



NATIONAL COAL COUNCIL ~ FEBRUARY 2016

NCC SPRING MEETING APRIL 19-20 HAMILTON CROWNE PLAZA ~ WASHINGTON, DC

Registration is open for the NCC's 2016 Annual Spring meeting.
NCC Members and Guests may register on line at
<https://www.etchouches.com/157761>

Program details are being finalized for NCC's Spring Meeting which this year will feature industry presentations demonstrating innovations in coal technologies. Thank you to NCC Member **Karen Obenshain, Edison Electric Institute** for her program development assistance.

A meeting agenda will be available on the NCC website the week of February 8th. Registration forms and sponsorship information are also available in the NCC events section of the website.

<http://www.nationalcoalcouncil.org/page-NCC-Events.html>



Thought you might enjoy learning a bit about our meeting location.

The Hamilton Crowne Plaza was designed by French-born architect Jules-Henri de Sibour and completed in 1922. Blending elements of the Beaux Arts and Art Deco styles, the impressive façade and beautiful lines evoke classic European builds, but with a distinctly American presence. The structure stands as an impressive testament to industrial age ingenuity. The Hamilton is proudly present on the National Register of Historic Places and is a member of the prestigious Historic Hotels of America.

THANK YOU SPONSORS!

CH2M, Soap Creek Energy, University of Wyoming



NCC Spring Meeting Schedule at a Glance

Tuesday, April 19th

1:30-2:30 pm NCC Communications Committee
5:30-6 pm New & Prospective Members Reception
6-8 pm Welcoming Reception

Wednesday, April 20th

8:45 am-12:15 pm NCC Full Council Meeting
12:15-1 pm Networking Luncheon

NCC LEADERSHIP

Mike Durham, NCC Chair

Principal, Soap Creek Energy

Greg Workman, Vice Chair

Director Fuels
Dominion Resources

Deck Slone, Coal Policy Chair

Sr. VP Strategy & Public Policy
Arch Coal

Bill Brownell, Esquire

Vice Chair Coal Policy
Chair, Hunton & Williams

Executive Committee

Ted Doheny, President & CEO

Joy Global

Amy Ericson

GE Power

Michael Jones, VP R&D

Lignite Energy Council

David Lawson, VP Coal

Norfolk Southern Corporation

Dawn Santoianni

Lead Comms. Consultant
Duke Energy

Mike Sorensen, Sr. Mgr. Fuel

Tri-State G&T

Scott Teel, VP Fuel Services

Southern Company

Kemal Williamson

President Americas
Peabody Energy

Ex Officio

Joe Craft, III, President

Alliance Coal

John Eaves, President & CEO

Arch Coal

Joe Hopf, Senior VP & CCO

Talen Energy

Jeff Wallace

Southern Co. Services (retired)

Finance Committee

Chair ~ **Gregory Workman**

Communications Committee

Chair ~ **Dawn Santoianni**

NCC Staff/Support

Janet Gellici, NCC CEO

Hiranthie Stanford

NCC Member & Meetings Mgr.

Karen Bennett

Hunton & Williams

NCC Legal Counsel

NationalCoalCouncil.org

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Ste. 600

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A new feature in the NCC newsletter!
We'd like to keep our NCC community informed
of good news from our members.
 NCC members are invited to submit good news
 items regarding their companies and
 organizations to
 Janet Gellici at info@NCC1.org.

Shannon Angielski, Van Ness Feldman LLP
Appointed Executive Director of CURC

www.coal.org ~ sma@vnf.com

Shannon Angielski, Principal of Governmental Issues at **Van Ness Feldman LLP** has been appointed Executive Director of the **Coal Utilization Research Council (CURC)**, replacing retiring chief executive Ben Yamagata. CURC educates and advocates for the development and widespread use of coal-based technologies that support the continued availability of cost-effective and environmentally acceptable options that will allow America's most abundant fossil fuel resource to be utilized for generations to come.

Denise Johnson, Caterpillar, Inc.
Named Group President ~ Resources Industries

www.caterpillar.com

Denise Johnson has been named Group President of Resources Industries for **Caterpillar, Inc.**, effective April 1, 2016. The Group includes Advanced Components & Systems, Surface Mining & Technology, Materials Handling & Underground, and Product Development & Global Technology divisions. Caterpillar is the world's leading manufacturer of construction and mining equipment, diesel and natural gas engines, industrial gas turbines and diesel-electric locomotives.

