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Introduction

The following paragraphs of this case study will prepare a proposal on to significantly expand Saudi oil production capacity. For this, there is an urgent need to reduce global carbon emissions. This case analysis and proposal will state a hypothesis, provide evidence, and draw recommendations.

Case Study

Capturing and storing carbon capture has become an innovative approach reducing and recycling carbon emissions. However, this technology has largely remained an untouched area in the Saudi Arabia. The petroleum ministry of Saudi Arabia wants to expand its oil production capacity, so they understands that they have the capability to launch new technology to capture carbon in order to reduce the carbon emissions in its depleted reservoirs of oil. The ministry believes that by capturing carbon from key emitters, including refineries and industrial units, and transportation to storage spaces it can then be dropped into underground areas. As a result, the CO2 remains outside the environment and prevents the CO2 emissions, a main factor of global climate change. However, this can expand oil production capacity in underground oil reservoirs.

A Statement of Project Manager Role

As an advisor to the petroleum minister of Saudi Arabia, I have been given a task to prepare a recommendation on whether or not to significantly expand Saudi oil production capacity. This integrated project is designed to tie my newly acquired knowledge of energy economics to the analysis of major global issues. However, I recommend that there is an urgent need to reduce global carbon emissions to expand oil production capacity of Saudi Arabia.

List of Expected Counter-Arguments

- Peter Montague is an executive director of the Environmental Research Foundation, he says (Miller & Spoolman, 2012) capture and storage of carbon (CCS) is primarily inappropriate technology. According to him, the best solution would be to avoid from making waste CO2 through phasing out fossil fuels and acquiring energy from solar system. He says avoiding waste is best solution as compared to managing waste. (Miller & Spoolman, 2012)
- Intergovernmental Panel on Climate Change (IPCC) has estimated for CO2 emissions from different CCS plants. Whereas carbon is radically reduced (though never entirely captured and stored), releases of air contaminants enhance considerable, because of the energy penalty of capture. The technology of CCS, thus, means a diminution in quality of air. (DeLuca, 2013)

Other counter-arguments include:

- The cost of this technology is between $25 and $115 a ton, a prohibitively high cost.
- CCS can consume more than 30% of energy provided which compels the need to extract and burn more coal to compensate.
- The technology will increase the electricity production cost by about 50% to 90%.

Quantative Arguments

Carbon capture and storage technology (CCS) refers to the method of capturing waste CO2 from larger industrial units and factories, like fossil fuel power facilities, transporting it to a place of storage, and dropping it where it will not combine with the global environment. The technology of CCS can capture more than 90% of CO2 emissions from an industrial unit or power facility and store them in underground geologic arrangements.

As far as the effectiveness of the CCS technology is concerned, according to Monbiot (2008), Visiting Professor of Planning at Oxford Brookes University, if people continued to generate a greater part of their electricity from burning fossil fuels, they could reduce CO2 emissions by about 80% through the process of CCS. This implies stripping the carbon outside the fuel either prior to or following it is burnt.

In certain occasions, carbon dioxide is inserted into declining fields of oil to enhance the recovery of oil. More than 40mn metric tonnes of the gas are inserted in the U.S. annually into these fields. This approach is best because generally the geology of hydrocarbon tanks is well

realised and the expense of storage perhaps partly offset by extra oil sale. Another example is North Dakota (Denstedt & Kirby, 2009). At the Great Plains Synfuels Plant, some 13,000 tonnes of CO2 gas on daily basis is captured and 5000 tonnes of this is piped 320 km into Canada for expand the recovery of oil (Kemp, 2013). In United States, more than 6200 km of pipelines ship up to 72 million tonnes of carbon dioxide annually that the industry employs in improved recovery of oil. On daily basis, this produces over 280,000 barrels of oil domestically, or about 7% of the production of US crude oil.

According to the assertion of Greenpeace **(**Hou, Xie & Yoon, 2010), CCS process could cause doubling of plant expenses, but this technology is still be cost-effective than other forms of low carbon electricity generation.

List of Project Management Sources

In project management, resources refer to all the items that are necessary to perform the activities related to a project. In my project related to the effective implementation of CCS technology to increase the oil recovery and to expand the oil production capacity, as an advisor to the petroleum minister of Saudi Arabia it comprises people, equipment and tools, facilities, time, budget, or others. These all necessities are interconnected to the project's scope. Each of these elements must be computed and handled in effective manner if the project is to be a success.

People: People play an important role in a project. Managing them implies having the best people, with the excellent skills, at the right time. (Gray, 2010)

Equipment: The equipment and tools that needs to be handles as part of a project relies on the project's nature. (Gray, 2010)

Time: Time is considered as a significant resource for a project. Project managers who thrive in meeting their project plan have a best opportunity of staying within given budget. The different activities of project, to enable time management, strongly need to be detailed and given the first priority. (Gray, 2010)

Budget: The budget of a project must match its costs. As far as income is concerned, the main funding sources include grants, subsidies and own contributing role. As far as cost is concerned, the expenditure differs in accordance with the project type. However, the most common factors of expenses are related to people, equipments, transportation and overheads. (Gray, 2010)

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