



A CAG Initiative

# stopppwatch

Volume 2, Issue 9

September 2015

Educating & Informing Stakeholders on Energy, Environment & Thermal Power Plants

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## Relevant Websites & Contacts

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## THERMAL POWER PLANT STUDY REVEALS POOR PERFORMANCE

The Korba district of Chhattisgarh is home to a population roughly equal to the nation of Bahrain. The region is known for its rich coal mines, including the Gevra area, which has one of the biggest coal mines in Asia. This has made this area the power hub of Chhattisgarh, which prides itself as one of the power-surplus states in the country. Out of the 8.5 gigawatts of electricity produced in the state, 6,000 MW comes from 10 thermal plants in Korba.

The Korba skyline is dotted with chimneys spewing dense smoke, which has made life miserable for people of the area. Skin ailments, lung problems and asthma are on the rise among residents of villages like Churri, Lotlota, Char Bhatti, Churri Kordh and Jamini Palli.

Livelihoods of locals have also taken a hit as the fertility of the land continuously decreases and water used for irrigation gets increasingly polluted. The Centre for Science and Environment's (CSE) Green Rating Project puts Korba as the second most polluted district of the country. The CSE's rating, the first-ever environmental rating of coal-based plants in India, ranked Chhattisgarh's power plants as the lowest in terms of safeguards against pollution.

Plants were rated on 60 parameters like coal and water use, plant efficiency, air and water pollution and ash management. The two-year long research assessed four plants in Chhattisgarh, accounting for more than 60% of the current capacity in the state. Two out of these, Lanco-Amarkantak and CSPGCL-Hasdeo, operate in Korba.

The study found these plants performing poorly on all counts and were ranked at the 25th and 36th spots, with scores of 22% and 15% respectively. No adequate measures have been put in place to control pollution from these plants, despite the fact that the Central Pollution Control Board (CPCB) has classified Korba as critically polluted, the study claims. In fact, the fly-ash emitted by these plants is increasing far more rapidly than thermal power plants in other states.

Experts attribute this situation partly to the use of low-quality coal, in a bid to reduce the production cost. "Government power plants have their limitations. They can only use coal that is provided to them. It is true that the pollution level from these plants has increased. However, we are trying to bring it down," says Shailendra Dubey, president of the All India Power Engineers Federation. Not only that, all these plants are operating at 60-70% capacity only. The same number of power plants can meet additional demand, if their efficiency is improved. This will reduce the need to build additional power plants.

The Green Rating Project has presented a grim picture of India's thermal power sector. It evaluated 47 plants across the country, producing around 50% of India's thermal power output. The overall score was a dismal 23%. A plant following all the best practices can get up to 80% as per the parameters of the study.

The power generation efficiency (32.8%) was found to be the lowest among major coal-based power producing countries. The average Carbon Dioxide emission was 14% higher than China's. The top performing power plants were West Bengal's CESC-Budge Budge, followed by JSEWL-Toranagallu in Karnataka, Tata-Trombay and JSW-Ratnagiri (both in Maharashtra). The worst of the lot was Delhi's Badarpur plant. A study has exposed the inefficiency of India's thermal power plants. The overall efficiency rating was 23%. (Contd. next page)

*Home energy audit helps you learn how you use energy, determine where it's being wasted and prioritize your efficiency upgrades. Making energy efficiency upgrades identified in a home energy audit can save 5-30 percent on your monthly energy bill while also ensuring the health and safety of your house.*

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The average water consumption of Indian thermal power plants (4 cubic metres/MWh) is about double the amount of average water consumed by Chinese power plants (2.5 cubic metres/MWh). According to the study, around 55% of thermal power units were violating air pollution standards, which are already very lenient when compared to countries like China. The study flags fly-ash disposal as one of the major problems of India's thermal power sector. For example, more than one lakh metric tonnes of fly-ash is generated annually by thermal plants in Korba. Less than 50% of it is utilised. The same goes for plants across India, which produce around 170 million tonnes of fly-ash every year. About 40-50% of this is dumped into poorly designed and maintained ash ponds. The study estimates about a billion tonnes of this toxic ash lies dumped in these ponds, severely contaminating land, air and water. The annual production of this residual ash is likely to go up to 300 million tonnes per annum with in 6-7 years, according to the study. "Given the rapid increase in coal-based power projected by the government, stress on precious resources like water and coal will increase and air and water pollution will worsen, unless corrective measures are taken by the industry and policy-makers," says CSE director Sunita Narain. So is there a way India can get out of this mess while meeting the energy demands? The Green Rating Project suggests several corrective measures in this regard. Some of these are:

A. Tightening norms for air pollution at par with the global standards. B. Strengthening regulatory bodies, including giving them power to impose stiff penalties on the erring power plants. C. Modifications in the ash policy to support its higher usage. D. Closure of old, inefficient plants and introduction of innovative efficiency improvement schemes. E. Increase in water tariff to curb excessive use by power plants.

