

1: Utilities | Industry Software | SAP

Report focuses on 10 options for utility business model reform that respond to the evolving needs of customers, policy changes, grid resilience challenges, and the introduction of new grid-connected software and technology; five case studies accompany the report, providing examples of business model.

Regulators moving to address cloud disparity in utility business December 5, Written by: Information technology is a transformative force in the utility industry today. The Internet of Things, along with computing and communication technology advances are offering massive volumes of new data and methods to analyze it. Data product and service offerings are giving utilities the ability to access, analyze, share, and leverage this data in novel ways. These solutions are being delivered more quickly and securely through cloud-based platforms. As part of a broader set of issues around big data, the cloud is a growing enabler of the future of the utility industry. Cloud enables cheaper and easier deployment, testing, and growth of new utility business models with scale and agility. Cloud services can give utilities the ability to learn from new data insights; develop more responsive products and programs, and manage infrastructure more flexibly, efficiently, and effectively. Cloud can provide a competitive advantage in an industry where business models are shifting quickly. Consider, for instance, how cloud could: A number of regulated utilities and new market entrants are realizing this promise by aggressively using cloud technology. Recent surveys estimate about half of the utility industry is using cloud applications. Policy and regulatory factors seem to be a large part of the reason that cloud adoption is slower in the utilities sector. The regulatory rules for utility accounting can unfairly bias the market against cloud-based solutions. These rules often mean that a utility can earn a rate of return for on-premise software, which can be included in the rate base as a part of capital expenses CapEx. Conversely, cloud solutions are treated as operating expenses OpEx. These expenses can be cost-recovered, but not earn a rate of return. This disparity clearly slants the playing field in favor of on-premise products, despite the numerous benefits cloud can provide. For utilities to achieve maximum efficiency, they should be able to choose the technology that best suits their needs without the kind of cost distortion that outdated regulatory principles designed for a previous technological era can create. Policymakers across the United States are starting to take action. On the federal level, Congress is considering legislation to emphasize the role of cloud technology in modern utility systems. Department of Energy to consider the impact of cloud computing in a report to Congress on energy data systems. In the states, cloud services have been treated differently than on-premise software for accounting purposes. State regulatory bodies have been more active in addressing the issue. For example, utilities in California are urging the Public Utilities Commission to consider rule changes and the Commission is starting to listen. According to reports, that percentage was specifically targeted to address the cloud computing differential. Cloud applications can help utilities to better monitor and manage distributed energy resources. In that state, high profile projects involving cloud delivered services are also being launched even with the differential treatment, allowing early moving California utilities to learn how they might be able to leverage cloud in advance of potential rule changes. It was organized in to spur the deployment of clean energy resources. In Illinois, exploratory policy discussions in addressing this topic over the last few years are bearing new fruit. Also, in a broader effort, the National Association of Regulatory Utility Commissioners NARUC issued a resolution encouraging utility regulatory bodies to address the differing treatment of on-premise and cloud software. A host of grid modernization and expanded utility data initiatives in other states have the potential to further a wave of cloud accounting policy changes across the country. Stakeholder gatherings are also providing a forum for discussion of regulatory remedies as well as ways that cloud services can boost utility efficiency and contribute to regulatory goals. Discussions like these can help utility regulatory stakeholders to identify ways that cloud services can boost utility efficiency, as well as regulatory goals. These talks may also help set regulators on the path to realizing these benefits by addressing regulatory barriers to progress. To learn more about Energy, Environment, and Utilities industry solutions, visit ibm.com.

2: Energy and Utilities

The energy transition, distributed generation and digitalization force incumbent utilities to change their business strategies. With today's post we give a first overview of the future business models that are discussed in the US in response to these developments.

