

ABOUT THIS TOPIC

Despite several significant factors (the U.S. recession of 2008-09, domestic and international budget challenges and the worldwide economic impact of the tsunami in Japan), most economists expect that during our Point of View forecast period, growth in the U.S. economy will return to levels approaching the recent trend of the past few decades.

Still, a number of significant risks—from domestic policy challenges to international developments—could take the economy on markedly different courses.

After the U.S. entered into World War II, the domestic economy grew for several decades at an average

annual rate of 3.3 percent. By contrast, the more recent trend of economic growth—spanning 1970-2010—saw an average annual growth rate of 2.8 percent. Most economists now expect the near-term growth rate to exceed that trend line for a few years, but then return to or fall slightly below it over the next 20 years.

Historically, economic growth has been accompanied by attendant increases in energy demand—specifically, electricity. While this general fundamental relationship clearly still exists, it has weakened considerably in recent years as the U.S. economy has become more energy efficient.



OUR POINT OF VIEW

Ameren's Point of View on the national economy is that it will grow consistent with the low end of the range of available projections by economists—between about 2 percent and 2.5 percent for the remainder of the forecast period. We reviewed multiple projections and considered the significant headwinds still faced by the U.S. economy in the aftermath of the financial crisis.

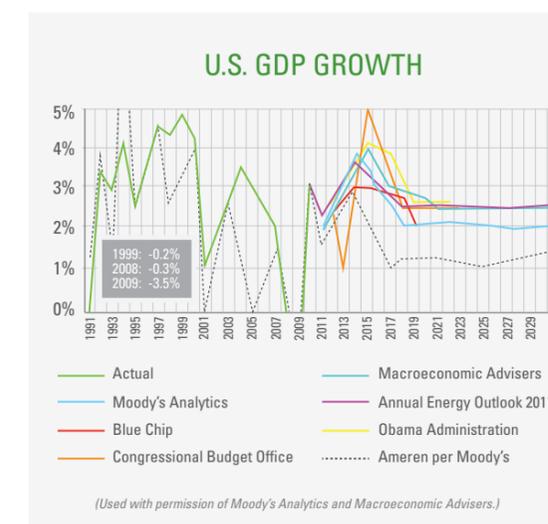
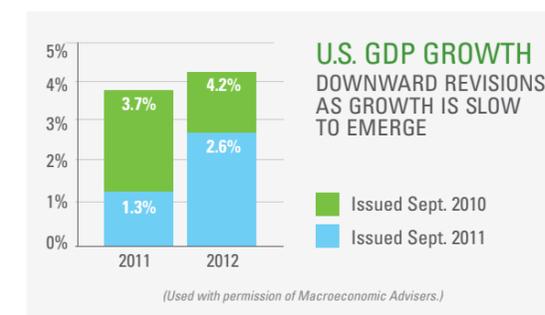
Since the recession, GDP growth has continually lagged what economists and government agencies had anticipated a year or more earlier. For example, the chart "U.S. GDP Growth: Downward Revisions as Growth is Slow to Emerge" shows revisions to Macroeconomic Advisers' forecast of GDP growth for 2011 and 2012, by comparing their forecast issued in September 2010 with one issued in September 2011. Other forecasters have made similar adjustments, postponing higher growth to later years.

The recovery is expected to continue to gain traction, producing GDP growth rates of between 2.8 percent and 3.2 percent through 2017. This view results from analysis of forecasts from various economists and U.S. governmental entities, which variously expect domestic GDP growth reaching up to, or over, 4 percent sometime during these years—and multiple years well above 3 percent, as shown in the "U.S. GDP Growth" chart.

We do not expect significant concerns over inflation during the forecast horizon. Through late 2014, slack in labor markets and manufacturing capacity utilization will keep inflationary pressures in check.

This will allow the Federal Reserve time to unwind its monetary stimulus during the following 24 months, at which point the Fed will use its monetary tools to continue to target a 2 percent annual inflation rate.

Long-term electricity demand in the U.S. Eastern Interconnection is expected to grow at a slower rate than has been historically observed. This decline is partly driven by our view of slow overall economic growth relative to history—and by our observation that economic growth has steadily become less energy intensive. We expect that trend to continue or even accelerate over the next 20 years, holding long-term growth rates well below previous trends.



REGIONAL ECONOMY

From a regional perspective, the economy of Ameren’s primary service territory—eastern Missouri and central and southern Illinois—has grown more slowly than the national economy for the past couple of decades.

Our view is that this trend likely will continue for the long term. According to U.S. Census Bureau data, St. Louis is among the large metropolitan areas with sustained negative net migration. This causes the St. Louis area to lag other metros in population growth. Long-run economic activity is driven by labor force growth and productivity, so declining demographics (relative to the nation) suggest continued slower growth in Ameren’s service territory.

Although investment opportunities may be somewhat limited by slow growth, significant investments still may be necessary in order to comply with environmental regulations and to address aging infrastructure—so we can maintain quality service in Illinois and Missouri.

