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What you face, how we help

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May 21, 2013: *Power Engineering*
Utilities are cautious about putting their eggs in the volatile natural gas basket but “all utilities are thinking the same thing,” said John McCue, vice chairman and U.S. Energy & Resources leader. With the U.S. Environmental Protection Agency placing ever more stringent limitations on coal-fired power facilities and the high cost of new nuclear build, “their options are relatively limited,” he said.

January 10, 2013: *Houston Chronicle*
The Deloitte Center for Energy Solutions predicts exports of natural gas would boost domestic prices only slightly, while lowering them for several U.S. allies, according to a report released today. “Our allies get help. The U.S. economy benefits. And some folks we have more strained relations with take a little bit of a hit, so it seems like a win all the way around,” said Peter Robertson, former Vice Chairman of Chevron’s Board of Directors and an Independent Senior Advisor to the Oil & Gas practice at Deloitte LLP.

January 10, 2013: *The Philadelphia Inquirer*
The Deloitte Center for Energy Solutions and Deloitte MarketPoint released a report, *Exporting the American Renaissance: Global Impacts of LNG Exports from the United States*, stating that liquified natural gas (LNG) exporting would spur more production, improve the trade balance, and strengthen ties with U.S. allies that consume imported natural gas.

November 6, 2012: *ClimateWire*
Electric utilities are expected to invest more than $150 billion in new power plants through 2020, according to U.S. Energy Information Administration forecasts. Stagnating power demand and rock-bottom natural gas prices won’t change that scenario. “This is necessitated by an aging fleet and early retirements of uneconomic plants often due to the costs of environmental compliance,” citing Deloitte’s report, *The Math Does Not Lie: Factoring the future of the U.S. electric power industry."

October 16, 2012: *NGI’s Daily Gas Price Index*
The Deloitte report, “Energy Independence and Security: A Reality Check,” asserts that when people say the U.S. needs a secure supply of energy, what they really mean is a secure supply of crude oil, mainly for transportation. Measures that should be taken include improving vehicle fuel efficiency, improving ride-sharing and mass transit options, expanding the electric vehicle fleet, and the use of alternative transportation fuels. The report states that while U.S. energy independence may be unattainable in the near future, energy security is still a realistic and achievable goal.

July 23, 2012: *CIO Journal*
Technological advances in energy exploration, production, and management are reducing the United States’ dependence on foreign oil by boosting domestic production of oil and gas and leading to more efficient energy use, says Dr. Joseph A. Stanislaw, Independent Senior Advisor, Energy and Sustainability, Deloitte LLP.

June 12, 2012: *U.S. News & World Report*
“The energy industry may well be the highest tech industry in the world,” says Dr. Joseph A. Stanislaw, Independent Senior Advisor, Energy and Sustainability, Deloitte LLP. “When you’re drilling down two, three, four, five miles, that’s like going to the moon.”

May 24, 2012: *SNL Financial*
“The recession is profoundly changing energy habits for both businesses and consumers – using less may be the new normal, from boardroom tables to the kitchen tables,” says Greg Aliff, Vice Chairman and Senior Partner, Energy & Natural Resources, Deloitte LLP.

Opportunities and challenges for power and utilities companies in today’s environment

The dynamics of global energy demand, supply, and infrastructure dependencies are probably undergoing more change today than at any time since the 1970s.

Demand in the developed world is moderating as energy efficiency, conservation, and more “resourceful” commercial, industrial, and residential consumers predominate. Simultaneously, as the population and economies of the developing world expand dramatically, their appetite for energy grows accordingly.

Fortunately, the supply side dynamics are also undergoing dramatic change, as deep water offshore discoveries, shale gas/liquids, oil sands, and a portfolio of renewable energy sources evolve to meet the changes in demand. Solving the equations to balance these changes in demand and supply for the power and utility industry requires appropriate infrastructure: pipe and transmission lines, power generation, distribution systems, smart technologies, energy efficiency technologies, transportation infrastructure, liquid natural gas (LNG) import/export terminals, pollution abatement investments, etc. — all in the right place, at the right time, at the right price. Working to either advance and/or constrain these adjustments is the timing, nature, and cost of an evolving governmental regulatory and policy framework.

Power and utility companies have been making large capital investments throughout the history of this industry, yet the level of uncertainty present in today’s decision-making environment is unprecedented. The current landscape raises the importance of microeconomic and macroeconomic forecasting; business analytics, modeling and simulation; risk management; and, decision making under uncertainty.

