Crude oil is a mixture of hydrocarbons that formed from plants and animals that lived millions of years ago. Over the years, the remains were covered by layers of sediment. Heat and pressure from these layers helped the remains turn into crude oil. Crude oil exists in liquid form in underground pools or reservoirs, in tiny spaces within sedimentary rocks. After the oil forms, it rises from a source rock through fractures in the subsurface due to the relatively low density of oil. The rising oil then migrates to a reservoir rock, that contains tiny spaces called pores. The oil remains in a reservoir rock when there is an overlying cap rock through which oil cannot pass.

Hydrocarbon resources are found using exploration techniques such as seismic imaging. Seismic imaging assists in identifying the potential areas that may contain oil and gas. If an area is identified as a prospective reservoir, an exploratory well is drilled to test for the presence of hydrocarbon resources.

Once an oil pool is discovered, delineation wells are drilled to characterize the size of the accumulation. Production facilities are then fabricated and installed to extract the oil. Different types of facilities exist, based on water depths, to safely produce and transport the oil to shore.

The lifecycle of offshore oil and gas activities is a multi-year process consisting of various phases. Once production begins it may continue for several decades. The timing of the activities varies by region. Mature areas like the Gulf of Mexico take relatively shorter time; frontier areas like the Arctic could take a longer time.

Example of Activities and Timeline for a Deepwater Offshore Project

- **YEAR 1**
  - Lease Sale

- **YEAR 2-5**
  - Geophysical and Data Acquisition and Analysis

- **YEAR 6-10**
  - Exploratory and Development Drilling

- **YEAR 11-15**
  - Design, fabrication and installation

- **YEAR 16 ONWARDS**
  - First Oil Production