Holly Krutka, Tri-State Generation & Transmission
Named Sr. R&D Analyst

www.tristate.coop ~ hkrutka@tristategt.org

Holly Krutka has been named Senior Research & Development Analyst at **Tri-State Generation and Transmission Association Inc.**, a wholesale electric power supplier owned by 44 electric cooperatives. Holly formerly served as Executive Editor of **Cornerstone** magazine, a publication of the **World Coal Association**. Holly most recently served as Chair of the NCC's Communications Committee.

Scott Teel, Southern Company
Company Signs Int'l Agreement for Kemper Technology

www.southerncompany.com

Southern Company, Mississippi Power Co. and **Southern Generating Technologies** signed a formal letter of intent in December to license the technology used at the **Kemper County** energy facility to a South Korean energy company. Alps Energy. Southern Company and KBR have proprietary ownership of the Transport Integrated Gasification (TRIG™) process which involves converting low grade coal into gas which is then burned to provide electricity. The agreement was the fifth signed with a foreign energy company interested in the Kemper technology.

Want to learn more about your fellow NCC members?
Check out our Members' Focus feature on the NCC website.
<http://www.nationalcoalcouncil.org/page-NCC-Member-Focus.html>

COAL RESOURCES

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

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

EIA Coal Data Browser
www.eia.gov/coal/data/browser

The Clean Power Plan:
 Focus on Implementation
 & Compliance
[Brattle January 2016](http://www.epa.gov/cleanpower/implementation-compliance)

Quarterly Severance Tax
 Revenues (Q1 2011-Q3
 2015)
[EIA January 2016](http://www.eia.gov/coal/severance)

The Socio-economic
 Impacts of Advanced
 Technology Coal-Fueled
 Power Stations
[IEA Coal Industry Advisory
 Board January 2016](http://www.iea.org/coal)

The pitfalls of just saying
 'no' to EPA's carbon rule
[Cameron Smith, R Street
 Institute](http://www.rstreet.org)

How to Talk to Anyone
 About Energy
[Alex Epstein](http://www.aepstein.com)

Annual Review 2015
[Global CCS Institute](http://www.globalccsinstitute.com)

Returning Mined Land to
 Productivity Through
 Reclamation
[Jason Hayes American
 Coal Council in
 Cornerstone Magazine](http://www.americancoalcouncil.org)

Gellici Speaking Engagements

Global CCS Institute
 Annual CCS/CCUS Forum
 Feb. 4th, Washington, DC

Policy Parity for CCS
 American Coal Council
 Webcast Feb. 10th, 2016

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

NCC Member Focus

You can't help but feel energized after speaking with Maohong Fan ~ even if it's over the phone! An NCC member since 2014, Maohong has actively supported the NCC, presenting a paper at the Council's coal conversion forum and sponsoring NCC meetings. Thank you for your support!

Maohong Fan is a School of Energy Resources Professor in the Departments of Chemistry & Petroleum Engineering at the University of Wyoming (UW). He is also an adjunct faculty member in the School of Civil and Environmental Engineering at Georgia Institute of Technology. Since finishing his B.S. education in Chemical Engineering, Maohong has always emphasized the synergy of work and study. He routinely did additional coursework and research to acquire new knowledge in different areas while employed at universities.

Maohong earned his PhD in Environmental (Eng.) Chemistry in 1997, PhD in Mechanical Engineering in 2000 and PhD in Mechanical Engineering from the Chinese Academy of Sciences, Iowa State University and Osaka University, respectively. He has edited and authored more than 250 books, book chapters, journal special issues, and journal papers.

Maohong is a member of NCC, ACS, AIChE, ASCE, and AAAS. He has taught and co-taught a number of courses associated with chemical and environmental engineering as well as energy production. As a PI/PD or Co-PI, he has led and/or worked on numerous grants that were supported by various domestic and international governmental and nonprofit funding agencies such as UNDP, NEDO in Japan, NSF, DOE, EP, USDA and USGS, as well as by large international industrial companies such as Siemens, Caterpillar, Alliant Energy.

Maohong has led many R&D projects in the past. A lot of his projects have been related to clean coal technology development. He has won a number of teaching and research awards. His publications and presentations have been honored or awarded by various entities such as ACS, Elsevier, and NSF.