To gain financial scale, reduce costs, and increase flexibility for the investments required to solve the demand, supply, and infrastructure equations, a key intermediate-term strategy for many utilities and power producers has been and can continue to be mergers and acquisitions (M&A). While it does provide some breathing room by enabling immediate back-office cost reduction, unlocking operational savings and moving to a single operating system, among many other potential advantages, M&A generally does not enhance the agility of the enterprise to navigate through uncertainty — without significant, focused integration efforts.

Within this changing global energy environment, the power and utilities sector has an opportunity to work through this disruption and truly innovate. However, the challenge in developing new and flexible business models to deal with disruption will be to balance the industry’s inherent “catalysts of change” against the industry’s institutional “barriers to change.” As boards and managements deliberate over these barriers, it will be important to shift the lens of the evaluation away from “Why we cannot afford to change” — to “Why we cannot afford NOT to change.”

\[1\] Beyond the math: Preparing for disruption and innovation in the U.S. electric power industry, Deloitte, 2013
Industry trends affecting power and utilities companies

Uncertainty abounds for regulatory compliance and risk management

Capital expenditures for existing power plant retrofits will continue. The future expenditures are expected to increase largely as the result of Environmental Protection Agency (EPA) regulations — namely the Mercury and Air Toxics Standards (MATS) rule, which is scheduled to go into effect in 2015.2 Plans for infrastructure investment, commodity market commitments, and meeting compliance requirements are highly affected due to new regulation.

In particular, new and evolving air quality regulations will dramatically impact the economics of the existing generation fleet and our choices for the “next” generation fleet. Decisions to retire older, and very expensive to remediate, coal facilities are already being made, as are decisions to invest in renewable generation under various state Renewable Portfolio Standards (RPS). These regulations will also encourage the transition to natural gas as a generation fuel source. However, while changing air quality regulations would also seem to favor new nuclear generation, significant investment, regulatory, and siting uncertainties continue to weigh heavily in decisions on new nuclear generation.

Making these very capital-intensive fuel and generation choices requires a strong knowledge of the options and alternatives, combined with heavy analytics to thoroughly examine the economic, supply, demand, and commodity market outcomes in multiple future scenarios. The most significant challenge is managing and synchronizing the vast volumes of data that must be used for centralized decision making and for regulatory reporting. It is imperative to accurately define risk and control categories, carefully vet investment decisions, and bolster the quality of data management on large projects and for the related commodity markets transactions.

Client case studies

Power company improves value with multi-attribute decision analysis (MADA) approach

A regulated electric utility was spending over $1 billion annually on capital expenditures across multiple business units. With investment issues becoming more complex, the existing capital planning approach was inefficient. Deloitte worked with the utility to implement a multi-attribute-based portfolio optimization approach to evaluate and recommend allocations of the capital budget across business units and major capital projects. The decision model allowed for specifying alternative funding levels for each program or business unit budget.

Compared to the prior approach, a 25% improvement in value was achieved with the new MADA recommended portfolio.

Preparing for Dodd-Frank Reform

Deloitte has been engaged by numerous large merchant energy companies to assess the impact of Dodd-Frank on their energy transacting activities. Specifically, we have assessed the companies’ transacting activities to determine their classification as a swap dealer, major swap participant, or an eligible contract participant. We have also utilized our proprietary tools to assess the impact on energy transacting systems and processes, and developed requirements and project plans that will allow the companies to meet their compliance needs in an efficient manner.

Risk assessment analysis for new transmission lines

Deloitte performed a risk assessment analysis for the leading member of a consortium of private and public entities undertaking development of a $4 billion capital project involving construction of a new 1,600 MW coal-fired power plant and 8.5 miles of 340-kV transmission lines.

Greenhouse Gas (GHG) reporting quality assurance/quality control framework

To prepare for the regulatory compliance requirement to report GHG emissions under the EPA GHG mandatory reporting rule, Deloitte assisted a major electricity generating company in the development of its quality assurance (QA) and quality control (QC) protocols and processes. Among the key benefits were identification of relevant subparts of the EPA GHG Mandatory Reporting Rule specific to the company’s business and operations; development of quality assurance and quality control protocols and processes; and facilitation of training and knowledge transfer.

2 Math does not lie: Factoring the future of the U.S. electric power industry, Deloitte, 2012
M&A: Is it time to buy or sell?

