



**ONGC News as on 27 December 2023 (Print)**

## Metals, energy stocks power gains in Indian benchmarks

Reuters  
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BENGALURU

Indian benchmarks settled higher on Tuesday lifted by gains in energy and metal companies, with rising expectations of interest rate cuts in the US boosting global markets. The benchmark NSE Nifty 50 index gained 0.43% to 21,441.35 points, while the S&P BSE Sensex settled 0.32% higher at 71,336.80 points. Both indices had fallen nearly 1% from their peaks hit last week.

Metals and energy stocks gained over 1%, each, while public sector enterprise rose 2%.



Ten out of the 13 key sectoral indices appreciated. REUTERS

"The rise in metals can be attributed to the cooling in US dollar index, which is leading to buying interest in metal stocks globally," said Siddhartha Khemka, head of retail research at Motilal Oswal

Financial Services. A cooling US inflation bolstered bets the Federal Reserve would cut interest rates early next year, helping global stocks.

Ten out of the 13 major sectoral indexes appreciated, while 0.65% gains in more domestically-focused mid-caps outperformed the blue-chips and small-caps remained largely flat.

Oil India and Oil & Natural Gas Corp rose 2.3% and 1.8%, respectively with crude oil prices jumping 3%. Among individual stocks, Infosys fell 1.2% and led the fall in IT stocks. The IT index declined 0.41%. Divi's Laboratories and Hero MotoCorp led gains on Nifty 50 index.

## Day trading guide

### 21499 » Nifty 50 Futures

S1	S2	R1	R2	COMMENT
21460	21350	21575	21680	Go long above 21500; place a stop-loss at 21440.

### ₹1683 » HDFC Bank

S1	S2	R1	R2	COMMENT
1670	1650	1690	1720	Buy when the stock rallies above 1690; stop-loss at 1670.

### ₹1544 » Infosys

S1	S2	R1	R2	COMMENT
1525	1500	1550	1580	Wait for now and buy on a dip to 1525; stop-loss at 1500.

### ₹456 » ITC

S1	S2	R1	R2	COMMENT
450	445	458	462	Initiate fresh longs at the current level; stop-loss at 448.

### ₹207 » ONGC

S1	S2	R1	R2	COMMENT
205	202	210	215	Go long when the stock dips to 205; stop-loss at 200.

### ₹2577 » Reliance Ind.

S1	S2	R1	R2	COMMENT
2550	2520	2600	2650	Initiate fresh buys after breakout of 2600; stop-loss at 2550.

### ₹637 » SBI

S1	S2	R1	R2	COMMENT
630	620	650	660	Buy at the current level and on a dip to 630; stop-loss at 620.

### ₹3794 » TCS

S1	S2	R1	R2	COMMENT
3750	3700	3800	3880	Go long now on this stock with a stop-loss at 3740.

S1, S2: Support 1 & 2; R1, R2: Resistance 1 & 2.

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# Ashwini-Tanisha set to realise Oly dream

Ashim.Sunam @timesgroup.com

**Bengaluru:** Ashwini Ponnappa went without a women's doubles title last year with Sikki Reddy but 2023 has proved to be a year of resurgence after she forged a new partnership with Tanisha Crasto.

Ever since the two shuttlers came together in January, they have clinched three titles and two runners-up finishes. Though these performances might have come in Super 300 and other lower-ranked events, they have helped the Karnataka-Goa pair bag important points and rise to the 21st place in the Race to Paris rankings.

More importantly, Ashwini and Tanisha have gained in confidence as they enter the final stretch of the Olympic qualification cycle, which ends on April 28. With multiple Chinese, Japanese and players of other nationalities figuring above them, the Indians are 14<sup>th</sup> in the qualifying list and in the running for a Paris Olympics berth, giving Ashwini, who missed the Tokyo 2020 bus, a good opportunity to play her third Olympics. Only 16 pairs make it to the quadrennial event.

The bigger test lies ahead for the In-

dians, who will have to maintain consistency and up their game in the first quarter of 2024. The competition is expected to be top-notch in the first two tournaments which Ashwini-Tanisha will play — Malaysia Open (Super 1000, Jan 9-14) and India Open (Super 750, Jan 16-21). They will also compete in Thailand Masters (Super 300, Jan 30-Feb 4).

