

Offshore Power Transition Project

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Abstract : Within a wider context of improving whole-life effectiveness of gas and oil fields, we have been researching how to generate power local to the wellhead. (Provision of external power to a subsea wellhead can be prohibitively expensive and results in uneconomic fields. This has been an oil/gas industry challenge for many years.) We have been developing a possible approach to “local” power generation and have been conducting technical, environmental, (and economic) research to develop a viable approach. We sought to create a workable design for a new type of power generation system that makes use of differential pressure that can exist between the sea surface and a gas (or oil reservoir). The challenge has not just been to design a system capable of generating power from potential energy but also to design it in such a way that it anticipates and deals with the wide range of technological, environmental, and chemical constraints faced in such environments. We believe this project shows the enormous opportunity in deriving clean, economic, and zero emissions renewable energy from offshore sources. Since this technology is not currently available, a patent has been filed to protect the advancement of this technology.

Keywords : renewable, energy, power, offshore

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