The Union minister for environment, Prakash Javadekar, stated, "The government is serious about pollution from thermal power plants. "The Central Pollution Control Board has set a deadline for setting up smokeless technology in them." (with minor editing) ([Catchnews](#), 9 September 2015)

## LALITPUR-BASED THERMAL POWER PLANT UNDER NGT SCANNER

A thermal power plant in Uttar Pradesh, run by Bajaj group's Lalitpur Power Generation Company Ltd., has come under the scanner of National Green Tribunal which has ordered an inspection into the impact of water extracted by it on farming in the area.

The green panel's direction came in the wake of a petition challenging the environmental clearance granted to the thermal power project on the ground that it violated the provisions of the Water (Prevention and Control of Pollution) Act of 1974. Lalitpur Power Generation Co Ltd (LPGCL) had signed an agreement with the U.P. Government in 2010 to set up 1980 MW (3 units of 660 MW each) super-critical thermal power plant in Lalitpur district between the banks rivers Sajnam and Utari. A bench headed by NGT chairperson Justice Swatanter Kumar directed the panel to submit a report on whether excessive water extraction by LPGCL had impacted agricultural productivity in the area, but refused to quash environmental clearance to the plant.

"A team of officers from different departments would conduct an inspection and ensure that temporary abstraction of water from the Buragaon Check Dam is permitted without any adverse effect either on the agricultural activities or upon re-charging of the ground water..." "The Committee shall also submit a report to the Tribunal that if unauthorised or even excessive drawal of water by the Project Proponent has caused loss of agricultural productivity to the dependent farmers, then extent of compensation payable to them," the bench said. The green panel directed the power plant to complete the pipeline from Rajghat minor canal to the project site "at the earliest and in any case, not later than three months." It also made it clear that once the pipeline is completed, the project proponent will not be permitted to draw any water from any of the check dam on river Sajnam.

The Tribunal was hearing a plea of U.P. resident Mohar Singh Yadav seeking quashing of environmental clearance granted to the plant, alleging that LPGCL

could not have extracted water directly from the river or the check dams which were primarily meant for agricultural purposes. Mr. Yadav had contended that the project proponent had violated the condition in environmental clearance that "no water bodies (including natural drainage system) in the area shall be disturbed due to activities associated with the setting up/operation of the power plant". In the year 2013, the residents and the farmers of the area noticed some type of construction activity in the river. However, they believed that these construction activities were being done for some irrigation purpose by the U.P. Government. "But, to the utter surprise of the local inhabitants, more particularly the agriculturists, somewhere in the month of April and June of 2014, the power plant demolished the government made check dam, constructed over the said rivers with the illegal and mala fide motives for diverting the flow of water towards its own power plant," Mr. Yadav claimed in his plea. ([The Hindu](#), September 19, 2015)

# RENEWABLE ENERGY OUTSTRIPS COAL FOR FIRST TIME IN UK ELECTRICITY MIX

Renewable energy has for the first time surpassed coal in supplying the UK's electricity for a whole quarter, according to UK [government statistics](#).

The revelation of the surge in wind, solar and bioenergy to a record 25% comes in a week when the government has been heavily criticised by business leaders and Al Gore for cutting support for clean energy.

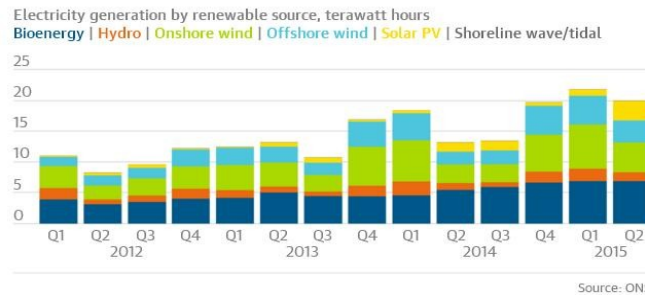
The high performance of renewable electricity between April and June, the latest period data is available for, was due to both more wind and sun and more turbines and solar panels having been installed, compared to the same period the year before, when renewables contributed 16.4% of electricity. Gas-fired power stations provided the most electricity - 30% - with renewables second. Nuclear power was third with 21.5% and coal - the most polluting fuel - fell back to fourth, with 20.5%. Ageing coal and nuclear plants have been closing in recent years, while renewable energy has been rapidly rolling out.

Since May's general election, Conservative ministers have argued that the subsidies given to renewable energy were rising too fast and announced plans to cut them, including an 87% reduction for solar power and an end to support for onshore wind farms. Industry figures said the government was slashing support too heavily and would strangle renewable energy just as it was taking off.

