

Management of oil, gas exploration and production waste

[Business](#), [Management](#)



Problem Statement and Research Objective

The purpose of this research is to find out about the different types of waste management strategies and consider how these relate to the overall environmental responsibilities of oil companies. This will allow a determination to be made as to whether particular types of waste management strategies are associated with greater levels of environmental responsibility. If this is found to be the case then greater emphasis will need to be placed upon the waste management strategies of onshore oil and gas operations so that environmental responsibilities will be enhanced.

Background and History

There is existing scientific evidence to show that global warming is caused by increasing concentrations of greenhouse gases that are produced by human activities, such as the burning of fossil fuels and deforestation (IPCC, 2007, p. 1). Essentially, because global warming is caused by human activity, the impact this has on the environment can be eliminated. In order to achieve this, however, it is necessary for the different types of waste management strategies to be identified so that it can be determined how these relate to environmental responsibility.

Research Questions

What are the different types of waste management strategies and how do these relate to environmental responsibility?

Are particular types of waste management strategies associated with greater levels of environmental responsibility?

Is there a correlation between the existing waste management strategies in onshore oil and gas operations and the overall environmental responsibilities of oil companies?

Literature Review

A framework for waste management has been laid down as a hierarchy of options by the UK's strategy on sustainable development (HM Government, 1994) and in the Department of the Environment's (1992) guidance on waste management. The main objective of waste management is to reduce, recycle, recover or dispose waste at source in order to allow a sustainable environment to be established. Nevertheless, there is often a lack of understanding as to how waste management ought to be implemented and the various options are generally avoided. Still, in order to prevent pollution and minimise waste it is imperative that effective waste management strategies are incorporated into all onshore oil and gas operations.

This will ensure that oil companies are conforming to their environmental responsibilities since a good waste management system is one that conforms to environmental rules and regulations, whilst introducing a system that reduces pollution and minimises waste. Furthermore, as also provided for in the American Petroleum Institutes' 'Environmental Guidance Document' (API, 1997, p. 4); a good waste management system will include;

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“ a system for maintaining knowledge of pertinent laws and regulations, a system for pollution prevention/waste minimisation, a health and safety program, a waste identification system and a waste management auditing program.”

Provided that these key elements are implemented into all waste management strategies, environmentally sound oil and gas operations will be conducted. It is thereby important for oil companies to adopt a waste management plan so that their overall environmental responsibilities are being adhered to. This demonstrates the correlation between waste management strategies in onshore oil and gas operations and the overall environmental responsibilities of oil companies. In order for appropriate waste management strategies to be incorporated, however, oil companies need to act in a socially responsible way, which currently produces an array of problems.

This is because, people do not take responsibility for their own waste and unless the environmental responsibilities of oil companies are identified waste management strategies will not prove effective (Environment Agency, 2006, p. 126). At present, the responsibilities that are placed upon oil companies do seem acceptable, yet it seems as though there is not enough correlation between the waste management strategies in onshore oil and gas operations and the overall environmental responsibilities of oil companies. Further research into this area is thereby needed so that a determination can be made as to what waste management strategies need to be implemented in order to create a greener environment (Author, 2008: p. 607).

Consequently, in order to ensure a sustainable environment is maintained, it is important for oil companies to undertake their responsibilities in a socially acceptable manner. This would therefore include the incorporation of waste management strategies by introducing a waste management plan. Thus, as noted by the API (2009, p. 43); “ As our industry pursues responsible development of energy resources to meet the nation’s energy needs, we should strive for better communication and understanding with the land owners, lessees, permittees and/or residents impacted by our operations.” Arguably, this highlights the need for greater correlation between waste management strategies and the overall environmental responsibilities of oil companies.

Waste management theory aims to address the current issues surrounding waste management and thereby provide an applicable framework for oil companies to adopt, yet whether such companies are making full use of the guidance that is being provided remains arguable. Nevertheless, as pointed out by Pongracz et al, (2004, p. 1); “ Waste Management Theory is to be constructed under the paradigm of Industrial Ecology as Industrial Ecology is equally adaptable to incorporate waste minimization and/or resource use optimization goals and values.” Ultimately this will certify that the environmental responsibilities of oil companies are being adhered to, which will help to address the current issues surrounding global warming.

Research Design and Methodology

A conceptual and theoretical framework will be established in this study by investigating scientific research and by drawing on existing theories in order to fill in the research gaps (Sevilla et al, p. 55). This will enable conflict theory to be explained so that a resolution can be reached. The literature relating to the waste management strategies of onshore oil and gas operations will be reviewed so that a determination as to whether effective waste management enhances environmental responsibility's can be made. Once all of the applicable data has been collected, an assessment as to the correlation between waste management strategies and environmental responsibility will then be conducted.

References

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