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Monthly newsletter of Thermal Watch— an initiative to empower those impacted by thermal power plants

TPPs raise ambient temperature, says SPCB study

An Odisha State Pollution Control Board (OSPCB) study has revealed that thermal power plants contribute to rise in ambient temperature by 2 to 3 degree Celsius. Most of the thermal power plants in the state are located in Sambalpur-Jharsuguda-Dhenkanal-Angul belt.

In March 2014, the Central Pollution Control Board (CPCB) had advised against setting up of new units in the area following reports of alarming air pollution and rising temperature. Dhenkanal-Angul has five mega thermal power plants, generating about 5,500 MW electricity. They are NTPC, Nalco captive power plant, Talcher Thermal Power Station, Bhushan Energy Limited and Jindal Steel and Power Limited.

Official sources said around 70 small and big sponge iron, steel, aluminum smelter and thermal power plants operate in the belt.

Known as the coal town, Talcher frequently

records 45-plus degree Celsius, which has become a cause of concern.

At present, temperature is hovering around 40 to 41 degree Celsius in the town.

The study revealed that the temperature is rising because of burning of coal and lack of green cover.

A study has revealed that thermal power plants contribute to the rise in ambient temperature by two to three degrees

"Coal is burnt at 1,200 to 1,400 degree Celsius, which leads to rise in ambient mercury level. Secondly, most of the industries have not done plantation in 33% of their areas, which is required as per environmental norms," said senior environmental scientist with OSPCB D K Behera.

Board member-secretary Rajiv Kumar said

they have written to the industries to launch massive plantation drives to bring relief from rising temperature.

"We have asked all the industries in the belt to do plantation on 1,500 hectares. They have also been asked to supply saplings to villagers to ensure greenery in periphery areas," said Kumar. Over 30 industries in Jharsuguda-Sambalpur belt were directed to launch massive plantation drives before onset of monsoon.

The direction came following a review meeting in Sambalpur. It was attended by Forest and Environment Secretary, representatives of industries, forest and OSPCB officials.

A board official said the industries need to consult forest officials to plant trees on their premises or outside and if they need more land to do plantation.

Full News Report

Polluting coal plant in Odisha to face the heat

The State forest and environment department of Odisha has asked the Dhenkanal Collector to initiate legal action against a power subsidiary of Bhushan Steel Ltd for constructing a power plant without prior approvals.

"You are requested to take legal action under section 15 of EP Act (Environment Protection Act) and furnish the details of prosecution for illegal construction of imported coal-based thermal power plant at Meramundali, Dhenkanal," said environment director, S B Samant, in a letter to the Collector.

This direction of the state government follows a missive from the Union Ministry of Environment and Forest (MoEF) in February, this

year, asking the state to book Bhushan Energy Ltd (BEL), a subsidiary of Bhushan Steel, for violation of environment norms.

The state government was requested to initiate proceedings against BEL on behalf of MoEF and the District Collector was empowered to take legal action. Since there was delay in initiating the proceedings, the state government asked the Collector to expedite the process.

"It is requested that expeditious steps may please be taken for taking legal action against the defaulting projects for early compliance to the Government of India, New Delhi," said Samant.

The Union Government had decided to take action against BEL after receiving reports about the

construction activity undertaken by the company for a 440 MW power plant near its steel unit at Dhenkanal without obtaining environmental clearances.

Though the company proposed to set up a 2,000 MW coal-fired power plant, its first unit comprised 300 MW capacity, which was later upgraded to 440 MW by adding three small units of 27 MW each and two other units with 20 MW and 15 MW generation capacities.

BEL was supplying surplus power to the state grid since 2009 along with other co-generation power plants located in the state.

However, it stopped generation last year, when the Odisha State Pollution Control Board (OSPCB) sealed the power plant on allega-

tion of flouting green laws.

There was allegation that BEL had violated rules pertaining to air and water pollution control measures. The district administration had launched an investigation after local residents complained that the company was dumping fly ash outside the plant premises and discharging hazardous effluent into a nearby drain.

After the allegations were found true, the OSPCB decided to shut the plant by sealing the coal feeding area to ensure complete closure of power production activities. The extreme action was taken after due process of serving show-cause notices, the pollution watchdog officials had said.

Full News Report

FAQs ON THERMAL POWER PLANTS – Part I

INDUSTRY CLASSIFICATION

Q: How are TPPs classified among industries?

A: The Ministry of Environment & Forests (MoEF) has classified TPPs as one of the 17 Red Category industries. Red Category denotes heavily polluting industry.

