

Western Port Greenhouse Alliance Agricultural Emissions Project

Idea No: 8

Footprint Rating:



Wind Pump

Description: Farmers have been using windmills to pump water for millenia. The use of wind turbines for pumping is an effective modern-day example of this same process. Wind causes the blades on the wind turbine to rotate. The rotation of the blades turns the shaft which is connected to a generator, where the rotational energy is converted into electricity. An electric pump then converts this electricity into hydraulic work, enabling water to be lifted to the required level needed for watering.

Environmental Benefits as opposed to the current system

% reduction in GHG emissions:	2.30%
% increase in water efficiency:	0.00%
% reduction in waste to landfill:	0.00%
% increase in production:	0.00%

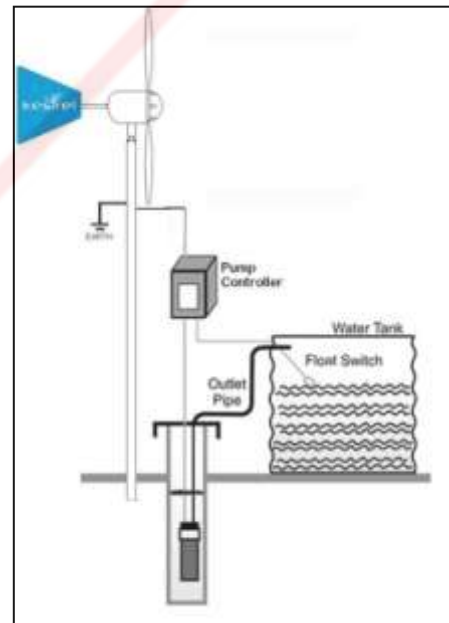
Benefits: Reduced energy costs and emissions

Costs: Pump - \$6000
(\$3000 more than petrol/diesel option)

Savings: Petrol/Diesel cost reduction of \$2904
and 5t CO2 per year

Implementation/Monitoring/Reporting

Once installed, the wind powered pump is easy to run. It requires very little maintenance and does not run out of fuel diesel pump would. However, the power However, the power supplied to the pump is dependent on the weather conditions.



For more information see the following websites:

<http://www.derm.qld.gov.au/factsheets/pdf/water/w44.pdf>

<http://www.energymatters.com.au/>

<http://www.windpowerenergy.com.au/>

<http://www.kestrelwind.co.za/assets/system%20update/kestrel%20water%20pumping%20solution.jpg>

<http://monsterguide.net/images/how-to-build-a-wind-turbine.jpg>

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Cardinia Environment Coalition Inc.

