



Experts in Russia

**Gaffney,
Cline &
Associates**

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Gaffney, Cline & Associates (GCA) is a global consultancy that has been offering technical, commercial, and strategic advice to the oil and gas sector for more than 50 years. GCA 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, GCA offers a full range of upstream, midstream and downstream consultancy services. These include seismic interpretation, static and dynamic reservoir modelling, field development planning, facilities and pipeline engineering, gas monetisation, LNG/GTL, mergers and acquisitions, economics and project finance, unitisation and redetermination, and expert witness work.

The GCA team is similar to an integrated oil company, drawn from cross-organisational and business cultures. This ensures the team understands all of the clients' needs. GCA is unique in providing fully integrated upstream, midstream, downstream and commercial advice from in-house personnel.

GCA operates worldwide from three main offices in London, Houston and Singapore, supported by regional offices in Argentina, Australia and elsewhere.

Russia

GCA has been working with leading organizations in Russia since 1993, serving a wide range of local and international clients, from oil and gas companies to banks and international financial organizations. The geographical coverage of GCA projects includes all major oil and gas basins across Russia, from mature Caspian to frontier North Sakhalin. The scope of these projects has been very diverse, including field development planning and implementation, asset acquisition, refinery and gas processing plant audits, government strategy, dispute assistance and a wide range of oil and gas Reserve/Resource audits and evaluations.

Brief summaries of a limited selection of these projects are provided below.

Acquisition Due Diligence: Eastern Siberia

Client: Asian National Oil Company

GCA undertook the technical due diligence of a large Eastern Siberian oil asset as part of an acquisition by a large Asian Operator. The work involved a detailed audit of the development plan and production profiles, the generation of an independent view on the purchase and recommendations to the buyer.

Technical Due Diligence: Western Siberia

Client: Middle Eastern Oil Company

GCA executed the technical due diligence of a tight oil field in Nazym area, Western Siberia for a Middle Eastern Oil Company. GCA evaluated the subsurface technical risks and strategic assumptions in the valuation. Correlative benchmarking of project costs against similar developments in the area was a key part of the due diligence.

Corporate Acquisition Due Diligence: Eastern Siberia

Client: Japanese Financial Institution

GCA acted as a Technical Consultant in support of a potential acquisition of an interest in an independent Russian oil company holding oil and gas assets. GCA attended a data room and led the evaluation of all subsurface data. The work included an audit of the geoscience, petroleum engineering and commercial aspects of the project to derive resource estimates and NPVs.

Competent Person's Report for Successful AIM Listing

Client: Independent Operator

GCA prepared a Competent Person's Report (CPR) on assets in Timan-Pechora and Volga-Urals basins as part of a successful Initial Public Offering (IPO) on the Alternative Investment Market (AIM) of the London Stock Exchange (LSE).

LNG Joint Venture: Russian Arctic

Client: Asian Operator

GCA conducted an independent audit of the resource volumes in a large gas-condensate field located in the Russian Arctic. GCA also conducted an economic evaluation of participation in the development and LNG project.

Table 1.

GCA Russian Projects	
Job Category	Number of Jobs
Block/Asset Review	32
Reserves	20
Arbitration/Expert Opinion	10
Gas Utilization	7
Field Development Studies	6
Other	8
Total	83

Technical Advisor: Two Significant Portfolio Sales Client: Major Russian Operator

GCA audited the development and production plans of two major asset portfolios in the preparation of materials for a corporate acquisition. The assurance involved the identification of upside potential and the evaluation of risk for the purchaser and included considerable direct field work in support of the sale process.

Reserves, Technical and Commercial Advisor: Sakhalin

Client: Financial Institutions (Equity)

Since 1999 GCA has been providing technical and commercial advice to the Group of LNG buyers and Lenders to the Sakhalin-II project. The project involved the development of three large oil and gas condensate fields located offshore Sakhalin Island and construction of pipelines, an LNG plant and associated export facilities.

EOR Evaluation: Fractured Carbonate Field

Client: Major Russian Operator

GCA was engaged to assess a range of optimal enhanced oil recovery (EOR) techniques for the Usinskoye heavy oil field in Komi region of Russia using a multivariate simulation approach. The objective was to enhance oil production and to reduce development costs in a complex and challenging subsurface reservoir. A pilot program focussed on fracture characterisation, volumetric sweep, 3-phase saturations, target oil production and injection rates.

Development Review: Tight Oil Field, Western Siberia

Client: Major Russian Operator

GCA conducted a comprehensive engineering and geological study of the Vinogradova tight oil field in Western Siberia. The project objectives were to optimise appraisal risks and early development programmes to reduce CAPEX and improve well performance.