After several years of suppressed M&A activity, the industry has recently seen a period of consolidation. In most cases, utility mergers are being driven by the challenge of finding growth, reducing costs, and improving the balance sheet in a time when opportunities for growth in native service territories are limited, yet large investments for reliability, technology, transmission, and generation loom on the horizon. Also, some deals are driven by power and utility companies reconfiguring their business portfolios to change their mix of regulated and unregulated revenues; rebalance their fuel and commodity market risk; and, add capabilities and/or scale to key pieces of their business. As companies rebalance, carve-outs and piecemeal acquisitions are more common.

Another main driver is the desire to maintain a balanced generation portfolio — both by utilities and state utility commissions. If tax policies and financing structures remain status quo, utilities are anticipated to be the main acquirers of renewable capacity. With EPA regulations causing companies to choose to retire older coal-fired plants, a “megawatts void” may be avoided with emissions-free renewables. Although natural gas may currently appear to be the fuel of choice for coal replacement, over the long run prices will likely rise due to increased demand and higher production costs.3

Additional M&A trends that are evolving include a shift in the desired ultimate outcome from state regulators and desire to increase revenue. The ‘cause no harm’ edict has been replaced with a ‘net benefit to the public’ edict where future M&A deals are likely to be judged on the benefits brought to the consumer as well to help states meet their new goals of increased renewable energy usage and reduction of GHG emissions. In fragmented electricity markets, reaching a certain scale may allow merged entities to provide more service offerings and spread new technologies that create cost savings on to a larger base of consumers.

Client case studies

Acquisition planning and merger integration for large, integrated electric utility

Deloitte assisted one of the nation’s largest utilities to acquire and integrate multiple regulated and unregulated businesses into their ongoing operations. Deloitte worked with this client since 1985, during which time the company grew by almost 1,000%.

The scope of this work included:

• Assessing ‘As-Is’ states of business processes and systems of the merging entities
• Developing business process and integration requirements considering the diverse needs of the constituent businesses, optimizing shared and distributed functions
• Analyzing options developing business cases to determine the nature, timing, and scope of any business and systems integration
• Developing interim and longer term integration and systems migration plans
• Developing, planning, and delivering training to migrate all employees from existing to new business processes and systems
• Assisting with implementation, as appropriate, to achieve business synergies, including full-suite SAP, and shared services implementations

Post-merger integration support for a power generation company

Working closely with both sides of the transaction — the international acquirer and the domestic (U.S.) target — Deloitte provided project management office (PMO) assistance and advisory services on specific areas of the client organization — information technology (IT), human resources (HR), tax, finance and treasury, control, administration, purchasing and insurance, legal, communications, and operations/networks.

Feasibility of acquiring power plants and natural gas field for vertically integrated strategy

A large U.S. energy company engaged Altos, (now Deloitte MarketPoint LLC), to perform the analysis for the feasibility of buying two diesel-powered combustion turbine generation plants in a South American country and an interest in a contiguous natural gas field. The company’s plan was to use natural gas from the field for the two plants and potentially develop additional green field generation projects based on production from the gas field. Altos’ thorough analysis helped the company to determine a vertically integrated, profitable strategy.

3 U.S. Renewable M&A Powers On,
Deloitte Center for Energy Solutions, 2013
Natural gas: Power price pressures

Over the past decade, the North American natural gas industry has transformed vast, previously uneconomic shale gas deposits into valuable energy resources. While the “shale gas revolution” has dramatically revitalized natural gas exploration and production, increased supplies combined with the slowdown in demand, resulting from the recent economic events, have sent North American gas prices down dramatically. This has made the unregulated generation business untenable for some power and utility companies causing extreme cost-cutting, and financial jeopardy.

Deloitte’s own research and analysis indicates it is quite likely this abundance of gas is sustainable over at least the next 25 years. In addition, the marginal cost curve for development and production of incremental U.S. shale reserves is relatively flat over this same time frame, for most foreseeable scenarios of natural gas demand and supply, even when factoring in liquefied natural gas (LNG) exports.4

Client case studies

Market analysis for new power plants in western U.S.
A major U.S. power company asked Altos (now Deloitte MarketPoint LLC) to provide third-party market analysis to support ongoing decisions about building additional plants. The analysis helped the company to successfully finance three projects in the western U.S., all ultra-modern gas combined cycle projects. The company used MarketPoint to analyze its markets to understand Electric Reliability Council of Texas (ERCOT) and Western System Coordinating Council (WSCC).

