

ELECTRICITY

# Uncounted Costs

## IRP should take water costs into account, anticoal lobby avers

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A report from the Life After Coal campaign calls for uncounted costs to South Africa's water resources to be accounted for in the Integrated Resource Plan (IRP).

Mining coal and burning it in power stations use large amounts of water and pollute water as well, imposing massive but uncounted costs on society and particularly on poor people who live in the coal mining regions, it argues.

The Life After Coal campaign is run by the Centre for Environmental Rights, groundWork and Earthlife Africa, together with Greenpeace Africa. The partners have indicated that they will challenge, in court, an IRP that fails to adequately take the costs of coal into account.

The report, titled 'Water Impacts and Externalities of Coal Power', was compiled by the Life After Coal campaign from a range of existing research on the cost of the impacts of coal mining and the burning of coal on water resources.

"The draft IRP 2016 provides cost estimates for different energy technologies, but does not include externalities of critical importance for electricity planning.

"This means that the costs of coal-fired power generation are significantly undercounted. South Africa is an arid country and cannot afford this," says Life After Coal spokesperson **Saul Roux**.

The external water costs of Eskom's new Kusile power station are between R0.95/kWh and R1.86/kWh, according to a Greenpeace study.

The opportunity cost (or scarcity value) of the water used at Kusile will be between R6-billion and R12-billion a year and the 'damage cost' imposed on other water users from sulphate pollution will be between R4.5-million and R7.7-million a year, the study has found.

Life After Coal states that the electricity sector pays far less for water, about R3.40/m<sup>3</sup>, than the average household's R8/m<sup>3</sup>. This means there is no incentive to prioritise water-efficient supply options.

In contrast, properly valuing water would justify a rapid transition to water-efficient renewable energy, the campaign partners state.

"Our scarce water resources are impacted on throughout the coal life cycle. This includes direct impacts on water

quality during coal mining, impacts of air pollutants on water resources and coal ash contamination of groundwater.

"Acid mine drainage has the most severe impact, with treatment estimated to cost around 0.38c/kWh," states the report.

Apart from future water treatment costs, the historical impacts of coal mining will require treatment and associated costs for decades to come. South Africa has close to 6 000 recorded derelict and ownerless mines. It is estimated that the closure of these mines, including the long-term treatment of acid mine drainage, would cost up to R60-billion.

The inclusion of water supply and infrastructure costs into energy modelling could result in a 75% reduction in the water intensity of the power sector by 2050, Life After Coal says.

Renewable-energy technologies use far less water. A decarbonised energy future would require four times less water, by 2050 than the draft IRP's base case, which relies heavily on coal and nuclear.

A decarbonised future would also cost less and create up to 331 000 jobs in the energy sector by 2050, according to research conducted by the Council for Scientific and Industrial Research.

The report makes it clear that it is critical that the new draft of the IRP, which Energy Minister **Jeff Radebe** says will be published shortly, considers the full range of water-related externalities and impacts in determining and costing South Africa's future electricity supply mix.

Earthlife Africa director **Makoma Lekalakala** notes that excluding these costs results in the misrepresentation of the costs of coal-fired power generation.

"These costs do not go away. They are borne by the environment, by society in general and especially by poor communities.

"Conversely, including these costs would justify a rapid shift from coal to water-efficient renewable energy. This transition is essential and urgent, given South Africa's water crisis.

"It is equally urgent that this is planned as a just transition that contributes to creating a more equal society in which everyone has a place, including workers who are currently employed in the coal sector," he adds. ■