



# Environmental Due Diligence for the Energy Industry



ICF Consulting's energy practice supports public and private sector clients by providing economic and technical services and policy analyses that enhance our clients' ability to make the best strategic and resource development decisions. We provide environmental due diligence for energy asset acquisitions, developments, and operations.

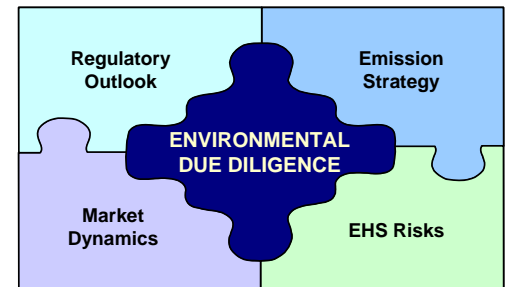
- Air Regulatory Risk Assessment
- Environmental, Health, and Safety Practices Assessment
- Environmental Compliance Due Diligence
- Climate Change Strategy

The industry's current financial crisis has heightened the need for more rigorous due diligence practices, and many organizations turn to ICF Consulting when considering a **merger, acquisition, or divestiture**. Even as assets trade hands at firesale prices, companies must consider the risks associated with owning those assets in the future. Business planning and expansion requires skills in managing **air regulatory and environmental, health, and safety (EHS) risks**. The escalating costs of installing pollution controls and managing generation and contaminated industrial sites, coupled with **new and more stringent regulations**, have heightened corporate managers' desires to better understand the air regulatory and EHS risks associated with their operations or proposed acquisitions. For electric generation assets in particular, the potential impact of new air regulations is so significant, it can be the determining factor in an acquisition or merger decision.

## ICF Consulting's Approach

At ICF Consulting, we undertake environmental due diligence assessments to help our clients understand the air regulatory and EHS exposure of the assets being transferred. Through our assistance, our clients answer four important questions:

1. Is the value of the asset(s) robust to changing NO<sub>x</sub>, SO<sub>x</sub>, Hg, and CO<sub>2</sub> policies?
2. What pollution control investments will we need to make down the road?
3. How do environmental policies affect the asset's core markets (power and fuel)?
4. Will EHS issues jeopardize the transaction and how do they affect my bid?



**Air Regulatory Risk Assessment** answers questions 1-3, using ICF Consulting's proprietary Integrated Planning Model (IPM<sup>®</sup>) to provide the valuation and strategic insights given new NO<sub>x</sub> regulations, changes to New Source Review (NSR) requirements, and potential multi-pollutant legislation. The assessment projects the asset value impact of a range of potential environmental regulatory futures, the corresponding control costs, and electric and fuel market dynamics. Alternative control, operation, retirement, and fuel options are optimized to maximize the asset's value and flexibility. We project power, fuel, and allowance price impacts that can help offset air compliance costs. ICF Consulting takes a proactive approach to assessing air compliance requirements that identifies optimal strategies that minimize capital investments while preserving option value to respond to the uncertain air regulatory future.

**EHS Practices Assessment** for due diligence is focused on identifying and characterizing significant potential EHS liabilities associated with past and current practices at the facility or from off-site sources. Environmental site assessments further characterize the nature and extent of potential investments for air regulations and remediation of contamination, specifically those relating to soil and ground water. ICF Consulting's geologists, engineers, hydrologists, chemists, and risk assessors are capable of conducting on-site sampling and analysis of all media (soil, ground water, sediment, surface water, wastewater, air). We develop technical solutions to address identified issues and prepare budget-quality cost estimates for the implementation of these solutions. These efforts enable the client to more precisely understand the environmental risks that need to be managed and to refine the potential future remediation costs.

# Featured Projects

## Air Regulatory Risk Assessment

ICF Consulting performed air quality computer analyses on a fast response basis for an industrial facility with its own electric generating capacity. The analysis involved evaluation of EPA control strategy development based on a rollback model for SO<sub>2</sub> in Ohio, and on the development of an alternative modeling approach. We improved the emissions inventory, obtained local wind observations, and modified Gaussian dispersion models to account for terrain elevations. The modifications created strong correspondence between predicted and observed concentrations. In this case, emissions inventory errors nearly led to imposition of unnecessary controls at a potential cost of tens of millions of dollars.

