Abstract
The Dolphin Project is a unique initiative between GCC countries, as the first inter-state project of this magnitude. When completed in 2006, the project will deliver Qatar north field gas to the United Arab Emirates and later on to Oman.

The Dolphin project will develop part of the North Field in Qatar with an objective to deliver 2,000 MMSCFD of sales gas, to the United Arab Emirates on a yearly average basis during 25 years with possible 5 years extension. The onshore production facilities are designed for peak production of 2,100 MMSCFD of export sales gas corresponding to an inlet wellhead fluid feed rate of 2,600 MMSCFD. The Dolphin Gas Treatment facilities at Ras Laffan will also produce Condensates, Ethane, LPG’s and solid Sulphur.

The Dolphin Project development is being undertaken under Agreements with the Qatari Government represented by Qatar Petroleum (QP). Project implementation is the responsibility of Dolphin Energy Limited (Dolphin) the joint venture company established by the UAE Offsets Group (Mubadala). Mubadala is the majority shareholder in DEL, with 51% ownership. The other strategic partners in the Dolphin Joint Venture are Total and Occidental Petroleum Corporation (Oxy), each holding a 24.5% equity stake. Dolphin is operating in Qatar as the Contractor on behalf of the Contracting Companies which are the three partners.

This contract location in the North field was agreed upon between Dolphin and QP on 3rd December 2002 after the conclusion of the appraisal drilling campaign. This set the time line of the project. The first delivery of commercial gas to the emirates is planned by the end of 2006.

Geologic and reservoir studies performed after the conclusion of the appraisal drilling program, confirmed that the reservoir can maintain the project gas sales plateau rate of 2.0 BSCFD for 25+ years without the need for upstream compression. The initial drilling campaign will be 24 production wells. Dependence on well and reservoir performance it may be necessary to drill additional wells to maintain the required level of gas production over twenty-five years.

The expected commingled gas composition has been assessed using the gas composition produced from the different layers of the two appraisal wells adjusted for offset data. Reservoir simulation runs predicted the contribution of each of the four Khuff layers to the commingled flow. The range of H2S content range is 0.5–1.1%.

The reservoir fluids will be produced from two offshore centers located at approximately 74 km (DOL2) an 90 km (DOL1) from Ras Laffan. Each center will consist of a single wellhead platform and a flare platform. The design of the platforms is based on a concept of minimum topside facilities and not normally manned operations.

The well fluids will be transported to shore by two multiphase sub-sea pipelines ("wet" scheme, gas, Hydrocarbon condensate and free water are transported simultaneously). Owing to the risk of hydrate formation during the transportation, a Low Dosage Hydrates Inhibitor will be injected from the platform during the winter months. A Corrosion Inhibitor will also be injected from both platforms all year round. The platforms are located in water depth of approx. 44m and 56m LAT respectively for DOL2 and DOL1.

The onshore production plant at Ras Laffan will include all processing units, utilities, off-sites and infrastructure necessary to process and export sales gas, ethane, propane, butane, stabilised/sweetened condensate and solid sulphur.

Sales Gas will be exported through a 48 sub-sea pipeline of approximately 360 km long to receiving facilities, located at Taweelah in the United Arab Emirates. The gas export line has an operating capacity of 3,200 MMSCFD to accommodate future increase of requirements.

At Taweelah, gas will enter the Eastern Gas Distribution System (EGDS) currently operated by Gasco and by Dolphin when Gas will flow from Qatar. Dolphin has installed in 2003 a 24 line between Al Ain and Fujairah and since January 2004, has been buying Oman gas to transport it and sell it to UWEC desalination and power plant at Fujairah. This pipeline has been connected in may 2005 to the Emarat network to supply Ras Al Kaimah who signed a purchase agreement with Dolphin in 2004.

Sales agreements were concluded in 2003 with UWEC and ADWEC in Abu Dhabi. Discussions have been finalized with DUSUP in April 2005. Other contract is negotiated with Ras al Khaima and the sultanate of Oman. These agreements cover the 2000 MMSCFD production and may cover more.

Dolphin is currently discussing the purchase of an additional 1000 MMSCFD of gas with the Qatari government.