Fundamental market analysis for power plant development in southeastern U.S.
A large U.S. utility company wanted to understand the fundamental economics of developing power plants at sites in a southeastern state, both contiguous to the interstate gas pipeline system running through the state and, more importantly to the company, not contiguous to the interstate system but downstream from its distribution system. The utility wanted Altos (now Deloitte MarketPoint LLC) to identify and quantify electrically advantaged nodes throughout the state, recognizing that those that are contiguous to interstate gas systems were probably already taken. MarketPoint built a detailed nodal model of the state’s electric generation, transmission, and consumption system to guide the utility’s electric plant development decisions.

Valuation of natural gas storage assets
A large U.S. utility engaged Altos (now Deloitte MarketPoint LLC) to utilize its North American Regional Gas (NARG) model to calculate forward prices monthly through summer and winter in the vicinity of five natural gas storage assets. The utility’s objective was to estimate the fundamental value of the storage assets for prospectively acquiring either an entitlement or an equity position in the assets. The analysis provided an estimated quantification of the value of storage, as well as pipeline assets, taking into account the interaction between the two.

Source: Kennedy Consulting Research & Advisory, Information Management & Analytics 2010-2013; © BNA Subsidiaries, LLC. Reproduced under license.


“Deloitte’s business-led, technology-enabled approach lends itself naturally to the analytics space, which is driven by business issues but enhanced by a strong technology foundation. As a result, Deloitte is able to engage clients at either end of the spectrum, either by focusing on critical business questions or understanding the data and information governance strategies needed to support its analytics initiatives.”
Technology and innovation drives performance in ‘smart’ utilities: Data analytics to the rescue

The unprecedented explosion of data available from smart meter and smart grid programs, combined with increasingly complex data retention requirements from regulators, and a changing competitive landscape, create a perfect storm in utilities for information management (IM). Like companies in other industries, transmission and distribution companies face challenges and opportunities in the Internet age. Smart technologies promise to deliver new levels of visibility into the flow of electricity from generators to consumers and into customer decision making — specifically in regards to energy conservation and consumption.

As utilities collect vast amounts of useful data, they have an opportunity to uncover new customer usage patterns, to better forecast demand, to manage energy constraints more effectively, to improve compliance with regulatory requests, to prevent fraud and reduce loss, and to enhance customer service. The ability to measure and analyze data about electricity distribution and consumption in near real-time can unearth previously unavailable information on customers’ consumption patterns, preferences, and decisions. Leading companies will use advanced analytics and social media scraping to determine which messages and social media tools to use for each segment of their customer base. With this information, utilities can better segment their customers on the basis of their decisions to conserve or consume electricity.

Client case studies

Smart grid strategy to future-proof investment

When the director of smart programs for an electric company realized that the business lacked the number and depth of resources required to develop an Advanced Metering Infrastructure (AMI) strategy, they turned to experienced smart grid practitioners from Deloitte.

Deloitte strategy and vendor evaluations helped the business mitigate the crippling expense of trial and error, while enabling the company to better future-proof its overall $400 million smart grid design. With a solid strategy and solutions roadmap, the company is on track to deliver improved operational performance, increase customer satisfaction, and ensure a favorable regulatory rate of return.

Making customer data useful

A large U.S. utility engaged Deloitte to drive many aspects of their smart grid program, with data analytics being a key area of focus from the start.

Deloitte leveraged deep implementation experience and involvement in industry standards groups to aid in developing data and reporting requirements, data modeling, and interface design between smart grid applications and back office systems. Additionally, Deloitte’s technology strategy and security teams performed assessments focused on securing the data, and selecting tools to correlate the data in real time to provide optimal and reliable feedback to the business.

Collecting the data is only the first step, making that data useful requires strategic planning, a deep understanding of the targeted benefits, and extensive experience.

“Within Deloitte Analytics, Deloitte has formed the Deloitte Analytics Institute (DAI), which provides thought leadership, methods, tools, and solutions that it takes to the market. Deloitte’s Business Intelligence (BI) practice is able to combine its overall strengths in areas including program management, change management, and industry expertise with deep knowledge of analytics and BI best practices.”

