage
	Total			**1,520**	**2,120**		**80,178**		

Source: Company, I-Sec research

Table 11: Overview of under-construction assets

S. No.	Project name	State/UT	No. of units	Installed capacity (MW)	Design Energy (MU)	CCEA est. cost (price level; Rs mn)	Anticipated project cost	Prov. Exp (till Sep'20; Rs mn)	Expected commissioning
Standalone									
1	Subansiri Lower	Assam/ Arunachal Pradesh	8	2,000	7,422	62,853	199,924	125,171	Q2FY24
2	Parbati II	HP	4	800	3,125	39,196	98,976	84,516	Q4FY22
Subsidiary									
1	Lanco Teesta HPL	Sikkim	4	500	2,400	5,748			
JV									
1	Pakal Dul	J&K	4	1,000	3,330	81,120			Q2FY25
2	Kiru	J&K	4	624	2,272	42,880			Q2FY24
	Grand Total			**4,924**	**18,549**				

Source: Company, I-Sec research

Table 12: Overview of projects under clearance

S. No.	Project name	State/UT	No. of units	Installed capacity (MW)	Design Energy (MU)	CCEA est. cost (price level; Rs mn)
Standalone						
1	Kotli Bhel-IA	Uttarakhand	3	195	1,026	23,210
2	Teesta-IV	Sikkim	4	520	2,252	58,110
3	Dibang	Arunachal Pradesh	12	2,880	11,223	298,390
4	Tawang-I	Arunachal Pradesh	3	600	2,963	53,420
5	Tawang-II	Arunachal Pradesh	4	800	3,622	67,690
	Total			4,995	21,086	500,820
Subsidiary						
1	Loktak D/S	Manipur	2	66	334	13,290
						JV
1	Kwar	J&K	4	540	1,976	49,480
2	Ratle	J&K	5	850	3,137	52,820
3	Chamkharchhu	Bhutan		770	3,344	70,207
	Grand Total			**12,216**	**50,962**	

Source: Company, I-Sec research

Table 13: Overview of projects under pipeline

S. No.	Project name	State/UT	Installed capacity (MW)
1	Bursar	J&K	800
2	Garba Tawaghat	Uttarakhand	630
3	Dugar	Himachal Pradesh	500
4	Goriganga-II A	Uttarakhand	150
	Total		**2,080**

Source: Company, I-Sec research

Financial summary (standalone)

Table 14: Profit and loss statement

(Rs mn, year ending Mar 31)

	FY16	FY17	FY18	FY19	FY20	FY21E	FY22E	FY23E
Operating Income (Sales)	**73,530**	**72,712**	**69,382**	**81,612**	**87,354**	**86,687**	**89,391**	**108,108**
Operating Expenses	**32,843**	**35,066**	**32,246**	**36,797**	**41,663**	**40,894**	**42,530**	**44,231**
EBITDA	**40,687**	**37,646**	**37,136**	**44,815**	**45,691**	**45,793**	**46,861**	**63,877**
% margins	*55.3*	*51.8*	*53.5*	*54.9*	*52.3*	*52.8*	*52.4*	*59.1*
Depreciation & Amortisation	13,591	13,884	13,955	15,900	15,453	13,347	12,298	17,640
Gross Interest	10,721	10,732	9,223	8,949	7,954	6,047	5,514	10,757
Other Income	9,921	14,577	14,206	9,248	10,362	8,500	7,000	7,200
Recurring PBT	**26,296**	**27,606**	**28,163**	**29,214**	**32,646**	**34,899**	**36,049**	**42,679**
Add: Extraordinaries	5,509	7,140	623	8,234	3,436	-	-	-
Less: Taxes	7,506	6,790	1,096	11,142	6,010	6,282	6,489	7,682
- Current tax	*7,450*	*7,066*	*6,278*	*6,498*	*6,024*	*6,282*	*6,489*	*7,682*
- Deferred tax	*56*	*(276)*	*(5,182)*	*4,645*	*(14)*	-	-	-
Net Income (Reported)	**24,299**	**27,956**	**27,690**	**26,306**	**30,072**	**28,617**	**29,560**	**34,997**
Recurring Net Income	24,299	27,956	27,690	26,306	30,072	28,617	29,560	34,997

Source: Company data, I-Sec research

Table 15: Balance sheet

(Rs mn, year ending Mar 31)

