Services and Capabilities

Energy
Our team of experts offers an unmatched combination of economic credentials, industry expertise, and testifying experience.
Energy—particularly the electricity and natural gas sectors—has been one of the most rapidly changing industries over the past two decades. The pace of change shows no signs of slowing. Around the world, industry participants grapple with contradictory trends: regulation and deregulation, consolidation and asset spinoff, growing demand and constraints on supply.

For half a century, NERA experts have helped clients successfully navigate their most critical regulatory, litigation, and business challenges. We have served clients around the globe, including North America, many countries in Central and South America, nearly all of the countries of the European Union, Russia and other countries in the former Soviet Union, Australia and New Zealand, and many parts of Asia. NERA’s energy experts have comprehensive knowledge of the economics of gas and electricity markets, industry structures, and the methods of regulation used by government and regulators. We have extensive practical experience working in the gas and electricity industries themselves, and in key regulatory agencies and government departments. We leverage our expertise by taking into account the specific knowledge and innovation our NERA colleagues bring to other network industries, including communications, transportation, and water.
NERA’s Energy Group

NERA’s Energy Group is at the forefront of the continuing transformation of energy industries worldwide. We have pioneered approaches for introducing competition in areas such as power generation and gas supply, where competition is workable, and for improving the regulation of sectors where it is not. We work with companies, governmental bodies, and regulators worldwide to design competitive gas and electricity markets and to develop tariffs and rules of access for regulated transmission and distribution systems for electricity, gas, and the transport of oil and oil products.

With industry restructuring in many countries, we also help companies develop strategies for exploring new opportunities and minimizing new risks, including those related to climate change, environmental regulation, and energy policy. We help our clients develop new regulatory and commercial strategies and, when needed, support our clients with analysis and testimony before regulatory commissions, antitrust and competition policy agencies, domestic and international courts, and domestic and international arbitration tribunals.

Our economists help clients to decide which lines of business to pursue; to divest assets no longer consistent with their strategy; to identify and evaluate opportunities for mergers, acquisitions, and investment; and to develop bidding, trading, contracting, and marketing organizations and strategies. Our work also includes designing and conducting energy auctions, providing strategy and valuation advice on mergers and acquisitions, the financing of energy companies, and the financial restructuring of distressed companies.
Areas of Focus

In energy, as in all of NERA’s work, our experts focus on key areas where the rigorous application of economics provides the most value to our clients. Without exception, our work in these areas is grounded in a set of core principles that have always guided our efforts: focus, independence, rigor, defensibility, and clarity.

Litigation Support

NERA’s energy experts have extensive experience providing support to clients involved in litigation or regulatory disputes, from the inception of the case to its final resolution. We assist clients in assembling their cases, developing strategies, and assembling testimony. We calculate damages from contract breach, breach of law, or breach of regulatory obligations in cases involving matters such as power sales contracts, gas purchase contracts, abuse of market power, valuation of insured property, regulatory takings, or environment enforcement. Our experts routinely testify in courtrooms and before regulators on issues such as cost of capital, rate design, cost of service, regulatory models, prudence, affiliate standards, efficiency and cost targets, regulatory incentives, price manipulation, industry structure, economic damages, and liability. We testify in cases involving issues such as bankruptcy, business practices, and environmental-related cost/benefit studies. NERA experts have also testified in arbitration proceedings around the world on disputes as diverse as bilateral investment treaties, trading practices, political risk insurance policies, contract breach, and damages, and have advised parties in preparation for or anticipation of arbitration proceedings.

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Risk Management
Increasingly, utilities are applying financial theory to optimize resource procurement and devise risk management strategies. With extensive experience in risk analysis and risk management techniques, NERA experts are well versed in modeling, analyzing, and communicating the effects of combined risks to energy companies. We typically aggregate these risks across multiple risk factors and business units, taking into account correlations and diversification effects, to measure their combined effect on performance measures such as earnings-at-risk or cash-flow-at-risk. We can also assist clients in measuring individual risk exposures on a consistent basis. Once risk has been properly assessed and measured, our energy professionals assist our clients in institutionalizing these methods and in bringing other best practice approaches to their daily operations.