Source: Forrester Research, Inc. Forrester Wave™, Business Intelligence Services Providers, Q42012, Boris Evelson and Liz Herbert October 2012
Energy efficiency and demand management: Benefiting utilities and their customers alike

Utilities are being challenged to simultaneously curtail demand and find ways to meet new demand requirements. Energy-saving programs that are administered by electric utilities are a rapidly growing sector of the demand-side management industry. Energy efficiency funding remains robust and continues to increase substantially — with apparent reductions in both energy usage and emissions. The decrease in electric and gas usage, lessened emissions, and ratepayer savings are all reasons these investments will continue. And, these goals are consistent with their business customers’ approach — the Deloitte reSources 2013 Study found that 89% of companies had set goals regarding electricity and energy management practices, which is consistent with our findings in the 2012 and 2011 Studies where 90% of companies had set goals.⁶

Demand side management (DSM) technologies help utilities avoid the high capital costs of maintaining or building peaking power plants, thus promising significant economic, environmental, and social gains. DSM networks offer flexibility and can be implemented at a fraction of the cost.

Utilities have not historically had an entrepreneurial mindset and are not capitalized to invest in technology for returns that may not materialize in the short or even longer term. In response, some are partnering with investment firms to help start-ups with commercialization challenges by facilitating pilot programs, demonstrations, and test beds.⁷

Client case studies

Social media — integral tool for increasing energy management and efficiency

A wholesale power marketer sought to develop future energy efficiency delivery models. Deloitte collaborated with the client to create non-incentive-based consumer adoption strategies aimed at decreasing power consumption, incorporating social media/marketing, and benchmarking concepts.

U.S. Federal Government Agency

Deloitte assisted the agency to develop an energy strategy and a portfolio optimization decision model that quantified each type of strategic value of their initiatives. Additionally, Deloitte assisted in prioritizing energy investments within a constrained budget environment. The valuation methodology used for quantifying and integrating both direct and indirect benefits was Multi-Attribute Decision Analysis (MADA).

The process of developing a MADA prioritization framework involved extensive workshops and interviews with a broad set of stakeholders in order to develop a robust prioritization approach, and maximize engagement from diverse stakeholders ranging from project managers in the field, regional supervisors, national executive leaders, and representatives from external organizations.

In addition, Deloitte assisted the client by:

- Analyzing their energy reduction and renewable energy targets to determine the feasibility of achieving the targets within the proposed time frames.
- Gathering and integrating facility-level and energy consumption data for the first time at both the enterprise and installation level.
- Conducting market research of energy efficient building technologies and renewable energy technologies.
- Developing an investment timeline to meet the agency’s goals and targets.

The quality of project proposals improved dramatically. The combination of a robust decision tool customized to the agency’s strategy, combined with a training and change management program, helped project managers and planners better understand how to design their projects to create better value for the organization.

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⁶ Deloitte reSources 2013 Study, Deloitte LLP, 2013
Nuclear energy: Moving ahead, but no renaissance

Despite current and strong opposition to nuclear power and new builds — in 2012, the U.S. Nuclear Regulatory Commission (NRC) approved two new U.S. nuclear projects, the first in over 30 years. Despite substantial U.S. government loan guarantees, opponents and critics cite the high capital costs, potential cost overruns, and the various political and legal uncertainties that would arise in the eight to 10 years required for development and construction of a new plant. However, the benefits of including nuclear power in the U.S. energy supply cannot be ignored as a key component of a low-carbon energy future, potential for job creation, and diversification of electricity supply and energy security. In 2012, nuclear power accounted for 19% of total U.S. electricity production.

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Client case studies

**Nuclear plant life extension Monte Carlo assessments**

Deloitte has been engaged to perform risk assessments on the project schedules of nuclear reactor life extension projects.

These risk assessments utilize Monte Carlo probabilistic modeling to evaluate and identify key activities, the identification of high risk areas in the project schedule, and the overall probability of completing the project within the scheduled completion date. Probabilistic models were developed in conjunction with the key project team personnel. Risk workshops were conducted by Deloitte to capture data and populate the models.

**Enterprise Resource Planning (ERP) implementation at power generating company**

The client operates a system of 49 dams and reservoirs on a 652-mile-long river and its tributaries, and manages 293,000 acres of public land. The main issues that the client was facing included the high cost of maintaining 19 separate instances of Enterprise Maintenance Planning and Control (EMPAC) and their customizations, the high cost of integrating/interfacing all the instances with other applications, the lack of visibility across the enterprise, and lack of inconsistent business processes. The client called on Deloitte to help it define a common set of business processes and to implement the technology to achieve standardization.

The Enterprise Value Delivery for SAP implemented, provides standardized processes for work/asset management and supply chain in place, and is used on a daily basis in all Strategic Business Units (SBUs). Additionally, 1,200 Maximo Enterprise Asset Management users were trained and are using the system — making it the largest Maximo implementation in the utility industry sector.

