

Executive Summary

Gas Hydrates are practically clathrates of natural gas in which water solidify to form a crystal system. In this project, other methods used in storing natural gas were analyzed and compared to storing natural gas using hydrates. Hydrates can be naturally found in deep polar region where there is high pressure and low temperatures. The storage method using hydrates is observed through a pressurized tank. Total cost of natural storage using hydrates for capacity of 10^7 mmbtu is \$2.46/mmbtu. For the same capacity, the total capital investment is \$15.00/mmbtu and the return on investment is 0.65 which increases as the capacity of the storage tank increases. Natural gas hydrates have lower total capital investment than the other three methods of storage studied (Depleted Reservoir, Aquifer, and salt caverns). Hydrates of natural gas can be very useful for peak shaving. Suppliers can make tank readily accessible to consumers when needed, which will reduce the strain on resources when natural gas in high demand.