Maohong has served in various capacities for many journals such as Associate Editor-J. Environ. Eng./ASCE, Chem. Eng. J./Elsevier, Crit. Rev. in Env. Sci. Tech./Taylor; Guest Editor-J. Phys. Chem. A/ACS, Energ. Fuel./ACS.

Maohong has supported and supervised many visiting professors, postdocs and research scientists, and graduate students. Currently, he has 42 members in his research group.



DR. MAOHONG FAN
ASSOCIATE PROFESSOR
SCHOOL OF ENERGY RESOURCES
UNIVERSITY OF WYOMING

The School of Energy Resources (SER) at the University of Wyoming (UW) was created in 2006 to enhance the university's energy-related education, research and outreach. SER directs and integrates cutting-edge energy research and academic programs at UW and bridges academics and industry through targeted outreach programs.

SER's mission is to promote development of the human resources and know-how required to solve critical energy challenges faced by society. SER promotes interdisciplinary academic, research and outreach programs in engineering, science, economics and environmental policy in fulfillment of Wyoming's vision and promise to be a global leader in building a secure and sustainable energy future.

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NCC ACTIVITIES & NEWS

Welcome New NCC Members!

NCC is pleased to welcome the following 22 individuals as new members, appointed by Secretary Moniz for the 2016-2017 term.



Richard L. Axelbaum, Director, Consortium for Clean Coal Utilization, Washington University

Rick Boyd, Manager of Fuels Origination & Operations, Dominion Energy

David Brozek, Senior Vice President, Mitsubishi Hitachi Power Systems Amer.

Charlie Bullinger, Senior Principal Engineer, Great River Energy

Kipp Coddington, Director, Carbon Management Institute, University of Wyoming

William R. Elliott, Operations Manager, Bechtel

Ellen Ewart, Vice President Research Global Coal Markets, Wood Mackenzie

Mark Forwerck, Managing Director North America, LP Amina LLC

David A. Frederick, Manager Fuel Procurement, FirstEnergy Solutions Corp.

Nina Bergen French, Founder, Clean Coal Solutions

Thomas K. Gale, Director Technology Development, Novinda Corporation

Sheila Glesmann, Sr. VP Environmental & External Affairs, ADA Carbon Solutions

John C. Kennedy, Vice President & General Manager Plant Ops, Dynegy

Sharon Sjostrom, Chief Product Officer, Advanced Emissions Solutions Inc.

Carolyn Slaughter, Director Environmental Policy, American Public Power Association

Deck Slone, Sr. VP Strategy & Public Policy, Arch Coal

Rick Smith, Director Environmental Strategy & Analysis, Ameren Services

G. Scott Stallard, VP Asset Management Services, Black & Veatch

Scott Teel, Vice President Fuel Services, Southern Company Operations

Sarah M. Wade, Principal, Wade LLC

Steve Winberg, Program Manager Global Laboratory Operations, Battelle Memorial Institute

Xiaoliang Yang, CCS Team Global Lead, World Resources Institute (China)

NCC Chair's Advisory Council (CAC)

NCC is pleased to welcome the following individuals as members of the Chair's Advisory Council 2016. The CAC works with NCC leadership to guide the strategic direction of the Council, advance its relationship with the Secretary of Energy and enhance the value of our efforts for coal industry stakeholders. CAC members also serve as Executive Advisory Board members, a select group of advisors convened at the recommendation of Secretary Moniz to provide him with more impactful, more timely and more responsive advice.

- **Mike Durham**, Soap Creek Energy ~ NCC Chair 2016
- **Greg Workman**, Dominion Energy ~ NCC Vice Chair 2016
- **Charlie Bullinger**, Great River Energy
- **Sheila Glesmann**, ADA Carbon Solutions
- **George McClellan**, Clean Coal Solutions
- **Sharon Sjostrom**, Advanced Emissions Solutions
- **Scott Stallard**, Black & Veatch
- **Scott Teel**, Southern Company
- **Kemal Williamson**, Peabody Energy

If you would like information on the CAC, please contact Janet Gellici at jgellici@NCC1.org.





