



Project Advisory Services

*Technology is transforming
industry faster than organizations
and regulations can keep pace.*

*Projects are more complicated. In
this exciting and complex world,
we deliver the solutions you
need to make sound decisions.*

www.thinkapg.com

About APG

Aurora Professional Group delivers research and advice to organizations seeking to protect their strategic advantage and improve their capital efficiency. APG's strategic consultant network rapidly delivers top-tier services without the leverage model. Clients receive genuine collaboration through tailored fee arrangements.

Why APG?

Our model provides exceptional advantages over traditional consulting firms:

1. We engage clients only when we have the applicable experience. Our insights and reports are unique for every job.
2. Our overhead is much lower than that of our peers. In cost-driven projects, we meet and then exceed your requirements with *fees for service*. In schedule-driven projects, we can provide the time and genuine collaboration often missing from our competitors.

Our Expertise

APG consultants are experts in their fields. Collectively, we have several decades of experience across a variety of industries. Our areas of expertise span more than sixty specialties in the following categories:

- Engineering, Piloting, and Project Advisory
- Management Advisory
- Regulatory Assessments and Advisory
- Technology Research and Advisory

Industries

PROJECTS

APG can advise or integrate with owner or contractor teams in commercial, industrial, and institutional projects. We are also here to assist with your claim development or defence.

ENERGY

Expect tailored solutions for the oil and gas, cleantech, power / transmission, and renewables industries. APG is adept at contextualizing cross-value chain opportunities to improve business models and meet the requirements of ever-changing regulatory frameworks.

PROFESSIONAL SERVICES

The professionals' professional—we understand the needs of our consulting and legal firm peers and are positioned to improve operations or provide bandwidth and services as required.

Services

RESEARCH

APG offers research solutions based on a collaborative phased framework to maximize relevance and insights. By combining data-driven analyses with unique graphics and visuals, APG provides a polished work product tailored to your specific needs.

ADVISORY

Owners and contractors face challenges regarding technology evaluation, design, and project execution. APG provides solutions through the different phases of the project life cycle to ensure that delivery is efficient and controls are operating effectively. The ultimate goal is the organization's successful delivery of their capital program and protection against stakeholder and litigation issues.

SPECIALTY ASSIGNMENTS

APG can work within your organization. Workshops, facilitation, and cooperative development of internal systems, procedures, and initiatives are our specialty!

Project Advisory Services Financiers / Shareholders

ORGANIZATIONAL ASSESSMENTS

Embarking on a capital program involves much more than securing funds and executing. A project's success is based on the people designated to execute it. If you've invested in a company with large capital expenditures, your confidence in the organization's people is paramount. The board must have the wherewithal to request adequate reporting and hold the executive accountable. The executive must have the experience to facilitate successful project delivery, and the organization must have adequate depth and structure to meet the needs of the contract strategy. APG will assess, audit, and monitor your portfolio company to protect your investment. Our focus is on governance, fair competition, organizational alignment, and project execution infrastructure. We will work with you to create the mechanisms and interfaces for reporting, interim audits, and mitigation planning.

PROJECT DELIVERY ASSESSMENTS

Successful project delivery depends on the quality of front-end planning. Ideally, your portfolio company has and adheres to a project delivery model and execution philosophies. Whether it is pre-sanction, in progress, or in distress, APG will quickly provide you with the necessary insights required to protect your investment.

REGULATORY ASSESSMENTS

Your original investment criteria may have changed due to evolving legislation and a modified fiscal structure. Or, emerging industry regulations may affect the risk basket of your portfolio. APG will help you understand the technical and commercial impacts arising from changing regulations. We are experts in key technical areas governed by legislative authorities: environment management, safety codes, and design standards. We will provide independent assessments on the effect of changing regulations on your pro forma.

PROGRESS, MILESTONES, AND CASH FLOW ASSESSMENTS

Ironically, capital partners have a limited view into the reporting of capital projects. Internal scorecards are much different from the project team, to the board, and to equity and debt holders. Your team should be able to translate, cut through, and sniff out warning flags from project reporting. APG is your trusted advisor to independently assess project health. We assist you in developing your executive controls, surveillance plans, and reporting frameworks.

STAKEHOLDER REPRESENTATION

Sometimes reporting isn't enough. You need eyes and ears on the ground. Our consultants have decades of field and head office experience and are comfortable representing the interests of capital partners.

