NCC FALL 2015 MEETING ~ NOVEMBER 4-5
To be hosted at NETL Pittsburgh

The National Coal Council is pleased to announce that it will host its Fall 2015 meeting at the National Energy Technology Laboratory (NETL) in Pittsburgh, November 4th and 5th. We’re grateful to the folks at NETL for agreeing to welcome our group to their impressive facility.

Much of the NCC advice provided to the Secretary of Energy has a bearing on programs and services undertaken at NETL. Hosting our meeting at NETL will provide NCC members with an opportunity to meet and converse with NETL staff working on critical advanced coal technologies. We’ll have a chance to tour the NETL site and learn more about key coal programs, such as the Advanced Energy Systems Program, CO2 Capture & Storage Programs, Crosscutting Technology Research and Major Demonstrations.

Program and logistics details will be emailed to all NCC members in the coming weeks. In the meantime, please hold the dates for our event which will be hosted as follows:

Wednesday, November 4th
   6-8 pm ~ Reception at Host Hotel Site (TBD)
Thursday, November 5th
   9 am-Noon ~ Full Council Meeting at NETL
   Noon ~ Networking Lunch at NETL
   1 pm+ ~ Optional Tour of NETL Facility

If you are interested in sponsorship opportunities for this special meeting, please contact NCC Meetings Manager, Hiranthie Stanford at 202-756-4524 or hstanford@NCC1.org.

We look forward to seeing you in Pittsburgh in November!

www.netl.doe.gov
NCC WEBSITE HIGHLIGHTS

In June 2015, the National Coal Council launched a new website, made possible by the generous support of Arch Coal and Peabody Energy. Members of the NCC Communications Committee continue to work on tweaking the site to enhance its content and value.

A few highlights of the new website:

NCC STUDIES: You can now more easily access NCC studies dating back to June 1986. For our two most recent studies, Value of the Existing Coal Fleet (May 2014) and Fossil Forward – Revitalizing CCS (January 2015), you can also access fact sheets and graphics decks.

http://www.nationalcoalcouncil.org/page-NCC-Studies.html

NCC MEMBERS: A list of current NCC members is available on the site, along with a roster of NCC leadership and staff.


http://www.nationalcoalcouncil.org/page-NCC-Leadership.html

And each month we feature a short article on a NCC member.  
http://www.nationalcoalcouncil.org/NCC-member-focus/05-2015-Savage.pdf

NCC MEMBER WEBSITES: The membership list is supplemented by an alphabetical directory of member organization website links.

http://www.nationalcoalcouncil.org/page-NCC-Member-Organizations.html

TECHNOLOGY RESOURCES: A “Coal Technology Matters” page is devoted to features from the NCC newsletter highlighting industry, university and government initiatives in support of clean coal technology development and commercialization.


PHOTOS/VIDEOS: The NCC Gallery features photos and videos from NCC member organizations, highlighting the many facets of the coal industry.

http://www.nationalcoalcouncil.org/page-NCC-Gallery.html

DOE & ASSOCIATION WEBSITES: You can access a list of industry association links in the resources section of the NCC website ...

http://www.nationalcoalcouncil.org/page-Industry-Associations.html

... as well as important Department of Energy links.

http://www.nationalcoalcouncil.org/page-Department-Of-Energy.html

NCC MEETINGS: Agendas, presentations and meeting transcripts from NCC events can be found under the “NCC Events” tab.

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

http://www.nationalcoalcouncil.org/page-Meeting-Presentations.html

http://www.nationalcoalcouncil.org/page-Meeting-Transcripts.html

Still To Come …

Stay tuned for the addition of an Energy Education section on the website that will be devoted to information that highlights critical facts about the benefits of coal, drawn in large part from NCC’s studies.

As always, we welcome any suggestions for further improvements and encourage you to share the site with friends and colleagues.

www.nationalcoalcouncil.org
NCC Member Focus

Since his appointment to the National Coal Council in 2011, Bob has been a very engaged member. Bob serves on the NCC Finance Committee, contributing his entrepreneurial acumen to the benefit of NCC’s financial management — as long we can schedule meetings around his trips to Sturgis! His ever-present smile is always uplifting. It’s a pleasure to work with you, Bob!