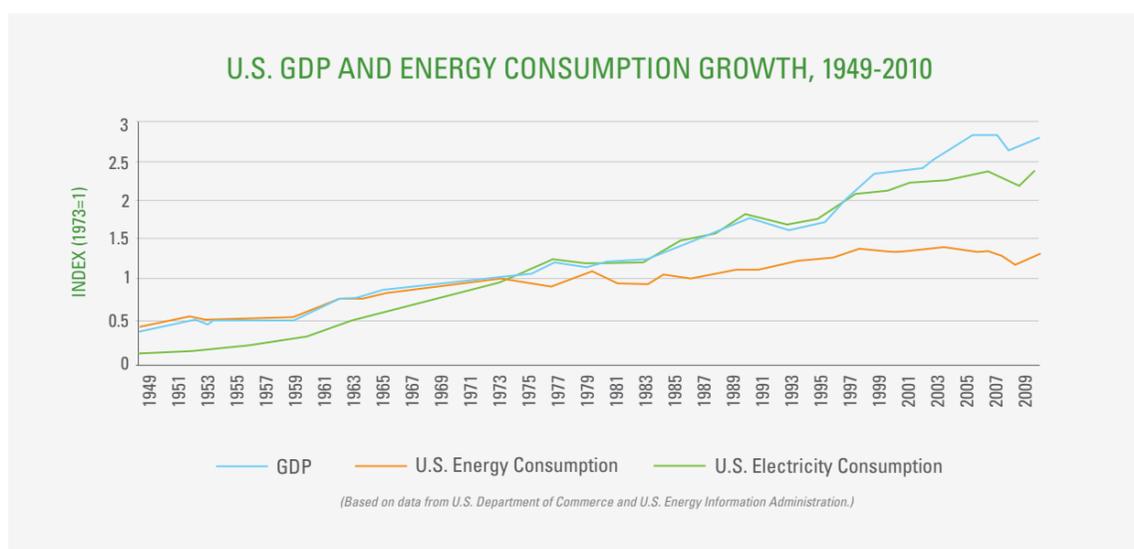
INDUSTRY BACKDROP

The performance of global, national, regional and local economies is important to virtually all business enterprises. This certainly is the case for energy/utility companies generally—and Ameren specifically. Economic growth is an important driver of demand growth, which requires investment in new electric generation and gas and electric transmission and distribution facilities.

But while economic growth will always have implications for energy demand and pursuant investment needs, the historical model that has persisted for decades may have weakened in a significant way for energy companies.

To understand why, consider the chart below. It compares U.S. GDP growth with both total national energy demand and electricity demand (all series indexed to 1 in 1973).

“ Since the early to mid-1990s, electricity growth has lagged GDP growth. Our view is that this trend will continue. ”



From 1949 through the early 1970s, total energy demand and GDP grew at nearly identical paces (orange line versus blue line). Beginning sometime around the 1973 oil embargo, economic growth appears to have become less energy intensive. This may well have been a response to energy price and national security concerns from that era, but the trend has continued unabated ever since.

One way the economy became more energy efficient is through electrification. It’s apparent that, from the mid-1970s through the early 1990s, total electric demand grew at an equivalent rate to the economy at large, while total energy demand growth lagged.

Since the early to mid-1990s, electricity growth has lagged GDP growth, as well. At this point, much of the electrification that was driving overall energy efficiency had taken place. Many of the end uses that were driving rapid residential and commercial load growth—such as air conditioning—began reaching a natural point of saturation. This helped make electric demand growth start lagging economic growth.

Other contributing factors include federal efficiency standards on many end-use applications, as well as state building codes and utility-sponsored energy efficiency and demand-side management programs.

Ameren’s Point of View is that this trend will continue, and electric demand growth likely will be slower than overall economic growth going forward.

The broader economy will retain significant influence on our industry—including the ways that utilities finance and recover investment costs. Economic conditions will influence utilities’ ability to access capital markets on reasonable terms and to get constructive regulatory treatment to recover investments.

The types of investments and regulatory solutions that Ameren considers must be informed by expectations of economic realities, as these may influence our ability to finance much-needed investments and earn a reasonable return.



TECHNOLOGY

TECHNOLOGY

ABOUT THIS TOPIC

The purpose of this section is to examine several technologies as “game changers”—those with the potential to transform traditional electric and gas utility business models.

To be clear, transformative technological change must be disruptive at a “scale that matters” in order to impact business models.

Consider Ameren’s examination of a trio of distributed generation technologies (solar, energy storage systems and fuel cells). Taken alone, none of these technologies meets the criteria for “scale that matters.” Taken together, they may pose big challenges for a utility, as the cost of the technology bundle reaches grid parity.

In addition to reviewing technology innovators, we undertook many internal and external assessments and concluded there is no “transformational” technology expected in the marketplace in the near term. Nonetheless, there are technologies due to mature within the next 20 years which, when combined, likely will have a significant impact on our company.

Ameren needs to be prepared to adjust our business model—including our approach to central station generation—in order to continue creating value for our shareholders and customers within the context of these advancements.

