

Green Centre News

DHA Service Delivery Plan hides an important environmental message

by Roger Tomlinson ZWM

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Latest News:

- Energy Expo: IOM College - May 6th/7th
- For Sale: Canon colour duplex inkjet printer. Now surplus to requirement as the Green Centre has a shiny new laser colour printer/copier. The old printer has only been used for printing copies of the newsletter so has had an easy life. Offers, around £35, can be made to ZWM committee members Muriel Garland on 664796 or Andrew Jessopp on 622937.

In April I O M Government Departments published their Service Delivery plans for 2011-2012.

The Department of Home Affairs lists 6 'drivers for change' that challenge its ability to ensure the safety and protection of the community.

These predictably include political, economic, social, technological and legislative factors. But what's this at number 6?

"Environmental issues, such as climate change, and the attitudes of people in supporting environmental initiatives can also influence the Department's activities.

With heightened awareness of the impacts of climate change, the community expects the Government to act responsibly in dealing with environmental issues. It expects us to be energy efficient, to use sustainable materials, to manage waste and recycle where possible. However, many of the Department's buildings are outdated, and offer low efficiency in terms of energy use. Investment in sustainable energy production and high efficiency lighting is desirable, but highly challenging in the current financial climate.

Many of the emergencies our services now face are influenced by climatic factors. Events such as trees falling, gorse and forest fires, landslides and flooding are all too common and mean our emergency services must be prepared and trained for an ever-increasing range of possible situations.

The environment can also influence the types and frequency of disease in circulation. During the past couple of years we have seen a Swine Flu Pandemic which has again demonstrated the ability of disease to cross the species barrier and cause infection and death in humans. In our role as Emergency Planner for the Island our challenge is to ensure that Government and other organisations are prepared for such events through the preparation of effective and tested Business Continuity Plans and by hosting exercises in order to practise the response of different agencies."

Well the challenge of climate change seems to be well and truly recognised by D H A. Let's hope that the next Government, later this year, also embraces the concept. One way of doing that would be to actively work towards the agreed Tynwald target of producing 15% of the Isle of Man's electricity from renewables by 2015.

Tempus fugit!



Siteing a Wind Turbine - by George Fincher MEAC

You often hear it said 'this is an ideal site for a wind turbine it is so windy here', but is it really an ideal site?



There is more to siteing a wind turbine than you might think

What is an ideal site? It all starts with the wind resource naturally. For a wind turbine to perform at its optimum it will need two things, a high average wind speed and laminar flow wind.

Let's start by expanding these two items to make them a bit clearer. The average wind speed is the wind speed with all the low winds and all the high winds all added together and the result averaged over a year. The IOM average wind speed is around 6.5 meters/second (m/s) or approximately 14mph. The higher this average is the better the output from the wind turbine will be. Sites with average wind speeds of less than 5m/s are not really worth using for wind power as the output from the wind turbine will be relatively low. (By output I mean the number of KWhrs generated in a year).

The second requirement is laminar flow wind. This sounds rather technical but all it means is the wind is not being obstructed by trees or buildings etc. Consider the water flowing in a stream, if there are no obstacles in the flow you hardly see any waves or splashing. That is laminar flow, i.e. it is smooth or non turbulent. If the flow is interrupted by tree branches or rocks etc then the water churns about causing lots of splashing and ripples. This is turbulence and is the opposite of laminar flow. So all laminar flow means is the wind is not being interrupted by objects near to the wind turbine. Laminar flow is important because it allows the wind turbine blades to operate in the way they were designed to operate. Turbulence reduces the efficiency of the blades, which in turn reduces the output from the wind turbine.

Wind turbines are mounted on tall poles to get away from the turbulence caused by the ground. As the wind blows at ground level the grass or ground cover interrupts the smooth flow of the wind and causes turbulence. To get away from this the turbine is mounted high in the air. The ground caused turbulence diminishes with height. The higher the better. A wind turbine should always be at least 5 metres above any obstacles, and higher is better. Americans think in terms of 100 feet poles but the cost of such structures is so high that you get a diminishing return in terms of improved wind turbine output for the greater cost incurred in the mounting pole.

Some simple observations will help to tell if a site is good for wind power. If all the trees or bushes are stunted or bent over then that is a sure sign of lots of strong winds (and a clear indication of the prevailing wind direction, which is the most important direction to be free of obstacles).

What about mounting a wind turbine on your house? It is often suggested as a reasonable way to reduce the cost of a wind turbine by reducing the mounting pole and keeping any cabling short. The acid test as to if it's a good idea is to apply the two requirements outlined above. First item was a high average wind speed. A house generally speaking is close to other houses and gardens (with trees, shrubs etc.) or even in a built up area (village or town). The average wind speed in these locations is always lower unless your house happens to be the tallest one on the top of the local hill. So house mounting is not too good on the high average wind speed requirement. What about laminar flow? Well all those other houses, or garden shrubs or the actual house roof all cause turbulence. Whoops not too good on the second count then.

So house mounting of wind turbines is a very poor mounting technique from a maximising the wind power point of view. It also can cause noise problems (resonating through the house) and structural issues. So bottom line – forget mounting a wind turbine on a house.

How can you gauge the likely quality of a site for a wind turbine? The textbook method is to use an anemometer and wind vane to measure the wind speed and direction at the location where the wind turbine is likely to be located. The problem with this is it takes a year to get the data, costs quite a lot for the monitoring equipment and a mounting pole and needs planning permission. It can be more cost effective to put the cost of the monitoring straight into the final wind turbine installation if a reasonable guess at the sites quality for wind power can be made.

Continued on back page

Some simple observations will help tell if a site is good for wind power - but forget mounting a wind turbine on a house!