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**Business case framework for energy company**

Deloitte was requested to conduct an independent third-party review to provide an opinion on the processes and methodology used to develop the business case for refurbishing four nuclear operating units. A three-part review was conducted, including a review of the processes, a review of the business case deliverables, and finally an assessment of the overall business case summary.

Deloitte’s approach involved data gathering and analysis, comparison with standard practices, and gap analysis to develop an overall assessment.

Several improvement opportunities were identified and will aid with future business case summaries. These opportunities included:

- Formalizing a process for documenting business case decisions for audit purposes in the face of decision scrutiny
- Evaluating potential labor constraints and developing a comprehensive procurement strategy to improve cost/schedule certainty
- Incorporating schedule simulation analysis to align with industry practice
- Improving involvement by key stakeholders to ensure organizational alignment

The client included Deloitte’s recommendations in the business case summary for review to the Board of Directors.

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8 Standard & Poor’s Industry Surveys/Electric Utilities; August 23, 2012

9 Electric Power Monthly, U.S. Energy Information Administration, January 2013
Alternative, renewable, and clean energy: Key trends and outlook

America’s clean energy transformation is well underway — due in large part to massive investments by the electric power industry. While venture capital and private equity provided initial funding for early stage product development, the significant market penetration that many clean technologies have realized over the past few years would not have been possible without the active involvement of power and utilities companies.  

Renewables faced an uphill battle in 2012, due to lower prices, weak electricity demand, and perhaps most notably, vacillating federal tax policy. The most significant good news, albeit in the short term, came as part of the American Taxpayer Relief Act (the “Act”) of 2012, also known as “the Fiscal Cliff Act” which extended the production tax credits (PTC) for wind through December 31, 2013, and redefined the terms for qualification. New wind projects must now only begin construction, rather than having to be “in-service,” by the end of 2013. The Act had little impact on solar as it did not modify the requirements for the investment tax credits (ITCs), which had previously been extended until 2016. The sunset date for PTCs for geothermal, biomass, and qualified hydro remains December 31, 2013, with construction having started by the end of 2013 rather than the facility having to be “in-service.” The effects of the implementation of sequestration will affect Treasury cash grants — an important source of capital.

Overall the renewables energy sector forged ahead in 2012, despite low natural gas prices, uncertain tax policies for wind, and a solar industry shakeout driven by oversupply conditions and prevalence of low-cost Chinese components. They have shown staying power: both in terms of producing clean, self-perpetuating electricity and in producing acceptable returns for investors.

Client case studies

Global expansion optimization — financial analysis and negotiations

With several customers currently constructing solar thermal power plants in the U.S., the client was planning to expand its manufacturing footprint to enter the North American market. The client engaged Deloitte to assist in developing a pro-forma financial model for its business plan, selecting a preferred location for its manufacturing operations, and negotiating real estate and government incentives.

The Deloitte team developed a detailed pro-forma analysis to model a multiphase, $100 million investment and compared three candidate locations based on a variety of factors — including labor, logistics, tax, incentives, and utilities. In addition, Deloitte developed the strategy and led negotiation for government incentives, land, infrastructure, and favorable tax treatment.

Business process and technology assessment and marketing strategy for a biodiesel producer

Deloitte conducted an analysis of the producer’s business processes and supporting technology systems and provided a detailed report of renewable energy markets, business process analysis, and the translation between business requirements and supporting technology capabilities. Deloitte also developed a marketing strategy for the client to compete in the growing marketplace, and provided them with industry and regulatory insights.

10 The Power to Transform: U.S. power and utilities sector’s role in cleantech deployment, Deloitte LLP, 2012
12 Ibid.
No industry affects economic livelihood, societal functioning, and quality of life like the energy industry.
Client base and market share

Deloitte helps power and utilities clients address critical challenges and execute initiatives designed to further their strategic objectives, and deliver value for their shareholders.

Deloitte’s Power & Utilities practice

- Serves all of the power and utilities companies on the Fortune 500, the top 25 and the top 10 utilities on the Fortune 1,000
- Audits 48% of the Fortune 500 power and utilities companies, by far the leading provider of attest services
- Provides accounting and enterprise risk services to 92% of the Fortune 1,000
- Provides consulting services to 79% of utilities and energy companies on the Fortune 1,000
- Provides tax services to 85% of the Fortune 1,000
- Provides financial advisory services to 69% of the Fortune 1,000

2012 Fortune Data
Slam the door on cyber security breaches

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Deloitte Center for Energy Solutions
Deloitte regularly publishes research and analysis that presents unique points of view and challenges our clients’ thinking.

