

Gaffney  
Cline

Experts in Japan



## GaffneyCline

GaffneyCline is a global consultancy that has been offering technical, commercial, and strategic advice to the oil and gas sector since 1962. GaffneyCline's reputation demonstrates that the advice delivered, together with its industry insights, is of high-quality, impartial, technically based, and commercially astute. GaffneyCline is well known as one of the leading suppliers of Reserves and Resources assessments, which are required for many purposes including statutory reporting, stock exchange listing, development planning, project finance, and asset valuation.

In addition, GaffneyCline offers a full range of upstream, midstream and downstream technical and commercial consultancy services. These range from seismic interpretation, static and dynamic reservoir modelling, field development planning, facilities and pipeline engineering, gas monetization, LNG/GTL, mergers and acquisitions, economics and project finance, unitization & redetermination, expert witness work, exploration prospect assessment, fiscal & regulatory advice, negotiation support, strategic consulting on energy matters, carbon intensity assessments, new technology assessments, and site visit assessments.

GaffneyCline operates worldwide from three main offices located in London, Houston and Singapore, and supported by offices in Buenos Aires, Sydney and Dubai.

## Japan

GaffneyCline has been undertaking country, technology, strategic and Reserves reviews for Japanese clients since 1995. The projects include Market studies, Technical evaluations, Reserves assessments, Strategic studies, Acquisition/Divestment Due Diligence and support including for LNG projects, Downstream projects, and Coal Seam Gas (CSG) to LNG studies.

Partial summaries of selected projects that GaffneyCline has completed for Japanese clients are outlined on the following pages.



## Japan

**GTL Product Study:** GaffneyCline conducted a major review of GTL technology and potential markets for GTL-derived products for a Japanese company. The review considered all aspects of the industry, including a detailed appraisal of the current technologies, identification of likely capital costs, potential areas for technological improvements and potential capital cost reductions. The drivers behind development of the GTL industry were also considered from both project development and market penetration perspectives.

This analysis included an assessment of the drive to monetise stranded gas, the trend towards the elimination of flaring, the impact of tightening refined product specifications and the desire to diversify energy supply in many nations. A detailed market study for jet kerosene, diesel, naphtha, lube oils and n-paraffins was also conducted for the major global liquid fuels markets to identify potential key markets and to highlight opportunities for, and barriers to, penetration of such markets by GTL products.

In parallel, opportunities for the future use of DME were also considered. A full appraisal of potential GTL and DME projects was provided and included a breakdown of the various merits of each project in order to establish realistic estimates for GTL production in the medium term future. An analysis of GTL project economics and project sensitivities was also generated.

**Gas Market Study:** A Japanese company engaged GaffneyCline to provide a gas market study for selected fields located in South Sumatra, Indonesia. As a part of the project, GaffneyCline provided an overview of gas supply dynamics within the selected region and identified the potential markets and type of end-users. GaffneyCline also provided assessment of the logistics for the identified potential markets.

### **Technical Advisor for Valuation:**

GaffneyCline was engaged by a Japanese securities company to be its technical advisor in the valuation process of the target company's PNG assets.

**Coal Bed Methane Survey:** GaffneyCline was commissioned by a Japanese company to undertake a survey of active coal bed methane (CBM) projects worldwide. An extensive literature search and technical review was performed to present the current understanding of CBM generation and production mechanisms, reservoir properties drilling, operations and reservoir engineering techniques in the exploitation and development of CBM resources.

**Market Review of the Upstream Oil and Gas Sector:** GaffneyCline provided a review of the Asia Pacific Upstream Oil and Gas sector, for a major Japanese Bank in order to assess potential project financing opportunities and needs in the region. The review was based on available public domain information, together with GaffneyCline's own knowledge and experience of the oil and gas sector in the region.

**Reserves Assessment:** GaffneyCline was appointed as the technical advisor for a Japanese financial institution in the transaction of a large equity stake of a Thai oil and gas company. GaffneyCline delivered a statement of Reserves, accompanied by production profiles and resulting cash-flow forecasts for each of the subject fields.