MORE NCC ACTIVITIES & NEWS

NCC Communications Committee Requests NCC Members' Help

The NCC Communications Committee is requesting the following help from NCC members (for large organizations, please share this with your communications staff):

- **Twitter**
 - Have your organization follow NCC: @CoalCouncil
 - Follow @CoalCouncil with your own Twitter account
 - Ask your member organizations to tweet to @CoalCouncil (and use popular hashtags such as #coal #CO2 #CCS #carboncapture #HELE #efficiency #climate) to engage in online discussions.
- **LinkedIn**
 - Have your organization follow NCC:
 - https://www.linkedin.com/company/4240233?trk=tyah&trkInfo=clickedVertical%3Acompany%2CentityType%3AentityHistoryName%2CclickedEntityId%3Acompany_4240233%2Cidx%3A0
 - Personally follow NCC at the link above.
- **NCC website**
 - If your organization has a "Resources" (or similar) section, please add the National Coal Council website: www.nationalcoalcouncil.org/
- **Media outreach:**
 - Share your organization's media list with NCC (email directly to Janet Gellici at jgellici@ncc1.org)
 - If you use information from NCC studies in press releases/ outreach, please give credit to NCC.
- **Volunteer**
 - If there are young professionals at your organization who could spend a few hours assisting the NCC, and you'd be willing to support their time, we could use help with preparing slide decks, preparing fact sheets, gathering information for tweets, etc.
 - Share your ideas on worthwhile information for NCC to share on social media by emailing the NCC Communications Committee Chair, Dawn Santoianni at dawn.santoianni@duke-energy.com.



NCC Engages in QER 1.2 Stakeholder Process



NCC has been invited to participate as an external stakeholder in the second installment of the Quadrennial Energy Review (QER 1.2) which will focus on providing a comprehensive review of the nation's electricity system, from generation through transmission and distribution to end-use (out to 2040). NCC CEO Janet Gellici attended an invitational stakeholder briefing session on January 28th at which DOE representatives outlined the QER 1.2 scope, process and timeline.

The analysis phase will take place during the first quarter of 2016. NCC will be submitting relevant recent Council studies for consideration during the analysis phase. Additionally, the NCC intends to file comments by May 2016 during the policy options

analysis and recommendations phase of the initiative. Comments will be drawn from key NCC study recommendations related to issues anticipated to be addressed in the QER 1.2 related to (1) Generation Portfolio, Reliability, Supply Chains and Equity, (2) Electricity Valuation, (3) Innovation and Technology, (4) Environment and (5) Resilience. Members of the NCC's Chair's Advisory Council (CAC) will provide strategic guidance on NCC's engagement in QER 1.2.

<https://www.federalregister.gov/articles/2016/01/25/2016-01372/quadrennial-energy-review-notice-of-public-meeting>



EVEN MORE NCC ACTIVITIES & NEWS

Enrollment Open for NCC 2016 Committees

The fine work of the Council is achieved through the volunteer efforts of those appointed to serve as members of the NCC. We have a number of opportunities available for NCC members to actively engage in the Council.

- Coal Policy Committee ~ Engaged in drafting and pen-ultimate review of NCC reports for Secretary Moniz.
- Communications Committee ~ Engaged in enhancing visibility of NCC and its reports.
- Program Development Committee ~ Assists in securing speakers for NCC Spring and Fall Annual Meetings.
- Membership Nominating Committee ~ Assists in identifying prospective candidates for appointment to NCC.
- Finance Committee ~ Oversees financial management of NCC.



Please consider joining an NCC Committee to make the most of your service on the Council. Enroll on-line at <https://www.eiseverywhere.com/ereg/newreg.php?eventid=159731&>.

NCC Member-related Events of Note

Janet Gellici ~ Webcast on NCC's
 "Leveling the Playing Field: Policy Parity for CCS"
American Coal Council ~ NCC Member Betsy Monsue
 February 10th, 2-3 pm Eastern,
 Registration link: <http://www.etchouches.com/159688>

Charlie Bullinger, Program Associate
**41st International Technical Conference
 on Clean Coal & Fuel Systems**
 June 5-9, Sheraton Sand Key, Clearwater, Florida USA
www.coaltechnologies.squarespace.com

Panels, short courses, technical sessions on key energy topics.

Holly Krutka, Program Chair ~ **2016 Engineering Conferences International CO2 Summit II**

April 10-14, Hyatt Regency Tamaya Resort Hotel, Santa Ana Pueblo, New Mexico USA
 While global leaders have agreed that the mitigation of CO2 and other greenhouse gas emissions is a priority, the solutions are not simple and progress on reducing the costs is vital to meet national and international goals. This event brings together industry leaders, academics, and government participants in a collaborative setting to discuss the technologies and opportunities to mitigate CO2 emissions. There will be a heavy focus on CCS/CCUS that would be of interest to NCC members and others focused on the coal industry.

