



PROJECT PROFILE:

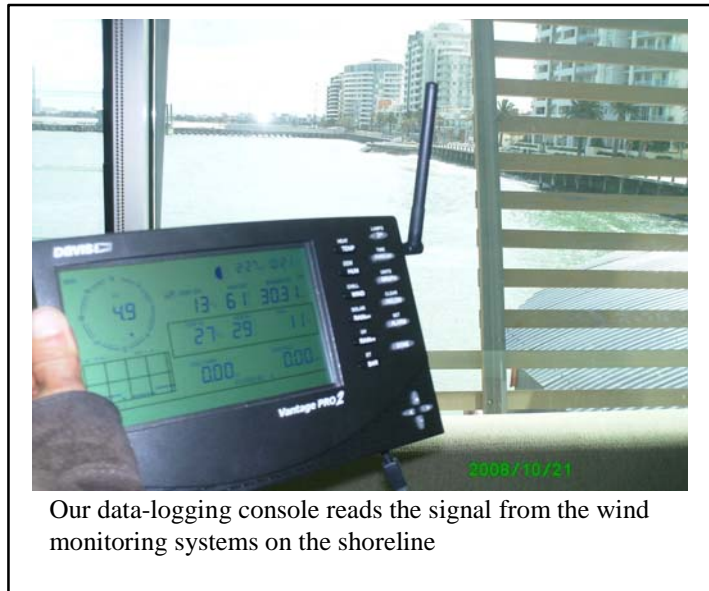


MEASURING THE WIND ENERGY RESOURCE FOR THE CITY OF PORT PHILLIP SUSTAINABLE LIGHTING PROJECT

Project Background

The City of Port Phillip (CoPP) plans to generate renewable energy to power the lighting along the newly developed Port Melbourne waterfront between Station Pier and Princess Pier.

This forms part of the broader Sustainability plan for CoPP, which includes a carbon neutral goal for greenhouse emissions from Council operations by 2020.



Our data-logging console reads the signal from the wind monitoring systems on the shoreline

One renewable energy resource which is very familiar to walkers, beach lovers and sailors alike, is the *wind*.

A fresh breeze blows inshore from the south for much of the year in this area. The 'sea breeze' aids the large scale westerly wind patterns of the region to create an energy resource which can potential be harnessed. Modern wind turbines at modest scales enjoy much reduced noise levels and wind turbine technology is rapidly becoming an accepted energy source worldwide.

So just how much energy is available in the wind here, and how much power could it supply?

The recommended solution to this is to measure the wind directly.

How Enhar is Assisting

In early 2008, [Enhar](http://www.enhar.com.au) were asked by the [City of Port Phillip's Sustainable Environment Unit](http://www.cityofportphillip.vic.gov.au) to provide a wind monitoring and analysis service to CoPP. Three locations were earmarked for wind monitoring, spread along about 800 metres of shoreline, including a grassy beachside BBQ area, a pier under redevelopment, and a walkway dividing some tenement buildings. Enhar were contracted to supply suitable wind monitoring instruments, to supervise the installation of the instruments and to analyse the recorded wind data.

Our selection of suitable wind monitoring instruments for the job was driven by quality, usability and cost. The Davis range of weather instruments provided a great solution and we sourced the anemometers, wind vanes, solar powered wireless data transmitters and data logging receivers through their local distributor in Melbourne.

www.enhar.com.au

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The Project Details

The installation of the three wind monitoring systems took place on a calm sunny day. A cherry picker was used at two of the sites to allow the technicians to access the existing pole structures.



At the third site, a new mast structure was required with a purpose built housing for the logger unit.

Enhar assisted with the design and installation of the mast, as well as ensuring the wind instruments were fitted at the correct orientation.



At one site, a full weather station was installed, with a wireless receiver console placed in a public restaurant – an interesting source of weather information for local diners!

The wind data collection process is important to ensure the value of the project.

Enhar will be downloading the data at monthly intervals through the summer of 2008 and will be training CoPP staff to continue the downloads into 2009. The data downloads include quality control checks to spot and fix any errors.

Enhar will also undertake analysis of the wind data to verify the wind speed at each site and the prevailing wind directions. Finally, we will perform a correlation with long term data at a nearby Bureau of Meteorology Station to obtain a long term wind resource estimate.

Keeping the prospect of urban renewable energy alive!

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Further Information on the project team:

Enhar: www.enhar.com.au/wind_monitoring.html

City of Port Phillip: http://www.portphillip.vic.gov.au/environmental_initiatives.html



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