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The Vedanta 600MW Coal Plant Fact Sheet

Anglo American and Vedanta Zinc's New Bid to Increase Greenhouse Gas Emissions, Appropriate Water, and Pollute Two African Countries

What Anglo and Vedanta Want to Do

Anglo American Thermal Coal (AATC) has contracted Vedanta Zinc International (VZI) to build a 600MW coal-fired power station for their own use and possibly for the sale of electricity to South Africa's national grid. VZI sees its power requirements at 350MW (possibly for sale to the grid), another 150MW for its Scorpion/Skorpion Zinc mine in Namibia, and another 100MW for its Konkola Copper Mine in Zambia.

AATC will supply low grade coal to the VZI for the power station. This coal is of such low-grade that it is unsuitable for Eskom's (South Africa's state owned electricity generator) existing and under-construction coal-fired power stations.

The site of this power station would be in Lephalale, Waterberg District of South Africa and would be located 39.9km away from the Matimba power station (3990MW) and 37.7km from the Medupi power station (4800MW, under construction). The site would be about 20km away from Botswana. Fourteen human settlements and one major town are (Lephalale) within a 57km radius of the plant.

This area in South Africa is and will be experiencing water scarcity, air pollution, and high carbon emissions from Eskom's planned and existing power station. These existing power stations will demand increased mining operations.

The planned Anglo/Vedanta power station will only exacerbate a precarious local environment and ecology, but will also add significantly to South Africa's carbon emissions and prevent the country from mitigating its emissions pathway.

About the Proposed Coal-fired Power Station

The proposed plant will consist of two sub-critical 300MW Circulating Fluidised Bed Combustors (CFBC) boilers with two 300MW steam turbines with Air Cooled Condensers (ACC). The plant will use coal-discards (coal unsuitable for Eskom power stations) and run of mine coal from Anglo's Dalyshope Phase 1 Coal Mine.

The plant is expected to take 40 months to construct and will be operational in 2018. The plant will last at least 40 years.

According to documentation provided by VZI, the plant will consume:

- 4 million tons of low-grade coal a year (average energy content of 2900kCal/kg)
- This coal will have an ash content of between 50% to 56%, a volatiles content of between 17% and 22%
- Will require 30 tonnes of limestone per hour, 0.24 million tonnes a year
- Will require 68.5m^3 an hour of water. The source of the water is undetermined, but could be groundwater, the Limpopo River, and the Mokolo and Crocodile River: Water Augmentation Project. The area of this plant, according to VZI is a water scarce area.
- The plant will operate 24 hours a day, with a load factor of 90%
- Will be able to operate on biomass
- Will produce 6800 tonnes of ash a day

According to our calculations:

- The plant will produce between 7.4mt and 9.7mt of CO_2 a year. With a 40 year lifespan, it will produce a total lifespan emissions of between 296Mt[1] and 387.04Mt of CO_2;
- A conservative estimate of the carbon emissions gives a figure of about 4.74Mt of CO_2 a year2
- If VZI sells the power from 350MW of capacity at the average tariff price granted to Eskom in 2018 (R0.8913/kWh), it will earn R2.46 billion (USD246 million) a year from electricity sales[3].
- Using figures developed from the international Stern review, the social cost of the carbon emissions (R300 a tonne of $CO_{2\text{-eq}}$) from the power station would be close to R1.4 trillion.

About Vedanta and Anglo

Vedanta Resources plc (parent company of VZI) is an Indian company listed on the London Stock Exchange. Some key facts (2012) are:

- Revenue: USD14.9 billion
- EBITDA: USD4.88 billion
- Operating Profit: USD2.5 billion
- One of the largest independent power producers in India
- It is operational in India, South Africa, Ireland, Zambia, Liberia, Australia and Sri Lanka
- The contact in South Africa is: Leon van Wyk, Tel: +27 11 685 3967, Fax: +27 11 784 2724. Postal: Private Bag X1, Aggeneys, Northern Cape Province, 8893, RSA

Vedanta and its subsidiaries have a record of environmental damage as well as human rights and legal violations. Safety concerns have been voiced regarding their mining operations in India and the company has been accused of several violations of laws and regulations in Armenia and India.

1 Using 1.85 tonnes of CO_2 per tonne of coal burnt (Eskom Average) or 2.4 tonnes of CO_2 per tonne of coal (http://people.exeter.ac.uk/TWDavies/energy_conversion/Calculation%20of%20CO2%20emissions%20from%20fuels.htm)

