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# stopppwatch

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

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## Relevant Websites & Contacts

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National Green Tribunal

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## COAL BENEFICIATION - ADVANTAGES AND BARRIERS

Coal beneficiation is the process of improving the calorific value of the coal by removing the extraneous matter or reducing the ash content. This helps the power plants to generate a lesser amount of fly ash, which is harmful to the environment. Coal beneficiation can be done at two stages:

1. Mining stage- removal of stones and
2. Post-mining-
  - ◆ Dry method -crushing
  - ◆ Wet method- washing

With a view of protecting the environment, Ministry of Environment and Forest & Climate Change (MoEF&CC) have amended the Environment (Protection) Rules, 1986 which, mandates thermal power plants to use beneficiated coal.

The Rules have classified certain kind of power plants based on location and give a deadline to adapt to beneficiated coal.

- A. Other than a pit-head thermal power plant, stand-alone thermal power plant and captive thermal power plants of capacity 100 MW and above which are located within 1000 km from pit-head or ecologically sensitive area or urban area or critically polluted industrial area should use with immediate effect.
- B. Within 750-1000 km of the pithead, the standalone (of any capacity) and captive thermal power plants of capacity 100 MW and above should use coal with ash content below 34% from 1st of January 2015.
- C. Within 500-749 km of the pithead, the stand-alone thermal power plant (of any capacity) and captive thermal power plants of capacity 100 MW and above should use coal with ash content below 34% from 5th of June 2016.

### Benefits of using beneficiated coal

- As there is a reduction of ash content in the coal, the burden of the power plant to take care of the ash produced is reduced.
- Lesser the ash content, Due to lower ash content, wear and tear of the equipment will be reduced, which is reflected in the operation and maintenance costs.
- Power plants are designed to handle the particular quantity of coal. If they use the beneficiated coal, then the inconsistency in physical and chemical quality will be balanced.
- More power is generated in beneficiated coal than using the raw coal. This leads to reduction in the coal purchase resulting in lower costs for the power plant.

### Barriers in using beneficiated coal

The cost of coal increases as the cost of coal washing the coal to remove the ash content is added to the total cost. Further, sourcing and washing of coal from different companies will increase the cost. Also, reduction of ash content in the coal also brings down the burn capacity of the coal, or gross calorific value, to produce more electricity thus reducing yield of the coal. There are also limitations in technology to bring down the cost of washing coal. As a result, Coal beneficiation require constant water and power sources for washing and drying the coal. This will put stress on natural resources further limiting its uptake.

## MAHAGAMS TO OPTIMIZE FLY ASH USE BY 2030

To encourage manufacturers in Vidarbha to increase use of fly ash in construction based products implementing latest methods, Mahagenco Ash Management Services Ltd (Mahagams) had organized a workshop on fly ash utilization at Maharashtra Industrial Development Council (MIDC) conference hall, Udyog Bhavan, on Tuesday.

Additional Municipal Commissioner Ramdas Sonwane, joint directors of industries, Nagpur, AP Dharmadhikari, Maharashtra Pollution Control Board's (MPCB) regional officer Ravi Wankhede, director of Mahagams Sudhir Paliwal and technical adviser to state's energy minister Shekhar Amin were present.

Wankhede said that fly ash is a waste product derived when coal is burnt at thermal power stations. Its toxic characteristics are damaging to human health

when its particles remain float in the air.

However, it makes for an ideal additive in making of bricks, paver blocks and can be used in road constructions.

"MPCB deals with many complaints regarding fly ash when it is blown out of truck transporting it. Therefore, it is important to utilize as much of this by-product as possible," said Wankhede.

Mahagams is a subsidiary of the state-owned power generation company Mahagenco and deals with transportation and disposal of fly ash produced in its power plants. Paliwal cited a 2016 guideline issued by the union fly ash ministry which has laid down protocols of fly ash management.

"The guideline makes it mandatory for all government (state or central) infrastructure projects to use fly ash based products and reduce use of river sand and gravel," he said. "Maharashtra is the first state in the country which has urged

manufactures to use fly ash in their products. The government's intention is to utilize 100% fly ash without compromising on power generation," said Paliwal.

Paliwal informed of use of efficient techniques and better quality coal in power generation which will increase efficiency by 3.6% and reduce consumption of coal by 4%. "By 2030, we will be able to achieve our goal of reducing emission intensity by 30 to 35%."

Currently, thermal power stations in the country produce 40% fly ash out of the total amount of coal used for electricity generation, according to Paliwal.

He said that the centre has prescribed a threshold for fly ash production to be at 34%. However, power plants face issue to curb its production due to outdated techniques and poor quality of coal.