Environment and Climate Change
NERA offers expert services related to the economics of environmental regulations and policies in the fields of climate change, air quality, water quality, and other environmental, health, and safety areas. We have developed sophisticated modeling frameworks to evaluate the economic impacts of climate change and air quality policies and regulations on companies and sectors, including electricity, oil and gas, refining, automotive, petrochemicals, cement, pulp and paper, chemicals, iron and steel, and aluminum. We also have performed numerous cost-benefit analyses that clarify to policymakers what is at stake from an overall societal perspective. Our experts have evaluated a wide variety of climate change policies, including renewable energy and energy efficiency policies and their interactions with other climate change policies. Our experts also advise private clients on markets for environmental commodities, including emissions trading, allowances/credits and renewable energy certificates, and their implications for investments.

We have extensive experience evaluating major air quality and water quality programs in the US, Europe, and elsewhere. NERA experts have also developed assessments of natural resource damages including major oil spills. We have extensive experience evaluating the employment and other economic impacts of a wide variety of regulations, policies, and infrastructure investments. In all these applications, we have developed and used state-of-the-art models and analytical tools.
**Renewables**

The renewable energy industry is remarkably complex. There are a wide variety of different technologies, the characteristics and economics of which vary dramatically from application to application. On top of these technological and economic complexities, renewable energy is affected by a host of political and social issues at the local, regional, national, and international levels as well.

NERA has extensive expertise and experience in the important elements of the renewables industry, and unparalleled qualifications in understanding power and fuel market structure and behavior. We help clients address key questions about the renewables industry—involving technology, economics, policy, and social factors—and use the answers to craft better investment strategies.

**Market Analysis and Assessment**

NERA experts are leaders in supporting investment decisions. We have supported clients in assessing the fit of investing in energy markets, screening assets for acquisition, valuing both assets and publicly traded companies, and assisting lenders in assessing the attractiveness of lending in the sector. We have prepared market assessments for all North American and many European and Asian markets; NERA experts have prepared Independent Market Expert Reports in support of over $30 billion in bank debt and capital market offerings, and supported the acquisition of over 42,000 MW of generation.

Our assessments focus on understanding the drivers of short-term and long-term risks in asset positions, the range of potential outcomes that should be considered in business planning, risk management, transaction structuring, and strategic decisions. Given the investor’s investment profile, NERA can help target assets or companies. We can assist with origination and structuring of transactions, including identification and segregation of risks, and assistance with placement of elements of a structure. NERA can provide regulatory support, including the prescreening of acquisition targets based on likely regulatory and legal requirements.

*NERA has been recognized as a leading authority on pricing; our method for estimating marginal costs set the industry standard in the US.*
NERA EconomiC Consulting

Regulatory Design and Tariffs
NERA’s consultants have a comprehensive knowledge of the economics of gas and electricity markets, industry structures, and the methods of regulation used by government and regulators. As governments and other agencies pursue liberalization of gas and electricity markets around the world, expert economic advice is essential for an understanding of the benefits and costs of different policy options, the extent to which industry restructuring is desirable, and the need for and most effective forms of regulation. NERA advises regulators, governments, and industry on all these issues.

We have extensive experience with all aspects of pricing policy including the design of prices for consumers and particularly the design of rates or tariffs for the transmission and distribution of gas and electricity. For many years, NERA has been recognized as a leading authority on pricing; our method for estimating marginal costs set the industry standard in the US when it was introduced in the late 1970s. NERA’s method for estimating marginal costs has been continually updated and enhanced, incorporating more rigorous techniques for capturing time-of-use and geographic differences in costs and providing a sound basis for efficient delivery tariffs as well as charges for bundled service. We have applied this experience in many countries around the world.

