



## NATIONAL COAL COUNCIL ~ JUNE 2015

### NCC LAUNCHES NEW WEBSITE Just Look at Us Now!

We're pleased to announce the launch of the new National Coal Council website at [www.nationalcoalcouncil.org](http://www.nationalcoalcouncil.org). We're grateful to Arch Coal and Peabody Energy for their generous support which made the site revision possible. Many thanks, as well, to the members of the NCC Communications Committee who reviewed revisions along the way and offered suggestions for improvements.

The website has a new look and many new features that convey the work of the Council and represent coal as an essential resource for the well-being of the U.S. economy and human environment. We trust you will find the site easier to navigate and to share information with colleagues. You'll also now be able to access the NCC site on most mobile devices!

Among the new site features we think you'll appreciate:

- **NCC Studies**  
Expanded resources for current studies, including fact sheets and graphics decks, along with a fully archived section of all NCC studies since 1986.
- **Membership**  
A current membership list as well as an indexed listing of NCC member organization website links.
- **Resources**  
Links to DOE and industry association websites, as well as resources for government, industry and academic sites supporting the advancement of energy technology.
- **Meetings & Events**  
Featuring agendas, presentations and transcripts from past NCC meetings. This section will also feature information on upcoming NCC meetings as available.

A few sections of the site are still under construction, including an "Energy Education" area that will feature fact sheets, graphics and resources that provide information on the power of coal to enrich our lives, fuel our economy, improve our environment, keep the U.S. competitive and enhance our future human environment. The Communications Committee is working on assembling and formatting resources for this section ~ stay tuned!

In the meantime, I hope you enjoy the new site. We welcome any suggestions for further improvements and encourage you to share the site with friends and colleagues.

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Southern Company Services

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##### Fred Palmer, Coal Policy Chair

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## A FOND FAREWELL ALLEN ALEXANDER, SAVAGE SERVICES

Former NCC member Allen Alexander recently retired from Savage Services Corporation after 37 years of leadership and service at the company. Allen was appointed to the National Coal Council in 1998 and served until 2013 when Todd Savage picked up the NCC reins for Savage (see Member Profile on page 3). We wish Allen all the best in this next chapter of his life. Thank you for your service to the coal industry and the NCC!

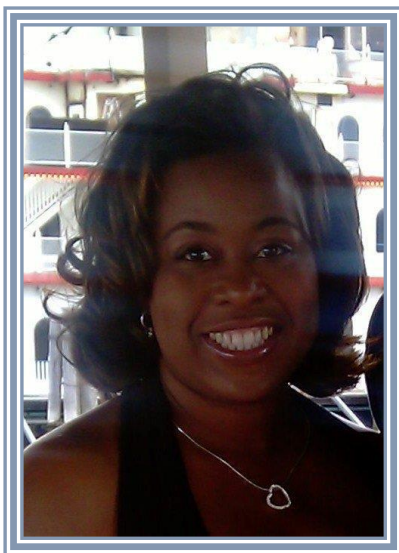


## HIRANTHIE STANFORD WINS PCMA SCHOLARSHIP



Congratulations to NCC Meetings & Membership Manager, Hiranthie Stanford, for winning a one-year Disney Destinations PCMA Education Foundation Scholarship. Hiranthie won the Professional Convention Management Association award after submitting an essay in which PCMA noted she "... clearly showed a desire to enhance not only [your] own career, but also the future of the meetings industry."

**Way to go, Hiranthie!**



### COAL RESOURCES

U.S. Department of Energy  
[www.doe.gov](http://www.doe.gov)  
[Office of Fossil Energy](#)

National Energy  
Technology Laboratory  
[www.netl.doe.gov](http://www.netl.doe.gov)  
[Coal & Power Systems](#)

EIA Coal Data Browser  
[www.eia.gov/coal/data/browser](http://www.eia.gov/coal/data/browser)

How Europe's climate policies have led to more trees being cut down in the U.S.

