



## Natural Gas Procurement Strategy for Project Developers

### ***Fuel Procurement Strategy Service***

ICF Consulting's natural gas *Fuel Procurement Strategy Service* is designed to assist project developers in optimizing regional plant siting and developing natural gas contracts that capture maximum economic returns for the project, as well as document expected project profitability for potential lenders. Natural gas is the predominant operating cost for a power plant, accounting for as much as 90 percent of operating costs. The *Fuel Procurement Strategy Service* is a natural gas market assessment that enables clients to compare gas procurement alternatives for supply, transportation, storage, and peak shaving.

ICF Consulting's Fuel Procurement Strategy Service is a vital tool that assists clients in sound decision-making and leads to lower project costs. The Service is customized specifically to meet the client's needs. The Fuel Procurement Strategy Service incorporates some or all of the following: regional gas price forecasts, modeling and commentary on fuel supply and delivery alternatives, analyses of various transportation/storage arrangements, research on peak-shaving mechanisms and alternative fuels, and a forecast of gas supply costs to the plant gate. The results of these assessments can be valuable for comparisons of plant sites and for finalizing gas contracts when the site has been determined.

### **Approach**

ICF Consulting's Fuel Procurement Strategy Service combines an overall understanding of gas production and supply markets with regional gas issues and ICF Consulting's specific knowledge of gas supply and transportation contract issues for electric power plants. A number of issues need to be considered when assessing the appropriate fuel procurement strategy for a specific proposed or existing power plant:

- *Power Plant Operations and Associated Gas Supply Requirements.* The first step in evaluating gas supply options is to understand the expected natural gas requirements for the power generating facility (the daily, monthly, and seasonal burn). Given the projected demand profile of a power generating facility, delivered gas prices are affected by general gas market conditions, the regional source of the supply (e.g., Gulf, Alberta, Sable Island, etc.), the transportation route and pipeline rates, and the specific contract terms in the supply and transportation agreements. This can be an iterative process, since the gas requirements are often dependent on how the plant would operate, which is a function of the price of natural gas.
- *Gas Supply and Transportation Options.* ICF Consulting will evaluate potential supply options available at a facility. These supply options will include feasible interconnects, potential gas storage options, etc. The analysis will also consider the cost-effectiveness and adequacy trade-offs of various transportation options (firm transportation, interruptible transportation, capacity release, and availability of storage, etc.), as well as potential for contractually employing varied supply terms (indexing, tiering, etc.). These

options will be evaluated in terms of the expected plant utilization/load profile (daily, monthly, seasonal, etc.). The current and possible future costs of the analytical inputs will be a function of existing tariffs, current and projected capacity utilization, availability of released capacity over time, and the relative value of serving alternative markets.

- *Supplier Selection.* ICF Consulting can assist a client by screening and developing a short list of potential gas suppliers. ICF Consulting will conduct interviews with possible suppliers, solicit competitive bids, or provide the client with general knowledge of the potential suppliers in the region along with their current and possible future characteristics. Clients may want to target suppliers already active in the region, as such companies may have excess capacity or supply that would benefit the project.
- *Plant Site Selection.* The assessments provided by the Fuel Procurement Strategy Service are an essential part of the analysis required to select a plant site. Plant siting should not be wholly dependent on electric power considerations, such as transmission access. Small location shifts can sometimes have major effects on gas acquisition costs.
- *Fuel Management Policy.* The client may want to hire a fuel manager for the project or use their gas supplier as a fuel supply manager. Typically, a fuel manager has considerable natural gas expertise and assets to back their contractual obligations. Therefore, fuel supply managers may be in a better position to realize additional value from the project's assets. ICF Consulting would recommend companies who know the market very well and can act opportunistically. These marketers might best be solicited through an RFP process.

## Scope of Work

Each power project has its own set of unique issues, and therefore, requires its own set of analyses. The natural gas Fuel Procurement Strategy Service provides the client with presentations of the various analyses addressing the gas decisions facing a project developer. The presentation includes a full description of the known project characteristics and options facing the developers. The analyses will also comment on the specific issues and risks associated with each transportation or supply option. The outlook for gas supply summarizes the current North American gas supply situation, with emphasis on the physical relationship of the selected project region to pipelines and supply regions.

In order for ICF Consulting to produce the Fuel Procurement Strategy Service analyses and presentation, we request ready access (to the extent that each is available) to the following:

- 1.) planned plant operation schedule or historic operation schedule
- 2.) potential plant site(s), if undetermined
- 3.) any contractual arrangements for power or steam

In addition, it will be important to define the current status of the project, define the participants in the development of the project, and discuss in detail the gas supply and transportation options to be studied by ICF Consulting.

## ICF Consulting's Background and Capabilities

ICF Consulting has a well-established reputation for assisting lenders and developers with low-cost/low-risk, fuel procurement strategies. Our previous client assignments have included power generation facilities in the United States, Canada and around the world (i.e. China, Bolivia, Argentina, and Morocco).

As a company, ICF Consulting has facilitated our clients' fuel procurement strategies on numerous levels, from very broad-brush fuel procurement option reviews to detailed, specific financial and analytical work-ups. Some examples of the diversity of our services are outlined below:

- 1.) provide independent analyses of regional gas markets
- 2.) develop and review fuel supply manager RFPs
- 3.) model and report on gas procurement options (supply, transportation, etc)
- 4.) negotiate contract arrangements
- 5.) complete due diligence on contract arrangements (gas transportation, gas supply, PPA, steam, tolling, etc.)
- 6.) develop client *pro formas*
- 7.) analyze and report on gas asset options
- 8.) deliver findings directly to rating agencies

In addition to fuel procurement strategies, ICF Consulting has performed pipeline market studies for developers, potential shippers and lenders during many of the major pipeline expansions in the last twenty years. Our past work includes: assessments of competitive market positions for the Northeast Open Season, the California capacity rush of the early 1990s, competitive expansion proposals into Florida in the early- to mid-1990s, the current round of southeastern and northeastern U.S. expansions, and western Canadian expansions.

ICF Consulting analyzed the latest round of proposed expansions into the U.S. Midwest from Canada, as well as new pipeline projects in the Northeast, including the Maritimes and Northeast pipeline project, and the expansion of the Iroquois Gas Transmission System.

ICF Consulting has also provided a wide variety of due diligence related analyses and market assessment services associated with gas storage facilities, including both those serving seasonal market requirements and those providing high deliverability storage services (such as salt caverns). For some of these evaluations, ICF Consulting has examined the viability of gas storage operated in conjunction with gas-fired power plants.

ICF Consulting uses these capabilities to synthesize our expertise on wholesale electric markets, air pollution regulations, and fuel markets into one integrated framework. Any support we provide to an asset evaluation or regional market characterization assignment is performed by first developing a comprehensive and internally consistent characterization of the entire North American gas and power market. Regional market characterizations are developed within the framework provided by the national characterization. Finally, any asset evaluation is developed within the context of the regional characterization where in that asset must compete.

*Schedule and pricing for the Fuel Procurement Strategy Service are quoted on a project-specific basis given the options selected for study and the project requirements. For more information, please contact Leonard Crook at 202/862-2952 or Bill Hederman at 703/934-3115.*