Mature Oil Field Re-Development: Western Siberia

Client: Major Russian Operator

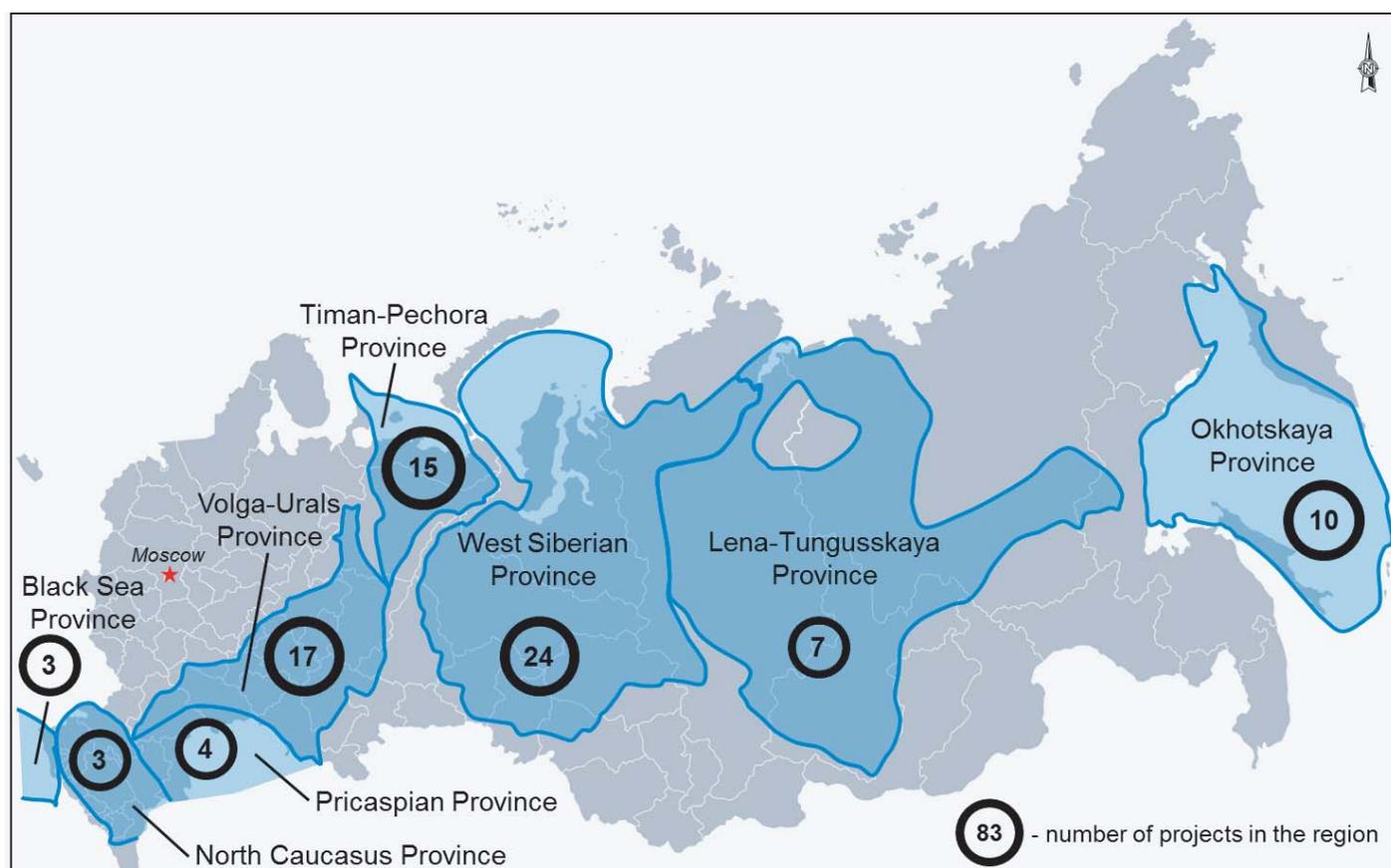
GCA was commissioned to design a re-development plan for the Yuzhno-Yagunskoye field in Western Siberia with the objective of identifying bypassed oil, improving efficiency and well planning. The work included building a new reservoir model, estimating reserves and providing recommendations on the field development.

Unconventional Reservoir Development: Western Siberia

Client: International Service Company

GCA performed an integrated assessment of the technical and commercial development potential of the Upper Jurassic Bazhenov shale. This included geomechanical modelling and designing the optimum completion technique for horizontal wells in the pilot study area.

GCA Russian Projects by Region



Opportunity Profiling and Strategic Advice: Russian Acquisitions

Client: European Utility Company

GCA conducted a profiling of acquisition opportunities in Russia. A range of indicators were developed which allowed the client to consider all strategic options, to define critical corporate value drivers, and identify the optimal suite of assets for potential acquisition.

Improved Productivity Assessment: Oil Field, Russian Arctic

Client: Joint Venture Partners

GCA was requested to complete an independent audit of an Engineering, Procurement and Construction (EPC) contract and its progress at the start of a crucial winter construction season for an undeveloped oil field in the Russian Arctic. GCA identified a number of critical issues (staffing, project planning software, critical path analysis, and project management processes) and generated potential solutions which the JV management was able to raise with the Contractor to ensure the project aligned with the original schedule.

Environmental and Business Review of Corporate Technical Capability

Client: European Bank of Reconstruction and Development

On behalf of the European Bank of Reconstruction and Development (EBRD) who were considering issuing a loan to a Russian service company, GCA carried out a review of the company's technical capabilities and plans to expand into new service areas. The work included an audit of the company's environmental practices and business plans.

PRMS Reserves and Resources Evaluation: Western Siberia

Client: Independent Operator

GCA conducted an audit of the oil and gas Reserves and Contingent Resources for a Western Siberian portfolio. This involved a review of newly constructed static and dynamic reservoir models. A series of workshops helped mentor the Client through SPE-PRMS compliant methodology for resource classification.

Additional Information

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

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