<http://www.engconf.org/conferences/civil-and-environmental-engineering/co2-summit-technologies-and-opportunities/>



In November 2015, NCC members approved a white paper the Council prepared for the Secretary of Energy detailing policy parity measures that could be undertaken to level the playing field for CCS technologies.

This series of newsletter articles details primary findings/recommendations.

The Playing Field for CCS Technologies

CCS and clean coal technologies currently benefit from several Federal programs and some state programs to encourage development, demonstration and deployment. While these programs could spur CCS development if revised, enhanced, and complemented with other incentives, they are not sufficient as is (as is evident from the lack of projects resulting from them, and in some cases even lack of bids to use the incentives). These programs provide far less support than policies supporting renewables.

Existing support programs include:

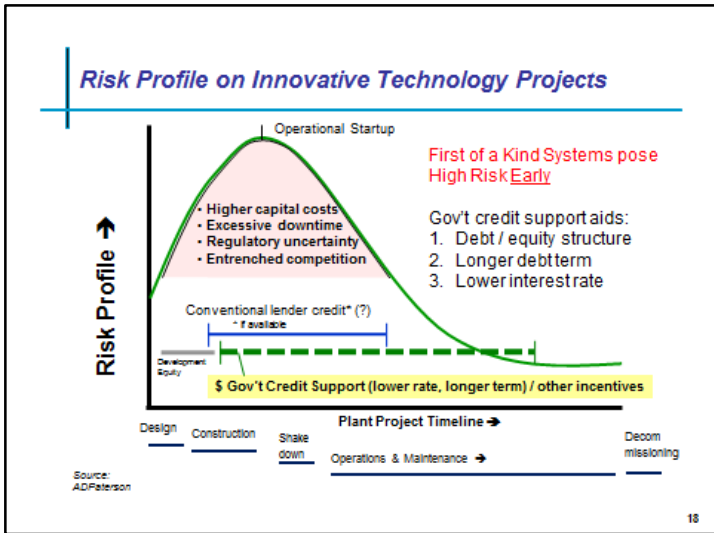
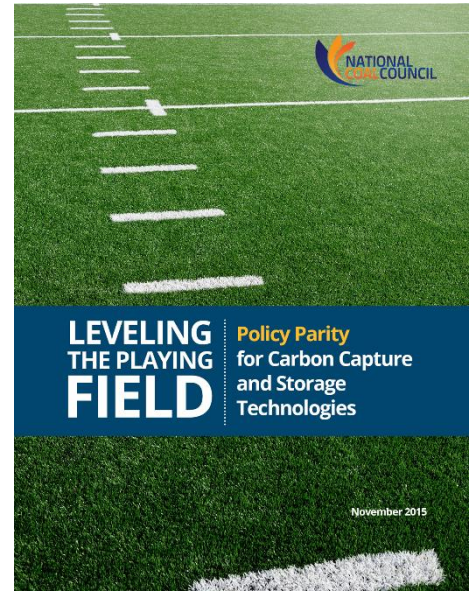
R&D ~ DOE's budget supports pilot-scale carbon capture projects as well as those focused on storage. Funding for renewable R&D is regularly more than twice that spent on CCS.

Demonstration ~ EPAct'05 authorized the Clean Coal Power Initiative (CCPI) to "advance efficiency, performance, and cost competitiveness well beyond" commercial technologies. As of 2013, only \$228 million of the \$1.04 billion obligated to CCPI Round Three has been spent. Notably, CCS demonstration projects have not received an appropriation since 2009.

Loan Guarantees ~ EPAct'05 also established a loan guarantee program for energy projects that "avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases." DOE issued solicitations for coal-based projects in 2009 and 2013. While several applications were received, no coal project, with or without CCS, has received a loan guarantee.

Investment Tax Credit ~ EPAct'05 further established ITC for qualifying coal power projects and industrial gasification facilities. Credits have been unallocated or forfeited due to inability to meet statutory requirements for the credits.

Carbon Sequestration Tax Credit ~ IRS Code Section 45Q provides \$10/ton credit for CO₂ stored through EOR and a \$20/ton credit for CO₂ stored in other formations. Due to credit restrictions, only slightly more than 1/3 of the credit has been claimed since its enactment in 2008 and virtually none of these credits went towards CO₂ captured from electric generating facilities.



