

Western Port Greenhouse Alliance Agricultural Emissions Project

Idea No: 13

Footprint Rating:



Heat Pump

Description: A heat pump transfers heat from one place to another by a 4 step process.

1. Outside air warms the refrigerant liquid - causing it to become a gas.
2. The warm gas passes through a compressor - where the pressure and temperature increase.
3. The water absorbs heat from the surrounding coils that contain the high temperature gas.
4. The refrigerant passes through an expansion valve, further lowering the pressure and temperature so that the cycle can begin again.

Environmental Benefits as opposed to the current system

% reduction in GHG emissions:	0.23%
% 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: \$2,500

Savings: Petrol/Diesel cost reduction of \$550 and 0.5t CO2 per year

Implementation/Monitoring/Reporting



For more information see the following websites:

http://en.wikipedia.org/wiki/Heat_pump

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

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

<http://www.energymatters.com.au/renewable-energy/solar-power/solar-hot-water/solar-heat-pumps.php>