

AZPROMO PROJECT PLAN

PROJECT: Gas to Liquid (Synthetic Oil) Technology Project

Contents:

- 1) Background and Sector review
 - 2) Project Objective
 - 3) Project Description
 - 4) Location Description
 - 5) Marketing strategy, (including market review, target customers, and communication strategy)
 - 6) Production, Manufacturing Operations Overview
 - 7) Project Management and Organization Structure
 - 8) Project implementation schedule
 - 9) Budget and balance sheet
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1) *Background and Sector review*

Natural Gas in Azerbaijan

The Azerbaijan Oil and Gas sector is an integral part of world economic history. The first oil well in the world was drilled in the Bibiheybat part of Baku in 1847, eleven years before the first well in Pennsylvania, USA. Subsequently, the innovations of the oil pipeline, oil refinery, oil tanker, and offshore platform, so important to the present day oil industry, were all invented and perfected in Baku.

Today, the Natural Gas sector in Azerbaijan continues to innovate. In December 2013, a consortium of 10 companies signed a deal to develop the The Shah Deniz field, discovered in 1999. It is one of the world's largest gas and condensate fields. According to British Petroleum (BP), the operator of the development, it has approximately 40 Tcf of natural gas in place. The project will bring about US\$50 billion of capital investment into Azerbaijan and its partners, with the development of the Southern Energy Corridor. This includes the South Caucasus Pipeline Expansion, the Trans-Anatolian Pipeline (TANAP), and the Trans-Adriatic Pipeline (TAP).

The current levels of Production are 346 mcf per day of natural gas and about 53,740 bbl/d of condensate

Gas to Liquid (GTL) in Azerbaijan

In an era of low oil prices, the future in GTL plant profitability lies in the development of smaller plants. Azerbaijan is well placed to develop smaller plants, due to its strategic location, improving transport links, and easy access to Natural Gas reserves, which lowers the costs of production.

At the beginning of 2014 there were a total of five GTL plants operating in the world with capacities ranging from 2700 barrels per day to 140000 barrels per day. The company, Shell pulled out of a planned project to build a large-scale GTL facility in the USA (Louisiana) in December 2013 due to the large capital commitment required, when it was forecast that oil and gas prices would decline. In 2015, Shell operates two GTL plants in Malaysia and one plant in Qatar. The other two plants in the world are operated by Sasol in South Africa and by a joint venture between Sasol and Chevron in Qatar. One plant is planned and being constructed during 2014..

At present, there are no GTL production plants in Azerbaijan. Azerbaijan has plans to commission two new gas processing and petrochemical plants, by late 2020, these will focus on the production of aviation fuels.

2) *Project Objective*

To create a Gas to Liquid GTL (Synthetic Oil) Production facility to serve the domestic and regional market.