"It has been good that we have had a couple of good tournaments (one title and two runners-up finishes in December). Our focus will be to continue that, keep on improving and do well in future tournaments. And we believe if we do that, we will have a good shot at making the Olympics," said Ashwini, who is representing ONGC Limited at the Inter Unit PSPB badminton tournament here.

"It is also nice to see that the work we are putting in is translated into wins. It is motivating and a huge confidence booster to know that we are going in the right direction. It is important to focus on getting victories and playing a higher level of badminton. We will be taking it one tournament at a time," added Ashwini, who formed a strong pair with Jwala Gutta in the past, helping the duo win gold at the 2010 Commonwe-



Ashwini Ponnappa (right) and Tanisha Crasto

alth Games in Delhi.

But, the new partnership, despite the age gap, is showing signs of promise. With Ashwini, 34 and Tanisha, 20, the latter does not show much signs of inexperience on the court. The former, who has been on the circuit for more than a decade, brings on her experience to stay calm during important points. With Tanisha's solid net game and Ashwini known for powerful smashes from the baseline, this combination has struck paydirt.

"With Tanisha being an explosive player at the net, it complements my game style. We can rotate well as partners, which is a huge boost too. Tanisha is expressive on court, that is nice. The good thing about Tanisha is that she is a fast learner. On the court, staying calm is important for me because Tanisha has got a lot of energy," said Ashwini.



IOC is the only state refiner that has an annual deal to buy a variety of Russian grades. [MINT](#)

## Payment woes delay supply of Russian oil to India

Reuters  
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NEW DELHI

**S**hipments of Russian Sokol crude oil to Indian Oil Corp (IOC) have been delayed by payment problems, forcing India's biggest refiner to draw from its inventories and buy more oil from the Middle East, two people familiar with the matter said.

IOC is the only state refiner that has an annual deal to buy a variety of Russian grades, including Sokol, from Russian oil major Rosneft. Sokol oil is supplied to IOC by Sakhalin-1 LLC, a unit of Rosneft, people said.

Indian state refiners settle oil trade with Russia in United Arab Emirates dirhams after the government advised them against use of the Chinese yuan, though private refiners are still paying in yuan owing to a lack of alternatives.

IOC's payments for Sokol oil have been hampered because Sakhalin-1 LLC has been unable to open an account with a bank in the UAE to accept dirham payments, said the sources, who declined to be identified because they are not authorised to speak to the media.

Representatives of IOC and Rosneft did not immediately respond to requests for comment.

IOC was supposed to receive six Sokol cargoes from late November to December, shipping data showed. This included NS Century, which was placed under US sanctions last month.

These cargoes are now mostly floating around India and Sri Lanka while NS Century is heading towards Singapore, the data shows.

"The supplier has an intent to deliver crude oil. Hopefully a solution will be found soon," one of the person said.

India's oil ministry has told a parliamentary panel that state oil companies face challenges in paying for Russian oil because not all Indian banks can process payments in US dollars for Russian oil, according to a report tabled in parliament last week.

Indian refiners buy Russian oil on a delivered basis.

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## BEL hits 52-week high, joins top 50 mcap club

DEEPAK KORGAONKAR  
Mumbai, 26 December

Shares of public sector enterprise Bharat Electronics (BEL) surged to a 52-week high of ₹184.5 apiece on Tuesday after it received plum orders worth ₹678 crore.

The government-owned aerospace and defence electronics company finally closed at ₹181.95 on the BSE, an impressive 4.1 per cent increase.

The stock had a trading volume of 3.78 million shares on the BSE.

With the above orders, BEL has cumulatively received orders to the tune of ₹26,613 crore in this financial year. With Tuesday's gains, BEL stock is up over 83 per cent in the past year and has joined the top 50 most-valued listed companies in terms of market capitalisation (mcap). With ₹1.33 trillion, BEL is the 49th largest company in terms of mcap, according to BSE data, ahead of Hindustan Zinc, Hindalco, Power Finance, IRFC, Britannia, Tech Mahindra and IndusInd Bank.

Reliance Industries tops the list with a mcap of ₹17.43 trillion.

Out of the orders that BEL bagged on Tuesday, the company signed a contract valued at ₹445 crore with the Uttar Pradesh government for the next generation UP Dial 112 project.

