

Plant energy efficiency

Eskom has identified internal energy efficiency as a strategic priority. Improving the energy efficiency of existing power stations is a cost-effective and fast way to improve the reserve margin and reduce national CO₂ emissions. In this way Eskom will take a leading position in the nation's drive to save electricity, and complement the demand-side management programme of its major industrial customers.

Eskom's planned energy efficiency measures will have a substantial impact on production capacity and coal consumption and is expected to be cashflow positive. The programme is estimated to yield a minimum of 150MW of increased capacity and 400 kilotons per annum in reduced coal consumption across the coal-fired fleet – a substantial financial benefit as well. The reduced coal consumption translates into 1.5 million tons reduced CO₂ emissions per annum – a significant contribution to South Africa's drive to reduce its overall carbon footprint

The Majuba power station energy efficiency pilot site, in its first four months of implementation, has already yielded positive results. A multifunctional team consisting of Eskom and international experts, has implemented several improvement measures, to increase Majuba's output during peak demand by an estimated 26MW and improved its heat rate (coal energy consumed per electric energy produced) by an estimated 1% which translates to approximately 40 kilotons in reduced coal consumption per year. These improvements are being independently verified by Eskom's measurement and verification department.

The full energy efficiency programme will be rolled out across Eskom's fleet to realise the total anticipated benefit. Several improvements will be captured in the short term before the winter of 2011 in order to alleviate

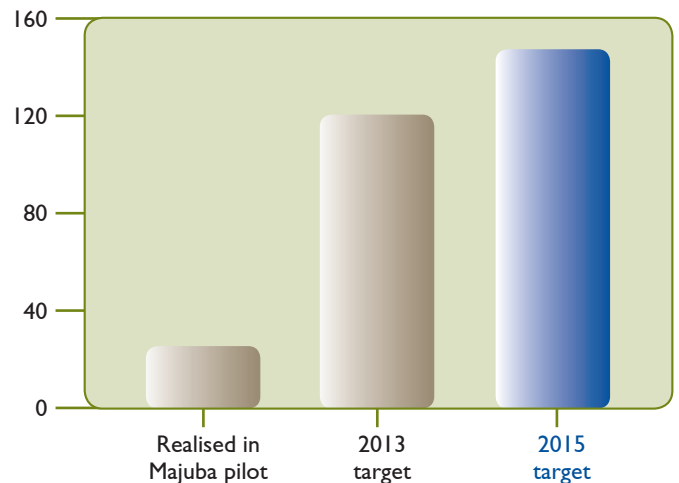
anticipated supply constraints. The programme will be rolled out to all coal-fired stations in four waves during 2011 and 2012. The benefits from these initiatives will be realised during 2015.

Ramp-up of energy efficiency improvements

- 26MW already realised at Majuba
- 150MW of energy efficiency improvements expected by end of 2015
- Coal savings of ~ 400 kilotons per annum expected by end of 2015

Additional capacity

(MW)



Coal savings

(Kt per annum)