In order to reduce costs in your business when it comes to energy, there are a variety of different factors you need to consider. Some essential tips come from the way you are already choosing to operate. Ask yourself this list of questions and consider the answers you come up with; many people are surprised that what they do on a day-to-day basis for their business can actually have a great influence over their energy costs. Are there always lights on in your business? How long are the lights on for? Is the heat always on during the winter? Is the air conditioner always on during the summer? Are you doing anything already to eliminate the need for a heater or AC unit? What type of atmosphere are your employees comfortable in? Are the lights turned off at the end of the night? Do you have backup security lights in case? These questions and many more are the essentials that business owners should be asking themselves when they are looking to change the way they spend on energy. You can even use this opportunity to promote different kinds of energy change within the office. Here is a list of things you can do with your employees to promote energy conservation while at work:

Establish energy efficient practices: Try your best to only use excess energy during the low or off peak times. Encourage your employees to follow this same model and see how the energy usage decreases with more initiative. Get energy audit done: Hire an energy audit company let it do energy audit of your office. Many utility companies offer a free energy audit program to ensure that you are using energy efficiently. On top of the benefits you will realize by converting to LED or CFL , you could also save a lot by replacing the luminaire only instead of the entire fixture. This is also known as retrofitting, which can be virtually be done in any existing fixture with any lighting technology. By retrofitting, you will reduce costs by a cheaper light costs along with easier installations. Use hibernation feature of computers and laptops: Hibernate feature in laptops and desktops allows you to save your existing work as it is and you can continue from the same point next day. Print only when necessary. This will not only reduce paper wastage but also helps to cut energy required to run printer which in turn reduces your energy cost and makes life of your printer longer. Switch off equipment when not in use: Make sure that you switch off all printers, scanners, microwave, lights, air conditioners, coffee vending machines during weekends or holidays. They continue to draw power even if they are plugged in. Buy energy efficient devices: This hold true for any equipment that run on electricity “€” spending a little more can result in significant savings over years. Invest in programmable thermostat: A programmable thermostat has the capability to automatically adjust the temperature of your workplace when no one is working. Less air conditioning can result in significant savings for your business. Lookout for small drafts that may leak the air: Small drafts can result in businesses losing substantial portions of their heating and cooling costs. Proper air sealing of the work environment can eliminate those drafts. Keep control of your heating and cooling: Minimize artificial lighting and make use of skylights: Artificial lights consume power, while skylights are free. Try to use maximum day light and use artificial lights in areas which are dark. Less energy means less money spent on electricity bills. Use energy saving features: Educate your employees regarding energy saving features of air conditioners, printers, microwaves and let them use those features to cut energy costs. Upgrade all outdated equipment with energy star appliances: Replace your decade old heaters and air conditioners with energy star ones. Consider installing solar panels: Solar energy is free, clean and renewable source of energy. Solar panels might cost expensive initially but that cost can be recovered within few years if solar energy is used up to full strength. Solar panels last longer and have few maintenance problems. This will help you to bring down your monthly electricity bill. Plant shady trees outside your office: Shady landscaping outside your office can protect it from intense sun during summers and chilly winds during winters. If your office already has proper insulation and energy efficient appliances, the effect will be much smaller. Use technology to hold virtual meetings: You can surely save money on the amount of gasoline or flight tickets that would be used to buy it. Allow employees to work from home on alternate days: Give your

employees an option to work from home on alternate days. With VPN technology, an employee can connect to office network safely and securely. With less employees in office, less lighting and cooling would be required. Discourage the excessive use of lighting or electricity: Try to make use of daylight as much as possible. Encourage employees to take part in brainstorming sessions: Saving energy is not the sole responsibility of business owners. Employees must be delegated responsibility to come out with their own innovative ideas to cut down energy costs. Employers often underestimate the ideas of their employees, so having an open dialogue about the things that could be changed about energy usage in your business is very important. This will allow you to create energy efficient work culture in your company. Take advantage of tax breaks for energy efficiency: Even some public utility companies offer rebates for energy saving measures. People often underestimate the little things they do at work, so promoting awareness and consciousness about energy issues is very important.

3: Energy Deregulation in the United States and Canada | Direct Energy Business

Navigating Utility Business Model Reform is a toolbox for policymakers, utilities and key stakeholders to do just that." The new report and case studies were released during the National Association of Regulatory Utility Commissioners' Annual Meeting in Orlando, Florida.