THE GAME CHANGERS

The following technologies will enable improvements in the environmental performance, efficiency and effectiveness of energy production and use over the next 20 years:

Natural Gas Extraction

- Fracking and directional drilling
- Recovery of methane hydrates

Nuclear

- Small modular nuclear reactors

Distributed Generation

- Solar technologies
- Energy storage systems
- Fuel cells

Nontraditional Energy Systems

- Microgrids
- Net-zero energy buildings (self-supporting facilities)

Advanced Computing & Grid Automation

- Smart grid/analytics
- Automation

We assessed many other technologies in preparing our Point of View. While some of these showed promise, they did not reach the level of “game changer,” nor were they disruptive at a “scale that matters.” (For example, a few of these other technologies included advanced coal-fired generation, geothermal energy and electric vehicles.)

OUR POINT OF VIEW

NATURAL GAS EXTRACTION TECHNOLOGY

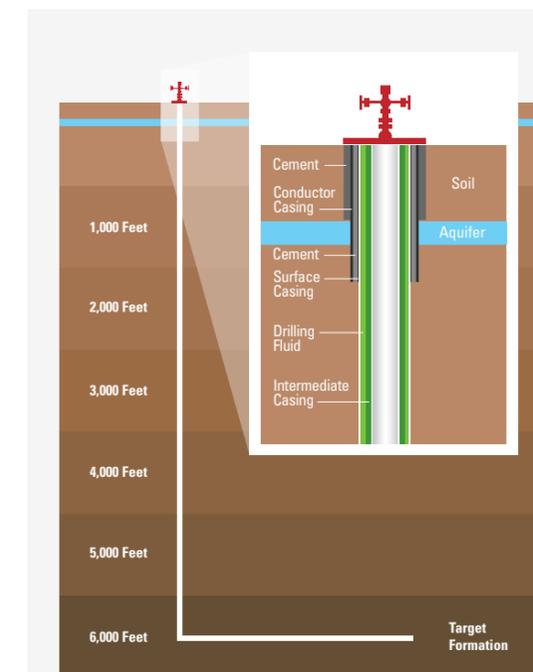
A revolution in shale gas extraction has been deemed a true “game changer” for the U.S. energy industry and the economy as a whole. This is because of the success of horizontal drilling and hydraulic fracturing (commonly referred to as “fracking”), coupled with advances in this technique.

Traditionally, gas wells were drilled vertically to access gas that seeped up and became trapped by an impermeable layer of cap rock. With horizontal drilling, a well is drilled vertically through permeable and impermeable layers, then turned and drilled horizontally. To enhance the flow from the tight shale formation, the producing area along the horizontal bore is hydraulically fractured by injecting high-pressure fluids.

This process has raised a number of environmental concerns, many involving aquifers and their potential contamination from drilling fluids associated with hydraulic fracturing. There have not been any reported cases in which an aquifer was breached because of the fracking process; the quantity of impacts to surface and groundwater resources is currently unknown because of technological uncertainties. The U.S. Environmental Protection Agency is studying the technique, with a final report expected in 2014. While more stringent standards and regulations are expected, it’s not anticipated that they will slow gas production growth.

Other innovative technologies within the natural gas arena include methane hydrate extraction (basically the same process, but gas is trapped in marine sediments). Gas is extracted by injecting carbon dioxide into the hydrates, where it is exchanged with the methane molecules locked up in ice. Methane hydrates offer enormous supply potential: The U.S. Department of Energy estimates this resource may contain as much as a quintillion cubic feet of natural gas.

(For more about natural gas, see Page 42.)



SHALE DEVELOPMENT

This is an example of horizontal drilling and hydraulic fracturing.

A well is drilled vertically through layers of rock, then turned horizontally. Fluids are then pumped at high pressure into the target shale formation, opening fractures that allow for enhanced production.

(Graphic representation based on American Petroleum Institute example of hydraulic fracturing for shale development. Used with permission of API.)

NUCLEAR TECHNOLOGY

Various reactors are in stages of research and development, including breeder reactors, high-temperature gas reactors and small modular reactors. Over the next 20 years, two types of technologies are considered options for future generation: large-scale, light-water reactor power plants and their smaller, modular cousins.

In recent years, small modular nuclear reactors (SMRs) have emerged as a new concept for electric generation in the utility industry. They offer base load, CO₂-free electricity at a lower absolute investment cost, as compared to large-scale nuclear reactors. SMRs are small in size (40-300 megawatts of generating capacity, compared to nearly 1,200 megawatts of net nuclear generating capacity at Ameren Missouri's Callaway Energy Center). But SMRs combine many reactor system components into a single module.

“Unlike traditional reactors, SMRs can be assembled at a factory and shipped to a site as nearly complete units—resulting in lower capital costs and shorter construction schedules.”