"The new statistics show that the UK is relying increasingly on dependable renewable sources to keep the country powered up, with onshore and offshore wind playing the leading roles in our clean energy mix," said RenewableUK's chief executive Maria McCaffery.

"We've had a series of disappointing announcements from ministers since May which unfortunately betray a lack of positive

## Renewable electricity generation



ambition at the heart of government. If ministers want to see good statistics like we've had today continuing into the years ahead, they have to knuckle down, listen to the high level of public support we enjoy, and start making positive announcements."

The renewable surge was led by solar energy, which more than doubled between the second quarters of 2014 and 2015. Electricity from wind rose by 65%, helped by the expansion of several large-scale offshore wind farms, while electricity from biomass rose 26%, mainly due to a switch from coal to wood chips at a unit of Drax power station.

"Government support has driven down the cost of renewable energy significantly and these statistics show that has successfully enabled renewables to compete with other technologies," said a spokeswoman for the Department of Energy and Climate Change. "Our priority is now to move towards a low-carbon economy whilst ensuring subsidies are used where they are needed most, which provides the best value for money for hardworking bill payers." However, John Cridland, director general of the CBI, the UK's leading business organisation delivered a scathing attack on Tuesday on the government moves that have weakened green policies. "These changes send a worrying signal about the UK as a place for low-carbon investment," he said. "Over

many years, the UK has built up real credibility on climate leadership and low-carbon investment. This is hard won, but easily lost."

Former US vice president Al Gore also attacked the UK government, listing a long series of reversals on green policies and saying he could not understand the rationale, with climate change presenting a clear danger to the UK and the rest of the world. Energy secretary Amber Rudd, visiting China with George Osborne this week, announced a £2bn loan guarantee for the proposed new Hinkley Point nuclear power station in Somerset, saying the plant was "value for money" for low-carbon, baseload electricity. But critics attacked the £24.5bn price tag and history of nuclear cost overruns and delays.

Energy minister Andrea Leadson spoke out in favour of shale gas exploration on Wednesday, which ministers have pledged to fast-track, saying it was "an inconvenient truth" for the anti-fracking lobby that shale gas could have economic and environmental benefits.

"We need to meet the UK's rising demand for energy, using clean and low carbon energy sources if we are to continue to combat climate change and grow the economy," she said. However, the government's energy statistics released on Thursday said demand "fell by 2% continuing the recent downward trend". ([The Guardian](#), 9 September 2015)

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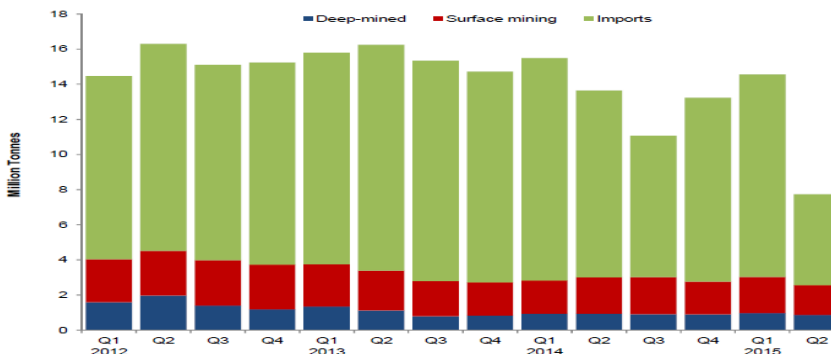


*Citizen consumer and civic Action Group (CAG) is a non-profit, non-political and professional organization that works towards protecting citizens' rights in consumer and environmental issues and promoting good governance processes including transparency, accountability and participatory decision making.*

## UK STATISTICS 2ND QUARTER, 2015

### COAL: QUARTER 2 2015

#### Coal production and imports



	2015 Q2 Thousand tonnes	Percentage change on a year earlier
Coal production	2,574	-14.4
Coal imports	5,153	-51.5
Coal demand	8,541	-21.9
- Power stations	6,147	-27.2
- Coke ovens & blast furnaces	1,500	-9.8
- Final users	708	+11.1

## REGULATIONS AND CASES

- National Green Tribunal, *Banshi Badan Jana & Ors Vs Union of India*, September 2015. click [here](#)
- European Court of Justice, *ClientEarth v European Commission*, July 2015. click [here](#)

## PUBLICATIONS

- Sustainable Energy for All (SE4All), *Direct Delivery of Power Subsidy to Agriculture in India*, 2015. click [here](#)
- Clean Energy Ministerial Roundtables, *Summary Report*, 2015. click [here](#)

## MISCELLANEOUS

- International Renewable Energy Conference 2015 (IREC), 22-24 March 2016, South Africa. click [here](#)
- Elsevier, *Journal of Environmental Pollution*. Click [here](#)