

Direct line  
0870 190 6195  
Direct facsimile  
0870 190 6336  
e-mail  
Phil.Michael@eat.co.uk

James Macnaghten  
Granta Place  
Mill Lane  
Cambridge  
CB2 1RS

2 April 2004

Dear James,

**Howes-Macnaghten Variable Area Wind Turbine**

**DTI Call for Proposals Outline number 422/37**

Thank you for your Outline Proposal describing the concept of a variable area wind turbine.

I am sorry to tell you that the independent assessors declined to request a Full Proposal and your Outline Proposal has therefore been rejected.

I realise that this is a disappointment for you. I have listed below the observations made by the assessors on your proposal

- The Panel had a number of reservations about your proposal and I am afraid these have led it to recommend that your proposal is not supported by the DTI.
- The concept will not be aerodynamically efficient, with far too much drag from the cables and inefficient shaped wings (compared to conventional wind turbine blades), leading to an overall inefficient and expensive design that will not be competitive.
- The Panel was concerned that because aerofoils and wings have quite narrow ranges where they operate efficiently, in terms of tip speed ratio or incidence, the device efficiency will be further reduced by this effect also.
- The dynamics of the system as it passes through wind shear and turbulence, the difference in wind speed from the top of the swept area to the bottom, yaw, launching, recovery and safety issues did not seem to have been adequately addressed.
- The Panel was sceptical over the claimed five times more power output of their device over a conventional wind turbine with equivalent blades length and no justification was provided.
- The Panel judged that there would be insurmountable problems with cable wear, fatigue and fracture particularly if, as is stated, the cables are at full extension for a large proportion of their time.
- The Panel saw little justification at this stage for considering deepwater locations, judging that there are many easier opportunities to be pursued first.
- Even if you were able to develop your concept to deliver a technical advantage over competing approaches, the Panel was sceptical about your prospects for gaining a competitive position in a market place where there are many established players with mature products, significant resources and experience.
- The proposal was judged to be very expensive.

Finally, please note also that the Programme will issue further Calls for Proposals and the timing and details of these will be made available on the DTI's web site at

<http://www.dti.gov.uk/renewable/renew.htm> and at <http://www.dti.gov.uk/technologyprogramme>.

Yours sincerely

Phil Michael  
Programme Manager New & Renewable Energy Programme