

# DESERTEC-UK

1<sup>st</sup> April 2009

Mike O'Brien MP  
Department of Energy and Climate Change  
3 Whitehall Place  
London  
SW1A 2HD

Dear Mr O'Brien,

Thank you very much for your letter of the 10<sup>th</sup> of March about the DESERTEC concept. Here are a few points in response to what you have said:

- It is misleading to say “these proposals remain at a very early stage”. The DESERTEC concept is underpinned by detailed research at the German Aerospace Centre (DLR), the US Department of Energy, and elsewhere. CSP plants in Spain are *already* delivering electricity into the European electricity grid and new plants are under construction in Spain, Morocco, Algeria and Egypt. There are already several HVDC transmission lines in Europe and others are under construction or planned. The investment company Imera has announced a €4.4 billion plan<sup>1</sup> to start building the submarine supergrid, as proposed by Airtricity and Mainstream Renewable Power. There are over 40 companies with knowledge and skills relating to concentrating solar power and several of them have bases in the UK.<sup>2</sup> *The DESERTEC concept is taking shape now and is a major opportunity for “UK plc”.*
- In the DESERTEC scenario, security of energy supplies would be *greater* than what we have now. The reasons are described in the enclosed document “DESERTEC: security of energy supplies”.
- It is not accurate to say “the cost of building the High Voltage Direct Current grid that would be a necessary part of the project seems very likely to be very high compared to normal transmission lines.” For overhead lines, only two cables are needed instead of three, the pylons can be lower and, for a given voltage, the amount of insulation required is less. When they are laid underground, HVDC transmission cables are *very* much cheaper than HVAC transmission cables. One of the attractions of technologies such as ABB’s “HVDC Light” is that, with only a small premium compared with overhead lines, transmission cables can be laid underground or under the sea, thus simplifying planning and construction. Another option, which would be quite economical, is to convert existing HVAC transmission lines to HVDC. According to one study, this would increase the transmission capacity of the line by a factor of 3.
- The proposed supergrid would be good value for money and affordable, as described in the enclosed documents “Supergrid costs and benefits” and “Interstate transmission superhighways: paving the way to a low-carbon future”.

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<sup>1</sup> See [http://sev.pnnewswire.com/utilities/20090202/3828897en\\_iCrossing02022009-1.html](http://sev.pnnewswire.com/utilities/20090202/3828897en_iCrossing02022009-1.html).

<sup>2</sup> See <http://www.trec-uk.org.uk/links/commercial.htm>.

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- Private investors are already showing their willingness to invest in the supergrid as evidenced by Imera's announcement, mentioned above.
- The UK can begin to benefit quite soon from "clean power from deserts". It is not necessary to wait until the supergrid has been built. This is explained in the enclosed document "Kick-start and upgrade".

You are right to draw attention to the need for reforms in the relevant legal and regulatory frameworks. In view of the huge potential of the DESERTEC concept to supply clean energy to Europe, including the UK, with similar potential in many other parts of the world, we believe it would be appropriate for DECC to establish a "DESERTEC team" to work with the UK's international partners and with investors and business people, to make the reforms that are needed.

Sincerely,

Dr Gerry Wolff PhD CEng

Coordinator of DESERTEC-UK