

Renewable Energy and Environmentally Sustainable Design Case Studies

St. Kilda Park Primary – Solar Pumping

Site: St. Kilda, Victoria

Dates:

- Design Phase Commencement: May 2006
- System Installation and Commissioning: June 2006

Client:

Port Phillip Eco Centre/St. Kilda Park Primary School

Project Goals:

To illustrate sustainable garden practices to primary school children by saving rainwater and limiting greenhouse gas emissions by utilizing a solar powered pump.

Project Features:

Working in conjunction with the Port Phillip Eco Centre to bring sustainable solutions to local schools that received small grants from the CSIRO for such projects. This was the first of three installations for the Eco Centre.

The process involved discussions with the Eco Centre and school representatives to ensure a suitable system within a small budget. To keep costs down, the system was designed to use existing structures and materials the school had on hand. A pump stand was built out of wood off-cuts. The battery and electrical equipment were housed in an existing cupboard in a storage shed adjacent to the water tank.

The system pumps water from the existing 9000L rainwater tank to the children's vegetable garden approximately 10-15 metres from the tank. Allows for water to be pumped for up to an hour a day at 10L/min.

The roof runs north-south, so a side-pitch frame was used. A eucalyptus tree that could not be removed or trimmed casts an afternoon shadow on the panel so the system was sized accordingly to accommodate for this.

Project Team:

- Joleen Hess, Project Design and System Installer, Going Solar
- Duncan MacGregor, System Installer, Going Solar
- Julia Martin, Project Manager, Port Phillip Eco Centre
- Geoffrey Barry, Project Manager, Port Phillip Eco Centre
- Christine Beckingsale, Convener, St. Kilda Park Primary
- Jane Bennetts, Science Coordinator, St. Kilda Park Primary
- Sue Knight, Principal, St. Kilda Park Primary

Further Information:

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System from Shed Roof



Home-made Pump Stand and Pump



**Existing Cupboard Housing
Battery and Controls**