**Seismic Interpretation and Prospect Generation:** Based on 2D seismic data, GaffneyCline evaluated the resources potential, and generated a list of Prospects for a Japanese company's offshore Indonesian asset. The attractiveness of the various Prospects was ranked based on their volumetric and risking assessments.

**Asset Valuation:** For a Japanese international oil company, GaffneyCline assisted in the valuation of assets offered for sale. The assets included a gas production-sharing contract and an interest in an LNG plant. As part of GaffneyCline's evaluation, it was necessary both to review existing long-term LNG contracts and to forecast the potential market expansion for the next 15 years. The assessment of the future market for LNG included a review of potential demand, the competition for supply and the prospects for LNG shipping.

## Japan

**Economic Evaluation:** GaffneyCline was requested by a Japanese Conglomerate to conduct economic evaluation of partial interest available for divestment in five blocks located offshore, Malaysia. GaffneyCline provided assistance to the client's technical review team attending the data room and conducted economic analysis of the reserves and contingent resources. GaffneyCline carried out sensitivity analysis based on economic factors such as commodity prices, costs, inflation and discount rates. The client required the report for internal purpose.

**Strategic Advice:** GaffneyCline was commissioned by a Japanese oil and Gas Company and an oil major to provide strategic advice for the appraisal and development of a field in the middle-east. GaffneyCline provided a draft report covering all the issues anticipated in a buy-back contract negotiation. For each of the identified issue, GaffneyCline provided a range of positions and formulated a negotiation strategy.

**Post-bid Analysis:** A Japanese oil and gas company engaged GaffneyCline to conduct an independent review of the company's bid for Indonesian assets after the company lost its bid. GaffneyCline provided a review of the methodology followed by the client in the asset evaluation and proposed additional approaches/methodologies that could be considered by the client in its future acquisition efforts.

### LNG Project Screening & Acquisition

**Assistance:** GaffneyCline was commissioned to assist a Japanese gas company to evaluate a potential LNG project in PNG. GaffneyCline conducted an independent review of various reports, interpretations and studies provided by the client and provided advice on Resources and well deliverability.

**CSG to LNG Due Diligence:** GaffneyCline was retained a major Japanese utility company to conduct preliminary due diligence of a proposed Australian CSG to LNG project. The scope of GaffneyCline's evaluation covered the Reserves and Resources, the field facilities, the trunk-line to the LNG plant, the LNG plant itself as well as the export facility.

**Asia-Pacific Middle East Oil Trade:** For an association of Japanese oil companies, GaffneyCline completed a detailed study of long-term crude oil and refined product supply potential from the Middle East to Asia-Pacific, with particular emphasis on Japan. The study required a detailed assessment of Asia-Pacific and Middle East refinery capacity trends and refined product supply/demand balances. The anticipated price trends for the individual products were determined. For the same association of companies and over a ten-year period, GaffneyCline monitored oil product spot market pricing trends in Asia-Pacific and Europe.

**Africa Review:** GaffneyCline was commissioned by a Japanese company to prepare a brief summary of current petroleum exploration and development activities in Kenya, Sudan and Nigeria. For each of these three countries an overview was given of recent exploration and development, and of future exploration plans.

### Review of Middle East Downstream

**Sector:** GaffneyCline was retained by a Japanese organisation to review the downstream sector of four Middle Eastern oil-producing countries. This review considered the domestic refinery configuration and current and forecast domestic petroleum product demand. For the initial review, an estimate of future product export potential was produced. Subsequently, GaffneyCline discussed the possible refined product marketing strategy, focusing on the Asia-Pacific market.

**Lender's Consultant:** On behalf of a consortium of banks lead by a major Japanese bank, GaffneyCline acted as the lender's consultant to conduct a review of a major onshore Indonesian gas field and provide an opinion on the reasonableness of the existing Reserves report and a discussion of critical issues, to support the financing of the field development, estimated to cost nearly US\$2 billion.



For more information about GaffneyCline's integrated services, please contact your local GaffneyCline office.

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