

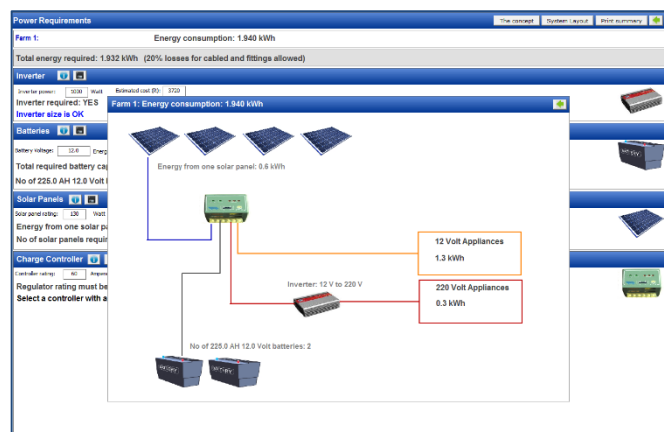
Water and Sanitation in the News

Economists See Water Crises as Greater Risk than Weapons, War, Disease

Economic experts say water crises would have the most harmful impact on global stability compared to any other type of threat, including wars, infectious diseases, and weapons of mass destruction. That's according to the World Economic Forum's (WEF) Global Risk Assessment for 2015. "In looking at global risks in terms of their potential impact, the nearly 900 experts that took part in the Global Risk Perception Survey rated water crises as the greatest risk facing the world," the forum announced. According to Piet Klop, a senior adviser at Dutch pension fund manager PGGM, water risk "has definitely moved from what used to be an NGO concern to something that is now about ready for prime time and mainstream investor interest." Investors want companies to release more data about their exposure to water risk...

Source: [Water Online](#), 26 May 2015

The **Municipal Assistant™** system helps to avert water crises by supporting the sustainability of asset and operational management functions of water treatment works. The latest module to the MA system is the **Solar Calculator** – which is a tool whereby calculations for required solar power generation equipment and storage are made, according to custom inputs guided by the amount of electricity as required by a user's equipment or appliances (e.g. boreholes, pumps, lights, computers, etc.) Given the increasing unreliability and cost of dirty (i.e. coal generated) conventional power supply, more and more users (domestic and industrial) are turning to 'greener' and self-sustaining options for meeting their electricity needs.



The MA Solar Calculator can help all users who want to make the above transition, to make more **accurate and cost effective decisions** regarding the specific solar energy equipment installation requirements according to their specific needs. In particular, the tool makes recommendations on the amounts and sizes of: solar panels, the inverter, batteries and the charge controller/regulator. The Solar Calculator is pre-loaded with cost estimates and contact details for each component according to recent price lists of the most popular and reliable suppliers currently operating in South Africa. The tool also provides for the addition of more component supplier brands and price lists according to specific user preferences.

Solar System: Summary Report					
Municipal Assistant (TM)					
Solar Project: Farm 2					
Boreholes					
Equipment and appliances					
Item	Power (W)	Hours per day	Volt	No. of	Note
Lamp light	6	8.0	12.0	1	NA
Lights	5	4.0	220.0	3	NA
Security Light	40	3.0	220.0	1	NA
Small Pump	500	7.0	220.0	1	NA
Power Requirements					
Energy consumption: 3.728 kWh					
Total energy required: 4.862 kWh (20% losses for cabling and fittings allowed)					
Item	Rating/Size	Description/Notes	No. of	Estimated costs	
Inverter	600 Watt	Inverter power required: 600 W (10% losses allowed)	1	3070	
Batteries	750 AH: 12 Volt:	Total required battery capacity: 2431 Ampere Hours (AH): Energy stored for 3 days: Depth of discharge: 50 %	4	69600	
Solar Panels	80 Watt	Energy from one solar panel: 0.6 kWh	6	5400	
Controller	60 Amp	Regulator rating must be > 40 Ampere	1	3200	
Total estimated equipment cost: R 81270					
Add 20% for cables, fittings and meters: Total estimated cost: R 97524					

The Solar Calculator provides an excellent means for calculating the optimum design and costing of a solar energy generation system and is a must have especially for users in the water supply sector (e.g. municipalities) that are very sensitive to intermittent power supply in maintaining their own delivery of vital services. It could assist in the best design (in terms of efficiency and costs) of, for instance, water pump stations' conversion to become fully or partially grid-independent – which is a transition that could in future become increasingly more critical for ensuring continued pumping of water during times of Eskom load shedding or technical power failures (e.g. due to equipment failure, cable theft, vandalism, etc.)

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