

Challenge's Topic

Sustainable Development of Green Fields: Greenhouse emissions and project footprint as low as reasonable possible.

Introduction

The team undertaking this project will need to understand the challenges faced when developing a project in a Green Field.

Team will need to analyze the process and create a closed system/sustainable system that will minimize the impact of operations (all aspects of field life must be considered, not only wellsite operations) in or nearby protected areas, with the view that the solution could be used in other locations in similar geographies or technical requirements.

Scopes/objectives

Justifications:

Ecuador is a place with at least 5Bbbls of reserves yet to be produced. Some of the important resources are located nearby protected areas (i.e. National Parks) which makes the project execution more complicate and convincing of stakeholder an obstacle to the start of the projects.

The team must challenge the status-quo and look for alternatives (technologies, processes) to develop a green field with the smallest environmental impact in the industry possible (i.e. smaller footprint, more wells from same location, etc.).

Objectives:

- Identify, quantify and promote technologies and process that can lead to the highest possible wellsite level of operation decarbonization and look for opportunities to apply concepts of circular economy.
- Present a conceptual project with impact to the different stakeholders and its associated estimated costs. Ideally it should assign/define a dollar value for CO2 savings (look industry benchmark), so it can be compared to traditional/standard technologies.
- It is important that the conceptual Project address the concerns of all stakeholders. And that it could be clearly related to UN-SDGs.

Careers involved

This project is open to any group, but the team should consider ensuring that there is also knowledge of local laws and environmental engineering.

Having someone with Marketing and Communication in the team could be a plus for proper message framing to promote the project.

Note: At least one student must be a Petroleum Engineer.

Other aspects

At current project level, do not anticipate requirement of any specific software to develop the solution.