Project Advisory Services Owners / Contractors

PROGRAM DESIGN AND ADVISORY

At APG, we are evangelical about front-end planning, contracting strategies, and project philosophies. Project delivery is evolving at a rapid pace. "That's the way it's always been done" and "old school" mentalities are impediments to true productivity improvements. Projects are collaborative efforts only as strong as the weakest link. Each team member, contractor, and tool needs to support your project vision and charter. We help improve your project delivery by assessing your project execution strategies, team structure, control methods, and software tools for gaps and appropriate scoping. Working with your organization, we leverage our multi-industry experience to address shortcomings, de-risk your program, improve collaboration, and dramatically improve your project outcomes.

RISK MANAGEMENT

Risk management is much more than using a risk register. A true focus on risk management considers both operational and financial risks and begins before project sanction. Your governance philosophy and project charters likely speak to risk management, but is it getting the attention it deserves? With a properly functioning risk program, budget and schedule hazards are quantified early on with hard mechanisms for mitigation plan triggers. APG will help you develop the maturity of your risk program so that it informs your contingency estimates with historical data, leaving as little as possible to chance.

MANAGEMENT OF CHANGE

Change management controls are often inadequately addressed at the contract and kickoff stage and become poorly administered during construction. Changes quickly become points of contention for the contract parties. These can blossom into concurrent changes and more complex trends that may have cumulative effects. APG will provide you with the procedures, tools, and analyses to help communicate, manage, and mitigate these effects. We ensure your management of change program suits your project delivery models. With the right mechanisms to mitigate and manage scope growth, you can focus on contract administration transparency.

CONTROLS AND SOFTWARE ADVISORY

Project software tools have evolved at a rapid pace. Organizations can no longer rely on internal custom solutions. Documentation has become digital, project parties have become integrated teams, and the data chain is global. If your tools impede the data chain and opportunities for collaboration, efficiency suffers—often at the expense of profit or return on capital. Unfortunately, there is no "one size fits all" solution across all industries. At APG, we continually evaluate the incumbent software platforms as well as up-and-coming solutions. If you are ready to improve your systems, APG will guide you through the procurement process, ensuring that functionalities and workflows match your organization's needs and that the implementation process is as efficient as possible.

PRODUCTIVITY ASSESSMENTS

When running at peak efficiency, your headquarters, engineering houses, module yards, site, and contractors are in harmony, but there will always be fires and issues to manage. Your personnel should be equipped to manage and track whatever comes at them without disrupting the flow of material and information. This provides a clean delineation between scope and extra work. At APG, we have owner-side, contractor-side, field, modular yard, and shop experience. We have led successful initiatives that have dramatically improved tool time, contractor interfacing, and turn-over efficiency. Think you are still leaving money on the table? We will find out where it is and get it back in your pocket.

REQUEST FOR EQUITABLE ADJUSTMENT

APG helps you settle disputes early on and avoid construction litigation. We use your project data to detail how and when your project was impacted and to what extent. Using best practice analyses, we support you with visualizations, productions, and assessments that make your request compelling and effective.

DESIGN & EQUIPMENT ASSESSMENTS

APG prides itself on retaining expert-level consultants across a variety of industries. We can answer your tough questions. Is your FEED accurate enough for sanction? Are you unsure about your new plant processes? Is your HAZOP providing valuable and defensible outputs? Have you actually modularized as efficiently as possible? Are you meeting regulatory requirements? Have you implemented the best technology for the site specific conditions? Do you have the most cost effective design? Do you strike the right balance between capital and operating expenditure?

Or are you trying to improve your design philosophy? We are happy to help with larger scale design improvements, such as equipment standardization, design de-risking and outsourcing, technology evaluation, and design scope and quality management.

CASH FLOW ANALYSIS

If you're a contractor, cash flow is the lifeblood of your project and your company. If you are an owner, it is the key metric to inform you on project health. With budgets and project controls properly set up, your leadership team should be able to monitor cash flow on a weekly basis. If your cash flow analyses are fuzzy, you're inviting unwarranted risk for your project. APG will help you set, monitor, and improve cash flow reporting to make sure you are running as efficiently as possible.