Implement decision-making support for successful megaproject management Energy requires large infrastructure to flow freely between countries. At Roland Berger we support you in setting up, evaluating and managing these large projects. With the advent of new players, existing energy contracts may no longer be attractive. We help you renegotiate these contracts. Likewise, we assist you in improving your operations to be competitive in a changing landscape. Opportunity - Professional megaproject management Large projects are often characterized by delays and cost overruns. A typical project can be 55 percent more expensive than projected, equating to billions. Large scale innovation and infrastructure projects bring challenges requiring a specific program management approach. Roland Berger delivers this with a holistic perspective. We include all aspects of the project - organization, processes, technical, legal, finance, risk management and communication. We typically proceed in three steps. First, we stabilize the organization and establish a core team. Secondly, we restructure the organization and establish a framework for delivery. Finally, we oversee and manage implementation. This approach enables our clients to build projects within the designated time frame. A cost reduction of only 10 percent would capture between EUR 3 and 7. Opportunity - Gas prices in long term contracts Under changing economic conditions, gas prices in long term contracts can deviate from those observed on wholesale markets. Decoupling of oil and gas prices in Europe and the advent of new gas supplies in Asia has led to a rise in disputes over prices. Roland Berger provides an external analysis of the fair price, delivering arguments for negotiation and even offering support in arbitration tribunals. In our economic analyses, we assess the contract marketability and profitability over time. We have won all large litigation cases, claiming back more than EUR 1. Opportunity - Performance improvement of refineries Fluctuating feedstock prices, more efficient production technologies, and a shift in the gravity of global market demand has shaken the competitive position of refineries worldwide. European refineries face difficulties competing against the US and Middle East. A performance optimization of the refinery would enable it to stay in the market for the long-run. We can set up a performance improvement program in a 12 week period. In the first phase of one to two weeks, we analyze the strengths and weaknesses of the plant and identify areas of performance potential. In the second phase of two to three weeks, we confirm the size of the performance gap, establish the levers to close it and set targets and KPIs. In the third phase of five to eight weeks, the concrete performance projects are defined in close cooperation with the employees. In these projects, our consultants rely on our tools and databases, like the design to cost approach, maintenance benchmarking, personnel efficiency analyses and operational expenditures reduction database. On average, we have saved 20 percent of the OPEX cost base in our projects. Efficient use of resources Using resources more efficiently saves costs and reduces environmental damage. This is not limited to reducing CO2 emissions. Countries and industries seek ways to save, treat and re-use water, raw materials and waste. China has set specific goals for the energy intensity of its economy. Other countries have strict policies on resource efficiency. For energy and utility companies, resource efficiency implies lower growth in some regions and decline in others. Lower volumes of energy put pressure on company margins. We support infrastructure companies in improving their performance. Improvement of the procurement function is an important lever for energy companies to reduce their cost base and better compete in volatile markets. Opportunity - Increase performance in infrastructures Declining end-user demand leading to lower volumes puts pressure on distribution and transmission companies. Regulatory pressure exacerbates the need to reduce costs. The continuous improvement approach maintains these and realises additional savings in the long run. Continuous Improvement creates a performance culture. Product - Procurement review Many energy companies face competitive environments. Asset disposal plans and large performance plans are put in place, while procurement as a lever to improve performance tends to be overlooked. We can develop a strategy that goes

beyond price savings. Applying advanced optimization levers, which are not only cheaper, but also more effective. We also develop a true approach per category. We learn alongside the client, increasing client involvement with each new procurement category wave. We also help design an organization that is fit for the new role of procurement in energy companies.

4: New Utility Business Models Are Key to Energy Transition, New Rockyâ€¦ | Virtual-Strategy Magazine

Next-gen upstarts unencumbered by traditional operating models have placed a wake-up call to mainstream energy and utility companies. Their message is simple: invest in the new technologies and business processes to remain competitive, retain clients and expand into new business areas.