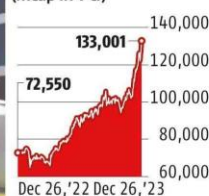
The remaining ₹233 crore worth of orders pertains to Communication Display Units, Thermal Imaging cameras and other miscellaneous spares and services. The company said this will have the participation of electronics and associated industries including MSMEs, which are sub-vendors of BEL. The equipment manufactured by BEL is part of the 'Atmanirbhar Bharat' programme. The company has also received additional orders worth ₹86.15 crore on miscellaneous spares and services.

The order pipeline remains strong in defence, non-defence and exports, ICICI Securities said in a note.



### IN ELITE COMPANY

Bharat Electronics  
(mcap in ₹ cr)



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## EV sales on road to 1.5 mn in 2023 despite subsidy cut

### ON FULL CHARGE

Category	2022			2023		
	Vehicles registered	EVs registered	EV penetration (%)	Vehicles registered	EVs registered	EV penetration (%)
Two-wheelers	15,601,853	631,475	4.0	16,854,118	838,618	5.0
Three-wheelers	677,475	350,238	51.7	1,060,291	570,299	53.8
Passenger cars	3,337,547	33,207	1.0	3,524,860	70,603	2.0
Buses	42,591	1,961	4.6	73,481	2,441	3.3
Overall	21,570,396	1,025,118	4.8	23,598,248	1,494,447	6.3

Doesn't include data from Telangana and Lakshadweep; Overall registrations include data of other categories of vehicles, too

Source: VAHAN

**NITIN KUMAR**  
New Delhi, 26 December

Electric vehicle (EV) sales this year have witnessed a robust increase of over 45 per cent so far, notwithstanding the subsidy cuts and regulatory shifts. Total EV registration figure in

2023 is just shy of 1.5 million units, significantly higher than last year's score of a little over 1 million.

All this has pushed the overall EV penetration in the country beyond 5 per cent – to 6.3 per cent against 4.8 per



cent in 2022.

This year was marked by a reduction in subsidies for electric two-wheelers (e2Ws), a category that makes up around 55 per cent of total EV sales.

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## EV sales...

Industry experts attribute the sales surge this year to a shift in consumer interest towards more environmentally friendly vehicles. This change has also been influenced by a flurry of product launches by startups in the two- and three-wheeler (e3W) segments, coupled with an increased availability of vehicles in the four-wheeler category.

Government incentives have also played a pivotal role in propelling this growth, they noted.

"The confidence of customers in the e2W and e3W categories has been bolstered not only by startups but also by established players in the internal combustion engine (ICE) space introducing new products. Government subsidies, improved financing options, and the increase in battery swapping facilities have further facilitated the expansion of the industry," said Preetesh Singh, specialist CASE and alternate powertrains, NRI Consulting & Solutions.

The e3W category led the charge in market penetration, topping the 53 per cent mark, up from 51 per cent last year.

"In 2023, the EV market, especially the three-wheeler segment, transitioned from concept to reality," said Ayush Lohia, CEO, Lohia Auto, an e3W manufacturer.

Though passenger cars exhibited the lowest penetration across

all categories, their penetration doubled this year to 2 per cent. In the two-wheeler category, penetration increased this year to 5 per cent versus 4 per cent last year.

The bus segment, on the other hand, struggled; its penetration stood at 3.3 per cent this year against 4.6 per cent last year.

Despite the overall increase in penetration, industry players argued the uptick was not deemed significant due to the

government's decision in June to reduce subsidies.

"The sales of EVs could have reached the two million mark this year had the government not reduced the subsidy for e2Ws. The subsidy cut set the industry back by at least one year," said an industry player.

However, government officials contended that the subsidy cut was essential as it could not be sustained indefinitely.



## Thermax to commercialise coal gasification technology

GEETA NAIR  
Pune, December 26

WITH AN AIM to commercialise coal gasification technology, energy and environment solutions provider Thermax is targeting to build its first commercial-scale coal gasification plant in the range of 100 to 500 tonne per day (TPD). The company has developed its coal gasification technology and built a pilot-scale plant in Pune to showcase it.

Experts said that the new gasification method is appropriate for high-ash (30-50% ash) Indian coal. The current global gasification methods have limitations and they are not fit for use with high-ash coal and are not a technically viable answer for the Indian sector. The technology will require an investment of around ₹20,000 crore.

It is positioned as an option for hard-to-abate sectors such as steel, and it will help in the transition to low-carbon steel production. A move from imported coking coal to syn-gas-based steelmaking would

dramatically reduce reliance on coking coal and lower steel production costs. Thermax was in talks with several industrial customers in the steel industry who were interested in implementing this in-house solution.

