

A Proactive Approach to Lifecycle Environmental Management in the Oil and Gas Industry

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Abstract

The increasing global demand for energy and the sustained high price of oil and gas is fuelling a surge in hydrocarbon exploration and development and renewed interest in frontier areas and new technologies. Further, ongoing political uncertainty in many of the world's significant oil and gas producing areas is encouraging many governments to take a new look at the balance of their energy portfolio and their reliance on any one specific source.

At the same time, the environmental landscape is also changing. Concerns over the possible future impacts of global warming and adherence to Kyoto commitments are pressuring both industry and governments to review their emissions and to develop CO₂ sequestration remedies and alternatives to burning fossil fuels.

National legislation governing exploration and production is ever tightening and sits within an expanding framework of International Conventions and Agreements. Operations also need to meet the environmental policy and commitments of the organisation and to take account of industry guidelines and best practice. Public interest and stakeholder involvement in the environmental performance of the energy sector has never been higher, compelling the industry to take a precautionary approach and to become proactive in exploring for and exploiting energy reserves in a responsible and more sustainable manner.

Previously, managing the environmental impacts of the energy industry has been a piecemeal affair. Environmental Impact Assessments (EIAs) have been carried out before each phase of operations – e.g. seismic, drilling, production, export etc. Environmental procedures, emissions monitoring and emergency planning are often 'stapled' on to existing operational practices resulting in a dislocation between operational planning and environmental assessment and too little provision is made for the environmental aspects of abandonment or decommissioning.

The drive to develop new resources in an environmentally responsible manner, often in highly sensitive or technologically challenging areas, requires environmental management to be implemented from cradle to grave - a lifecycle approach. In sensitive areas, environmental scoping should be considered before the exploration EIA is commissioned. Suitable mechanisms need to be put in place for incorporating environmental mitigation early on in the project lifecycle. Environmental procedures need to become an intrinsic element of the operational plan, both to ensure impacts are minimised and also for the most efficient use of resources and prevention of delays.

This presentation examines how to implement proactive environmental management throughout the project lifecycle, implementing front-end environmental planning rather than reacting to legal pressures at each stage of exploration and production. We also examine how this process has been successfully implemented in other areas of the energy industry, most notably in the pre-planning, impact assessment, construction and monitoring of large-scale renewables projects, both onshore and offshore.

Footnote

RPS Energy is a division of the RPS Group plc – a world leading energy and environmental company with operational experience in more than 90 countries. The RPS Energy Division brings together the oil and gas industry's leading geoscience's consultancy with the established capability of Europe's largest environmental consultancy. The expertise gained from over 30 years experience of providing expert consultancy support to the international E&P industry and specialist environmental services places us in a unique position to provide comprehensive environmental support to the energy sector from initial planning to decommissioning.