[Washington Post 06-02-15](#)

The Crisis in Energy  
Education

[Alex Epstein March 2015](#)

Price Check: Why SolarCity's university solar projects cost Oregon taxpayers \$12 million  
[The Oregonian April 2015](#)

Lessons Learned on Energy Policy from Down Under  
[Australian Minister for the Environment](#)

EIA Launches Redesigned International Energy Portal  
[EIA May 2015](#)

Potential Reliability Impacts of EPA's Proposed Clean Power Plan  
[NERC April 2015](#)

Coal-Natural Gas Generation Converge  
[EIA Short Term Energy Outlook May 2015](#)

**[Gellici Speaking Engagements](#)**  
**[U.S. Energy Association Briefing](#)**

Washington, DC – June 23

**[Global CCS Institute](#)**

Webcast – June 25

**[MIT Carbon Sequestration Forum](#)**

Cambridge, MA – Oct. 21-22

**[Carbon Management Technology Conference](#)**

Houston – Nov. 17-19

**[National Coal Council](#)**  
**[NationalCoalCouncil.org](http://NationalCoalCouncil.org)**

## NCC Member Focus

**Todd is among the newest members of the National Coal Council having been appointed in 2014. He follows in the footsteps of former NCC member Allen Alexander who recently retired from Savage. Todd brings to the Council a unique, multi-transport management perspective. Thanks for your service Todd!!**

Todd Savage has literally grown up with the company and has served Savage Services Corporation for the last 39 years. His experience with the company has included on-site operations management, business development in the coal and power generation industry and project development from creation through implementation. He is experienced in developing creative solutions for challenging materials management and transportation systems issues.

His insight and creativity in solving materials management, transportation issues and related facility operations has been integral in shaping the philosophy and business model of Savage and creating value for customers.

Todd began his career at Savage dispatching over 100 trucks hauling coal and cement. He moved on to manage a transload facility and distribution network in Las Vegas, Nevada. Todd spent several years in business development, where he helped achieve significant cost savings in providing fuel handling services for coal-fired power plants. Since 1999, Todd has served as a Group Leader focused primarily on the Coal and Power Generation industries. For the past two years, he has led his company's efforts in the oil and gas field services business.

Todd serves on the Board of Directors for Savage Companies and the Utah Mining Association. He earned a degree in Business Management from the University of Phoenix.



**TODD L. SAVAGE**

**EXECUTIVE VICE PRESIDENT  
& GROUP LEADER**

**ENERGY & OILFIELD SOLUTIONS GROUP**

**SAVAGE SERVICES  
CORPORATION**

Savage is a global leader in the creation and delivery of integrated services and systems designed to meet the unique challenges in each customer's supply chain. Founded in 1946, the company is built on innovation, collaboration, value creation and reliable service. Savage provides high-quality, worry-free service to customers with a commitment to integrity, honesty and fairness.

With more than 3,500 employees in over 200 locations, Savage supports a wide variety of customers in the production, manufacturing and distribution of energy resources and other essential commodities. The company offers capabilities that span rail, truck and marine transport, terminal and facility operation and design, and related services. Industries served by Savage include electric power generation, coal production, oil and gas, refining, agriculture, chemical, mining and manufacturing.

**Todd Savage**  
**Savage Services Corporation**  
**901 W. Legacy Center Way**  
**Midvale, UT 84047**  
**801-944-6600**

[www.savageservices.com](http://www.savageservices.com)



# >> FOSSIL FORWARD

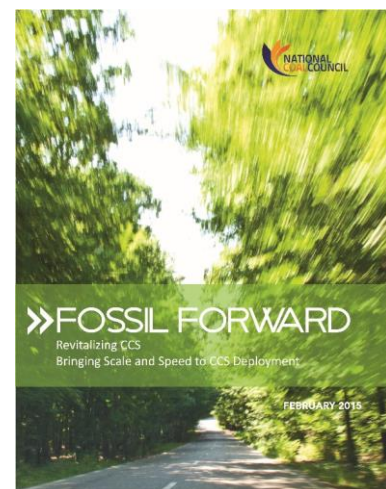
## Revitalizing CCS: Bringing Scale & Speed to CCS Deployment

In January 2015, NCC members approved a study the Council conducted for the Secretary of Energy assessing the value of the Department of Energy's Carbon Sequestration Program. A series of newsletter articles over the next few months details primary findings and recommendations from sections of the report.