	FY16	FY17	FY18	FY19	FY20	FY21E	FY22E	FY23E
Assets								
Total Current Assets	98,593	55,509	44,380	55,768	75,863	83,687	88,571	99,434
of which cash & cash eqv.	*58,779*	*15,331*	*14,724*	*3,906*	*3,891*	*16,648*	*27,842*	*38,989*
Total Current Liabilities & Provisions	55,384	37,017	38,048	38,178	35,952	34,000	34,000	34,000
Net Current Assets	**43,208**	**18,493**	**6,332**	**17,590**	**39,912**	**49,687**	**54,571**	**65,434**
Investments	**15,964**	**21,003**	**22,096**	**23,662**	**34,052**	**35,155**	**37,360**	**41,770**
of which								
Strategic/Group	*15,964*	*21,003*	*22,096*	*23,662*	*34,052*	*35,155*	*37,360*	*41,770*
Other Marketable	-	-	-	-	-	-	-	-
Net Fixed Assets	**394,595**	**383,406**	**388,319**	**387,455**	**393,887**	**412,100**	**456,802**	**489,162**
of which								
intangibles								
Capital Work-in-Progress	*165,757*	*173,501*	*188,140*	*148,981*	*160,977*	*192,537*	*249,537*	*199,537*
Goodwill & other long term assets	**42,510**	**90,548**	**100,881**	**129,210**	**142,333**	**142,333**	**142,333**	**142,333**
Total Assets	**496,277**	**513,450**	**517,628**	**557,916**	**610,184**	**639,275**	**691,065**	**738,698**
Liabilities								
Borrowings	183,853	192,267	186,021	190,558	232,238	247,779	285,679	314,679
Deferred Tax Liability	8,457	36,647	31,454	36,106	36,412	36,412	36,412	36,412
Equity Share Capital	110,707	102,593	102,593	100,450	100,450	100,450	100,450	100,450
Face Value per share (Rs)	*10*	*10*	*10*	*10*	*10*	*10*	*10*	*10*
Reserves & Surplus	176,813	166,961	180,925	191,697	199,388	212,938	226,828	245,461
Net Worth	**287,520**	**269,554**	**283,518**	**292,147**	**299,838**	**313,388**	**327,279**	**345,912**
Other long term liabilities	16,448	14,981	16,635	39,104	41,695	41,695	41,695	41,695
Total Liabilities	**496,277**	**513,450**	**517,628**	**557,916**	**610,184**	**639,275**	**691,065**	**738,698**

Source: Company data, I-Sec research

Table 16: Cashflow statement

(Rs mn, year ending Mar 31)

	FY16	FY17	FY18	FY19	FY20	FY21E	FY22E	FY23E
Operating Cash flow	**33,193**	**33,889**	**35,496**	**38,325**	**41,748**	**41,964**	**41,858**	**52,637**
Working Capital Changes	15,807	44,539	1,714	(3,927)	(17,014)	4,331	4,824	3,840
Capital Commitments	(20,614)	(14,964)	(15,304)	(14,925)	(27,087)	(31,560)	(57,000)	(50,000)
Free Cash Flow	**28,386**	**63,464**	**21,906**	**19,473**	**(2,353)**	**14,736**	**(10,318)**	**6,477**
Cash flow from Investing Activities	**12,621**	**663**	**7,673**	**3,275**	**(4,476)**	**7,398**	**4,795**	**2,790**
Issue of Share Capital	-	-	-	-	-	-	-	-
Buyback of shares	-	(26,259)	-	(6,062)	-	-	-	-
Inc (Dec) in Borrowings	1,038	(5,339)	(5,009)	7,008	42,527	15,541	37,900	29,000
Dividend paid	(17,347)	(29,964)	(13,785)	(11,490)	(22,375)	(15,068)	(15,669)	(16,364)
Extraordinary Items	-	-	-	-	-	-	-	-
Chg. in Cash & Bank balance	**10,087**	**(11,345)**	**(529)**	**53**	**(32)**	**16,560**	**11,194**	**11,146**

Source: Company data, I-Sec research

Table 17: Key ratios

(Year ending Mar 31)