Restructuring and Privatization
NERA has participated in nearly all of the energy market restructurings that have taken place around the world in the last two decades. We have applied our economic and regulatory expertise to assist utilities, governments, the World Bank, and other major development agencies in the process of energy industry restructuring, including privatizing and restructuring vertically integrated state-owned monopoly enterprises into separate production, transportation, distribution, and retailing/marketing companies. NERA expert witnesses have testified on industry structure, economic regulation, production, transport, and distribution pricing. NERA experts have also been involved in many privatizations, working for both the sellers and the buyers, and we are often hired by governments and regulated companies to consult on regulatory issues after restructuring.
Transaction Advisory and M&A Support
NERA provides a range of impartial pre-transaction and transaction services. These include identifying potentially attractive markets and companies within those markets; valuing a proposed transaction; analyzing bidding, contracting, pricing, derivatives, incentive regulation, and other alternatives for increasing revenues, decreasing risk, or both; responding to potential challenges based on market power, regulatory policy, or other public interest concerns; and assisting with negotiations and implementation. NERA experts prepare detailed market assessments of the industries in which acquirers want to invest, and then help clients filter acquisition opportunities. We also provide expert advice on all aspects of the regulatory environment and the likely trends and changes in the future, and provide a full range of economic due diligence services including price forecasting, asset valuation, audit of valuation models, and review of contracts. We have provided these services for a wide variety of assets, ranging from power generation projects (nuclear, coal-fired, gas-fired, solar thermal, wind, and IGCC assets) to utilities. We also provide extensive due diligence and regulatory advisory services, including advising clients on issues such as merger approval conditions. In addition, we provide expert testimony on these issues before regulatory commissions.

Economic Impact
Economic impact analysis is an important tool that can be used to assess the effects of energy policies and infrastructure investments on employment and other measures of economic activity, which are key considerations for many jurisdictions. NERA has performed economic impact assessments for numerous cities, states, and regions of the US, as well as for Europe, the Caribbean, and the Middle East. Our work has included evaluations of power plants, electric transmission infrastructure, and numerous energy and environmental policies. NERA has used virtually every major economic impact model, including the state-of-the-art REMI model (developed by Regional Economic Models, Inc.), and the IMPLAN model (developed by the Minnesota IMPLAN Group). These models rely on comprehensive datasets of industrial, economic, and demographic information for individual geographic regions. NERA experts have communicated the results of their economic impact studies to policymakers, regulatory bodies, the media, and the general public.
NERA has participated in nearly all of the energy market restructurings that have taken place around the world in the last two decades.
Case and Project Profiles

NERA’s experts bring to bear a passion for finding the right answer. The following case profiles illustrate the breadth of our experience in energy.

Restructuring Advisory Services for a Bankrupt Energy Company
NERA was engaged by a US firm that had filed for Chapter 11 bankruptcy protection. The firm was rapidly reorganizing its operations, dealing with rejected contractual obligations and embarking on the process of complete financial restructuring. NERA was brought in to provide analytical support and advise on many aspects of the overall restructuring effort, including reviews of asset valuations, asset models, and the assumptions used to support many aspects of the Plan of Reorganization. NERA also assisted in dealing with rejected contracts and claims, including providing independent valuations in some of the more complex valuation disputes. We calculated the damages suffered by the counterparties to the rejected contracts, which required assessing the discount rate to be used for estimating the value of future damages, as well as the value of the services lost by the offtaker as a result of the contract rejection.

Typical Example of Work for US Utility Clients on Regulatory Issues
Over the past 50 years, NERA has worked for nearly every US electric utility in one form or another. Although the topics change over time, the most common issues include pricing, ratemaking, resource planning, and prudence reviews. As one example, for the past several years NERA has been engaged by an energy company in the western US on several ongoing issues that come before the regulator. NERA has testified on the allocation of construction costs between the utility’s two operating companies. NERA has also evaluated the environmental costs of resource plan alternatives—including effects of greenhouse gas emissions as well as other air emissions and water quality and supply considerations—and has estimated their potential economic impacts (employment, gross regional product, and personal income) in the state. NERA has testified in annual prudence reviews of its hedging practices and power procurement activities. NERA has evaluated the financial and physical hedging instruments purchased by the company and the corporate governance structure of the entities tasked with overseeing risk management. NERA has considered the energy market the company faced prospectively when devising its resource planning strategy and has offered an opinion regarding the prudence of its decisions.
Assistance in the Design of New Incentive Mechanisms for Renewable Generation

Italy committed to increasing its production of renewable generation by more than 50 TWh by 2020, but was concerned about the social costs of incentives. NERA was retained by the Association of Electricity Producers to estimate the costs of incentives of all technologies, excluding solar, and to design incentives under alternative schemes (feed-in premium, tariffs, and green certificates). Our analysis was presented to the government, which introduced a new incentive mechanism to be put in place for the forthcoming years.