Meher Pudumjee, chairperson, Thermax, said: "India has a lot of coal, but with climate change, the challenge was what to do with it, and coal gasification was an

answer. As a result of climate change, they were looking for ways to really use coal and convert it into something productive that would not harm the environment."

However, the technology absorbs and concentrates CO<sub>2</sub>. The company was considering producing chemicals from high-ash coals such as methanol, ethanol, hydrogen, dimethyl ether, olefins, and other value-added chemicals.

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**JSW RENEW ENERGY  
COMMISSIONS 51MW  
CAPACITY IN TN**



JSW RENEW Energy has commissioned the first phase of 51 MW capacity of its 810 MW wind energy project in Tamil Nadu, the company said in a statement on Tuesday. The project has a power purchase agreement with Solar Energy Corporation of India (Seci) for 25 years, the statement said.

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## Koteshwar Dam has a hydraulic head of 246 ft



### KOTESHWAR DAM

The Koteshwar Dam is a gravity dam on the Bhagirathi River in Tehri District, Uttarakhand, India, approximately 22 kilometres (14 miles) downstream of the Tehri Dam. The dam is part of the Tehri Hydropower Complex and serves to manage the tailrace of the Tehri Dam for irrigation as well as to produce the lower reservoir of the Tehri Pumped Storage Power Station. The dam also features a 400 MW (4x100 MW) run-of-the-river power facility. The project was approved in 2000, and the first generator was turned on on March 27, 2011, followed by the second on March 30, 2011. Floods devastated the building site in September 2010. The diversion tunnel was later closed due to hill heaving/collapse in December 2010. The spillway was officially opened in January 2011.

### TECHNICAL DETAILS

The dam stands 97.5 metres (320 feet) tall and 300 metres (984 feet) long. Its structural vol-

ume is 560,000 m<sup>3</sup> (732,452 cu yd), and its peak is 618.5 m (2,029 ft) above sea level. The spillway of the dam is made up of four 18 m (59 ft) wide and 16 m (52 ft) tall radial gates. The spillway has a discharge capacity of 13,240 m<sup>3</sup>/s (467,566 cu ft/s) when the reservoir is at flood level. Receiving water from Tehri Dam and collecting it from an overall catchment area of 7,691 km<sup>2</sup> (2,970 sq mi), the dam forms a reservoir with a capacity of 88,900,000 m<sup>3</sup> (72,072 acre ft), of which 35,000,000 m<sup>3</sup> (28,375 acre ft) is active (or 'useful').

The reservoir has a surface size of 29 km<sup>2</sup> (11 sq mi) and an elevation of 612.5 m (2,010 ft) at full pool. The dam's power station is a run-of-the-river type that uses the reservoir's active storage to pull the lake down 30 metres (98 feet) from a full pool. The power station, which is located on the right bank of the river below the dam, has four 100 MW Francis turbine-generators. The dam's height provides for a maximum hydraulic head of 75 m (246 ft).

# Green energy sector to flourish in 2024

## Solar auction pipeline robust, easing of norms to help

ARUNIMA BHARADWAJ  
New Delhi, December 26

### MULTILATERAL DISCUSSIONS

ON shifting away from fossil fuels and relying more on renewable energy (RE) capacity seemed to put India in a tough spot in the past year. The government, however, asserted repeatedly through the year – including at the COP28 summit held in Dubai in November – the country's dependence on coal-based capacity will not only stay, but it would also have to scale up thermal power before the phasing down starts.

This 'balanced' approach was considered appropriate by most analysts as the country's power demand reaches new peaks.

The country has set a target of achieving 500 GW of renewable energy capacity by the year 2030 and to fulfil the same would require 50 GW of capacity addition every year. For the RE sector, the year gone by panned out to be slower in terms of capacity addition and investments made. Experts, however, see tendering and implementation of projects gaining pace, towards the end of the financial year 2023-24.

The RE sector was governed by many challenges, especially in the first half of the current fiscal, as high solar module prices coupled with the government's decision of a 40% duty on imports of modules from China made projects unviable.

As a result, the country was only able to add some 6.6 GW of renewable energy capacity by the end of September. But the

trend is likely to be reversed in the second half owing to lower prices of solar modules and relaxation of the approved list of models and manufacturers (ALMM) till March 2024 by the government which may enable developers to commission many of the delayed projects by the year end.