How much could I save by switching business energy? How does switching business energy work and how long does it take? Will my business supply be disrupted? What are the different business tariff options? Can I get charity or not-for-profit business energy? Can I get a business energy feed-in tariff too? What is green business energy? What information do I need to switch business energy? How do I compare business energy suppliers? The exact amount is hard to pinpoint because all businesses are different. If you can, grab your latest bill when you start a quote. All the answers will be on there. Your new energy supplier will sort out all the finer details and arrange for the switch to take place. Your new energy supplier will liaise with your old one and make all the arrangements for the switch over. If you have to pay to leave your current agreement, make sure the savings you make by switching are worth it. Energy suppliers typically offer commercial customers a range of fixed rate tariffs over one, two, three or even five years. As a rule, the longer the fixed term, the more expensive the tariff is likely to be â€” but it does offer protection from any increases in the future. Some suppliers offer discounts if bills are paid by direct debit. Alternatively, opt for paperless billing or choose a supplier that gets involved in projects such as tree planting. If you think your not-for-profit organisation is entitled to money off energy, contact your supplier and ask for a VAT declaration form. Yes, if you generate your own energy from low-carbon or renewable sources, your business can apply for a feed-in tariff FIT , just like a domestic energy user. Under the FIT scheme, anyone that generates their own power or sells excess power back to the National Grid is eligible for money back. Green energy comes from renewable sources â€” like sunlight, wind or even plants. And just like with domestic energy, some of these options will be available to commercial energy customers. There are also smaller ways you can be green, like choosing paperless billing and being as energy efficient as possible. You can find all the information needed to switch business energy on your bill â€” look out for: Understanding your energy bill. List of business energy suppliers Take a look at our list of business energy suppliers. Alongside the more familiar providers, we include smaller companies that might be able to offer you a great deal on your business energy.

5: Energy industry - Wikipedia

Report focuses on 10 options for utility business model reform that respond to the evolving needs of customers, policy changes, grid resilience challenges, and the introduction of new grid.

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The use of energy has been a key in the development of the human society by helping it to control and adapt to the environment. Managing the use of energy is inevitable in any functional society. In the industrialized world the development of energy resources has become essential for agriculture , transportation , waste collection , information technology , communications that have become prerequisites of a developed society. The increasing use of energy since the Industrial Revolution has also brought with it a number of serious problems, some of which, such as global warming , present potentially grave risks to the world. In some industries, the word energy is used as a synonym of energy resources , which refer to substances like fuels , petroleum products and electricity in general, because a significant portion of the energy contained in these resources can easily be extracted to serve a useful purpose. After a useful process has taken place, the total energy is conserved, but the resource itself is not conserved, since a process usually transforms the energy into unusable forms such as unnecessary or excess heat. Ever since humanity discovered various energy resources available in nature, it has been inventing devices, known as machines, that make life more comfortable by using energy resources. Thus, although the primitive man knew the utility of fire to cook food, the invention of devices like gas burners and microwave ovens has increased the usage of energy for this purpose alone manyfold. The trend is the same in any other field of social activity, be it construction of social infrastructure, manufacturing of fabrics for covering; porting; printing ; decorating, for example textiles , air conditioning ; communication of information or for moving people and goods automobiles. Energy economics

Production and consumption of energy resources is very important to the global economy. All economic activity requires energy resources, whether to manufacture goods, provide transportation , run computers and other machines. Widespread demand for energy may encourage competing energy utilities and the formation of retail energy markets. Energy demand management

Since the cost of energy has become a significant factor in the performance of economy of societies, management of energy resources has become very crucial. Energy management involves utilizing the available energy resources more effectively that is with minimum incremental costs. Many times it is possible to save expenditure on energy without incorporating fresh technology by simple management techniques. The process couples energy awareness with energy conservation.