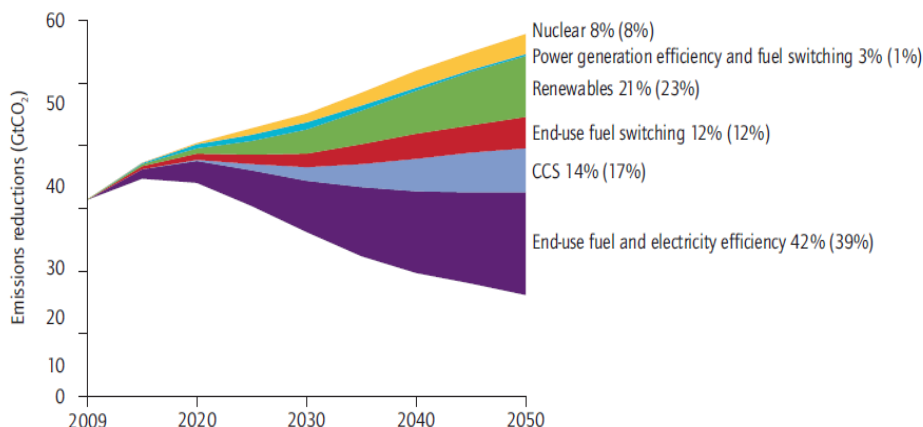
### The CCS Imperative

In 2013, 87% of global primary energy consumption was supplied by fossil fuels. Coal produces about 40% of electricity around the world and is the fastest growing fossil fuel today, which can be largely attributed to growth in developing countries, where 1.2 billion people currently live without any access to electricity and 2.8 billion do not have access to clean cooking facilities.

The international community has yet to form a consensus on how to balance development efforts and climate change objectives. Carbon capture and storage (CCS), including utilization, is the only mitigation option that will allow for deep cuts in CO<sub>2</sub> emissions from fossil fuels and thus must play a role in CO<sub>2</sub> mitigation.



According to International Energy Agency (IEA) analyses, CCS is responsible for 14% of cumulative emission reductions to 2050. Keeping CCS in the technology mix is also necessary to limit global mitigation costs. The increase in mitigation costs without CCS, as estimated by the IPCC, would be about 138% (median estimate). By comparison, a nuclear phase out would increase the median cost by only ~7%. Similarly, if wind and solar expansion was limited, the increase in global mitigation costs would increase by only ~6%.



Note: numbers in brackets are shares in 2050. For example, 14% is the share of CCS in cumulative emission reductions through 2050, and 17% is the share of CCS in emission reductions in 2050, compared with the 6DS.

The U.S. Department of Energy (DOE) is the leader in the advancement of CCS. However, the U.S. accounts for only 16% of annual global CO<sub>2</sub> emissions and is projected to account for virtually zero incremental CO<sub>2</sub> emissions through 2040. From this viewpoint, it will make little difference if the U.S. is the sole implementer of commercial CCS. International collaboration and joint deployment will be required.

### Key Findings

- CCS is the only large scale technology that can mitigate CO<sub>2</sub> emissions from fossil fuel use for electricity generation and key industrial sectors including cement production, iron and steel making, oil refining, and chemicals manufacturing.
- Not including CCS as a key climate mitigation technology is projected to increase the overall costs of meeting CO<sub>2</sub> emissions goals by 70% to 138%.
- U.S. carbon emissions represent less than 16% of world emissions; thus, global and wide scale implementation of CCS is necessary to meet CO<sub>2</sub> emissions goals.
- DOE has taken in a leadership role in advancing CCS technology by supporting first mover CCS projects and fostering international collaborative efforts to deploy CCS, but this role must be strengthened if CCS is to be commercialized.

[NCC Fossil Forward-Revitalizing CCS Study](#)

## WHO KNEW?\*

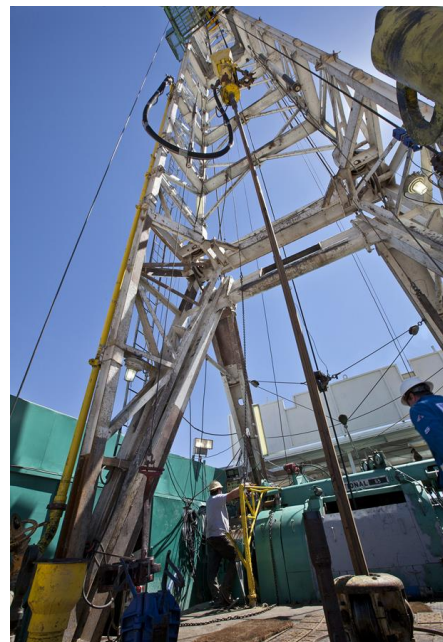
### Carbon Management Institute at the University of Wyoming

The Carbon Management Institute (CMI) at the University of Wyoming engages in the research and development necessary to keep Wyoming at the cutting edge of geological CO<sub>2</sub> storage, a process essential to future carbon management efforts. CMI currently works exclusively on the utilization and storage components of carbon capture, utilization, and storage (CCUS).