Source: Andrew Paterson, CCS Alliance

The Coal Utilization Research Council (CURC) and Electric Power Research Institute (EPRI) have examined technology development needs in light of persistent low natural gas prices, GHG regulations, increasing renewable generation and the performance/cost factors associated with CCS/CCUS deployment. NCC supports the CURC-EPRI Roadmap recommendations calling for 100% Federal financing for large pilot-scale testing and funding at the fully authorized 50% cost share for commercial scale demonstrations.

Access the White Paper

[Leveling the Playing Field: Policy Parity for CCS Technologies](#)

Janet Gellici will be presenting a webcast on the NCC Leveling the Playing Field report on February 10, 2016, 2-3 pm Eastern. To participate in the American Coal Council event <http://www.etchouches.com/159688>

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.

LEADING NEWS

Administration Declares Moratorium on Interior's Coal Leasing Program

The Obama Administration has declared a moratorium on the issuance of new coal mining leases on public lands while it considers a program overhaul, aimed at increasing costs to energy companies and decreasing the coal extracted.

According to The New York Times, in 2014 the federal government received about \$1.2 billion in leases, royalties and other fees for coal mining on public lands, with a leasing rate of \$3 per acre, plus royalties paid on the market value of coal at the time of extraction. However, the newspaper noted that [GAO has questioned whether the lease and royalty rates accurately reflect the market value of the coal.](#)

Interior Secretary Sally Jewell termed the action an effort "to identify and evaluate potential reforms to the federal coal program ... to provide a fair return to taxpayers and reflect its impact on the environment, while continuing to help meet our energy needs." She pointed out that the coal leasing program had not been comprehensively reviewed or significantly changed in more than 30 years.

The program's effects on climate change must also be considered and assessed, the Secretary added.

[The Hill](#) reported that [Jewell's staff will work on an environmental impact statement for the coal program, which she said would take about three years to complete.](#)

About 40% of U.S. coal is mined on public lands, *The New York Times* indicated, and while companies can continue to mine on existing leases, which contain about a 20-year supply of coal, "the move sends a clear signal to markets that the future of United States coal may be limited." The action would block at least 30 mining applications in nine states, the AP reported. Separately, *The Times* termed the move "[the latest step in \[the president's\] ambitious efforts to use his executive authority to tackle climate change,](#) though it could be reversed by another president."

The Wall Street Journal denounced the initiative as an Administration move to "giv[e] the industry its last rites by halting new coal leases on federal lands where mining is still profitable."

The moratorium was pilloried on both sides of Capitol Hill, with Senate Majority Leader Mitch McConnell (R-Ky.) terming it "just the latest front in an ideological War on Coal," and House Speaker Paul Ryan (R-Wis.) complaining that, "The president's policies have already ravaged coal country, destroying jobs and people's way of life, and this will increase that suffering." Ryan promised that "Congress will continue to fight back."

IN THE INDUSTRY

GE Reports Thermal Efficiency Record at Coal Plant

GE has reported that a coal-fueled power plant using its technology, RDK 8 in Karlsruhe, Germany, has achieved a net thermal efficiency of 47.5% while producing 912 megawatts of electricity. This performance surpassed that of the previously recognized record-holder, Nordjylland in Denmark, which achieved 47.1% efficiency. RDK 8's efficiency mark is a full 10% better than the average of all German coal-fueled plants, not to mention the 1.6% efficiency achieved at Thomas Edison's first steam-turbine generator. GE noted that [moving today's average global efficiency rate of 33% for coal-fueled plants to 40% through the deployment of more advanced technology could cut carbon dioxide emissions by 2 gigatons per year,](#) the equivalent of India's annual emissions. For example, RDK 8 reduces specific CO₂ emissions by 40% compared to the global average conventional coal-fueled fleet. The company indicates it now is looking at the efficiency gains of bringing steam temperatures up to 1300 degrees F. "Raising the temperature will keep pushing efficiency and after that there will be other ways," said Olivier Le Galudec, head of performance calculation and testing at GE Power Systems. "I am absolutely sure the race to efficiency is not over."