Government[edit] The United Nations developed the International Standard Industrial Classification , which is a list of economic and social classifications. This classification is used by the U. Securities and Exchange Commission. Financial market[edit] The Global Industry Classification Standard used by Morgan Stanley define the energy industry as comprising companies primarily working with oil, gas, coal and consumable fuels, excluding companies working with certain industrial gases. Dow Jones Industrial Average [7] Main article: Environmental impact of the energy industry

Government encouragement in the form of subsidies and tax incentives for energy-conservation efforts has increasingly fostered the view of conservation as a major function of the energy industry: This is compounded by the fact that the economics of delivering energy tend to be priced for capacity as opposed to average usage. One of the purposes of a smart grid infrastructure is to smooth out demand so that capacity and demand curves align more closely. Some parts of the energy industry generate considerable pollution , including toxic and greenhouse gases from fuel combustion, nuclear waste from the generation of nuclear power, and oil spillages as a result of petroleum extraction. Government regulations to internalize these externalities form an increasing part of doing business , and the trading of carbon credits and pollution credits on the free market may also result in energy-saving and pollution-control measures becoming even more important to energy providers. Consumption of energy resources, e. Many electric power plants burn coal, oil or natural gas in order to generate electricity for energy needs. While burning these fossil fuels produces a readily available and instantaneous supply of electricity, it

also generates air pollutants including carbon dioxide CO₂, sulfur dioxide and trioxide SO_x and nitrogen oxides NO_x. Carbon dioxide is an important greenhouse gas which is thought to be responsible for some fraction of the rapid increase in climate change seen especially in the temperature records in the 20th century, as compared with tens of thousands of years worth of temperature records which can be read from ice cores taken in Arctic regions. Burning fossil fuels for electricity generation also releases trace metals such as beryllium, cadmium, chromium, copper, manganese, mercury, nickel, and silver into the environment, which also act as pollutants. The large-scale use of renewable energy technologies would "greatly mitigate or eliminate a wide range of environmental and human health impacts of energy use". Energy conservation and the efficient use of energy would also help. In addition, it is argued that there is also the potential to develop a more efficient energy sector. This can be done by: The relative benefits of gas compared to coal are influenced by the development of increasingly efficient energy production methods. At the national level, governments seek to influence the sharing distribution of energy resources among various sections of the society through pricing mechanisms; or even who owns resources within their borders. They may also seek to influence the use of energy by individuals and business in an attempt to tackle environmental issues. The most recent international political controversy regarding energy resources is in the context of the Iraq Wars. Some political analysts maintain that the hidden reason for both and wars can be traced to strategic control of international energy resources. According to the latter group of analysts, U. Energy policy Energy policy is the manner in which a given entity often governmental has decided to address issues of energy development including energy production, distribution and consumption. The attributes of energy policy may include legislation, international treaties, incentives to investment, guidelines for energy conservation, taxation and other public policy techniques. Energy security Energy security is the intersection of national security and the availability of natural resources for energy consumption. Access to cheap energy has become essential to the functioning of modern economies. However, the uneven distribution of energy supplies among countries has led to significant vulnerabilities. Threats to energy security include the political instability of several energy producing countries, the manipulation of energy supplies, the competition over energy sources, attacks on supply infrastructure, as well as accidents, natural disasters, the funding to foreign dictators, rising terrorism, and dominant countries reliance to the foreign oil supply. With as much dependence that the U. However, with oil production rates decreasing and oil production peak nearing the world has come to protect what resources we have left in the world. Although these are not all the current and possible future options for the world to turn to as the oil depletes the most important issue is protecting these vital resources from future threats. These new resources will become more useful as the price of exporting and importing oil will increase due to increase of demand. Energy development Producing energy to sustain human needs is an essential social activity, and a great deal of effort goes into the activity. While most of such effort is limited towards increasing the production of electricity and oil, newer ways of producing usable energy resources from the available energy resources are being explored. One such effort is to explore means of producing hydrogen fuel from water. Though hydrogen use is environmentally friendly, its production requires energy and existing technologies to make it, are not very efficient. Research is underway to explore enzymatic decomposition of biomass. Coal gasification and liquefaction are recent technologies that are becoming attractive after the realization that oil reserves, at present consumption rates, may be rather short lived. Energy is the subject of significant research activities globally. For example, the UK Energy Research Centre is the focal point for UK energy research while the European Union has many technology programmes as well as a platform for engaging social science and humanities within energy research. Since application of force over distance requires the presence of a source of usable energy, such sources are of great worth in society. While energy resources are an essential ingredient for all modes of transportation in society, the transportation of energy resources is becoming equally important. Energy resources are frequently located far from the place where they are consumed. Therefore, their transportation is always in question. Some energy resources like liquid or gaseous fuels are transported using tankers or pipelines, while electricity transportation invariably requires a network of grid cables. The transportation of energy, whether by tanker, pipeline, or transmission line, poses challenges for scientists and engineers, policy makers, and economists to make it more risk-free and efficient.