SITING OF PLANTS

Q: Why is there a proliferation of TPPs along the coast?

A: Situating a plant along the coast provides two important benefits to the Project Proponent:

1. Easy transport of imported coal through ports and captive jetties.
2. Easy availability of seawater for on-site seawater desalination technology for both once-through cooling and for boiler-feed water generation. This reduces fresh water requirement for running the thermal power plant.

Q: Is there any regulation on where TPPs can be situated?

A: Yes. There are three sets of criteria to be observed for siting TPPs. These are:

1. Criteria listed in the EIA Notification, 2006.
2. Industry Siting Guideline of the Central Pollution Control Board (CPCB).
3. Siting Rules of the State Pollution Control Board (SPCB).

According to the EIA Notification 2006, TPPs with a capacity of less than 500 MW- which are awarded EC by the State Environment Impact Assessment Authority (SEIAA) - will have to seek clearance from the MoEF if they are to be situated within 10 kms of

- Protected Areas notified under the Wild Life (Protection) Act, 1972.
- Critically Polluted Areas as notified by the Central Pollution Control Board from time to time.
- Notified Eco-sensitive Areas
- Inter-State Boundaries and International Boundaries.

As of October 2013, the CPCB has marked the following areas as critically polluted:

- Ankleshwar (Gujarat)
- Chandrapur (Maharashtra)
- Pali (Rajasthan)
- Vatva (Gujarat)
- Vellore (Tamil Nadu)
- Najafgarh Drain Basin (Delhi)
- Jodhpur (Rajasthan).

TPPs cannot be situated in these areas.

Besides these, State Governments also have a list of places where development activities are restricted.

The **Tamil Nadu SPCB** has passed an order banning heavily polluting industries (which includes TPPs) from being situated within 1 km from the embankment of certain rivers (mentioned in the link provided below) and within 5 kms from the embankment of river Cauvery & its tributaries, Pennaiyar, Palar, Vaigai & Tambrabarani

{<http://www.tnpcb.gov.in/GOI.html>

<http://www.pcboac.tn.nic.in/Docu/GOs.pdf>}.}

The **Andhra Pradesh SPCB** has stated that the distance between the boundary of the site for any industry and the boundary of the National Highway should be 100 m, State Highway-50 m and Village Roads 25 m. These guidelines, however, are not applicable to plots located in industrial estates.

In **Karnataka**, no new industry can be set up within 1.5 km from the embankment of

- Cauvery, Kabini, Arkavathy, Shimsha, Pennar, Hemavathy, Lakshman-Thirtha, Gundal river, Lokapavani, Palar, ThungaBhadra, Krishna, Bheema, Varada, Ghataprabha, Malaprabha, Vedavathi, Karanja, Hagari
- All west flowing streams/rivers
- All those streams/rivers carrying water either seasonally or throughout the year,
- All Major Dams
- Drinking surface water sources
- All major irrigation canals
- If any water body is a source of drinking water, then a distance, to where the discharge of pollutants will not affect the water, will be stipulated.
- TPPs are not permitted within municipal/ city limits and residential areas.

For further details on siting guidelines, please check with the respective State Pollution Control Boards.

Q: What is the CEPI (Comprehensive Environment Pollution Index)? How does it impact the location of TPPs?

CEPI is a number to characterize the environmental quality at a given location. CEPI scores are calculated time-to-time by the CPCB to identify critically polluted areas and industrial clusters, by monitoring their air, land and water.

CEPI Score is an important tool to identify those clusters where industrial development activities have been restricted due to their pollution levels. In 2010, the MoEF imposed a moratorium on the consideration of projects for EC, if they were located in 43 critically polluted areas. It has been reduced to 7 clusters as of September 2013. TPPs cannot be located in those places where the moratorium is imposed.

TRANSPORTATION OF COAL

Q: How is coal usually transported to power plants from the port?

By road, rail or through closed conveyor belts. If transportation of coal entails a long distance, the Project Proponent is expected to assess the possibility of rail transportation to the site. Wagon loading at source should preferably be through silo/conveyor belt.

PRIOR ENVIRONMENTAL CLEARANCE

Q: What activities, with respect to project land, can the Project Proponent engage in, before EC?

