



# Implementation of HSE-MS in the Pipeline of Southern Pars Gas Field of Iran and its Impact on Green Efficiency Growth

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## Abstract

Iran's natural gas production has increased by over 550 percent over the past two decades, and the consumption has kept pace.

As demand growth rates persist, the potential for shortfalls in natural gas supply grows. South Pars gas field is one of the famous gas fields of Iran with several phases, which is one of the major gas fields part is pipelines.

The use of HSE-MS to avoid wasting condensate gas to protect the resources, safety and the environment is very important.

So that it can be effective in increasing efficiency and economic growth, with the preservation of the environment.

In the part of pipeline in southern Pars gas field, HSE-MS brings awareness to safety hazards, provides appropriate levels results and Performance indicators and turned on one of its precarious that it is disability equipment is gas pipelines.

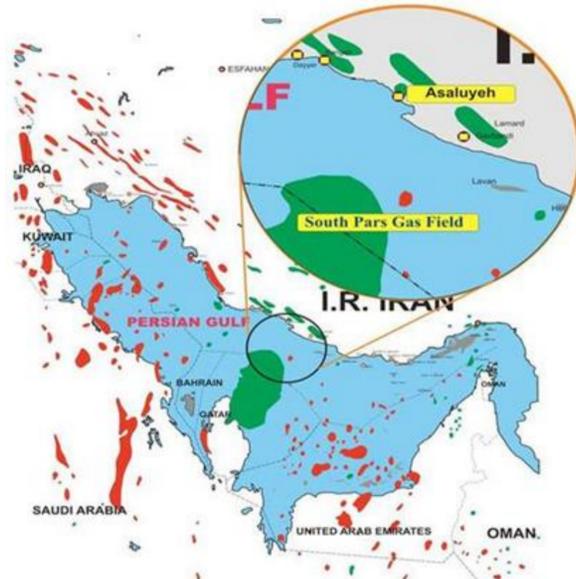
So that, these factors that could be dangerous to the economy, fire and environmental toxicity is suspected.

So that, the full implementation of the integrated HSE-MS, efficiency increased and human risks reduced to a minimum value and the environmental pollution caused by condense gas leaks were fully protected and consequently the costs of cleaning up contaminated water and soil in this area is considerably reduced and effective as a step forward towards the green economy and efficiency.

## Introduction

The South Pars / North Dome field is a natural gas condensate field located in the Persian Gulf. It is the world's largest gas field, shared between Iran and Qatar. According to the International Energy Agency(IEA), the field holds an estimated 1,800 trillion cubic feet (51 trillion cubic meters) of in-situ natural gas and some 50 billion barrels (7.9 billion cubic meters) of natural gas condensate.

As at 2012, some 400 Iranian companies were taking part in the development of the South Pars gas field through supplying equipment to related projects. which is divided into 29 phases, has about 14 trillion cubic meters of gas, or about eight percent of the world's reserves.



Location Map of Pars Gas Field of Iran

## HSE Management System

HSE-MS is one of the management systems to ensure that safety, health and environmental issues are being addressed in organizations strategies.

In each of the systems mentioned only one aspect of the organization considered (e.g., quality in ISO 9000, protection of environment in ISO 14000 or safety and health in OHSAS 18000) and developed policies and strategies are just for that aspect of organization.

Considering the HSE perspective required evaluating criteria such as number of accidents, severity of accidents, safety training, safety equipments, having the safety system, etc.



Plan, Do, Check, Act process of HSE-MS

Implementation of HSE-MS provides a detailed framework outlining the roles and responsibilities for managers and employees which can be used to improve health, safety and environmental performance and increase efficiency in organizations and therefore it will bring about sustainable development.

An assessment is a structured and systematic review of the stage of implementation of the Health, Safety and Environment Management System. The purpose of an assessment is to provide management with an overview of the level of progress made in relation to a fully implemented HSE-MS.



The HSE-MS model with control loops

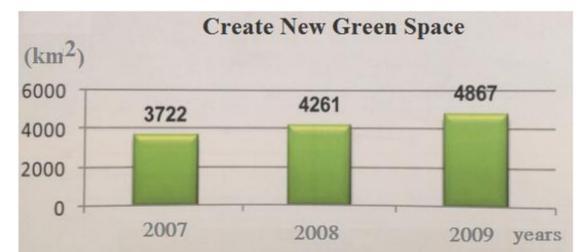
## Green Results

1-Create a new green space in the oil industry has been accompanied by a growth of over 75 percent.

2-The environmental pollution caused by condense gas leaks were fully protected and consequently the costs of cleaning up contaminated water and soil in this area is considerably reduced.

3-Staff training in the field of environmental protection has been associated with a significant increase.

4-Efficiency increased by seven percent .



Growth of New Green Space



The Green Actions Hierarchy in Southern Pars

## Conclusion

According to the Implementation of integrated HSE-MS in the Pipeline of Southern Pars Gas Field of Iran, efficiency increased by seven percent and human risks reduced to a minimum value and the environmental pollution caused by condense gas leaks were fully protected and consequently the costs of cleaning up contaminated water and soil in this area is considerably reduced and effective as a step forward towards the green economy and efficiency.