Successful CO<sub>2</sub> storage is extremely important to the continued viability of Wyoming's natural resources, particularly coal. Currently, a majority of the electricity generated in the U.S. comes from coal-fired sources, and approximately 40% of the coal comes from Wyoming. Wyoming's coal industry contributes more than \$1.2 billion annually to the state's economy and provides a considerable percentage of the state's primary and secondary jobs.

The federal government's goal of an 80% reduction in greenhouse gas emissions by 2050 requires accelerated exploration of the CO<sub>2</sub> storage technologies necessary to ensure that Wyoming coal remains a viable energy resource. Through various research projects and cooperative initiatives, CMI aims to speed the development and deployment of successful, safe geologic CO<sub>2</sub> storage, both in Wyoming and elsewhere.

CMI works to address all aspects of CO<sub>2</sub> sequestration, from initial site characterization to facility design and demonstration, legal and regulatory issues, and other challenges. CMI also endeavors to inform and educate the public about carbon management: the Institute is committed to clear and open communication, and strives to supply regulators, legislators, and other stakeholders with the best science and information available. Over the next decade or more, CMI will be integrally involved in the implementation of CO<sub>2</sub> sequestration in Wyoming, and Institute research will continue to advance the science of carbon storage across the globe.



CMI Director Kipp Coddington recently presented a paper at the 14<sup>th</sup> Annual Carbon Capture and Storage Conference in Pittsburgh on the topic of International CCS Standards. You can view that presentation at: <http://www.uwyo.edu/cmi/news/updates/index.html>

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**Carbon Management  
Institute**

### Thank You CAC Members!

The support of the following companies as members of the Chair's Advisory Council contribute significantly to the ability of the National Coal Council to perform its work for the Secretary of Energy.

We couldn't do what we do without them ~ thank you one and all!

**Advanced Emissions  
Solutions  
Ameren Missouri  
Arch Coal**

**BNSF Railway  
Clean Coal Solutions  
Dominion Energy  
Jupiter Oxygen**

**Peabody Energy  
PSEG  
Southern Company  
Tri-State G&T**

## Coal Currents

Todd H. Cunningham, Contributing Editor

A brief survey of leading coal industry stories of the past month. Highlighted underlined text links to the cited articles. Right click on highlighted text and select the "Open Hyperlink" option to view the cited article.

### CLIMATE CHANGE

#### **California, Others Enter Global Pact to Slash Greenhouse Emissions**

California has joined 11 other states and countries in an agreement to slash greenhouse gas (GHG) emissions. The pact is aimed at limiting the increase in global average temperature to below the 2 degrees Celsius level that many believe would trigger the most catastrophic consequences of climate change. According to *International Business Times*, the signatories -- which have more than 100 million citizens and \$4.5 trillion in gross domestic product -- agreed to either reduce their GHG emissions to at least 80% below 1990 levels by 2050 or to achieve an annual per capita emissions target of less than 2 metric tons within the next four decades. "It's time to be decisive. It's time to act," commented California Governor Jerry Brown. Washington, Oregon and Vermont are among the other signatories. *International Business Times* said the agreement is part of [a broader effort to pressure global leaders to adopt an aggressive emissions treaty](#) at the UN climate summit later this year in Paris.

#### **President Delivers "Most Dire Warning Yet" on Climate Change**

Climate change threatens homeland security, economic infrastructure, public health and safety and the readiness of U.S. military forces, President Obama emphasized in an address at the Coast Guard Academy. In what *Rolling Stone* termed his "most dire warning yet over climate change," the President asserted that immediate action to slow planetary warming is required, calling it "a key pillar of American global leadership." While the U.S. has reduced carbon emissions more than any other advanced nation, he indicated, "we've got to do more" to accelerate the pace of carbon cuts. Accordingly, he specified, [the U.S. must move ahead on power plant emissions standards and work to conclude an international agreement this year to reduce carbon emissions](#). "The politics will be tough," Obama said. "But there is no other way." The President then spoke at the National Hurricane Center, emphasizing that climate change will worsen the impacts of extreme weather. According to *National Journal's Energy Edge*, he then took to Twitter to field questions, calling on the public to exert pressure for action on "climate deniers" in Congress.