A: Activities permitted before an EC according to a circular by the MoEF :

- Fencing of the site to prevent it from being encroached
- Construction of temporary sheds for guards

Lanco Infratech to sell Udupi plant; JSW and 1MDB frontrunners

Powering Ahead

PROJECT STATS

1200 mw imported coal-based project in coastal Karnataka. Dedicated jetty in Mangalore

Power purchase agreements with Karnataka, Punjab state power boards

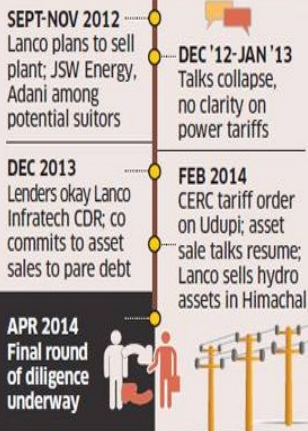
Further **1320 mw** expansion possible

THE MONEY TRAIN

₹6,320 crore Total Investment

\$320-350 million Expected equity valuation

\$800 million Debt to get transferred to buyer



Sajjan Jindal's JSW Energy Ltd or State-owned Malaysia Development Bhd (1MDB) are likely to acquire Lanco Infratech's 1,200 MW coal-fired power plant at Udupi in Karnataka.

The transaction, valued in excess of \$1 billion, is poised to be the largest thermal power asset sale in the country and will help cash-strapped power and road developer Lanco pare debt. Lanco's debt, taken on to build power plants and roads and to purchase overseas coal mines, has swelled more than fourfold since March 2010.

Previous efforts to raise Rs 4,150 crore by selling stakes in a subsidiary that owns stakes in its various power plants, road and renewable energy projects, to private equity funds haven't succeeded.

1MDB is jostling with Sajjan

Jindal's JSW Energy Ltd, which has aggressively revived its interest in the coastal project after its first round of advance negotiations with Lanco's top brass fell through in early 2013.

With a large steel and power sector presence already in the state, the Udupi Power acquisition will help JSW Group to further consolidate its presence in Karnataka. It already has an 860 MW power plant and a 10 million tonne steel plant in Vijaynagar. JSW watchers say the Udupi project has long been on the radar of Jindal himself.

A JSW Energy spokesperson said: "We do not wish to comment on market rumours." This February, Lanco sold its hydro power projects to clean energy specialist Greenko Energies Pvt Ltd for an estimated Rs 650 crore.

The Udupi power project is attractive to strategic buyers as

any hike in fuel costs can be entirely passed on to buyers. Lanco has an agreement with five power distribution companies in Karnataka to sell 90% of its production and the remaining 10% to Punjab State Power Corporation. It also owns a jetty at Mangalore port to import coal for the plant.

More importantly, the final tariff order from the Central Electricity Regulatory Commission (CERC) in February offers much-needed clarity. The order translates to a healthy tariff of around Rs 4.20-4.30 per unit. It also facilitates the recovery of around Rs 1,600 crore of dues or receivables from the state electricity boards or SEBs. The regulator has also partially approved the cost escalation in the project, thereby allowing Lanco to recover 85% of the capital cost.

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AP HC to oversee steps taken to protect those working in TPPs

The AP high court has taken up the cause of those working in coal-based power plants. In accordance with the directions of the Supreme Court, Chief Justice Kalyan Jyoti Sengupta has decided to oversee the steps initiated by the State, Centre and statutory authorities in putting in place relevant rules and regulations, health and safety norms for those working in various Coal Fired Thermal Power Plants (CFTPPs) in Andhra Pradesh.

In January this year, the Supreme Court had issued directions while dealing with a case pitting the Occupational Health and Safety Association against the Union of India. The petition pertained to framing of guidelines with respect to occupational safety and health regulations to be maintained by various industries, constituting a committee to monitor the working of thermal power plants in AP.

The Supreme Court had directed High Courts of 18 states to examine whether the coal fired thermal power plants (CFTPPs) were complying with safety standards and regulations relating to health of their employees. A Bench of Justices K S Radhakrishnan and A K Sikri relegated the issues to the high courts.

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Krishnapatnam thermal power station goes on stream

The first unit of 800 mw (2x800 mw) of Sri Damodaram Sanjeevaiah Thermal Power Station in Krishnapatnam has been synchronised with the Power Grid late on March 31.