Economic Impact of Consolidation in the Electricity Industry

Nuon, a leading Dutch energy utility with a large share of the local electricity and gas retail markets, wished to acquire rival Reliant Energy Europe, one of the major electricity generators in the Netherlands. NERA provided several expert reports to Nuon, both during the merger investigation by the Dutch competition authority, Nederlands Mededingingsautoriteit (NMa), and as part of the appeal. NERA built a “shadow model” based on the model used by the NMa, and then investigated the properties of this shadow model. NERA concluded that the results of the model commissioned by the NMa were unreliable and that the NMa’s interpretation of the results was ultimately arbitrary and ad hoc.

Economic Assessments of Alternative Emission Standards

The US Environmental Protection Agency (EPA) proposed new standards regulating hydrocarbon and carbon monoxide emissions from snowmobiles and other non-road engines. The proposed snowmobile standards would impose significant costs on the previously unregulated industry. NERA was retained by the International Snowmobile Manufacturers Association to analyze three potential sets of emission standards for snowmobile engines, to be implemented using an Averaging Banking and Trading program. Our analysis was submitted to the EPA and Office of Management and Budget officials.
Competitive Gas Retailing Strategy

An incumbent European gas company was forced by its regulator to put in place new arrangements for third-party access to some of its facilities (pipelines, LNG storage, etc). NERA advised how to adapt their retail pricing and contract strategy to a competitive environment. We conducted bottom-up modeling of the company’s cost drivers and risk factors, together with an analysis of practice in other markets, to identify a range of alternative strategies. We also provided the company with a schedule of detailed pricing rules and formulae, together with advice on appropriate contract terms (termination clauses, competition clauses, etc.).

Tariff Revisions

The New York Independent System Operator (NYISO) selected NERA to assist with the review and update of NYISO’s Installed Capacity Demand Curve for 2008-11. NYISO filed a revised tariff incorporating the NERA methodologies for energy revenue estimation and demand curve derivation to the US Federal Energy Regulation Commission (FERC). The FERC approved the NYISO’s proposed update as filed.

Due Diligence for Alternative Energy Financing

NERA has served as an independent market expert for the US Department of Energy (DOE)’s Loan Guarantee Program Office, providing market due diligence services as part of the DOE’s assessment of a borrower’s ability to repay debt secured by loan guarantees that may be extended by the DOE. Projects assessed by NERA include all four nuclear power projects that have been considered by the DOE, two large solar thermal power projects, three photovoltaic manufacturing facilities, a geothermal power project, two IGCC projects, a battery storage project, a flywheel project, a waste gasification power project, and a fuel cell project.

We have supported clients in assessing the fit of investing in energy markets, screening assets for acquisition, valuing both assets and publicly traded companies, and assisting lenders in assessing the attractiveness of lending in the sector.
About NERA

NERA Economic Consulting (www.nera.com) is a global firm of experts dedicated to applying economic, finance, and quantitative principles to complex business and legal challenges. For over half a century, NERA’s economists have been creating strategies, studies, reports, expert testimony, and policy recommendations for government authorities and the world’s leading law firms and corporations. We bring academic rigor, objectivity, and real world industry experience to bear on issues arising from competition, regulation, public policy, strategy, finance, and litigation.

NERA’s clients value our ability to apply and communicate state-of-the-art approaches clearly and convincingly, our commitment to deliver unbiased findings, and our reputation for quality and independence. Our clients rely on the integrity and skills of our unparalleled team of economists and other experts backed by the resources and reliability of one of the world’s largest economic consultancies. With its main office in New York City, NERA serves clients from more than 25 offices across North America, Europe, and Asia Pacific.

For more information about our capabilities and services in Energy, please visit www.nera.com/energy.