## Preinvestiture Assessment of Oil and Gas Properties

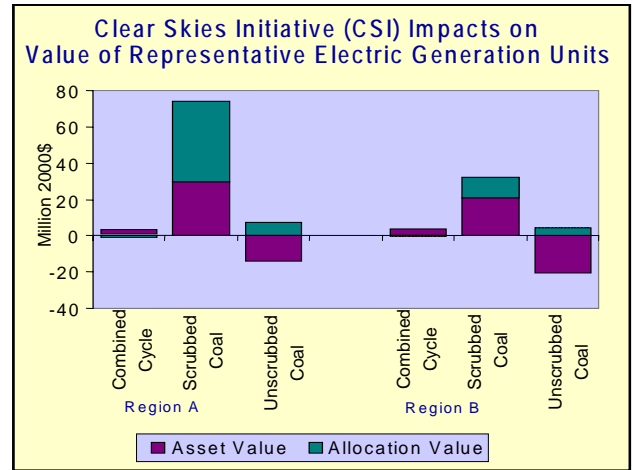
ICF Consulting provided an independent opinion regarding the environmental liabilities that may be present on the oil and gas production properties of a company deciding to divest a portion of its energy business. We conducted site environmental assessments of 20 of their key well-sites, compressor stations, gas treatment plants and crude oil storage batteries, in all covering 700,000 acres of production property, in a week. Our ability to quickly deploy five teams of environmental professionals from around the world was essential to our ability to meet the client's schedule. Site-work was completed within two weeks. Our report, which was used to support our client's representation of substantial compliance with environmental regulations in the transaction, was delivered within two weeks of fieldwork completion.

## Due Diligence Review of an Oil Company

ICF Consulting identified and estimated potential environmental liabilities associated with past and present company operations as part of a due diligence review for an independent oil company. Because the acquisition involved a stock swap, management was concerned that significant environmental liabilities could affect the desirability of the offer. Working under an extremely tight deadline, our staff assembled publicly available information on more than four-dozen North American, European, and Latin American current and past operations and then identified likely liabilities.

## Air Regulation Compliance Due Diligence

ICF Consulting developed a bid for an electric power company for existing electric generation assets that included an optimal air regulation compliance strategy that minimized investment costs and preserved option values to future air regulatory uncertainties, such as President Bush's Clear Skies Initiative (see illustration below).



## Estimation of Costs for Corrective Action

ICF Consulting conducted a review of a potential acquisition for a Fortune 50 chemical and specialty products company with six manufacturing plants in France, Spain, England, and the United States. This project involved assessing each facility's EHS status, conducting on-site sampling and analyses to characterize potential contamination, developing technical solutions, and preparing budget-quality cost estimates for implementation.

## Baseline Assessment and Review

ICF Consulting developed a rapid baseline environmental assessment of operations for an established electric utility faced with new management. We directed a review of the operation to provide the new team due diligence on the status of current operations. We also developed a plan to help manage and eliminate their potential liabilities. ICF Consulting was able to develop an exposure cost for the operations and an implementation plan to minimize those exposures.

# About ICF Consulting

ICF Consulting ([www.icfconsulting.com](http://www.icfconsulting.com)) is a leading management, technology, and policy consulting firm. Drawing upon extensive industry knowledge, distinguished professionals, and innovative analytics, the firm develops solutions to complex homeland security and emergency management, community development, energy, environment, and transportation issues. ICF Consulting's approach to these issues is strengthened by its expertise in information technology, organizational improvement, program management, and communications. Since 1969, ICF Consulting has been serving major corporations, government at all levels, and multinational institutions. More than 1,000 employees serve these clients in the Americas, Europe, Asia Pacific, and Africa.

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