"Annual ordering of more than 10 GW thermal and 8-10 GW of wind is envisaged to counter rising base or peak demand in non-solar hours," Nuvama Wealth and Investment said in its recent report.

Commercial & industrial and round-the-clock renewables tenders have raised the wind mix to nearly 50% of a project's composition as against 30% earlier, as per analysts.

Additionally, the module manufacturing under the production linked incentive (PLI) scheme is expected to catalyse the establishment of a significant number of

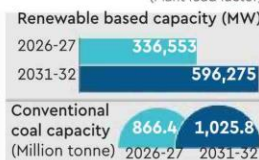
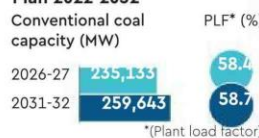
domestic manufacturing units, contributing to a significant addition of RE capacity the next year.

Among RE categories, one segment that has gained traction this year is green hydrogen. The government as well as private companies have accelerated their focus on this arena and has started adding capacities in the same.

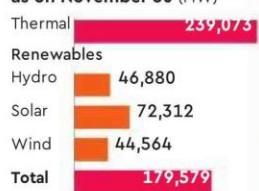
The Union Cabinet in January approved the National Green Hydrogen Mission with an outlay of ₹19,744 crore from FY24 to FY30 with the objective to reduce its dependence on fossil fuels. It aims at achieving green hydrogen production capacity of 5 million tonne per annum by 2030. "Achievement of mission targets is expected to reduce a cumulative ₹1 trillion worth of fossil fuel imports by 2030 and

## BALANCED APPROACH

### National Electricity Plan 2022-2032



### India's installed capacity as on November 30 (MW)



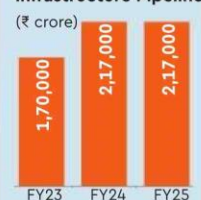
the reduction of nearly 50 million tonne of annual greenhouse gas emissions," the government had said.

Twenty companies including Reliance, Larsen & Toubro, Jindal India and Adani Group have submitted bids for incentives to manufacture electrolyzers under the government's green hydrogen plan.

The envisioned growth in the RE sector will also require huge investments. As per energy think tank Ember, India requires an investment of \$293 billion between 2023 and 2030 to meet its solar and wind capacity addition targets envisioned under the latest National Electricity Plan, including investments in storage and transmissions.

As per NEP, the renewable-based installed capacity for 2031-32 is projected at 596,275

### Investment in RE as envisaged in National Infrastructure Pipeline



### Solar installations (GW)



Source: Mercom India

earlier as India sees a rising peak power demand. The peak power demand in the country hit a record 239.9 GW in September.

To expedite the process, it has also started auctioning new coal blocks for mining and has successfully auctioned 91 mines so far. The government has also asked companies to take suitable measures and operationalise the mines at the earliest.

All of this is being done so as to ensure the energy security of the nation. Even though the country is confident of tripling its RE share by 2030, it faces some key challenges to be able to achieve the same. To begin with, there is the issue of storage for renewable energy and its round-the-clock availability.

Investments required in the sector too, demands for proper addressal, experts say. The International Monetary Fund, in its report, had highlighted that investments made in renewable energy in the emerging and developing economies lag behind those done in the area of fossil fuels.

"Estimates suggest that a target ratio of about 4:1 for renewable over fossil fuel investment is required globally throughout this decade," the report had said.

"As the scale up of RE capacity happens, the financing requirement will go up and that's when the developed countries will have to step up and contribute, in terms of getting greater access to low cost funding," said Vikram V, co-group head, corporate ratings, Ibra. At present, coal-based power accounts for three-fourths of India's power supplies, and by all indications, it would still have a share of over 60% even a decade from now. This is despite continued focus on renewable energy capacity, and investments being planned to bolster RE storage capacity and connectivity of the benign energy to the grid. A key challenge is to address the intermittency of RE.



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# Solar Policy 2023: Govt targets 2,500 MW of power by December 2027

*The state aims to adopt a targeted, systematic, streamlined and transparent approach to scale up the share of solar power in its energy mix and reap the various socio-economic, health and environmental benefits it offers*

Uttarakhand is known for its natural beauty, religious significance, and some of India's richest forests and biodiversity. However, this natural heritage would be at risk due to the increasing impact of global warming and climate change. The State recognises the urgent need to act on climate change by reducing its dependence on fossil fuels and adopting cleaner forms of energy that also lead to energy security and inclusive growth of its economy.