[The Times of India](#) June 14, 2017

*Fly ash, a by-product of thermal power plants, are particles that are either small or equal to 2.5 millimeters in their aerodynamic diameter (PM 2.5). The Thermal Power Stations coming into operation after the MoEF's notification (i.e. 3rd November, 2009) are to achieve the target of fly ash utilization as 50% in the first year, 70% during second year, 90% during third year and 100% during fourth year depending upon their date of commissioning.*

## TAMIL NADU: NGT CRACKS WHIP ON ENNORE PLANT FLY ASH POLLUTION

The southern bench of the National Green Tribunal (NGT) has directed the Tamil Nadu Pollution Control Board (TNPCB) to start criminal prosecution against the officer in-charge of Tamil Nadu Generation and Distribution Corporation Ltd (TANGEDCO) for failing to stop the discharge of toxic fly ash from the North Chennai Thermal Power Station (NCTPS), polluting water bodies in Ennore.

The National Green Tribunal Bench, comprising Justice P Jyothimani and expert member PS Rao, was also critical of the TNPCB, pulling it up for failing to exercise the power vested with it under Air and Water Act.

"You have ample powers to take

action against the offenders. You can't expect the tribunal to pass orders in every case. We are of the considered view that it is only appropriate for the board to take immediate criminal prosecution against the officer in-charge of TANGEDCO," the Bench stated in the order.

The tribunal had passed an order restraining North Chennai Thermal Power Station from letting out the fly ash or slurry into adjacent water bodies, which were already in deep distress.

It had directed TANGEDCO to remove the fly ash dumped into Buckingham Canal and Kosasthalaiyar river. TANGEDCO indeed removed the fly ash, but continued discharging the waste.

This irked the tribunal. The National Green Tribunal directed the chairman and managing director of TANGEDCO to appear in person at the next hearing on July 13, and asked the TNPCB to ensure the fly ash was removed by TANGEDCO and a status report filed.

In another application, Kamarajar Port has been accused of destroying mangrove vegetation in Kosasthalaiyar River by dumping dredged soil.

To look into the matter, NGT appointed Sai Krishna as advocate commissioner and file a status report.

[The New Indian Express](#) June 1, 2017

# NIGERIA'S RANKING ON AIR POLLUTION, GREEN ENERGY STIRS CONTROVERSY

The impact of Nigerians and their activities on the environment became a subject of controversy yesterday as a global study ranked the country high. A new study from MoneySuperMarket on how people impact their environment, from different countries around the world highlights individual contribution to the world's climate as well as areas for improvement for each country.

The study identified the biggest contributors to negative environmental impact, but the surprising results placed five African countries in the top 10 for lowest environmental impact. Nigeria ranked highly (35th position) as one of the countries with the least environmental impact. Over 20 per cent of Nigeria's energy comes from green sources, according to the report. In the same vein, Nigeria's Carbon dioxide (CO2) emissions equate to only 0.5 tonnes per person, compared to Mozambique's levels of just 0.1 tonnes per person. Its air pollution rates are at levels of 8.5 µg/m<sup>3</sup>.

Mozambique was number one in the global rankings, with the lowest human impact on the environment per person, as nearly all (97 per cent) of the energy they use is produced from green energy. The country, according to the report, only produces 0.14 kg of waste per person per day, just as the United States produces 2.58 kg per person). Africa as a continent topped the charts and featured strongly in their use of green energy, their low CO2 emissions and their low levels of air pollution and waste production. Ethiopia, Zambia, Kenya and Ghana also ranked first, third, fifth and seventh respectively.

But Nnimo Bassey, an environmentalist who runs the Health of Mother Earth

Foundation (HOMEF), says Nigeria should avoid being complacent in the face of the seemingly favourable report. "There are other factors," he argues, "and we have to consider the fact that Nigeria's environment is extremely polluted (in some areas) with dead environment that will never recover. Many of the rivers in the Niger Delta – even the ones in Kano are polluted," Mr. Bassey told The Guardian on his way to the Yar Adua Centre, Abuja venue of today's conference on Food Security in Niger Delta.

Obinna Chidoka, who chairs the House of Representatives Committee on Environment, also takes the report with a pinch of salt. Like the HOMEF director, the lawmaker believes that the report "clearly" underscores "our slow pace or lack of industrialisation and, in real terms, does not portray Nigeria in good light." "This is not to our advantage," he says in response to a query on whether or not the new ranking is a plus for Nigeria's compliance level with the Paris Climate Change Agreement.

Chidoka, who represents the Idemmili Federal Constituency, said Nigeria's Internally Determined Contribution (IDC) in keeping with the Paris Agreement has remained very low because "we do not speak the same language on roadmap in our drive."

The intended nationally determined contribution to the Paris agreement is specifically based on reduction of carbon emission and gas flaring. He said Nigeria, Paris had already banned use of plastic materials, including cups and spoons, beginning from next year (2018). "Vehicles of 10 years and above are also banned in Paris. But here in Nigeria, we have vehicles of 25 years and above. We just need

to give the Paris Agreement a bite here in Nigeria."