Making a little go a long way

Honda Jazz Hybrid

by Andrew Jessopp ZWM

Honda cars have taken one of the most popular small cars in the British market - the Jazz - and potentially made it even more appealing to the environmental fraternity.

The car now come with a hybrid option, combining its already fairly frugal petrol engine with an electric motor that Honda claims gives an improved fuel efficiency and reduced CO2 output despite an increase in weight.

On paper it all sounds very promising but does it live up to its promise in real life?

I took Kingswood Honda's Jazz demonstrator for an afternoon's drive and put it through its paces in town and out on the open road.

First impressions were good even if the initial reaction to all the levers, buttons, and displays was almost a sense of bewilderment; although after only a short period of driving it soon melted away.

Unlike the Toyota Prius Honda has a



conventional key operated start and the main info display is mounted in the dash behind the steering wheel; which is far more convenient.

The Jazz is also noticeably more revvy and responsive and afterwards my Prius felt like a bit of a slug for a few miles, albeit it has a more sedate and solid feeling.

The ride in the Jazz is good and the 'automatic' CVT (continuously variable transmission) makes for a fairly effortless and relaxed drive, especially in traffic and during town driving.

The Jazz also comes with a 'Econ' button, which when pressed switches a few energy sapping features off and further improves fuel efficiency. It also enables an extra display that shows how economically you are driving. The more economically you drive the more trees will grow in the display!

Honda's published figures say the car will return over 60mpg which, even with all the extra weight of the batteries, is 10mpg better than the purely petrol version.

I didn't have long enough to fully test this figure but in the short time I had to drive it I gained the impression it should be achievable by driving carefully.

At £1500 more than the standard version it will need the price of petrol to continue to head skywards for an IOM owner, driving the fairly low average annual mileage, to recoup the additional cost.

However, with CO2 emissions about 20% lower than the standard model owners should see a reduction in their carbon footprint - and what price do you put on that?

So would I recommend it to a friend?

Yes, I think I would if they were in the market for a small, versatile family car; and I shall certainly add it to my list of possibles when I change my Prius.

For more details contact Kingswood Honda or visit

www.honda.co.uk/cars/jazz/newjazzhybrid



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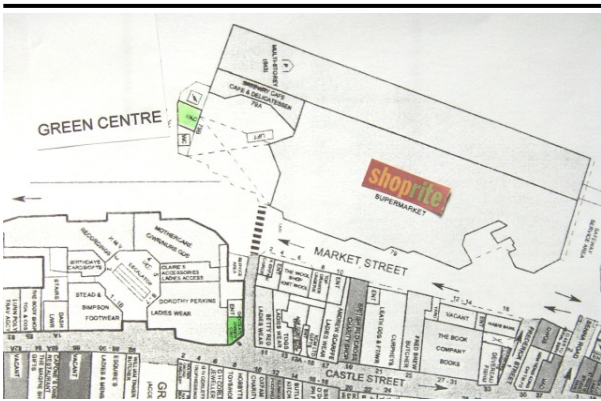
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Opening Hours: Saturdays 10.00 am - 2.00 pm
(Although generally open for longer)

Campaigning for the Island's environment



ZWM works with IOM Prison By Muriel Garland ZWM

The opportunity to buy a polytunnel for the prison at Jurby came after we had organised a Master Composter event last year in Laxey Glen Gardens.

Zero Waste Mann offered to buy the polytunnel so that the prisoners could make their own compost and grow vegetables for the kitchen.

Our offer was eagerly accepted and Phil Corlett and I recently went out to Jurby to see how things were progressing. When we visited they were getting ready to plant potatoes.

The project is doing well and staff told us they are hoping to supply the kitchen with fresh vegetables throughout several months this year.

The project has gone very smoothly with staff and prisoners erecting the polytunnel frame and plastic cover themselves and digging out the plots etc.



1000 Thanks! *Notable milestone passed for* *Morsbags in the IOM* by Muriel Garland ZWM

Congratulations are in order!

Why? Because prisoners at IOM Prison Jurby have made 1,000 morsbags for Zero Waste Mann.

Q. What are morsbags?

A. Cloth bags made from recycled duvet covers and curtains.

Q. Where does the name come from?

A. Pol Morsman had the idea back in 2007.

Q. Why did she do that?

A. She saw the damage that was being done to marine animals because of plastic bags.

Q. How did the IOM prison get involved?

A. Zero Waste Mann started a joint project with them. ZWM provides the material and cotton while the prisoners do the measuring and sewing

Q. What happens to the bags?

A. They are given away free to people on the island.

Q. How many have been made altogether?

A. The Mannin pod has made 1,619 up to date.

Would you like to help by providing material or making bags?

Get in touch with us at the Green Centre 666029 or look at our website: www.zerowastemann.org



The only minor problem was when the company tried to deliver the tunnel to the Green Centre in Douglas rather than to Jurby but that was sorted with a quick phone call.

We're very pleased that we've been able to help and to provide some healthy, meaningful occupation for prisoners. They are already planning to enter some of the produce in local shows and we look forward to hearing the results of that. They will be carrying on a good tradition because Victoria Road Prison used to sweep the board at Agricultural and Produce shows.

Siteing a wind turbine - continued

If the site proposed for the wind turbine is less than optimum then the consequence is a reduced output from the wind turbine. In practice nearly every site will have to make some compromise from the ideal, and pay the price of some reduction in the output compared with the ideal.

So what is the best site for a wind turbine? By applying the two requirements above, you can estimate if a site is reasonable for wind power. By siting the wind turbine on a reasonably tall pole in the middle of an open space (field), well away from trees and buildings and facing into the prevailing wind with no hillsides in the direction of the prevailing wind and in a location where the trees are stunted and bent in the direction of the prevailing wind then the site will be a good wind power site.

Simple.