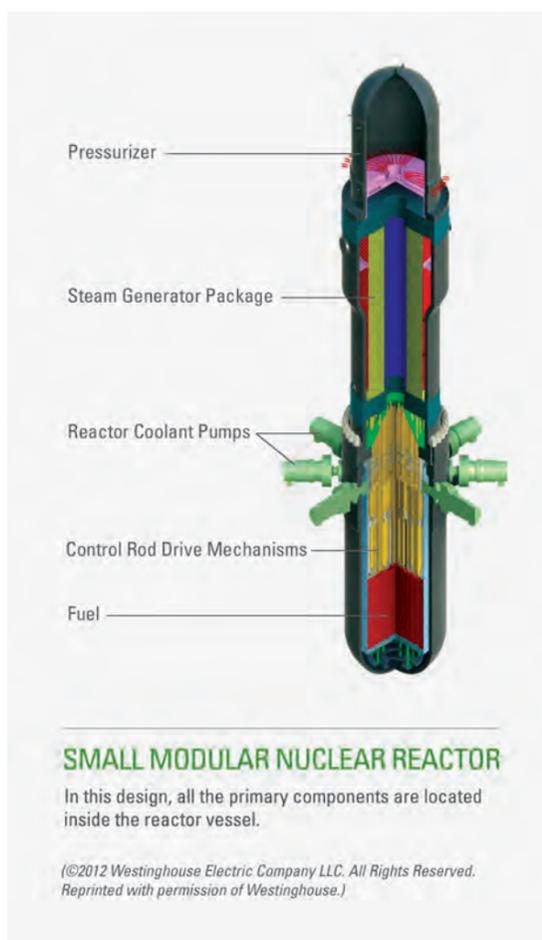
Unlike traditional reactors, SMRs can be manufactured and assembled at a factory and shipped to a site as nearly complete units—potentially resulting in lower capital costs and much shorter construction schedules. SMRs also may allow greater flexibility through smaller, incremental additions to base load electrical generation: More SMRs can be added and linked together for additional electrical output, as needed.

While SMR technology in itself does not fit the definition of “game changing,” it does present a large opportunity for Ameren that could be disruptive at a “scale that matters” and impact our business model. For instance, Ameren Missouri's estimated future cost of electricity for a variety of supply-side resources shows it as a promising generation option.

In 2012, Ameren Missouri announced our support for Westinghouse Electric Company's application for federal SMR investment funds. We formed this partnership to position the state of Missouri for a transformational economic development opportunity: Becoming a global hub for the engineering design, development, manufacturing and construction of American-made SMR technology.

While SMRs remain a decade away from commercial deployment—assuming that design, licensing and development go as planned—and while they need to compete in the energy marketplace, we believe that SMRs are the future for nuclear, both domestically and globally.

(For more about nuclear energy, see Page 50.)



SOLAR TECHNOLOGIES

Solar technologies include photovoltaics (PV), which convert sunlight directly into electricity, and solar thermal technologies, which use the sun's heat to generate steam for a turbine or heat engine.

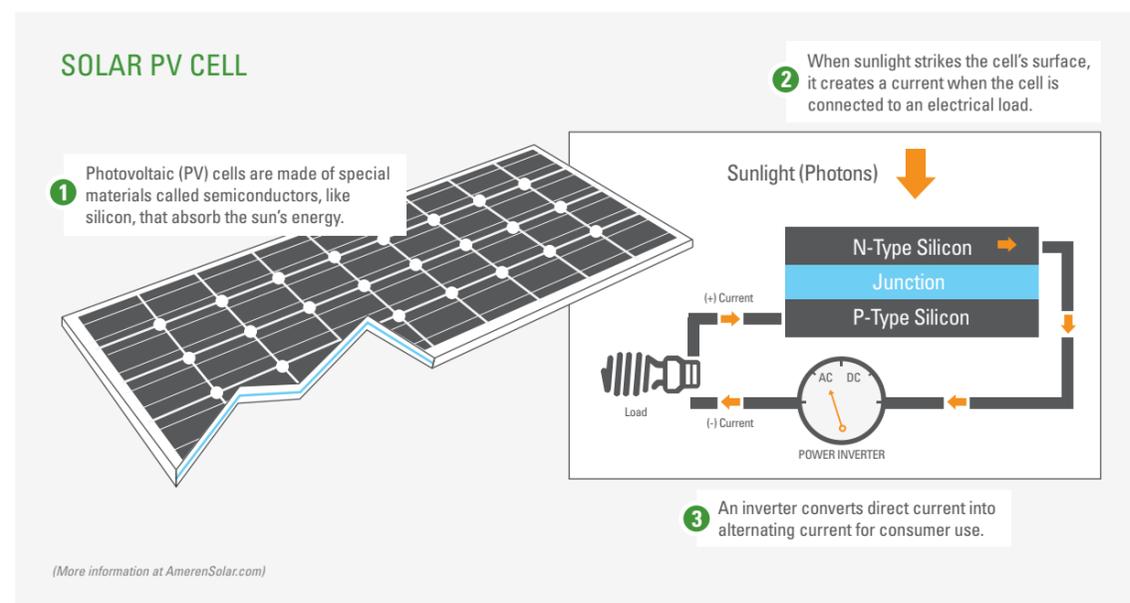
Certain technologies have reached an acceptable level of maturity and already are making a strong showing in parts of the United States where policy drivers encourage and support investment in solar energy. For example, Concentrating Solar Power—a utility-scale generation technology that uses the sun as a heat source—has reached this level, but it's more applicable to specific geographic areas, such as the desert Southwest.