Coal Currents *(continued)***CLIMATE CHANGE****Appeals Court Nixes Bid to Block CPP Implementation**

A federal court has denied an effort by opponents of EPA's Clean Power Plan to block implementation while a lawsuit seeking to overturn the measure moves through the courts. The U.S. Court of Appeals for the D.C. Circuit found that the date for compliance with the rule -- which requires existing power plants to cut emissions by 32% from 2005 levels by 2030 -- is sufficiently distant that there is no imminent or irrevocable harm, *Politico* reported. However, it added, [the court "did put the legal action on the fast track by scheduling oral arguments for June 2,"](#) meaning a final decision on the Plan's legality is more likely to come before the Sept. 6 deadline for states' submittal of initial compliance plans. The case is widely expected to be ultimately decided by the Supreme Court, most likely in 2017, according to *The New York Times*. Attorney General Patrick Morrisey of West Virginia, which has led the legal push by more than half the states and more than 100 corporations and industry groups, noted the court did not rule on the merits, and expressed optimism the Plan ultimately would be struck down. These opponents quickly filed a Supreme Court petition seeking to block the rule, asserting that without a stay, the regulation "will continue to unlawfully impose massive and irreparable harms," *The Hill* indicated.

2015 Warmest Year on Record, Agencies Say

Last year was the warmest on record, breaking the mark set in 2014 "by an unprecedented" extent, NOAA and NASA reported. According to *The Hill*, the average surface temperature across the globe was 1.62 degrees F above the 20th century average, breaking the previous mark by almost 0.3 degrees. The publication noted that 2015 became the fourth year since 2000 to break the annual temperature record; it reported Agency officials said the mark can be tied directly to long-term warming trends, and quoted a NASA official as saying these are "set to accelerate due to growing carbon emissions around the world." The announcement followed NASA's recent report that 2015 was the second-warmest year on record in the U.S. It attributed this to multiple events, including El Nino, climate change and unique temperature patterns that developed throughout the year. *The New York Times* quoted a NASA official as saying there is no evidence of a pause in the long-term global warming rate. ["The back-to-back records of 2014 and 2015 may have put the world back on the trajectory of rapid global warming,"](#) it suggested, "after a period of relatively slow warming dating to the last powerful El Nino, in 1998."

Report: CPP Foes Like Carbon Trading's Flexibility

While West Virginia is leading the charge against the Obama Administration's Clean Power Plan, major electricity providers and some government officials in the state "want to use carbon trading to meet their greenhouse gas reduction targets" if legal challenges fail, *ClimateWire* reported. The publication cites [comments filed with the state's Department of Environmental Protection showing support for the flexibility inherent in carbon trading as a means of compliance;](#) these comments say trading is the cheapest option for companies and consumers, and argue that they cannot meet EPA's goals under current state law. And the push for carbon trading is not limited to West Virginia, but is "spreading across the nation," according to a separate *ClimateWire* article. "Close to half of states, including many run by Republicans, are hoping to use some form of a carbon market similar to cap and trade to meet federal Clean Power Plan targets." While discussions at the state level are still in the early stages, the publication indicates, interviews with dozens of experts, power companies and state officials indicate the writing is on the wall: ["if the Clean Power Plan survives, most states will use interstate carbon markets to cut greenhouse gas emissions."](#)

Todd H. Cunningham, who writes the "Coal Currents" column for the Council's monthly newsletter, 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. To discuss your editorial needs, contact Todd via email at tcunningham03@comcast.net.

Coal Currents *(continued)***INTERNATIONAL INTEREST****Chinese Coal Numbers Down Widely in 2015**

Chinese coal use fell in 2015 across a wide range of measures "as the world's largest polluter continues its transition to clean energy," *The Guardian* reported. These measures included a 3.5% drop in coal production, a 2.8% decline on coal-fueled electricity generation -- overall power generation declined 0.2% -- and a 3% drop in national carbon emissions, it specified. "[The new data is good news for the fight against climate change but bad news for the struggling global coal industry](#)," it added. The publication quoted the director general of a climate change think tank close to the Chinese government as saying these trends may continue for "3-5 years or even longer, sending a strong signal of the clear acceleration of China's energy transition." Thermal coal power production will continue to drop at an annual speed of 2-4% and non-fossil power generation will stay at a high growth rate of 20%, the official added. "The implications of these changes are huge," said Tim Buckley of the Institute for Energy Economics and Financial Analysis. "China's total emissions are on track to peak potentially a decade earlier than their official range of no later than 2030."