### INTERNATIONAL INTEREST

#### **China's Coal Use Declining, Cap-and-Trade System Coming in 2016**

China's coal use fell by almost 8% in the first 4 months of 2015 compared with year-earlier levels, *Climate Progress* reported. Noting the government's commitment to capping coal use by 2020, and its aggressive commitment to reversing carbon pollution trends, the publication went further, suggesting, "We may have witnessed the peak in Chinese coal consumption years ahead of schedule." However, it quoted a China-watcher at the Center for American Progress as saying that [Chinese government statistics need to be viewed with caution](#). "To be sure, there have been adjustments before," said Melanie Hart. "So we should hold off on judging whether coal has peaked until we see a sustained trend." But if the reduction continues through year's end, said Greenpeace's EnergyDesk, "It will be the largest year-on-year reduction in coal use and CO2 in any country." Separately, AP reported, [China is preparing for next year's rollout of a nationwide carbon offset market, a cap-and-trade system](#) that the news service says "could play a big part in cutting China's emissions -- and help the world tackle global warming."



## Coal Currents (continued)

### ENVIRONMENTAL REGULATION

#### EPA to Release Final Clean Power Plan, Related Rules in August

[EPA will release its final rule mandating a 30% reduction in carbon emissions from existing fossil fuel-fired power plants by 2030 in August](#), according to the Administration's regulatory agenda. States will have about a year after release of the rule, the Clean Power Plan, to submit compliance plans. According to *The Hill*, EPA's rule addressing carbon emissions from newly-constructed coal- and gas-fired power plants also will be unveiled in August. However, *Utility Dive* indicated, another publication, *Inside EPA*, reported that [EPA may have dropped carbon capture and sequestration \(CCS\) from its performance standards for new power plants](#). The latter publication's anonymous source cited Agency concerns that "the technology is not yet viable and the mandates would not hold up to a legal challenge." Also coming, *The Hill* said, is a proposed rule on how EPA will impose compliance plans on states that refuse to submit their own blueprints. Meanwhile, it reported, the Interior Department will begin gathering input in June on coal royalties on federal lands, and will finalize a rule to protect Appalachian streams from mountaintop removal coal mining.

#### ON CAPITOL HILL

#### Senators Unveil Measure to Overturn EPA's Carbon Control Rules

Legislation has been introduced in the Senate to overturn EPA's regulations targeting carbon emissions from fossil fuel-fired power plants. The measure, unveiled by Sen. Shelley Moore Capito (R-W.Va.), is cosponsored by 25 GOP senators and Sen. Joe Manchin (D-W.Va.). [The bill would overturn and set different standards for rewrites of EPA's separate regulations applicable to existing power plants and new ones](#). For existing facilities, it directs the Agency to submit reports to Congress on the rule's effects on GHG emissions and climate change, and to write individual sample compliance plans for each state, allowing governors to opt out if they believed negative impacts would result. For new plants, EPA would have to develop different standards for coal- and gas-fired facilities, and the technology to be used would have to be commercially available and in use on multiple existing power plants, *The Hill* reported. The legislation "enables us to fight back against the assault on coal, and the broader threats to affordable, reliable energy nationwide," Capito asserted.

#### EIA: Coal Plant Closures Would Spike Under EPA Emissions Rule

[More than twice as much coal-fired capacity would be retired by 2040 under EPA's Clean Power Plan -- 90 GW -- than the 40 GW estimated to close if the rule were not implemented](#), EIA forecast. The U.S. now has coal-fired capacity of 329.8 GW. Most of the retirements would take place by 2020, when the first required emissions reductions begin, *The Hill* reported. Coal production in all major producing regions would decline in 2020 and 2025 before edging higher, but still remain 20% below EIA's reference case level in 2040. The Energy Department unit said replacement capacity would be dominated by natural gas and renewables, with the latter "playing a growing role in the mid-2020s and beyond," requiring a significant investment in transmission infrastructure. These investments and other costs would result in electricity cost increases of 4.9% in 2020, 4% in 2030 and 2.6% in 2040 compared to a Clean Power Plan-less environment, *The Hill* noted. Meanwhile, power sector carbon dioxide emissions would decline by a relative 29% to 36% in 2030.