PROJECT DOCUMENTATION

We firmly believe that the state of document control provides a diagnosis on the health of a project program. The evolution from hard copy project files to electronic document management has created organizational inefficiencies, broken workflows, and unwieldy software solutions. APG will quickly assess your documentation and provide recommendations to address the biggest gaps. Our approach focuses on the key elements needed to demonstrate a contemporaneous project record that satisfies your contracts, procedures, and policies. The ultimate goal of your document management program is a "one source of truth." This positions for you exceptional internal benchmarking and process improvements as well as an ironclad resource for claim defence. "They who have the most paper win."

Specialties

ENGINEERING / PROJECT ADVISORY

- Asset Integrity Management
- Commissioning and Turnover Planning Assessments
- Constructability Assessments
- Debottlenecking and Optimization
- Design Assessments
- Design Data Aggregation for Operations and Maintenance
- Engineering Risk Assessments (HAZOP, SIL)
- Equipment Sizing and Standardization Assessments
- FEED Completeness Assessments
- FEL / Gating Assessments
- Forensic Contract Analyses, Claim Development, and Productions
- Modularization – Fabrication and Assembly Assessments
- Modularization – Philosophy and Design Assessments
- Process / Facility Performance Analysis
- Process and Control Narrative Assessments
- Process Simulations (HYSYS, UNSIM)
- Procurement Strategy Assessments
- Project Controls (Schedule and Cost) Assessments
- Project Delivery and De-risking Assessments
- Project Engineering Assessments
- Project Execution Assessments
- Project Feasibility Analysis
- Refining / Upgrading Process Assessments
- Safety Engineering Assessments
- Specification Development
- Steel Design Assessments
- Utilities and Off-site Engineering Assessments
- Value Engineering Assessments

MANAGEMENT ADVISORY

- Economic Modelling and Evaluations (DCF, scenarios, sensitivities)
- Energy Efficiency and Conservation Assessments
- Procedures and Policies Development
- Program Management
- Project Documentation Analyses
- Project Execution Risk Analysis
- Strategic Planning and Management
- Training
- Workshop Planning and Facilitation

REGULATORY ASSESSMENT & ADVISORY

- Boiler, Boiler External Jurisdictional Requirements
- Code Interpretation Analyses
- Design Registration Jurisdictional Requirements
- Foreign Equipment Jurisdictional Import Requirements
- Jurisdiction / Code-break Determinations
- Pressure Relief Jurisdictional Requirements
- Pressure Relief Systems Assessments
- Regulatory Requirements and Compliance (Alberta)
- Regulatory Requirements and Compliance (BC)

TECHNOLOGY RESEARCH & ADVISORY

- Biomass / Hog Fuel Utilization
- Carbon Capture
- CO2 EOR Advisory
- Electric Vehicle Implementation
- Experiment Planning
- Freshwater and Brackish Water Treatment
- Hydraulic Fracturing Produced Water Management
- Phase Separation – New Tech
- Pilot Planning
- Steam Process and Blowdown Optimization
- Technology Evaluations (Manufacturing Readiness)
- Technology Evaluations (Technology Readiness)
- Technology Scoping and Landscaping
- Technology Scouting
- Thermal Produced Water Management
- Water Chemistry and Analytical Testing
- Water Management – Alkalinity Reduction
- Water Management – Filtration
- Water Management – Ion Exchange
- Water Management – Lime Softening
- Water Management – Regeneration Systems
- Water Management – Sludge Management
- Water Management – Slurry Systems
- Water Management Jurisdictional Requirements
- Water Management – Evaporators
- Water Technology Assessment – Life Cycle Costs

Meet Our Team

- James Bremner – Process and Simulation Expert
- Darlene Clarke – Sustainable Energy and Program Management Consultant
- Tammy Cooper – Document Management Expert
- Bradley Fossen – Director, Research and Advisory
- Ross Harper – Design and Construction Expert
- Caroline Mussbacher – Water Expert
- Scott Mussbacher – Water Process Expert
- Jackie Pearce – Document Expeditor and Records Professional
- Nick Quinn – Project Controls Specialist and Forensic Analyst

Our Pedigree

You can rely on our experts to provide effective, practical, multifaceted advice. APG consultants are engineers, MBAs, economists, technologists, scientists, and seasoned veterans in their field. This combination of industry, technical, managerial, and financial experience ensures that all your business elements are considered.



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