	FY16	FY17	FY18	FY19	FY20	FY21E	FY22E	FY23E
Per Share Data (Rs)								
EPS(Basic Recurring)	2.2	2.7	2.7	2.6	3.0	2.8	2.9	3.5
Diluted Recurring EPS	2.2	2.7	2.7	2.6	3.0	2.8	2.9	3.5
Recurring Cash EPS	3.4	4.1	4.1	4.2	4.5	4.2	4.2	5.2
Dividend per share (DPS)	1.5	1.8	1.4	1.5	1.5	1.5	1.6	1.6
Book Value per share (BV)	26.0	26.3	27.6	29.1	29.8	31.2	32.6	34.4
Growth Ratios (%)								
Operating Income	8.1	(1.1)	(4.6)	17.6	7.0	(0.8)	3.1	20.9
EBITDA	1.9	(7.5)	(1.4)	20.7	2.0	0.2	2.3	36.3
Recurring Net Income	14.4	15.1	(1.0)	(5.0)	14.3	(4.8)	3.3	18.4
Diluted Recurring EPS	14.4	24.1	(1.0)	(3.0)	14.3	(4.8)	3.3	18.4
Diluted Recurring CEPS	6.7	19.2	(0.5)	3.5	7.9	(7.8)	(0.3)	25.8
Valuation Ratios (x)								
P/E	9.9	7.9	8.0	8.3	7.2	7.6	7.4	6.2
P/CEPS	6.3	5.3	5.3	5.2	4.8	5.2	5.2	4.1
P/BV	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.6
EV / EBITDA	9.0	10.6	10.6	9.0	9.8	9.8	10.1	7.7
EV / Operating Income	5.0	5.5	5.7	5.0	5.1	5.2	5.3	4.6
EV / Operating FCF	12.8	6.3	18.0	20.8	(189.5)	30.4	(46.1)	76.1
Operating Ratio								
SG&A cost / Revenue	28.9	26.6	24.3	24.0	27.7	29.0	29.2	25.1
Operating expenses / Revenue	44.7	48.2	46.5	45.1	47.7	47.2	47.6	40.9
Other Income / PBT (%)	37.7	52.8	50.4	31.7	31.7	24.4	19.4	16.9
Effective Tax Rate (%)	23.4	20.3	21.8	17.4	16.7	18.0	18.0	18.0
NWC / Total Assets (%)	(3.1)	0.6	(1.6)	2.5	5.9	5.2	3.9	3.6
Inventory Turnover (days)	9.5	9.5	10.8	11.6	10.4	10.6	10.1	9.8
Receivables (days)	100.1	74.9	57.7	117.3	159.5	140.0	110.0	90.0
Payables (days)	13.6	15.3	20.6	17.9	26.7	26.7	26.7	26.7
Net D/E Ratio (x)	0.4	0.7	0.6	0.6	0.8	0.7	0.8	0.8
Return/Profitability Ratio (%)								
Recurring Net Income Margins	33.0	38.4	39.9	32.2	34.4	33.0	33.1	32.4
RoCE	7.9	8.2	7.7	7.0	6.9	6.2	5.8	7.0
RoNW	8.5	10.4	9.8	9.0	10.0	9.1	9.0	10.1
Dividend Payout Ratio	0.7	0.7	0.5	0.6	0.5	0.5	0.5	0.5
Dividend Yield	6.9	8.3	6.5	6.7	6.9	6.9	7.2	7.5
EBITDA Margins	55.3	51.8	53.5	54.9	52.3	52.8	52.4	59.1

Source: Company data, I-Sec research

Index of Tables and Charts

Tables

Table 1: Brief profile of under-construction projects ... 7
Table 2: India's hydro potential – river basin-wise (installed capacity above 25MW) ... 11
Table 3: Overview of reservoir storage levels across regions during CY20 – storage levels across regions during the year have generally been higher than last 10 years' average storage levels ... 14
Table 4: Overview of projects under clearance ... 15
Table 5: Four more hydro projects totaling 2,080MW are under pipeline ... 15
Table 6: Overview of operational renewable assets ... 16
Table 7: Valuation based on DCF ... 18
Table 8: NHPC receivables – top 5 discoms' over the past three years ... 22
Table 9: Overview of operational assets - Standalone ... 24
Table 10: Overview of operational assets - Subsidiary ... 24
Table 11: Overview of under-construction assets ... 24
Table 12: Overview of projects under clearance ... 25
Table 13: Overview of projects under pipeline ... 25
Table 14: Profit and loss statement ... 26
Table 15: Balance sheet ... 26
Table 16: Cashflow statement ... 27
Table 17: Key ratios ... 27