Energy crisis Oil prices from to Economic and political instability can lead to an energy crisis. Notable oil crises are the oil crisis and the oil crisis. The advent of peak oil , the point in time when the maximum rate of global petroleum extraction is reached, will likely precipitate another energy crisis. Mergers and Acquisitions[edit] Between and there have been around 69, deals in the energy sector. This cumulates to an overall value of 9, bil USD. The most active year was with about 3. In terms of value was the strongest year bil.

6: Electric utility - Wikipedia

Utility leaders work with Origis Energy to develop cost effective, community friendly and environmentally supportive solar power, energy storage, and solar plus storage systems. Corporate A custom solution to your corporate energy procurement objectives can be achieved with a competitive solar power, storage, or solar plus storage project.

Power transactions[edit] An electric power system is a group of generation, transmission, distribution, communication, and other facilities that are physically connected. Executive compensation[edit] The examples and perspective in this article may not represent a worldwide view of the subject. You may improve this article , discuss the issue on the talk page , or create a new article , as appropriate. February Learn how and when to remove this template message The executive compensation received by the executives in utility companies often receives the most scrutiny in the review of operating expenses. Just as regulated utilities and their governing bodies struggle to maintain a balance between keeping consumer costs reasonable and being profitable enough to attract investors, they must also compete with private companies for talented executives and then be able to retain those executives. Executives in regulated electric utilities are less likely to be paid for their performance in bonuses or stock options. These companies have more political constraints than those in a favorable regulatory environment and are less likely to have a positive response to requests for rate increases. The need to encourage risk-taking behavior in seeking new investment opportunities while keeping costs under control requires deregulated companies to offer performance-based incentives to their executives. It has been found that increased compensation is also more likely to attract executives experienced in working in competitive environments. Currently 24 states allow for deregulated electric utilities: There does exist a World Energy Council, but its mission is mostly to advise and share new information. In the western hemisphere, many electric utility companies were under oversight from the United States and although the United States has, in the early 21st century, withdrawn from many of these countries. Several major energy utility companies are still under oversight from the United States. Alternative energy promotion Alternative energy has become more and more prevalent in recent times and as it is inherently independent of more traditional sources of energy, the market seems to have a very different structure. In the United States, to promote the production and development of alternative energies, there are many subsidies, rewards, and incentives that encourage companies to take up the challenge themselves. There is precedent for such a system working in countries like Nicaragua. In , Nicaragua gave renewable energy companies tax and duty exemptions, which spurred a great deal of private investment. The movement was known as Energiewende and it is generally considered a failure for many reasons. Nuclear Energy Nuclear energy may or may not be classified as a green source depending on the country. Although there used to be much more privatization in this energy sector, after the Fukushima district nuclear power plant disaster in Japan, there has been a move away from nuclear energy itself, especially for privately owned nuclear power plants. This placed a strain on many other countries as many foreign governments felt pressured to close nuclear power plants in response to public concerns. Customers in the twenty-first century have new and urgent expectations that demand a transformation of the electric grid. Customers also want a system that gives them new tools, better data to help manage energy usage, advanced protections against cyberattacks, and a system that minimizes outage times and quickens power restoration.