Asked what the legislature and his House Committee on Environment were doing to change, the lawmaker remarked that he had "moved for the Waste Management Bill for waste management professionals." According to Chidoka, the "laws and agencies of the Federal Ministry of Environment are obsolete" and the bill – which has passed the second reading in the House and now awaiting public hearing – will, upon its passage as law, create the Environmental Practitioners Council (EPC) to certify professionals. "One of the intendments of the bill is to regulate their activities and certify them as environmentalists so that everyone will be protected," says Chidoka

Ethiopia scored particularly low in its energy consumption, with each person only using an average of 1.75 BTUs per year. By contrast, Trinidadians top the list, using a grand total of 757.54 BTUs per year. Zambia had the lowest CO2 emissions, with only 0.07 tonnes per person, whereas in Trinidad and Tobago, the worst country for environmental impact, the CO2 emissions are an average of 37.1 tonnes per person. Kenyans ranked well with the third lowest air pollution rates (4.3 µg/m<sup>3</sup>). In comparison, China has the worst air pollution (47.2 µg/m<sup>3</sup>). Ghana ranked seventh and have the lowest municipal waste level per person (0.09 kg per day), compared to Irish citizens who amass 3.58 kg per day.

[The Guardian](#) June 29, 2017

*According to the study, "[The Human Impact on the Environment :Which country's citizens have the biggest impact?](#)" done by UK-based MoneySuperMarket, India ranked 75th with renewable energy making up only 15.2 per cent of all energy used; only 2.2 per cent of waste water being recycled, and municipal waste of 0.34 kg per person being generated daily.*

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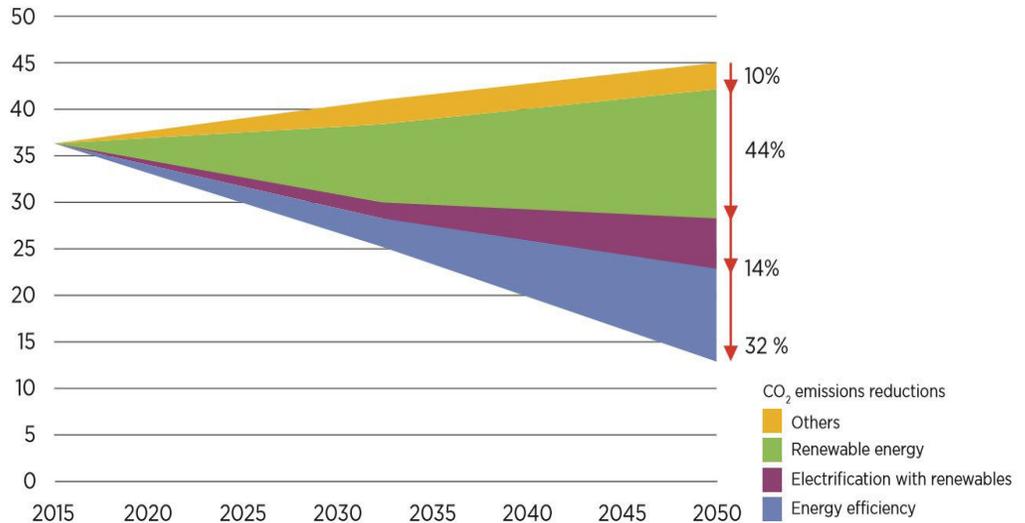
<http://thermalwatch.org.in/>



*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.*

## PRIMARY CO<sub>2</sub> EMISSIONS REDUCTION 2015-2050, IRENA

Total CO<sub>2</sub> emissions  
from all sectors  
(Gt CO<sub>2</sub>/yr)



## REGULATIONS AND CASES

- Sadi Ram; Narayan Ram Vs Union of India; State of Uttarakhand & Ors, Undertaking mining operations without seeking Environment Clearance, 7th March 2017, [Click here](#)
- Paryavaran Suraksha Samiti & Anr vs Union Of India & Ors, "Industry which requires consent to operate from the concerned Pollution Control Board is not permitted to function unless it has a functional effluent treatment plant, 22nd February 2017, [Click here](#)

## PUBLICATIONS

- Rogelj J; Fricko O; Meinshausen M; Krey V; Zilliacus J.J. Johanna; Riahi K, Understanding the origin of Paris Agreement emission uncertainties [Online], June 2017, [Accessed 03 July 2017]. [Click here](#)
- CARE Climate, G20 and Climate Change [Online], June 2017, [Accessed on 04 July 2017]. [Click here](#)

## MISCELLANEOUS

- Summary of the event "Our Oceans, Our Islands, Our Future" organized by GLOBAL ISLAND PARTNERSHIP EVENTS (GLIPSA), held at UN Headquarters, New York on 5 to 9 June 2017. [Click here](#)
- The Human impact on Environment: Learn which country's citizen have the biggest environmental impact! [Click here](#)