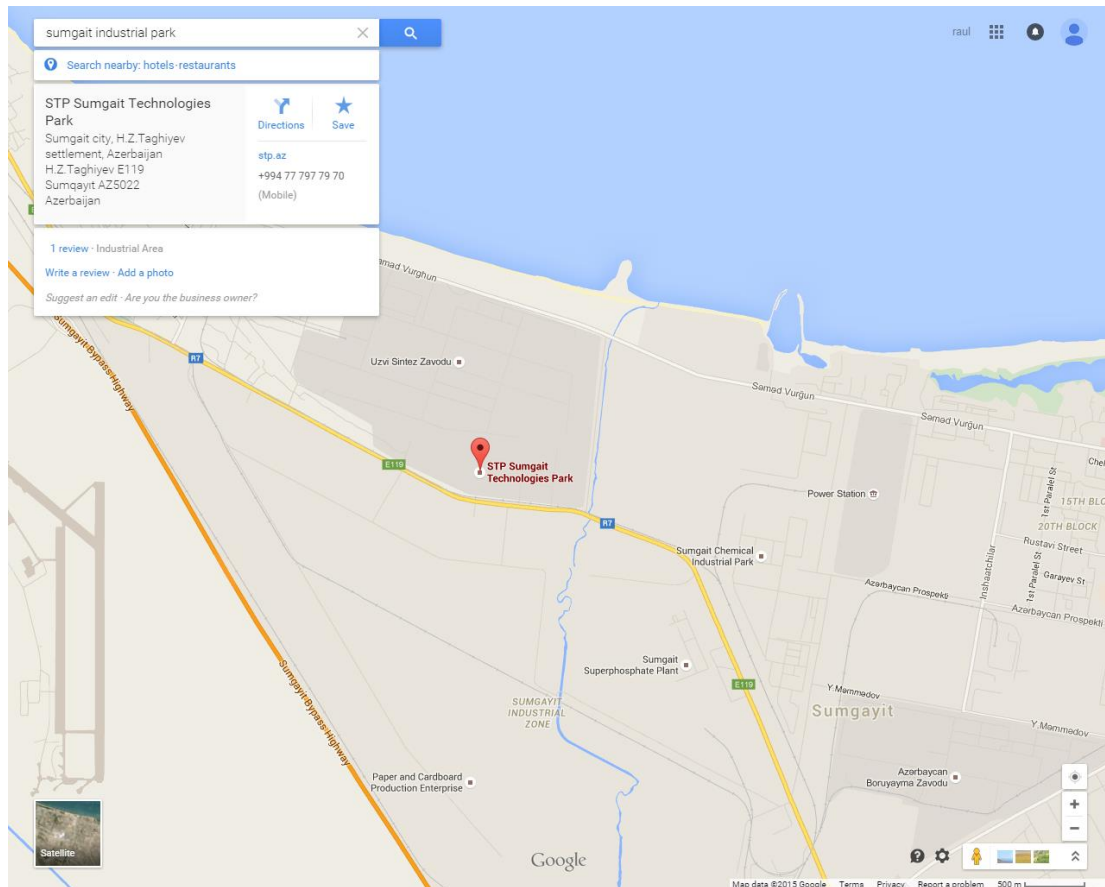
3) *Project Description*

The Gas to Liquid GTL Synthetic Oil Production facility will be located in Sumgait Chemical Industrial Park.

This is near the main inputs to the production process, including the natural gas pipelines. Its strategic location on the Caspian Sea, and access to transport links (the Elat Sea Port, and Baku- Tbilisi-Kars railway), will give the proposed facility access to raw materials, and buyers in regional markets.

4) Location Description: Sumgait Chemical Industrial park

Sumgait Chemical Industrial Park, is well located for a Gas to Liquid (Synthetic Oil) production facility.



Incentives: Residents of the park are exempt, for 7 years from property tax, land tax, corporate income tax and VAT on imported equipment for up to 7 years.

For more details see <http://www.scip.az/index.php?lang=en>

5) Marketing Strategy

Market Size: The decline in Oil and Gas prices has increased the market for GTL products. An American Company, 'Compact GTL' company, expects a retail price of 95 US cents per litre for synthetic diesel.

Key Customers: Azerbaijan is also close to regional markets in Central Asia. A growing market is Kazakhstan. Although Kazakhstan is a major Oil exporter, they small refining capacity. This means they import 30% of their synthetic oil from Azerbaijan.

Key Competitors: There are proposal for similar GTL plants in Kazakhstan (with China's SINOPEC) and Nigeria, but to date, nothing has been planned or agreed.

Competitive Advantage of Azerbaijan: A key advantage for the production of Azerbaijani GTL Synthetic Oil are:

- 1) its proximity to the key customers of Kazakhstan and Turkey, through the opening of the Baku -Tbilisi-Kars railway,
- 2) access to natural gas reserves.

6) Production, Manufacturing Operations Overview

The GTL process is based on two steps:

1. The conversion of natural gas into synthesis gas. Natural gas is reacted with oxygen in a process using proprietary catalytic partial oxidation to produce synthesis gas, consisting primarily of carbon monoxide and hydrogen.

2. The conversion of synthesis gas into synthetic oil. In a reaction based on Fischer-Tropsch (F-T) chemistry, the synthesis gas flows into a reactor containing a proprietary catalyst, converting it into liquid hydrocarbons.

7) Project Management and Organization Structure

The Project will be led by the Sumgait Industrial Park.

The proposed financial scheme and share distribution is negotiable. The project envisages the majority of the financing, and share ownership will be from the investor.

8) Project implementation schedule

The project will take up to 2 years to be realized, from initial creation of project team to final marketing of the GTL products.

Project Implementation	Year 0,5	Year 1	Year 1,5	Year 2
Project Team				
Location review and acquisition				
Site operations construction				
Asset Procurement				
Commissioning				
Marketing				

9) Estimated Budget and balance sheet

The assets focus on the capital expenditure for equipment.

GTL Plant Estimated Project Balance Sheet								
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Assets US\$ Million								
Cash	5	5	5	5	10	10	10	10
Land	1	1	1	1	1	1	1	1
Building	2	2	2	2	2	2	2	2
Equipment	335	335	335	335	340	340	340	340
Total Assets								
Liabilities	300	300	300	290	280	275	275	265
Owners Equity	50	50	50	60	70	75	75	85

