

TIDAL WAVE ENERGY

Global energy demand continues to grow and tidal wave energy generation devices can provide a significant source of renewable energy. Technological developments in offshore engineering, and the rising cost of traditional energy, means that offshore energy resources will be economic in the next few years.

Tidal wave energy is a form of hydropower that converts the energy of tides into useful forms of power – mainly electricity. Although not yet widely used, tidal power has potential for future electricity generation. Tides are more predictable than wind energy and solar power, as there can be bigger variances in the amount and levels of sunlight and wind.



This is an image of the Carlingford Lough tidal wave scheme in County Down, Northern Ireland. As you can see the span of the turbines is vast.

However these tidal barrages have the potential to cause significant ecological impacts, particularly on bird feeding areas, when they are constructed at coastal estuaries or bays. Offshore tidal stream energy and wave energy collectors offer the scope for developments at varying scales. They also have the potential to alter habitats.

The world needs sources of energy that have low carbon demands, and wet renewables represent a significant resource. All renewable energy systems impose changes to the environment which need to be balanced against the potential to deliver very significant quantities of low carbon energy. Barrages and tidal fences require coastal locations with particular environmental conditions which can prove a big setback in terms of gaining permission to develop them.



Should the coastal landscape of Northern Ireland be at risk to support such developments as the tidal wave scheme?

A “fully developed” all-Ireland ocean energy sector could be worth about €9 billion and fuel the home and global market by 2030, says a report commissioned by the Government’s Sustainable Energy Authority of Ireland and Invest Northern Ireland. Currently the marine renewables industry is known to be frustrated by the lack of sufficient Government commitment to the sector, and fears that this could drive away interested international investors.

Source: <http://www.globalsiteplans.com/environmental-design/tidal-wave-energy-is-it-ecologically-sustainable/>