

Council backs idea of €500m renewable energy reservoir

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A €500 million renewable energy storage reservoir proposed for north Co Mayo could export 10 terawatt hours of “clean power” to Britain, according to its backers, providing the equivalent of 2 per cent of Britain’s electricity requirement by 2016, when the project is targeted for completion.

Mayo County Council has expressed support in principle for the concept, developed by Organic Power Ltd of Skibbereen, Co Cork, to store surplus wind and wave energy generated as part of the county’s renewable energy strategy.

Export would require a strategic electricity grid link between north Mayo and Pembroke, Wales, and Eirgrid has offered to conduct a pre-feasibility study on the link in advance of a connection offer.

The proposed location for the energy storage hub is Glinsk mountain on the north Mayo coastline, and construction would involve 200 jobs over three years, according to Organic Power Ltd’s managing director Maurice McCarthy.

Mr McCarthy, who has been working as a consultant to the renewable energy sector since 1999, says the project is “competitive at €700 perkilowatt” of energy.

Glinsk was earmarked for its flat-topped location near the sea for the proposed pumped hydro-electric storage scheme (PHES), similar to that in Turlough Hill, Co Wicklow.

The same site was proposed almost four years ago as a compromise location for the Corrib gas terminal, but was rejected by Shell E&P Ireland which commissioned Arup Consulting Engineers to review the location.

The PHES technology, proven since the 1920s as a method of storing off-peak electricity for peak demand, works by moving water between reservoirs at different elevations. In this instance the sea would provide the lower reservoir, with sea water being pumped up a cliff face to a reservoir on the mountain.

A similar sea water PHES has been functioning successfully in a national park in Okinawa, Japan, developed by Japanese company J Power, says Mr McCarthy.

The company has been in pre-planning discussions with An Bord Pleanála in a bid to submit the project as strategic infrastructure. The board has taken a preliminary view that it qualifies as a strategic infrastructural development application, but has not yet issued a determination on this.

Mayo county manager Peter Hynes told *The Irish Times* that the concept would open up Mayo as a renewable energy hub for both wind, wave and biomass.

Mayo has the highest available wind resource in Britain and Ireland, and the best wave-energy potential on the Atlantic seaboard, according to a Marine Institute study. The State's ocean energy test site is off Belmullet, Co Mayo, and applications by Coillte and Bord na Móna could generate up to 2,000MW of wind energy in the county.

The proposed high-voltage underground DC transmission cable would involve a 500MW tap link to the State's grid at Dublin, and would cost an estimate €1.4 billion to construct.

“Britain is under pressure to replace fossil fuel electricity with competitive renewable electricity, and has been looking at Ireland's potential,” Mr McCarthy says.

Marex 2016, as the project is called, could provide a minimum of 2 per cent of Britain's total electricity requirement by 2016 at 1,000MW, to grow to 10 per cent by 2025, he forecasts.

Organic Power Ltd has consulted with local community groups, received the support of business and community interests, and has raised €2million to date. It is seeking a partnership to provide risk equity and other elements.

It says Eirgrid would greatly benefit from the ability to draw power from Britain when required in times of low-wind penetration.

“The cable infrastructure would more than double their ability to do this, greatly enhancing security of power supply.”