Ameren is interested in advancing the development of solar energy to become a more cost-effective resource for utility or customer installations. In 2010, our company installed 100 kilowatts of various PV technologies at our St. Louis headquarters. This action reflected our strategy to meet Renewable Portfolio Standard requirements and our commitment to being an energy advisor for customers. At AmerenSolar.com, our customers can find first-hand information on how well these technologies are performing in our region.

As PV technologies become competitive with other supply technologies, Ameren could partner with our customers to provide an alternative source of energy and further diversify our revenue streams. Already, homeowners and business owners are installing more solar systems, and global demand for solar energy is expected to drive further cost reductions—ultimately providing pricing that's more in line with U.S. retail power markets. As prices drop, solar energy resources will grow in the United States.

Data from various sources—the Solar Electric Power Association, National Renewable Energy Laboratory, U.S. Department of Energy (DOE) and Massachusetts Institute of Technology—coupled with our experience, suggest that solar PV installation costs will decrease dramatically over the next 20 or so years. The Energy Department's February 2012 “SunShot Vision Study” has a goal of \$1.50 per-watt installed cost by 2020, and DOE recently moved forward with a Funding Opportunity Announcement for “Plug-and-Play Photovoltaics” to develop the technology system necessary to achieve this goal.

(For more about renewable energy, see Page 54.)



(More information at AmerenSolar.com)

ENERGY STORAGE SYSTEMS

Energy storage systems—especially batteries—can serve a variety of applications along the entire electrical system: from generation support ... to transmission and distribution support ... to end-customer uses.

They can range from bulk power management technologies (offering hundreds of megawatts to gigawatts in capacity, with hours of discharge) to uninterruptible power supply management systems (offering kilowatts in capacity, with discharge power in seconds or minutes).

Energy storage adds the ability to deliver electricity when it is needed. Our company could realize large benefits in deploying energy storage technologies over the next decade—especially with enabling technologies, such as batteries.

Batteries are the technology with “game-changing” potential. They can be used as a source for power intermittency, and they provide a scalable technology for minutes-to-hours of power and energy (megawatts and megawatt-hours). Advancements in battery energy storage systems toward commercial adoption are expected to occur rapidly over the next five to 10 years. Looking forward, the ability to store energy will be critical to the utility industry’s ability to respond to:

- **Significant expansion of intermittent renewable generating sources.**
Renewables development is the most immediate driver, because the ability to store energy would help mitigate associated system problems—namely, the intermittency of wind and solar power. Also, wind generation technologies have their peak output when the system is at a time of low demand, creating an opportunity for capturing unused electricity. Improvements in small-scale batteries will enable solar PV as a more viable distributed generation technology for utilities and customers.

- **Greater use of electric vehicles.**
The popularity of hybrid, plug-in hybrid and fully electric vehicles is another factor in energy storage development. Improvements in battery technology for vehicles may potentially lower the cost and extend the range of plug-in vehicles. Over the next decade, the existing electrical distribution infrastructure will be sufficient to handle the impact of electric vehicle charging.

WHAT ABOUT PLUG-IN VEHICLES?

Plug-in vehicles were not included as a “game-changing” technology in this report because the adoption rate of electric cars depends a lot on consumer preferences, as well as another technology: batteries. (A breakthrough in battery technology may result in significant cost reductions for electric vehicles.) But our customers have questions about electric cars, and we want to help answer them. That’s why our online Energy Advisor includes useful tools and resources on a variety of energy-related topics, including electric vehicles. Customers can learn how they work, explore available rebates and incentives, and even request a free “plug-in” readiness assessment of their home or business.

Other tech topics include customer generation, smart grid, solar power—and much more.
Visit AmerenMissouri.com/energyadvisor.

FUEL CELLS

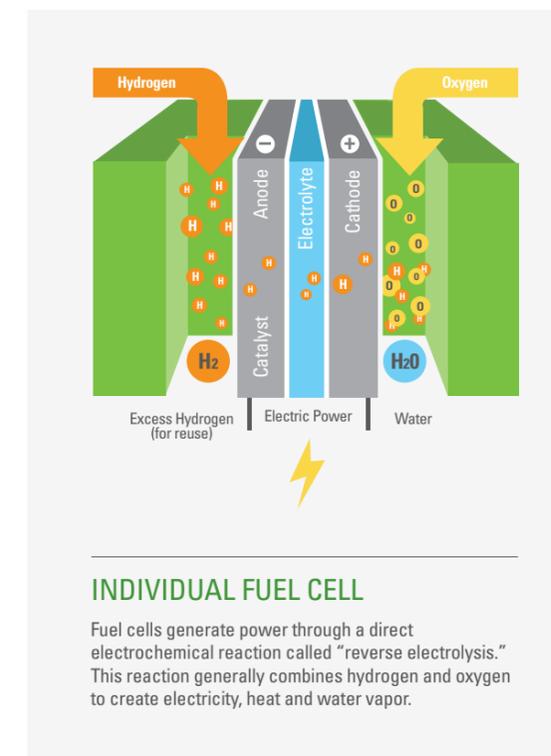
Fuel cells generate electricity through a direct electrochemical reaction known as “reverse electrolysis.” This reaction allows for higher fuel-to-power conversion efficiencies than mechanical systems. (There are different types of fuel cells, including solid oxide and proton exchange membrane fuel cells.)