The current solar policy — the Uttarakhand Solar Energy Policy 2013 — focuses on accelerating solar deployment through utility-scale projects. Under the current solar policy, the state has achieved approximately 575 MW by November 2022. The new policy — Uttarakhand State Solar Policy, 2023 — supersedes the Uttarakhand Solar Energy Policy, 2013.

According to the new policy, going forward, the State aims to harness the potential of renewables in meeting its jobs, growth and sustainability objectives. Therefore, by leveraging the solar potential, the state will emphasise adopting clean energy pathways and diversifying its energy mix to further its objectives of preserving natural ecosystems, boosting livelihood prospects, improving the quality of life for its population, and ensuring resilient infrastructure growth.

#### OBJECTIVES OF NEW POLICY

- Reach a cumulative capacity of 2500 MW in the state by December 2027 through a diversified project portfolio across consumer categories, locations and applications
- The targets are further subdivided into different project categories based on their potential — Utility Scale (1100 MW) and Distributed Solar (1400 MW) — Residential (250 MW); Commercial and Industrial (750 MW); Institutional (350 MW); and Agriculture (50 MW)
- Accelerate investment in solar through new deployment mechanisms, including improved processes, incentives and business models
- Provide reliable access to electricity to rural



#### THE GOVERNMENT PROVIDES TRAINING FOR SKILL DEVELOPMENT WITH A SPECIAL FOCUS ON VULNERABLE COMMUNITIES TO CREATE EMPLOYMENT OPPORTUNITIES FOR THEM

- consumers in remote areas by promoting solar plus storage solutions
- Support the development of solar-based livelihood applications and employment opportunities and foster an entrepreneurial ecosystem in the state
- Create opportunities for tourism to be part of the energy transition by offering incentives and innovative business models
- Showcase the potential of agro-photovoltaics to boost agricultural income in the state
- Provide training for skill development with a

special focus on vulnerable communities to create employment opportunities through solar project deployment

#### KEY HIGHLIGHTS OF NEW POLICY

- The policy promotes solar for the development of rural economy, decarbonise industries and powering lives and livelihoods
- The policy promotes a diversified project portfolio spanning various consumer categories and applications
- Introduced dedicated schemes for homestays,

solar villages, solar for livelihood, agrovoltaics solar plus storage projects, and mandatory participation by government departments through energy compacts

- The policy adopts innovative processes, business models, bidding mechanisms and collaborations
- Introduced key enablers such as land banks, data rooms, dedicated solar policy cell, setting up payment security mechanism; dedicated tariff solar policy; green tariff mechanism to promote consumer opt for green energy; introduc-

#### ONE OF THE HIGHLIGHTS OF THE POLICY INCLUDES INTRODUCING A ROBUST GOVERNANCE STRUCTURE TO ENSURE SMOOTH IMPLEMENTATION

tion of time of the use solar energy feed in tariffs; promotion of Virtual Net Metering

- Introduce incentives, financial and non-financial, keeping in mind the State priority areas
- Introduce a robust governance structure with defined roles and responsibilities to ensure smooth implementation and continue progress towards the envisaged targets

Going forward, Uttarakhand will require innovative energy solutions to address the growing power demand and leverage economic opportunities. With uneven geographical terrain and weather conditions such as snowfall that cuts off villages for months, distributed renewable energy systems, supported by energy storage and resilient distribution grids, will be required to provide energy security while meeting sustainable development goals.

With this focus, the State commits to accelerating the growth of solar energy through the implementation of distributed solar systems and innovative business models and pushing for greater adoption of solar applications in the residential, agriculture, commercial, and industrial sectors. The State aims to adopt a targeted, systematic, streamlined, and transparent approach to scaling up the share of solar in its energy mix and reaping the various socio-economic, health and environmental benefits it offers.

It further strives to leverage the potential of solar energy to improve the resilience of the power system, reliability and quality of electricity supply, boost rural incomes, strengthen education and health services, promote inclusive and sustainable economic growth and create livelihood opportunities for the youth and women.

