Title	Energy Saving Project
Organisation	Groote Schuur Academic Hospital, Western Cape Province
Innovation	What makes this project innovative is that we address the daily challenges to reducing the carbon footprint, saving energy in the public health care sector. The project is original for our environment but can be rolled out to other health care facilities. The success of the implementation of this project hinged entirely on the expertise and technical strengths of the artisan staff of the mechanical and electrical departments of Groote Schuur Hospital. The continued effectiveness of this project relied on the continued motivation of the engineering teams responsible for the upgrades and improvements carried out on the steam reticulation to increase the overall efficiency of the installation. The staff did not require any technical training as all the improvements to the system were based on the simplest of engineering principles. As we were applying First Principles, very few modifications were required as the system was stripped of all complex management and obsolete systems and simplified to allow for the re installation of the original steam systems on the steam lines and improvements to the Steam Generation Plant. These improvements to the steam lines comprised of: • Re-lagging • Replacements of faulty steam valves • Repair of steam leaks on flanges, valves and equipment • Removal and blanking of all redundant steam lines • Replacement of faulty condensate legs • Replacement of condensate return tanks • Replacement of hot well tanks The improvements to the steam generation plant comprised of: • Complete overhaul of boiler valves and fittings. • Re-lagging of boilers. • Sand blasting of boiler tubes and flues. • Replacement of soot separators and induced draft fans. • Installation of variable speed drives of the stokers and force draft fans. • Replacement of the original boiler controls with new up to date control panels, but retaining the non-PLC control method for ease of maintenance. • Complete upgrade to the boiler house electrical reticulation to eliminate redundancy and to become compliant with all current electrical regulations. The water saving initiatives comprised of: • Fixing all leaks at the hospital. • Replacing corroded pipes. • Proper maintenance plans in place. These projects, initiated by the Head of Engineering at Groote Schuur Hospital was the stepping stone to many other “go green” initiatives started in 2009, including measures to save Electricity.

Impact	Over a five-year period, the coal consumption at Groote Schuur Hospital was reduced by 48% and the efficiency of the system improved from 30% to 70%. Over a five year period the water consumption at Groote Schuur Hospital reduced by 46%. The project has created enthusiasm amongst the Engineering staff and generated innovative solutions that the staff developed themselves. The teams working on the projects had a sense of ownership and pride in what they had accomplished and the difference that their projects are made to achieve are more environmentally friendly and go green hospital. The projects were also designed in such a way that the innovations can be rolled out in other health facilities. The Green Hospital Projects have demonstrated Green leadership and environmental responsibility. We could engage staff from various hierarchical levels of the hospital to take ownership and drive the projects in their areas.