Charts

Chart 1: Consolidated capacity to increase to 9,871MW by FY24E ... 3
Chart 2: Regulated equity increases to Rs221bn at 8.4% CAGR for FY14-24E ... 3
Chart 3: NHPC's generation grew at CAGR of 4% during FY11-FY20, while PAF has been consistently above 80% since FY16 ... 3
Chart 4: PAF improvement, higher water flow resulted in higher incentives ... 4
Chart 5: Core PAT and core RoE are consistently increasing on capacity addition and improved operational performance ... 4
Chart 6: CWIP to gross block to significantly decline as Parbati-II & Subansiri are commissioned ... 4
Chart 7: Revenue, EBITDA and profit trends ... 5
Chart 8: FY20 income statement break-up ... 5
Chart 9: PAT/employee is increasing as number of employees have almost halved in the past 10 years ... 5
Chart 10: PAT, core PAT and core RoE are on an increasing trajectory ... 6
Chart 11: Consolidated capacity to increase to 9.9GW by FY24E ... 8
Chart 12: Regulated equity increases to Rs221bn, at 8.4% CAGR for FY14-24E ... 8
Chart 13: NHPC has spent Rs3.8bn on CSR activities during FY15-20 ... 12
Chart 14: PAF improvement and higher water flow have resulted in higher incentives ... 13
Chart 15: NHPC to remain a consistent dividend payer ... 18
Chart 16: Revenue, EBITDA and EBITDA margin ... 19
Chart 17: Core PAT and core RoE are improving YoY ... 19
Chart 18: FY20 income statement break-up ... 19
Chart 19: Gross block and CWIP to gross block ... 20
Chart 20: Incentives ... 20
Chart 21: Regulated equity ... 20
Chart 22: Capex ... 21
Chart 23: Debt profile ... 21
Chart 24: Net worth ... 21
Chart 25: Receivables ... 22
Chart 26: RoE, RoCE ... 22
Chart 27: Overview of plant locations ... 23
Chart 28: Shareholding profile (Sep'20-end) ... 23

This report may be distributed in Singapore by ICICI Securities, Inc. (Singapore branch). Any recipients of this report in Singapore should contact ICICI Securities, Inc. (Singapore branch) in respect of any matters arising from, or in connection with, this report. The contact details of ICICI Securities, Inc. (Singapore branch) are as follows: Address: 10 Collyer Quay, #40-92, Ocean Financial Tower, Singapore - 049315, Tel: +65 6232 2451 and email: navneet_babbar@icicisecuritiesinc.com, Rishi_agrawal@icicisecuritiesinc.com.

"In case of eligible investors based in Japan, charges for brokerage services on execution of transactions do not in substance constitute charge for research reports and no charges are levied for providing research reports to such investors."

New I-Sec investment ratings (all ratings based on absolute return; All ratings and target price refers to 12-month performance horizon, unless mentioned otherwise)
BUY: >15% return; ADD: 5% to 15% return; HOLD: Negative 5% to Positive 5% return; REDUCE: Negative 5% to Negative 15% return; SELL: < negative 15% return

ANALYST CERTIFICATION
I/We, *Rahul Modi, Masters in Finance; Anshuman Ashit, BE, PGDM;* authors and the names subscribed to this report, hereby certify that all of the views expressed in this research report accurately reflect our views about the subject issuer(s) or securities. We also certify that no part of our compensation was, is, or will be directly or indirectly related to the specific recommendation(s) or view(s) in this report. Analysts are not registered as research analysts by FINRA and are not associated persons of the ICICI Securities Inc. It is also confirmed that above mentioned Analysts of this report have not received any compensation from the companies mentioned in the report in the preceding twelve months and do not serve as an officer, director or employee of the companies mentioned in the report.

Terms & conditions and other disclosures:
ICICI Securities Limited (ICICI Securities) is a full-service, integrated investment banking and is, inter alia, engaged in the business of stock brokering and distribution of financial products. ICICI Securities Limited is a SEBI registered Research Analyst with SEBI Registration Number – INH000000990. ICICI Securities Limited SEBI Registration is INZ000183631 for stock broker. ICICI Securities is a subsidiary of ICICI Bank which is India's largest private sector bank and has its various subsidiaries engaged in businesses of housing finance, asset management, life insurance, general insurance, venture capital fund management, etc. ("associates"), the details in respect of which are available on www.icicibank.com.

ICICI Securities is one of the leading merchant bankers/ underwriters of securities and participate in virtually all securities trading markets in India. We and our associates might have investment banking and other business relationship with a significant percentage of companies covered by our Investment Research Department. ICICI Securities generally prohibits its analysts, persons reporting to analysts and their relatives from maintaining a financial interest in the securities or derivatives of any companies that the analysts cover.

Recommendation in reports based on technical and derivative analysis centre on studying charts of a stock's price movement, outstanding positions, trading volume etc as opposed to focusing on a company's fundamentals and, as such, may not match with the recommendation in fundamental reports. Investors may visit icicidirect.com to view the Fundamental and Technical Research Reports.

Our proprietary trading and investment businesses may make investment decisions that are inconsistent with the recommendations expressed herein.