7: Energy & Utilities IT and Technology Solutions | Cognizant

The Oracle Industry Connect Energy and Utilities program brings together industry peers in a thought-leadership environment to share knowledge that will help you lead, plan, navigate, and execute your business strategy.

Works Today What We Mean When We Say "Deregulation" In regulated markets, consumers have no choice but to purchase electricity and natural gas from the local utility at prices regulated by the state and federal government. The government deregulates energy by reforming old laws and passing new ones that change who can produce and sell energy. When multiple suppliers compete on the market, prices can be determined and ideally remain lower because of competition. But deregulation also opens the door to numerous, more flexible energy options for terms of contract, price structures, market risk exposure and efficiency solutions. States and provinces across North America have taken various approaches to deregulation. Some enjoy a completely open market; others deregulate only electricity or only natural gas; some are partially deregulated but limit the number of consumers participating or amount purchased; and others still are restricted by fully regulated markets. Described by some as the last large government-sanctioned monopoly, 1 utility companies controlled the retail energy industry and were the sole suppliers of electricity and natural gas in the areas they served. But energy, which powers the lights, computers, refrigerators, HVACs, equipment and more in our homes and businesses, was too great a public importance and too large a financial expenditure to remain so wholly regulated by the government. For deregulation to succeed, three things had to occur: Independent suppliers had to win the right to sell energy on the open market, side-by-side with utility companies. Governments had to reform the laws that dictated energy retail prices. Governments collectively recognized that it would be impractical and wasteful for suppliers and producers to build redundant power lines and gas pipes along similar routes. Natural Gas Deregulation in the United States Problems with natural gas regulation came to a head during the s. The country was experiencing extreme shortages due to government regulations that incentivized retail in gas-producing states, but not consuming ones. The act created a single natural gas market while allowing the market to establish wellhead prices up to a defined maximum. With wellhead prices going up, natural gas producers had a new incentive to invest in exploration and production, which helped to level the playing field across state markets. Consumers, and particularly large industrial companies with significant natural gas spends, began to lobby for changes to how natural gas was sold. They wanted the natural gas production and supply to be sold separately from its transportation through interstate pipelines. The first regarding natural gas pipelines, split wide open in when FERC Order allowed pipelines to offer transportation-only services with competitive prices. Transportation could be entirely separated from natural gas purchases. Together, these orders created the "open access" pipelines we know today. With pipelines open, there was one more leap to accomplish deregulation: The legislation removed federal price regulations and opened the sale of natural gas to distribution companies and consumers. Electricity Deregulation in the United States Since the s, utilities have operated as a single integrated system, providing electricity to all customers within their territory at regulated rates determined by the state. Many utilities responded to the price spikes by replacing their oil-fired plants with nuclear power plants, 9 passing off costs to their electricity customers who were already squeezed by rising prices. Designed to diversify power supply and encourage conservation, the law required utilities to purchase power from new producers when their own supply was low. These new non-utility producers, called "qualifying facilities" were held accountable for meeting efficiency standards and often could supply power at a lower cost than their utility counterparts. This reform was further cemented in by the Energy Policy Act, which ushered even more small producers into the power markets. FERC Orders , and broke up integrated utilities whose power plants were either sold to a third party or transferred to an unregulated affiliate. To make sure that the shared power grid stayed safe and reliable, the act also initiated formation of two groups: Soon after the FERC actions, large commercial and industrial customers began to lobby for retail deregulation at the state level, forming coalitions such as Americans for Affordable Electricity. Several states did quickly open their markets to competition through pilot programs that allowed consumers to buy directly from independent power suppliers.