PROFESSIONAL:
• President/CEO of Bibb Engineers
• Founded Bibb & Associates Engineers in 1979
• Sold company in late 1998 to Peter Kiewit, the 5th largest US contractor, and in late 2003 reopened the company (has at one time employed over 200 people)
• Companies have worked on over 1,500 individual assignments for more than 500 clients (these projects were located in more than 40 states and 7 countries)

PERSONAL:
• “Class of 2011” of “World Generation” magazine
• Kansas City: Member, Johnson County Community College Performing Arts Council; Alumni of the Year, Bishop Miege High School; Former Board Member, Kansas Chamber of Commerce; Past Chairman, Johnson County, KS Republican Party
• National: National Council; National Museum of Forest Service History; National Alumni Hall of Fame, Theta Tau Professional Engineering Fraternity
• B.S. in Aerospace Engineering, University of Kansas
• Married to Sally and has a blended family of 4 children and 9 lively grandchildren, all in Kansas City

HOBBIES:
• Plays lead guitar & sings in 2 rock ‘n roll bands, The Bottom Feeders and REVOLUSHN (See YouTube for “KC” video)
• In 1999, purchased a Cypher Sound Recording Studio
• Rides Harley motorcycles, has made 9 trips to Sturgis Rally and enjoys 1000+ mile motorcycle trips

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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.

Global Status of CCS/CCUS

In order for CCS to become commercially available beyond enhanced oil recovery (EOR) and other niche markets, continued investments in second and third generation capture systems that reduce costs, maintain operational flexibility, and build confidence are critical. These investments need to be accompanied by sustained policy action that provides certainty and incentives, enabling CCS to be recognized within the low carbon technology portfolio.

As of November, 2014, there are 13 large scale CCS projects in operation around the world, with another 9 under construction. There are also 19 projects in the early planning stage and 14 in advanced planning. North America and the U.S. dominate in terms of project numbers and investment levels, followed by China.

By 2017, all of the projects currently under construction are expected to be in operation, bringing the total CO2 capture and storage capacity of operational projects to around 40 million ton/year. As a point of comparison, coal fired power plants in the U.S. emit about 2.2 billion tons/year.

Key Electricity Generating Projects with CCS/CCUS

<table>
<thead>
<tr>
<th>Project</th>
<th>Location</th>
<th>Status</th>
<th>CO2 Capture</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant Barry</td>
<td>Alabama</td>
<td>Operation</td>
<td>150,000 ton/year</td>
<td></td>
</tr>
<tr>
<td>Boundary Dam</td>
<td>Saskatchewan</td>
<td>Operation</td>
<td>900,000 ton/year</td>
<td>CAN $1.35 billion</td>
</tr>
<tr>
<td>Kemper County</td>
<td>Mississippi</td>
<td>Construction</td>
<td>3,000,000 ton/year</td>
<td>$6.1 billion</td>
</tr>
<tr>
<td>Petra Nova–WA Parish</td>
<td>Texas</td>
<td>Construction</td>
<td>1,400,000 ton/year</td>
<td>$417 million</td>
</tr>
<tr>
<td>Sargas Texas</td>
<td>Texas</td>
<td>Advanced Planning</td>
<td>800,000 ton/year</td>
<td></td>
</tr>
<tr>
<td>Point Comfort</td>
<td>Texas</td>
<td>Advanced Planning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FutureGen 2.0</td>
<td>Illinois</td>
<td>Construction</td>
<td>1,100,000 ton/year</td>
<td>$1.8 billion</td>
</tr>
<tr>
<td>Peterhead</td>
<td>United Kingdom</td>
<td>Advanced Planning</td>
<td>1,000,000 ton/year</td>
<td></td>
</tr>
<tr>
<td>White Rose</td>
<td>United Kingdom</td>
<td>Advanced Planning</td>
<td>(zero emission facility)</td>
<td></td>
</tr>
<tr>
<td>GreenGen</td>
<td>China</td>
<td>Advanced Planning</td>
<td>(near zero emission)</td>
<td></td>
</tr>
</tbody>
</table>

Of the 22 projects identified by the Global Carbon Capture and Storage Institute (GCCSI) that are either in operation or under construction, the U.S. is home to 10 with another 6 of 9 in the advanced planning stage. Canada has 5 projects in operation or construction, followed by two in operation in Europe. Brazil and Algeria each have one project in operation.