ICICI Securities Limited has two independent equity research groups: Institutional Research and Retail Research. This report has been prepared by the Institutional Research. The views and opinions expressed in this document may or may not match or may be contrary with the views, estimates, rating, target price of the Retail Research.

The information and opinions in this report have been prepared by ICICI Securities and are subject to change without any notice. The report and information contained herein is strictly confidential and meant solely for the selected recipient and may not be altered in any way, transmitted to, copied or distributed, in part or in whole, to any other person or to the media or reproduced in any form, without prior written consent of ICICI Securities. While we would endeavour to update the information herein on a reasonable basis, ICICI Securities is under no obligation to update or keep the information current. Also, there may be regulatory, compliance or other reasons that may prevent ICICI Securities from doing so. Non-rated securities indicate that rating on a particular security has been suspended temporarily and such suspension is in compliance with applicable regulations and/or ICICI Securities policies, in circumstances where ICICI Securities might be acting in an advisory capacity to this company, or in certain other circumstances.

This report is based on information obtained from public sources and sources believed to be reliable, but no independent verification has been made nor is its accuracy or completeness guaranteed. This report and information herein is solely for informational purpose and shall not be used or considered as an offer document or solicitation of offer to buy or sell or subscribe for securities or other financial instruments. Though disseminated to all the customers simultaneously, not all customers may receive this report at the same time. ICICI Securities will not treat recipients as customers by virtue of their receiving this report. Nothing in this report constitutes investment, legal, accounting and tax advice or a representation that any investment or strategy is suitable or appropriate to your specific circumstances. The securities discussed and opinions expressed in this report may not be suitable for all investors, who must make their own investment decisions, based on their own investment objectives, financial positions and needs of specific recipient. This may not be taken in substitution for the exercise of independent judgment by any recipient. The recipient should independently evaluate the investment risks. The value and return on investment may vary because of changes in interest rates, foreign exchange rates or any other reason. ICICI Securities accepts no liabilities whatsoever for any loss or damage of any kind arising out of the use of this report. Past performance is not necessarily a guide to future performance. Investors are advised to see Risk Disclosure Document to understand the risks associated before investing in the securities markets. Actual results may differ materially from those set forth in projections. Forward-looking statements are not predictions and may be subject to change without notice.

ICICI Securities or its associates might have managed or co-managed public offering of securities for the subject company or might have been mandated by the subject company for any other assignment in the past twelve months.

ICICI Securities or its associates might have received any compensation from the companies mentioned in the report during the period preceding twelve months from the date of this report for services in respect of managing or co-managing public offerings, corporate finance, investment banking or merchant banking, brokerage services or other advisory service in a merger or specific transaction.

ICICI Securities or its associates might have received any compensation for products or services other than investment banking or merchant banking or brokerage services from the companies mentioned in the report in the past twelve months.

ICICI Securities encourages independence in research report preparation and strives to minimize conflict in preparation of research report. ICICI Securities or its associates or its analysts did not receive any compensation or other benefits from the companies mentioned in the report or third party in connection with preparation of the research report. Accordingly, neither ICICI Securities nor Research Analysts and their relatives have any material conflict of interest at the time of publication of this report.

Compensation of our Research Analysts is not based on any specific merchant banking, investment banking or brokerage service transactions.

ICICI Securities or its subsidiaries collectively or Research Analysts or their relatives do not own 1% or more of the equity securities of the Company mentioned in the report as of the last day of the month preceding the publication of the research report.

Since associates of ICICI Securities are engaged in various financial service businesses, they might have financial interests or beneficial ownership in various companies including the subject company/companies mentioned in this report.

ICICI Securities may have issued other reports that are inconsistent with and reach different conclusion from the information presented in this report.

Neither the Research Analysts nor ICICI Securities have been engaged in market making activity for the companies mentioned in the report.

We submit that no material disciplinary action has been taken on ICICI Securities by any Regulatory Authority impacting Equity Research Analysis activities.

This report is not directed or intended for distribution to, or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction, where such distribution, publication, availability or use would be contrary to law, regulation or which would subject ICICI Securities and affiliates to any registration or licensing requirement within such jurisdiction. The securities described herein may or may not be eligible for sale in all jurisdictions or to certain category of investors. Persons in whose possession this document may come are required to inform themselves of and to observe such restriction.

This report has not been prepared by ICICI Securities, Inc. However, ICICI Securities, Inc. has reviewed the report and, in so far as it includes current or historical information, it is believed to be reliable, although its accuracy and completeness cannot be guaranteed.