Fallout from the California Crisis: The Risks of Market Manipulation Although deregulation can encourage variety and create cost savings for residential and business consumers, careful design of retail choice programs proves to be vital. This approach left California no choice but to buy power on the short-term market, making it extremely vulnerable to price spikes. Its second flaw was to put a cap on the retail price utilities could charge their customers while allowing the wholesale price to be determined by the market. The state assumed that the retail price would remain higher than wholesale, allowing utilities to recover stranded costs of expensive nuclear facilities that were no longer operating. This assumption held for a short period. But by spring of 2001, wholesale prices began rising due to high natural gas prices. They arbitrarily took power plants offline for maintenance in the days of peak demand, deliberately created the appearance of congestion by reserving more space on transmission lines than required, withheld the supply they controlled and sold California power to out-of-state customers. These manipulations drove prices to unprecedented levels, up to 20 times their normal value. Because the state had capped retail prices, utilities could not cover these extraordinary costs. With their bonds reduced to junk status, these utilities had no buying power and were unable to purchase and deliver electricity. Rolling blackouts hit areas of the state, including the San Francisco Bay. California was forced to step in and buy power at highly unfavorable terms, incurring massive long-term debt. Arizona, Arkansas, Montana, Nevada, New Mexico, Oklahoma, Oregon and West Virginia repealed or delayed legislation, ultimately changing and improving on their frameworks to reduce risks of market manipulations. The program also imposed new federal royalties and taxes, such as an 8 percent tax on oil development. But when world prices began to drop, support for the program dissolved. On October 31, 2001, Canada passed legislation that separated the cost of gas at the wellhead from the cost of transmitting and distributing it. The Agreement on Natural Gas Markets and Prices, also dubbed the Halloween Agreement, replaced government-controlled pricing, opening the industry to healthy market competition. Production grew by more than 46 percent between 2001 and 2002, and in the late 2000s, Canada invested in a multibillion dollar project to build new pipelines, which quickly grew exports and sales. In 2009, large industrial consumers began to directly purchase natural gas and its transportation, and today most industrial consumers across the country continue to operate under these types of market arrangements. Except for Alberta, the industry within each province was dominated by legal monopolies. Because of these historical and political differences, the government left deregulation up to each province. With the Electric Utilities Act of 2002, Alberta became the first and only province to tackle electricity deregulation at both the wholesale and resale levels. This act was amended three years later with a change to regulate the grid, while continuing to foster competition with retail supply. Small consumers can choose between an energy retailer and a regulated "utility-like" power rate. When it reopened, Ontario introduced a Regulated Price Plan for residential customers and small businesses. The Ontario Energy Board sets month price periods for this plan based on consumer usage patterns and the hourly market price of electricity. Further changes to the wholesale market in the 2000s period, including the Energy Consumer Protection Act and introduction of government-backed Feed-in-Tariffs effectively ended electricity choice for residential consumers. Consumers in these areas are attracted by opportunities to seek energy solutions that are tailored to their needs. Because competition drives deregulated markets, energy prices in these areas are generally lower than in regulated markets. And with energy often accounting for one of the largest operating expenses, cost savings must be top-of-mind when businesses select a supplier. Competitive suppliers can also offer customers a greater variety of customized solutions. Flexible energy choices for pricing, terms, service, billing and products may not be available to consumers in areas monopolized by utilities. But these are the kind of valuable options that can help you better manage your energy budget and meet business goals. Underlying all of the consumer benefits, deregulation is also preparing the energy industry for a dynamic future. Competitive markets give suppliers a strong incentive to be innovative. Direct Energy Business is a leader in developing innovative energy products and services that help customers make their businesses better. Through energy choice and a suite of innovative products and services, customers can buy less electricity and natural gas and better manage the impact of energy on their budgets and operations. We serve approximately 1,000,000 business of all sizes and from all industries across North America. Rely on the expertise of our energy team help you find the right solutions to make a difference for you and your bottom line. Are you a small business

owner?

8: Energy Industry Solutions | IBM

Part of Utility Business Network» Utility Management Group Senior decision-makers come together to connect around strategies and business trends affecting utilities.

9: Compare Business Energy Suppliers | Compare the Market

The energy industry is the totality of all of the industries involved in the production and sale of energy, including fuel extraction, manufacturing, refining and distribution.

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