#### States Seem Reluctant to Boycott Compliance Duties Under EPA Rule

While Oklahoma has announced it will not develop a compliance regime as called for in EPA's Clean Power Plan, other governors "appear to be reluctant to heed Senate Majority Leader Mitch McConnell's (R-Ky.) call to boycott compliance with the rule," BloombergBNA reported. McConnell had pointed out that should a state fail to submit a compliance plan, EPA's only recourse would be to impose its own federal plan for the state. Should this happen, he suggested, "It is difficult to see how it could be any worse than the plan it is asking states to impose on themselves." However, BloombergBNA indicated, Kentucky's governor said that [a state-developed policy "would be superior to a one-size-fits-all policy imposed by Washington, D.C."](#) *Utility Dive* reported some state lawmakers in Texas believe that efforts to block or skirt the rules "will end up allowing EPA to exert even harsher cuts and more plant retirements than if the state played along with the plan." The publication indicated separately that at least 41 states are in talks with neighbors about how they might cut power-sector carbon emissions under the Clean Power Plan.

## Coal Currents (continued)

### MINING & TRANSPORTATION

#### Federal Judge Widens Agencies' Responsibilities in Mining Oversight

A federal judge in Colorado has ruled that [federal agencies must take indirect environmental impacts such as climate considerations into account when approving mining projects](#). The ruling is the latest in a series, according to an AP article in *PennEnergy Power*. The cases involve coal from federal leases, which account for about 40% of U.S. production, "but could open the door to similar legal challenges across the industry," it noted. *PennEnergy* quoted Colorado Mining Association President Stuart Sanderson as saying that calculating a mine's contribution to global warming is meaningless because it's dwarfed by unregulated emissions in the developing world. The article indicated that an Office of Surface Mining Reclamation and Enforcement official said the Agency has not decided on its response to the rulings. However, it suggested, "fighting them would put the Obama administration in an awkward position because of its efforts to cut emissions of carbon dioxide." Meanwhile, *High County News* said that House Natural Resources Committee Chairman Rob Bishop (R-Utah) asserted at a recent hearing that federal agencies would overstep their authority by considering climate impacts during environmental reviews.

#### IN THE INDUSTRY

#### Electric Co-op Group Drops Backing of Kemper County IGCC Project

The South Mississippi Electric Power Association, a group of electric cooperatives, has withdrawn from an agreement to cost-share 15% of Mississippi Power Company's Kemper County integrated gasification combined cycle (IGCC) clean coal power plant, *ClimateWire* reported. The Association's board cited ["delays in project schedule, changing needs and increased participation costs" at the 582-megawatt plant](#), which is designed to convert lignite into a cleaner-burning gas, while capturing and storing carbon dioxide emissions. The Association's stake was projected to reach some \$600 million in fixed asset costs next March; the project's current price tag is \$6.2 billion, up from an original estimate of \$2.2 billion. It remains unclear what the decision will mean for Mississippi Power and its Southern Company parent, *ClimateWire* reported; a Southern spokesperson told *The Wall Street Journal* that it is "evaluating its alternatives." The plant, expected to go into service in 2016, "was expected to provide a bright future for the coal industry," the *Journal* commented, "but instead it has exposed the risks of pursuing novel clean coal technology."

#### BY THE NUMBERS

#### EIA Sees Temporary Near-Convergence in Coal, Gas Shares of Power Gen

The amount of electricity generation fueled by coal and by natural gas is expected to converge temporarily in April and May, with gas fueling only 3.5% less output than coal, EIA reported. According to the Energy Department unit's *Annual Energy Outlook 2015*, [generation from the two fuels is expected to rise at similar rates during the next few months, then diverge later in the summer](#) as demand rises and coal unit utilization continues to increase. EIA attributed the situation in part to falling gas prices, indicating they have declined to levels not seen since 2012. However, it added, prices will rise slowly through the rest of the year. This increase, and the return of coal-fired plants from spring maintenance, will likely boost the level of coal generation, it specified. Overall, EIA expects coal to account for an average of 36% of total U.S. generation in 2015, with gas accounting for 31%. Turning to retirements, the DOE unit said that in addition to 4.1 GW of coal-fired plants shut down last year, operators have retired, or will retire, 12.8 GW in 2015.

Todd H. Cunningham, who writes the "Coal Currents" column for the Council's monthly National Coal Advisory, is available for additional writing projects involving coal and other energy policy issues. For information on Todd's background and experience, see his LinkedIn profile at [www.linkedin.com](http://www.linkedin.com). To discuss your editorial needs, contact Todd via email at [tcunningham03@comcast.net](mailto:tcunningham03@comcast.net).