

871 – Design factors of electrifying brownfield O&G assets

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Abstract: Integrated energy companies see electrification as an opportunity to reduce their operations greenhouse gas emissions. This can be achieved by utilising more fuel-efficient generators and/or by utilising renewable sources. The purpose of this paper is to describe a project concept for the installation of a 33kV submarine interconnector cable between Platform A (consumer) and Platform B (generator) to allow the decommissioning of existing unreliable and inefficient Platform A generation. This is expected to reduce operations overall greenhouse gas emissions and utilise the existing gas turbine generation on Platform B more efficiently. This paper will detail the selection of the submarine cable, transformers, electrical protection scheme, the Power Management System integration and describe the main electrical feasibility studies completed. The paper will also highlight some of the challenges when carrying out brownfield modifications on operating oil and gas assets. Finally, the paper will provide recommendations for existing assets considering electrification.