

SA'S IMPENDING WATER DEFICIT CALLS FOR RENEWABLE ENERGY SOLUTIONS

16th July 2014: According to the South African Department of Water Affairs, South Africa is a water scarce country and is ranked as the 30th driest country in the world, with annual rainfall levels of about 50% of the world average. Many parts of the country have either already reached or are fast approaching the point at which all viable freshwater resources will be fully utilised.

Arthur Chien, VP of Talesun Energy, a leading supplier of solar energy solutions, says that amidst the already impaired water situation in South Africa, the energy sector uses large amounts of water for electricity generation as part of the cooling technology of coal at power stations. He says that South Africa's growing population, coupled with the many energy intensive industries, such as steel production and mining, adds to the already problematic water scarcity in the country. Chien refers to the 2011 Carbon Disclosure Project, which states that South Africa is projected to experience a 17% gap between water supply and demand by 2030, which is a shortfall of 2,7 billion cubic meters. "It is clear that accessible, affordable and drinkable water is becoming a rare natural resource in South Africa. Since the South Africa's population grew by more than 200% since 1955, more water is needed to keep up with the growth of the population for electricity. By investing in renewable energy solutions the country will significantly decrease the amount of water used at coal power stations."

Chien further points to research by the South Africa Department of Energy, which estimates wet-cooling uses 1.90 l/kWh. He also points to the *Greenpeace: Coal's hidden water cost to South Africa 2012* report, which reveals that Eskom uses around 316 billion litres of water per annum.

"Water used during the cooling of coal at power stations needs to be of the highest quality as using grey water, or recycled water, in the cooling process can cause great damage and erosion to the inside of the pumps. Although grey water can be purified extensively and then used as part of the process, this is not practised very often because the extensive recycling of water is a costly project. This means that fresh water which could be distributed to areas in need of water is used for electricity instead."

He says that renewable energy technologies use substantially less water than coal-fired plants. "Photovoltaic solar energy for example, is practically a water-free process, and a source of clean energy which provides energy without compromising the water supply. By making use of renewable energy South Africa can divert the scarce water supply to areas where it's urgently needed."

Chien says there is a growing demand for renewable energy solutions such as photovoltaic solar energy systems in southern Africa, and this is reflected by the various international countries seeing an increase in their photovoltaic exports to South Africa. "This shows that more South African businesses are seeking ways to move from conventional electricity to renewable energy," he concludes.

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