Fuel cells are ideal technologies for small, distributed power generation. They are highly efficient, and they have low air/noise emissions and limited moving parts. Meanwhile, waste heat can be effectively used for commercial building heating and cooling.

While burdened by high cost and questionable durability today, fuel cells are a potentially disruptive technology being developed to satisfy an array of energy needs—from residential, commercial and industrial power generation and heating ... to products, such as automobiles, laptops and cellphones.

When fuel cells become more cost effective, customers may turn to self-generation to better manage their energy bills. Large-scale deployment and adoption of distributed fuel cells may eventually compete with the current central station utility business model. Fuel cells also could provide choice for end-users—offering affordable power, increased reliability and lower emissions.

If and when fuel cells become competitive with other supply technologies, Ameren could partner with our customers (as we could with solar PV) to provide an alternative source of energy and further diversify our revenue streams.



“Fuel cells are ideal technologies for small, distributed power generation. They are highly efficient, and they have low air/noise emissions and limited moving parts.”

MICROGRIDS

The microgrid is an emerging “smart grid” concept—basically, a small-scale version of a centralized, utility-scale electric system.

Microgrids generate, store, distribute and regulate the flow of electricity to customers, but do so on a local level—such as a neighborhood, office park, university, military base or other small-scale entity. This provides a community the choice of electricity generation sources and supplies, such as locally distributed renewable energy sources. Microgrids also interface with the larger, utility-scale grid.

Over the next several years, Ameren expects emerging technologies to not only improve grid automation and monitoring techniques, but also to facilitate the expansion of nontraditional energy systems. Microgrids will progress further into the deployment and maturation stages within the next decade.

At the utility level, then, the distribution system must be designed and protected in a manner that will accommodate microgrids as they emerge and interact with the larger grid.



NET-ZERO ENERGY BUILDINGS

Traditional buildings consume 40 percent of the total fossil energy in the United States and Europe. Meanwhile, “net-zero” describes a building with “0” net energy consumption from the electric grid on an annual basis. The net-zero energy principle is gaining considerable interest—whether to reduce fossil fuel consumption, greenhouse gas emissions or overall energy cost.

“The net-zero energy principle is gaining considerable interest—whether to reduce fossil fuel consumption, greenhouse gas emissions or overall energy cost.”

Advanced construction materials—like phase-change wallboard materials, improved insulation materials and improved air sealing techniques—and thermal envelope design can help provide a buffer to minimize heating, ventilation, and air conditioning (HVAC) loads. Less electricity is required to maintain the same comfort level. This, in turn, reduces the cost of all of the other systems within the building—both the HVAC system and electricity sources, such as on-site renewables or energy storage systems—to meet the load needs.

Development of energy management control systems with integrated occupancy, temperature and lighting sensors can allow for highly efficient control of comfort systems without affecting building occupants. We expect these key technologies for net-zero energy buildings to be fully developed before 2020.

ADVANCED COMPUTING & GRID AUTOMATION

The term “smart grid” was coined by the U.S. Department of Energy. It represents the infusion of technology—communications, automation and end-device intelligence—into the electric grid to improve reliability and provide new capabilities for customers. With these goals in mind, Ameren has been making “smart grid”-type improvements to our system for years in both Illinois and Missouri.

In our Point of View, a smart grid provides:

- Systems integration
- Data collection and analytics
- Automation
- Use of distributed generation, storage and energy efficiency technologies
- Customer benefits

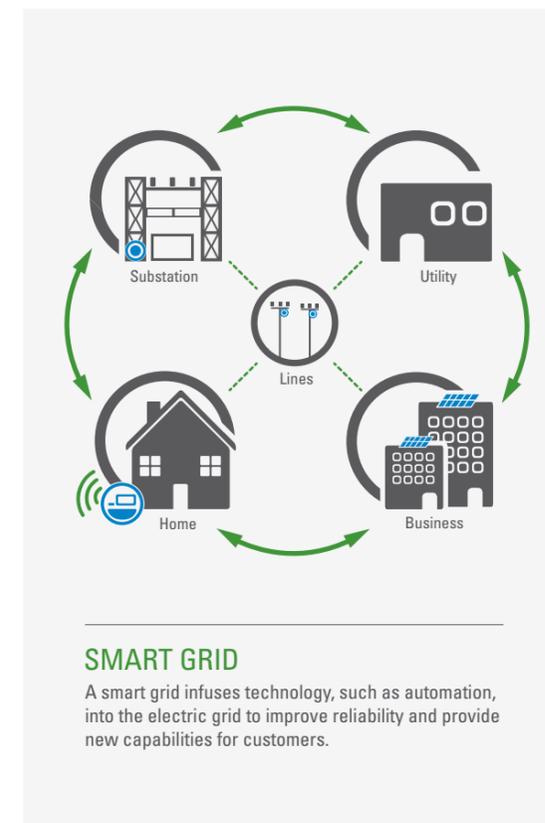
Over the next several years, we expect emerging technologies not only to improve grid automation and monitoring techniques, but also to facilitate the expansion and development of renewable energy, plug-in electric vehicles and customer home energy management systems.

