

Green paper on energy,

Having read the green paper on sustainable energy I would like to make a submission to the department of the Marine and Natural Resources on Ocean wave energy.

Our greatest potential for green energy to produce electricity is the Atlantic Ocean. At the moment there are a number of early stage machines to generate power from the waves but they are at a stage that is overly complicated and cost per unit is too high. I have designed a system that will act as a stand alone device in depths of over fifty meters of water and should produce between ten and thirty megawatts of power depending on wave height.

My design consists of a series of pumps that will feed a small reservoir and then the water can be used in a number of hydro turbines. This will have the advantage of been able to supply power whether connected or not to the grid and it should also be very compatible to the grid if connected.

My device will be covered by a number of patents which I am about to put in place. I have done considerable model testing in the Irish Sea at Gormanstown Co Meath. When in place my machine will be able to operate with waves as small as one meter and up to twenty meters or more, and the reservoir will also house a number of turbines so as to match the wave height at any given time. So the bigger the swell the more the turbine will operate. It should be possible to build stations in the range of ten to twenty megawatt initially but how close these might be to one another is for another day. Wave energy should be more predictable than wind as ocean waves can travel great distances and can be forecasted with more certainty than wind.

The area of Ireland that has the best wave climate is off the Mayo coast. This is also well off the main shipping routes and as my system employs only environmental friendly materials it should not pose a treat to the environment. As it will be fairly well off the shore it should not pose a visual problem and also it should not pose a problem to fishery. As wave energy is in its very early stages of development it should present the country with an opportunity to become a major centre in the development of wave energy.

The machine that I have designed will be easily to make by any of our engineering firms and create a number of jobs.

If the system proves successful the real high quality jobs will be in the making of the turbines and the generators etc.

Luke McGuinness.