## Tehri will provide 270 mn imperial gallons of water

### TEHRI DAM

Tehri Dam is the tallest dam in India and the 12th tallest in the world, standing at 260.5 m (855 ft). It is a rock-and-earthfill embankment dam on the Bhagirathi river in New Tehri, Tehri Garhwal district. It is the principal dam of the Tehri Hydroelectric Complex and THDC India Ltd. Phase 1, which was finished in 2006. The Tehri Dam contains a reservoir for agriculture, urban water supply and hydroelectric power generating 1,000 megawatts (1,300,000 hp). The dam's 1,000 MW variable-speed pumped-storage technology is now under development, with the first two units projected to be operational soon.

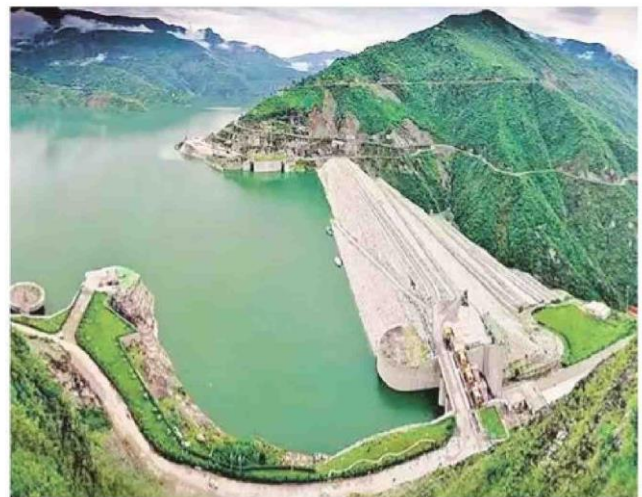
### TECHNICAL DETAILS

Tehri Dam is a rock-and-earthfill embankment dam that stands 260.5 metres (855 feet) tall. It has a length of 575 metres (1,886 feet), a crest width of 20 metres (66 feet), and a base width of 1,128 metres (3,701 feet). The dam creates a 3.54 cubic kilometre (2,870,000 acre

ft) reservoir with a surface size of 52 km<sup>2</sup> (20 sq mi). The installed hydropower capacity is 1,000 MW, with an extra 1,000 MW of pumped storage hydropower. The Koteshwar Dam downstream creates the lower reservoir for the pumped-storage plant.

Tehri Dam and Tehri Pumped Storage Hydroelectric Power Plant are components of the Tehri Hydropower Complex, which also comprises the 400 MW Koteshwar Dam. The Tehri Pumped Storage Project (4 x 250 MW) contains variable speed characteristics that can enhance round-trip efficiency when reservoir water levels vary.

Uttar Pradesh, Uttarakhand, Punjab, Delhi, Haryana, Jammu and Kashmir, Chandigarh, Rajasthan and Himachal Pradesh receive power. The complex will provide irrigation for 270,000 hectares (670,000 acres), irrigation stabilisation for 600,000 hectares (1,500,000 acres), and a daily supply of 270 million imperial gallons (1.2106 m<sup>3</sup>) of drinking water to Delhi, Uttar Pradesh and Uttarakhand.





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**NHPC secured allotment for four pumped storage projects**

NHPC secured the allotment of four Pumped Storage Projects in Tripura after a meeting with the Minister of Power. The projects were located at Longtharai, Sunitipur, Shantipur, and Sakhan PSP sites. Tripura Power Generation Limited conveyed the allotment, empowering NHPC to conduct detailed Survey & Investigation Works and proceed with implementation based on techno-commercial viability.

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### **SJVN bags 100 MW solar project worth Rs 550 crore**



Nand Lal Sharma, Chairman & Managing Director, SJVN on Tuesday announced that SJVN has secured 100 MW Solar Power Project through e-Reverse Auction conducted by Gujarat Urja Vikas Nigam Limited (GUVNL). Nand Lal Sharma stated that SJVN

successfully bagged the quoted capacity of 100 MW Solar Project @ Rs 2.63/Unit on Build Own and Operate basis through a tariff based competitive bidding process of GUVNL. This Ground Mounted Solar Project shall be developed by SJVN through its wholly owned subsidiary, SJVN Green Energy Limited (SGEL) at a tentative cost of Rs 550 crore. Further apprising about the project, Sharma said that the project shall be developed anywhere in India and is expected to be commissioned within 18 Months from the date of signing of the Power Purchase Agreement (PPA). The PPA shall be signed between SGEL & GUVNL for 25 years.