Much of the demand for smart grid technologies will be driven by regulatory and legislative policies that offer incentives, mandate installation or simply provide cost recovery for the investment.

Since the speed of adoption of many such technologies greatly depends upon developing appropriate regulatory constructs, we need to monitor such items as customer subsidies for solar and wind integration. Ameren believes that regardless of the regulatory framework, smart technologies will offer our customers greater control over their energy usage and costs.

With the right customer and utility incentives, advanced metering and automated grid infrastructure also could enable more active consumer participation in “demand response.” That is, technology could enable customers to make energy-use decisions—whether manually or through “set it and forget it” automation—based on detailed information provided by the utility and supported by real-time energy pricing.

And, as with microgrids, Ameren fully expects to continue pursuing technology paths that have been laid out by decades of experience—such as SCADA, outage management, distribution automation and other systems—and that can be implemented in tandem with our existing infrastructure replacement and life-extension strategies. We will closely monitor analytics as smart grid technology progresses within the next decade. We also should monitor enhanced voltage control efforts, which reduce energy loss.



CLIMATE AND ENVIRONMENTAL POLICY

CLIMATE & ENVIRONMENTAL POLICY

ABOUT THIS TOPIC

The electric utility industry is subject to multiple environmental laws and regulations. Many of these—the Clean Air Act, the Clean Water Act and others—require a process for periodic updating of their respective environmental regulations based on the latest peer-reviewed environmental science and public health information. Continual updates to these regulations present both challenges and opportunities to Ameren.

The table on the adjacent page illustrates some of the major regulatory challenges—from air quality to water to combustion by-products—facing the industry and Ameren over the next five to 15 years.

Moreover, the U.S. Senate is considering legislation that would create a national clean energy standard. It would require 84 percent of energy to be produced from “clean” resources—such as wind, solar, small modular nuclear reactors or combined cycle combustion turbines—by 2035. Although this currently is highly speculative, it’s an important potential outcome to consider. If enacted, it would significantly impact the makeup of electrical supply resources in the U.S. over the next 20 years.

Notably, public perception of environmental issues is changing. With public education curriculum including more content around such topics as climate change, sustainability and people’s impact on the planet, a greater percentage of the U.S. population today believes that corporations should do more to improve environmental performance, regardless of cost.

At Ameren, the scope of our environmental responsibilities includes:

- [Coal, nuclear, gas and hydro generating facilities](#)
- [Transmission line siting and maintenance](#)
- [Property assessments and remediation](#)
- [Transportation fuels](#)
- [Chemical usage and storage](#)

With this in mind, concepts and viewpoints discussed in this section generally will apply to all of these applications. But because many environmental laws and regulations are aimed at coal-fired power plants, our discussion will focus on the environmental mandates associated with electrical generation and, to a large degree, our coal-fired energy centers. Coal currently represents 85 percent of Ameren’s electric generating mix.



ENVIRONMENTAL REGULATORY CHALLENGES: 2012 & BEYOND

AIR	CLIMATE	WATER	LAND & NATURAL RESOURCES	WASTE & CHEMICAL MANAGEMENT
<p>Mercury and Air Toxics Standards (MATS)</p> <p>Also referred to as Utility Maximum Achievable Control Technology (MACT). Aimed at reducing mercury, particulate matter, acid gases and organic compounds from coal and oil-fired power plants. Requires retrofits to existing plants.</p>	<p>New Source Performance Standards (NSPS), new and modified sources</p> <p>Places limits on greenhouse gas emissions, such as carbon dioxide, for new coal-fired generation plants.</p>	<p>Clean Water Act, 316(a) and 316(b)</p> <p>Section 316(a) applies to temperature limitations imposed on cooling water discharges from electric generating stations.</p> <p>Section 316(b) requires the determination of whether the withdrawal of cooling water causes or has the potential to cause adverse environmental impacts on aquatic populations and communities.</p>	<p>Transmission siting and permitting</p> <p>Requires approval from multiple state and federal agencies to build or upgrade transmission facilities.</p>	<p>Coal Ash</p> <p>Oversees the handling and disposal of coal combustion by-products, such as “fly” ash.</p>
<p>Clean Air Interstate Rule (CAIR)</p> <p>Targets air transport of sulfur dioxide and nitrogen oxide emissions from power plants in the eastern half of the United States.</p>	<p>NSPS, existing sources</p> <p>Regulates greenhouse gas emissions from existing generating facilities.</p>	<p>Effluent Guidelines Limitations</p> <p>Requires treatment of wastewater discharges from electric generation plants.</p>	<p>Avian Protection</p> <p>Aimed at reducing dangers posed to birds from power lines and other electric infrastructure.</p>	<p>Polychlorinated Biphenyls (PCBs) in Electrical Equipment</p> <p>Applies to manmade organic chemicals no longer commercially produced in the U.S., but may be present in pre-1979 materials, such as transformers, capacitors and switches.</p>
<p>Regional Haze/Visibility</p> <p>Rules and guidelines that apply to facilities emitting air pollutants (such as fine particulate matter, sulfates and nitrates) that impair visibility.</p>	<p>Best Available Control Technology (BACT) Permitting</p> <p>Requires that best available pollution control technology be applied to certain facilities, such as power plants, when making major modifications.</p>	<p>Waters of the United States</p> <p>Regulations for permits and water quality in waters defined by the Clean Water Act (rivers, lakes, streams, wetlands, etc.).</p>	<p>Endangered Species Act</p> <p>Requires protection of endangered species during the construction and operation of utility facilities, such as power plants and transmission lines.</p>	<p>HazMat Transport</p> <p>Regulates transportation of various hazardous materials involved in the generation and distribution of energy.</p>
<p>Multiple National Ambient Air Quality Standards (NAAQS)</p> <p>Regulates ground level of air pollutants, such as ozone, particulate matter, sulfur dioxide, nitrogen dioxide, lead and carbon monoxide.</p>	<p>International Negotiations</p> <p>Refers to ongoing global negotiations related to climate change agreements and protocols, such as Kyoto and Copenhagen.</p>	<p>National Pollutant Discharge Elimination System (NPDES) permits</p> <p>Applies to point source water and wastewater discharges to waters of the United States.</p>	<p>Vegetation Management</p> <p>Applies to practices (such as herbicides) used to control tree/plant growth around lines to prevent outages.</p>	
<p>New Source Review (NSR)</p> <p>Requires electric utilities to go through preconstruction review for environmental controls if the utilities propose to build new generating units or make major modifications to existing units.</p>		<p>Waterbody-Specific Standards</p> <p>Unique standards applied on a waterbody-specific basis (rivers, lakes, streams, etc.) to prevent degradation from pollutants, such as mercury.</p>	<p>Electromagnetic Fields (EMF)</p> <p>Refers to invisible lines of force that surround electrical devices.</p>	