This report provides an overview of 2012 U.S. renewable M&A activity and drivers, policy and market developments, and an outlook for 2013 and beyond.

**Beyond the Math: Preparing for Disruption and Innovation in the U.S. Electric Power Industry**
Second in the Math paper series, this paper explores the five dimensions of change in the electric power industry so stakeholders can determine if, when, and how to pursue transforming their business models.

**The Math Does Not Lie: Factoring the Future of the U.S. Electric Power Industry**
The first paper in a series on helping companies explore the rapidly changing U.S. electric power landscape, this paper provides a straightforward approach to examining the future of the industry through a simple framework using a mathematical equation.

**Getting Smart Grid Customers Plugged In: Motivating Change Through Mobile and Social Technology**
This paper provides a framework to help utilities assess the maturity of their current customer engagement strategies on Smart Grid and outlines opportunities to integrate new technologies that can bring meaningful customer data to the engagement effort.

**Exporting the American Renaissance: Global Impacts of LNG Exports from the United States**
In this report, Deloitte MarketPoint LLC and the Deloitte Center for Energy Solutions describe an objective, computer model-based analysis of the potential effects of liquefied natural gas exports from the United States on domestic and global markets.

**Deloitte reSources 2013 Study**
Deloitte, with strategy and market research firm Harrison Group, a YouGov Company, completed its third annual nationwide reSources Study, a U.S. study to provide insights that can be useful in helping organizations make energy-related investment and business decisions. The 2013 Study captures two views: a consumer view and a business view.

**Plugged In: The Last Mile**
This report explores where Electric Vehicle (EV) owners are charging their cars, who is currently funding the charging infrastructure, and how build decisions are made. This is the third in the series of papers focused on electric vehicles and EV infrastructure.

**Energy Independence and Security: A Reality Check**
This paper discusses the realities of U.S. energy independence and energy security — and whether these are realistic and achievable goals.

**Technical Publications**

**Annual Energy Accounting, Financial Reporting and Tax Update**
Summary of selected accounting and financial reporting developments specific to the energy industry, intended for a general audience of financial professionals, including chief financial officers, controllers, and accounting/tax professionals.

**Regulated Utilities Manual**
Assists the accountant familiar with accounting for businesses in general in applying that training to the specialized accounting practices of public utilities. Emphasis is on the electric industry, but the principles are also applicable to the gas, water, wastewater, and telecommunications industries.

**Energy & Resources Quarterly Accounting Update**
Deloitte delivers renowned industry conferences and actively participates in industry events

Conferences and Seminars

**Deloitte Energy Conference**
Dedicated to providing clients and the energy industry with insights on emerging topics, Deloitte brings together energy executives, researchers, entrepreneurs, investors, and regulators from around the globe for an in-depth analysis of key developments and challenges facing today’s global and domestic energy markets at its annual Energy Conference.

**Deloitte Alternative Energy Seminar**
The Deloitte Alternative Energy seminar examines the future of alternative energy. Discussions at the seminar underscore the growing role alternative energy must play if America is to address climate change and energy security.

**Deloitte Oil & Gas Conference**
Committed to providing clients and the oil and gas industry with insights on timely topics, Deloitte offers this annual conference for oil and gas executives and leading industry experts to share their views on important issues facing the global oil and gas industry.

**Deloitte Energy Accounting, Financial Reporting, and Tax Update**
At this one-day seminar, Deloitte’s energy specialists focus on industry technical accounting and tax issues to assist participants in preparing for calendar year-end accounting, reporting, and tax requirements. Participants may choose either an Accounting and Financial Reporting Update or a Tax Update.

**Deloitte Energy Transacting Accounting**
At this one-day seminar, Deloitte’s energy specialists provide participants with an overview of complex accounting and valuation considerations associated with transactions in existing and evolving energy and commodity markets. The course provides an overview of current market dynamics, trends, and risk factors present in today’s energy markets.

**Utility Industry Book/Tax Differences**
This seminar compares and contrasts the federal income tax rules and the rules for financial and regulatory accounting purposes related to revenue and expense recognition, capitalization, and depreciation.