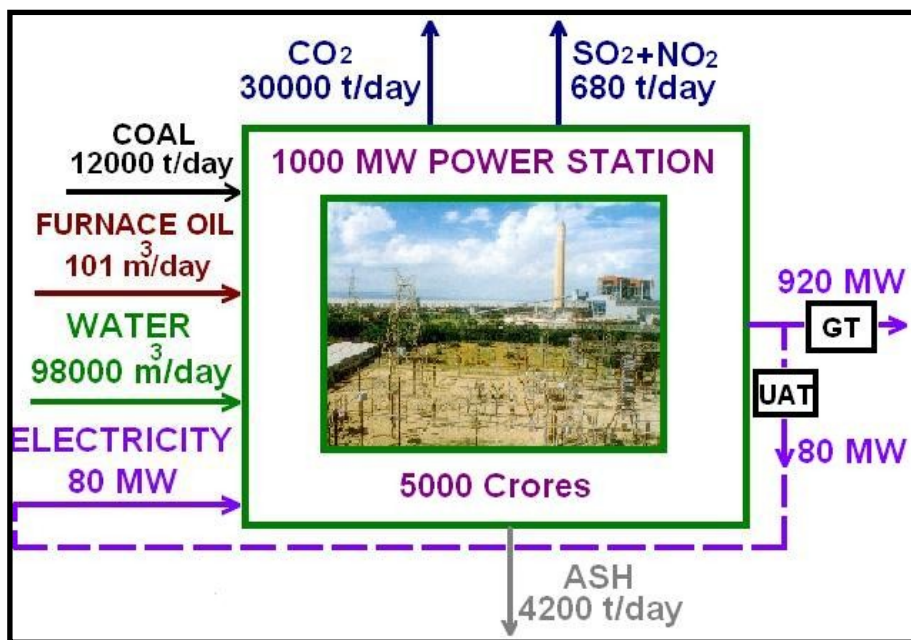
This project being executed by AP Genco is expected to partly ease up the demand supply situation in the State. It is expected to generate 38 million units per day once both the 800 mw units get commissioned.

While the first unit has now been synchronised, second unit is expected to be commissioned by July 2014. This project has been taken up under the mega power policy formulated by the Government. The project has been developed by a special purpose vehicle formed by AP Genco, AP Discoms and Government of Andhra Pradesh.

The power plant is located at Krishnapatnam, about 25 km Nellore on 1,170 acre site. Of the coal required for the project, 5 million tonnes per annum (about 71.4 per cent) is from Mahanadi Coalfields Limited and 2 million tonnes per annum (about 28.6 per cent) is imported coal. It is expected to generate 11,920 million units per annum. The power project entered into a power purchase agreement in November 2010.

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A visual representation of the inputs and environmental cost for a standard 1,000 MW coal-fired power plant



Source: <http://indianpowersector.com/home/power-station/thermal-power-plant/>

SUGGESTED READING

1. Impact of coal plants on health

The report, titled [Coughing up Coal: Reporting from the Frontline of India's health Crisis](#), focuses on the lives of those thousands of people living in proximity to coal-based power plants, especially in the Singrauli region of Uttar Pradesh, whose health and life has been blighted by them.

2. Energy expansion's impact on our water resources

[Identifying the Global Coal Industry's Water Risks](#) details the water-energy nexus, showing how the growth in the energy sector over the years has affected our water resources, even as over 59 countries are planning on constructing an additional 1199 new coal-based power plants with a total capacity of over 1400 GW to meet the growing energy requirement.



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About CAG:

Established in 1985, Citizen consumer and civic Action Group (CAG) is an advocacy and campaigning group that works towards protecting citizens rights in consumer and environmental issues and promotes good governance processes including transparency, accountability and participatory decision-making.

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Eco group opposes Reliance plant at Selu

Vidarbha Environmental Action Group (VEAG), a local voluntary organization, has opposed setting up of a thermal power plant in the region by Vidarbha Industries Power Ltd (VIPL), a Reliance group company. The plant will be the second in the region.

The case for allowing a 900 MW coal-fired power plant at Selu in Wardha district will be taken up by the expert appraisal committee (EAC) of the ministry of environment and forests (MOEF) on April 24 and 25. Reliance already has a 600 MW power plant at Butibori industrial estate. VEAG, which will be filing an objection against it, says having one more coal-based power plant will only add to the pollution in this region.

Most of the power plants, which ultimately supply power to Western Maharashtra come up in this region. In Western Maharashtra, setting up of power plants is strongly opposed by lobbies of farmers, residents as well as politicians, a VEAG press release claimed. Citing various reports, VEAG claimed 132 coal-based power plants have been proposed in Vidarbha that will cumulatively produce 86,407 MW electricity. Still, the region that produces so much power has to suffer load-shedding.

VEAG stated the proposed Reliance plant would require water from Vadgaon dam that is already short of water. Non-availability of water would adversely affect irrigation and hamper the expansion of Butibori industrial estate and Mihan, it said.

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