OUR POINT OF VIEW

The cycle of continual updates to environmental regulations with which Ameren must comply will present both major challenges and significant opportunities as we work to maintain our strong, proactive record of environmental compliance and stewardship.

Challenges stem from the costly environmental control technology required to comply with regulations. For example, legislative and regulatory mandates to control greenhouse gas (GHG) emissions would have a significant cost and operational impact.

Over the past decade, there have been several attempts to craft federal cap-and-trade legislation limiting GHG emissions. Although Congress has not seriously considered such a measure recently, several factors could bring the issue back into public debate. So the prospect of federal GHG legislation over the next two decades must continue to be examined.

Our view is that coal generation is the primary focus of potential GHG reduction requirements and, in the long run, natural gas-fueled generation also will be subject to future requirements.

Even without GHG legislation, the U.S. Environmental Protection Agency (EPA) has been active in the development of several environmental regulations aimed at reducing GHG emissions. EPA's latest proposed rule would establish standards requiring carbon capture and storage on any new coal-fired power plant.

For coal plants, compliance with such regulations requires installation of costly environmental control equipment. Since the cost of installing the necessary equipment on older, smaller power plants is prohibitive, regulations already have contributed to the announced



retirement nationally of more than 30 gigawatts of coal plants over the next five to eight years. (Our merchant generation company, Ameren Energy Resources, decided to retire two energy centers in 2011, generating a total of about 0.5 GW.)

Retiring 30 gigawatts of U.S. coal-fired generation will permanently reduce annual CO₂ emissions by roughly 100 million metric tons. For perspective, that's the equivalent of taking about 18 million passenger vehicles off the road.

Under the current view, construction of new coal-fired generation at Ameren would be severely limited. No new coal plants would be initiated during the planning time frame.

Nationally, only 7 gigawatts of new coal generation projects are presently far enough along in the permitting and/or construction process to be built (and not all of these will proceed or be completed). This is due to a number of factors, including:

- The low cost of natural gas.
- Recently proposed New Source Performance Standards for greenhouse emissions for new coal plants.
- EPA requirements aimed at reducing the level of hazardous air pollutants from new coal-fired power plants (Mercury and Air Toxics, or MATS regulation).
- Advances in technology (for generating electricity with natural gas and renewables, as well as technologies that help lower consumer demand for electricity).

Meanwhile, opportunities lie in developing sustainable environmental solutions that meet public and shareholder expectations. In our view, Ameren's innovative engineering bench strength and corporate commitment to environmental stewardship will help us meet future challenges. Ameren Missouri and Ameren Energy Resources generating companies are dedicated to solving existing and future environmental control problems.

“ Opportunities lie in developing sustainable environmental solutions that reflect our company's commitment to stewardship. ”

Our efforts to gain expertise in solar, wind and methane gas energy are providing us with a strong foundation upon which to build our renewables portfolio. Prospects of additional nuclear and enhanced hydro generation—along with our efforts to seek regulatory frameworks that treat investments in energy efficiency and demand-side management programs equal to other important investments we make for customers—present a future in which Ameren can meet challenges, while delivering value to shareholders and customers alike.

We also look forward to partnering with the communities and customers we serve, to working with regulators and policymakers, and to educating our stakeholders about the “triple bottom line” of community betterment, environmental stewardship and financial strength.