ENERGY ISSUES**Gas May Have Passed Coal as Top Generating Fuel**

Natural gas may have supplanted coal as the leading fuel for electricity generation, due to low gas prices and the retirement of a record number of coal-fueled plants in the wake of tightening environmental regulations, Reuters reported. The news organization said data from EIA indicates power plants used more gas than coal to produce electricity in five of 2015's first 10 months, including the last four for which data was available. "While EIA does not forecast gas produced more electricity than coal in 2015," it added, [some analysts concluded that it did because gas in November and December traded at the lowest levels of the entire year](#), "promoting more substitution in what was already an unrivaled year for coal-to-gas switching." According to Thomson Reuters Analytics estimates, economic coal-to-gas switching in November and December averaged 8.7 billion cubic feet of gas per day versus 6.1 bcfd for the first 10 months of 2015. "It's likely the power sector produced more electricity with gas than coal in 2015," said Chris Kostas of Energy Security Analysis (ESAI). "But rather than focus on which fuel generated the most power ... It's amazing enough that they are close to equal."

German Minister Seeks Plan for Coal Withdrawal

Germany must work with stakeholders -- "employees, regions, investors and companies" -- to begin crafting a plan on how to exit coal-fueled generation, while using the fuel as a temporary bridge toward this new energy era, Environment Minister Barbara Hendricks said. In her remarks, reported by Reuters, Hendricks did not set a date for the action, but said a proposal by an energy think tank, Agora Energiewende, to conclude coal power production by 2040 was "helpful." The organization's proposal "envisaged gradually removing around 3 gigawatts of coal power from the market per year from 2018, equivalent to closing around three to four large power plants," the article specified. Germany currently receives about 40% of its electricity from coal, Reuters reported, with the fuel viewed as "an important pillar for a stable power supply, as the country exits nuclear power and moves toward renewable sources of energy." According to a *ClimateWire* article on *scientific american.com*, [Hendricks's call to "fast-track the country's coal exit has riled Chancellor Angela Merkel's conservative-led coalition government](#)." The item said industry wants to continue to mine and burn coal until at least 2050.

"Coal Isn't Going Anywhere," WCA Chief Asserts

The International Energy Agency (IEA) has reported that renewable energy is now the second-largest generator of electricity worldwide and is set to overtake coal in the early 2030s. But World Coal Association (WCA) CEO Benjamin Sporton disagrees: "All sources of energy will increase," he told *The Guardian*. "[But coal isn't going anywhere](#)." The WCA chief pointed out that the center of the energy world has moved to Asia, where coal will be combusted for many more decades as developing countries seek "an affordable, reliable and accessible fuel," the publication noted. Accordingly, action to curb global warming requires the replacement of older, dirtier power stations with modern, less-polluting ones, he specified, followed by the widespread adoption of carbon capture and storage technologies. "The global objective is to reduce emissions to get us on the pathway to 2C [of global warming] and if we are to going to achieve that, 'then high efficiency-low emissions and CCS technologies are needed.'"

Coal Currents *(continued)***MINING & TRANSPORTATION****Second Phase of MSHA Coal Dust Rule in Effect**

The second phase of MSHA's respirable coal mine dust rule has gone into effect, following a federal appeals court's rejection of industry challenges. Under the rule, coal mine operators must collect an increased number of respirable dust samples, aimed at preventing workers' overexposure to the dust that causes black lung disease. Additionally, operators are required to use the Continuous Personal Dust Monitor, which measures dust in real time and lets miners know the amount to which they are exposed during a shift; this allows any necessary actions to be taken immediately. [According to MSHA, the rule is the culmination of its End Black Lung-ACT NOW Campaign, which began in 2009.](#) The Agency reported there has been a significant drop in respirable coal mine dust levels since Phase I of the rule went into effect on Aug. 1, 2014, and said that industry compliance levels have reached 99%. Unfortunately, "Black lung is not a disease of the past," said MSHA Administrator Joseph A. Main. But with the Feb. 1 implementation of Phase II and the Aug. 1 start of Phase III, which further lowers the allowable dust concentration from 2.0 to 1.5 milligrams per cubic meter of air, Main said, "We will have put in place protections from black lung disease."

Todd H. Cunningham, who writes the "Coal Currents" column for the Council's monthly newsletter, is available for additional writing projects involving coal and other energy policy issues.

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