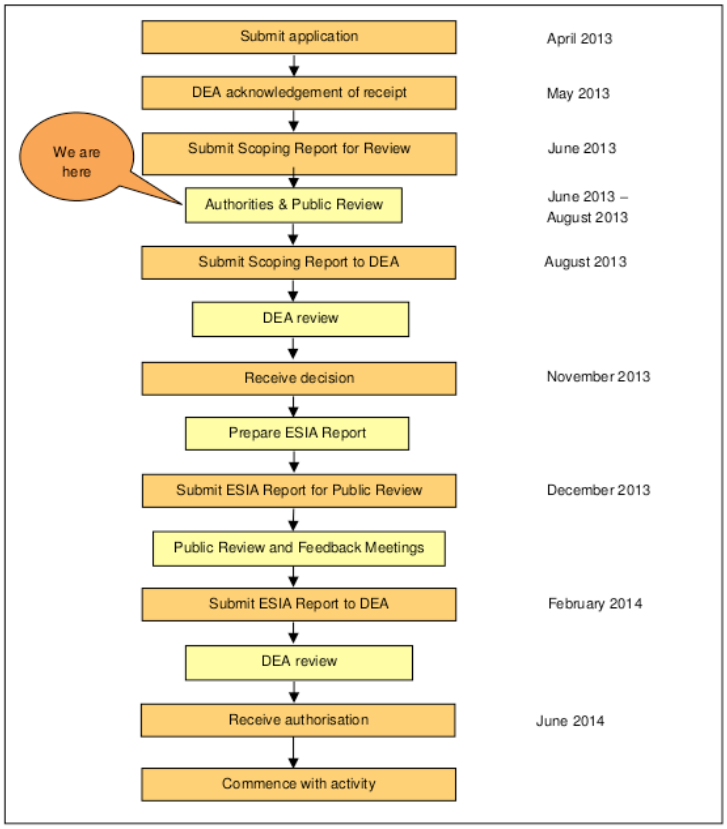
2 ΔGW X 8.76[hours a year] X 0.9[90% capacity factor for new coal plant] X [1 tCO_2/MWh] = $mtCO_2/a$

3 350000 (kW) X 365.25 (days) X 24 (hours) X 0.9 (Load factor) X .8913 (tariff)

Anglo American has a net profit (2011) of £7,178 million and its total assets reach £51,352 million. The assets are financed according to the following structure:

- Shareholders: £24,364 million; 47.4%
- Joint-venture partners: £3,966 million; 7.7%
- Loans and borrowings: £11,487 million; 22.4%
- Other resources: £11,535 million; 22.5%
- Biggest shareholders are Blackrock. Legal and General and Aviva

Where is the Plant in the Planning Stage



Vedanta is now seeking an environmental approval from the Department of Environmental Affairs, and the approval process is at is beginning phase with a Draft Scoping Report. This is at the very early stages of the regulatory process, and can be opposed through the Environmental Impact Assessment (EIA) process.

There is a great deal that the individuals and organisations can do to stop this plant from being built. The very first thing to do is to register as an Interested and Independent Party and submit comments to the Draft Scoping Report. **The deadline for comments is the 20th of August 2013.**

Anyone can register and comment on this plant.

Submit comments, questions or issues that you may have about the proposed project, the Draft Scoping Report in writing, to

Digby Wells Environmental
Fax number: +27 11 789-9498
Email: lerato.ratsoenyane@digbywells.com or nestus.bredenhann@digbywells.com
Postal address: Private Bag X10046, Randburg, 2125.
Or contact them telephonically on +27 11 789-9495.

The EIA consultants are Digby Wells and the Draft Scoping Report documentation for the plant is available at:
http://www.digbywells.com/index.php/en/pub-docs/viewcategory/1199-ved-1565-draft-scoping-report-for-proposed-vedanta-power-plant-by-vedanta-zinc-international-dea-ref-no-14121633380

Contact About the Plant and Opposition to It

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General Impacts of Coal on Health

Scientific research has shown that the pollutants generated by coal combustion can have profound effects on the health of local communities, especially vulnerable individuals including children, the elderly, pregnant women, and those suffering from asthma and lung disease in urban settings.

Air-borne pollutants include: particulate matter (PM), sulphur dioxide, oxides of nitrogen, carbon dioxide, mercury, arsenic, chromium, nickel, other heavy metals, acid gases (HCL, HF), hydrocarbons (PAHs) and varying levels of uranium and thorium in fly ash - all of these pollutants impact human health!

Health effects of coal combustions pollutants: Particulate Matter emitted during coal combustion generates small particles less than 2.5 micrometres (PM2.5) which travel deep into the airways and lead to: respiratory symptoms, asthma, decrements in lung function, emergency department visits and hospital admissions for infections and chronic obstructive pulmonary disease. Inhalation of PM2.5 has also been linked to cardiovascular disease and death.

Sulphur Dioxide (SO2) emitted by coal burning power plants leads to inflammation and hyper responsiveness of the airways, aggravates bronchitis, decreases lung function, and increases hospitalizations for asthma and other respiratory conditions, and asthma emergency department visits in susceptible individuals, particularly among children and adults over 65.

Oxides of Nitrogen are by-products of fossil fuel combustion and react with chemicals in the atmosphere to create ozone (smog) and nitrogen dioxide (NO_2). NO_2 exposure among asthmatic children can increase wheezing, cough, and decrements in lung function.

Exposure to air pollution (containing SO_2, PM, NO_2, and ozone) during pregnancy can cause low birth weight.

Consumption of methyl mercury-contaminated fish from mercury emissions locally, regionally, and internationally by pregnant women can cause developmental effects in their offspring such as lower intelligence levels, delayed neurodevelopment, and subtle changes in vision, memory, and language.

Arsenic, chromium, nickel, other heavy metals, acid gases (HCL, HF), hydrocarbons (PAHs) have also been linked with respiratory, cardiovascular, and neurological health impacts.