**Accounting for Income Taxes: Rate-Regulated Utilities**
This seminar reviews the specific issues in applying *Income Taxes, Topic 740,* to rate-regulated utilities. The course explains the issues and exceptions under *Regulated Operations, Topic 980,* including flow-through accounting and changes in tax rates, and includes examples involving computations and journal entries related to flow-through accounting, excess deferred income taxes, and investment tax credits. The Internal Revenue Service’s normalization requirements are also summarized.

Dbriefs — live webcasts

Staying on top of the latest issues and strategies in the energy industry is a challenge, so we offer Dbriefs, live webcasts from our Energy & Resources practice, offering valuable insight into important developments affecting your business.

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John McCue
Vice Chairman and National Managing Partner, Energy & Resources
U.S. Power & Utilities Leader
Deloitte LLP
+1 216 830 6606
jmccue@deloitte.com

John McCue
Vice Chairman and National Managing Partner, Energy & Natural Resources Management
Deloitte LLP
+1 703 251 4380
gailff@deloitte.com

Clint Carlin
Enterprise Risk Services Leader
Power & Utilities
Deloitte & Touche LLP
+1 713 982 2840
ccarlin@deloitte.com

Bill Graf
Assurance and Enterprise Risk Services Leader
Energy & Resources; Assurance Leader – Power & Utilities
Deloitte & Touche LLP
+1 312 486 2673
wgraf@deloitte.com

Bradt Seltzer
Tax Leader
Energy & Resources
Deloitte Tax LLP
+1 714 913 1531
bseltzer@deloitte.com

Tom Turco
Consulting Leader
Power & Utilities
Deloitte Consulting LLP
+1 216 830 6618
tturco@deloitte.com

Greg Aliff
Vice Chairman & Senior Partner
Energy & Natural Resources Management
Deloitte LLP
+1 708 251 4380
galiff@deloitte.com

Brad Denny
Principal, Human Capital
Deloitte Consulting LLP
+1 312 486 4777
braddenny@deloitte.com

Paul Campbell
Principal, Enterprise Risk Services
Deloitte & Touche LLP
+1 713 982 4156
paulcampbel@deloitte.com

Jim Dillavou
Partner, Mergers & Acquisitions
Deloitte & Touche LLP
+1 713 982 2137
jdillavou@deloitte.com

Andrew Fike
Partner, Commodity Trading and Risk Management
Deloitte & Touche LLP
+1 713 982 2918
afike@deloitte.com

Brad Seltzer
Tax Leader
Energy & Resources
Deloitte Tax LLP
+1 714 913 1531
bseltzer@deloitte.com

Tom Turco
Consulting Leader
Power & Utilities
Deloitte Consulting LLP
+1 216 830 6618
tturco@deloitte.com

Joseph Zenk
Financial Advisory Services Leader – Power & Utilities
Deloitte Financial Advisory Services LLP
+1 412 338 7844
jzenk@deloitte.com

Greg Aliff
Vice Chairman & Senior Partner
Energy & Natural Resources Management
Deloitte LLP
+1 708 251 4380
galiff@deloitte.com

Steven Livingston
Principal, Security & Privacy
Deloitte & Touche LLP
+1 206 716 7539
slivingston@deloitte.com

Derek Malmberg
Partner, Northeast Power & Utilities Leader
Deloitte & Touche LLP
+1 973 602 6874
dmalmberg@deloitte.com

Debra McCormack
Director, Southeast Power & Utilities Leader
Deloitte Services LP
+1 703 251 4341
dnmccormack@deloitte.com

Marlene Motyka
Principal, Alternative Energy Leader
Deloitte Financial Advisory Services LLP
+1 212 436 5605
mmotyka@deloitte.com

Brian Murrell
Partner, International Financial Reporting Standards
Deloitte & Touche LLP
+1 212 436 4805
bmurrell@deloitte.com

Sampat Prakash
Principal, Consulting Leader
Energy & Resources
Deloitte Consulting LLP
+1 713 982 2723
saprakash@deloitte.com

Branko Terzic
Executive Director – Deloitte Center for Energy Solutions
Regulatory Policy Leader
Power & Utilities
Deloitte Services LP
+1 703 251 4350
bterzic@deloitte.com

Jim Thomson
Principal, Smart Grid
Deloitte Consulting LLP
+1 404 631 3302
jthomson@deloitte.com

David Yankee
Partner, Power & Utilities
Deloitte Tax LLP
+1 312 486 9842
dyankee@deloitte.com

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