ENG 342(ENGINEERING LAW AND MANAGERIAL ECONOMICS)

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MECHANICAL ENGR.

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Nigeria is endowed with huge proven gas reserves estimated to be 184 trillion cubic feet (Tcf). It ranks as the seventh holder of natural gas reserves in the world, and the largest in Africa. Nigeria also flares more natural gas than any other country; it accounts for 12.5% of the world's annual gas flared equivalent to $2.0 billion of annual revenue wasted. There is crucial need, therefore, to reduce gas flaring and its environmental impacts, and to derive maximum economic benefits from gas production.

There are sereval ways to achieve the best optimization of engineering resource in Nigeria. The followings will be listed below:

* GAS FLARING

Researchers investigated the application of staged separation, using a high-pressure step followed by a lower-pressure one, and demonstrated that this could reduce the rates of venting and flaring by up to 70 percent. The concept of staged separation has been used in production from conventional oil reservoirs, but has not been widely applied in the production of liquids from shale formations. Upfront costs would be higher than separating oil and gas in one step, but in the long run, the cuts in waste gas would result in a more sustainable process, the researchers say.

* PIPELINE VANDALISM

There are many ways to secure a pipeline, but the most important one is the engagement of stakeholders- the government, community and all manner of people that have direct impact on the pipeline. There are various forms of technology like the defiled optic system. But what we have to know is that anybody that is tampering with a gas pipeline is a clear saboteur. So, whenever it happens, it means that somebody has gone up to vandalize the pipeline and cannot be easily stopped because it is an act of sabotage.

Government has to set up a system to guide the pipeline because it is a national asset. It is a very strategic national asset and anywhere in the world, you guide your pipelines. Either by using technology, engaging the communities around there and/or putting up a proper security, including military, but you have to guide your pipelines.