Key Findings

- Capital and operating costs for projects with CCS are more expensive than conventional technologies and carry greater technology and commercial risk.
- Funding remains a major challenge.
- The current, large scale CCS project activity is largely a function of policies and funding programs established toward the end of the last decade.
- Additional policy action is required now to improve the investment climate for CCS and ensure that current momentum is sustained.
- There is considerable CCS large scale project activity worldwide with the U.S. in the lead in terms of project numbers and public and private sector investments.

NCC Fossil Forward-Revitalizing CCS Study
NATIONAL COAL ADVISORY

WHO KNEW?*
Carbon Capture Test Facility

SaskPower is helping advance CCS knowledge and technology through the creation of the Shand Carbon Capture Test Facility (CCTF), providing technology developers with an opportunity to test new and emerging carbon capture systems for controlling carbon emissions from coal-fired power plants.

Located at the SaskPower Shand Power Station near Estevan, Saskatchewan, Canada, the facility is designed to provide a robust evaluation of the collection efficiency, long-term stability, operability, maintainability and reliability of amine-based, post-combustion technologies. The CCTF has been designed to accommodate a wide range of solvents. It has the capacity to add and remove process equipment, change the configuration of vessel internals, and expand the height of the key absorber vessel.

Developed in collaboration with Mitsubishi Hitachi Power Systems, Ltd., SaskPower’s CCTF enables clients to evaluate the performance of their technologies in a commercial setting. Construction began in early 2013 and the facility was opened in June 2015.

Along with the physical facility, SaskPower is establishing a technical team to deliver world class testing and analytical results. The knowledge and experience gained from the facility will be used to support the Boundary Dam Integrated Carbon Capture and Storage Demonstration Project and future CCS projects worldwide.

After initial demonstration by Mitsubishi Hitachi Power Systems, Ltd., the CCTF will provide a unique platform where further competitive technologies can be evaluated.

Email: CCSinfo@saskpower.com
Phone: (306) 566-3078
http://www.saskpowerccs.com/ccs-projects/shand-carbon-capture-test-facility/

*Who Knew?* is a regularly featured column on industry, university and government initiatives in support of clean coal technology development & commercialization.

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
LEADING NEWS
Supreme Court Overturns EPA’s Landmark MATS Rule

The U.S. Supreme Court has ruled against the Environmental Protection Agency (EPA) on its Mercury and Air Toxics Standards (MATS) for power plants, which carry an estimated $9.6 billion price tag. The court found by a 5-4 margin that the agency erred by failing to consider costs at an early stage in the process.

While the majority opinion said EPA had “strayed well beyond the bounds of reasonable interpretation” of the Clean Air Act (CAA) in its approach to costs, the minority noted the Agency had considered them at a later stage. As noted in The Hill, the dissenters pointed out that this approach had been followed in other cases and courts, including a lower federal panel in this instance, had allowed it.

But in its May 29 ruling in Michigan v. EPA, which was brought by 21 states and several industry organizations, the Supreme Court disagreed. Its ruling sends MATS back to the U.S. Court of Appeals for the D.C. Circuit to determine how EPA should proceed; it will technically remain in effect while the court decides.

EPA expressed disappointment with the ruling, but pointed out that it involved the timing of cost consideration and not the Agency’s CAA authority to limit hazardous pollutants. A spokesperson said that EPA was “reviewing the decision and would decide next steps -- including re-doing the regulation -- once that process is complete,” The Hill reported.

National Journal’s Energy Edge said it is “uncertain what immediate effect the decision will have on MATS enforcement,” as the rule went into effect several months ago and many utilities have already begun compliance.

Senate Majority Leader Mitch McConnell (R-Ky.) termed the ruling a “rebuke” to the Administration, the AP reported. The news service noted that some states have already challenged EPA rules due out this summer aimed at curbing coal-fired power plants’ emissions linked to global warming, and pointed out that legislation on Capitol Hill would allow states to opt out of such control regimes.

CLIMATE CHANGE
Pope Francis Calls for Confronting Climate Change

Pope Francis released a much-awaited encyclical, entitled “Laudato Si’” -- translated by Reuters as “Praise Be, On the Care of Our Common Home” -- calling for what The New York Times described as “a radical transformation of politics, economics and individual lifestyles to confront environmental degradation and climate change.” The encyclical, a formal letter to bishops informing them of the Vatican’s position, “takes climate science head on,” National Journal’s Energy Edge reported. The 184-page document did so by referring to a “scientific consensus” that CO2 emissions resulting from industrial activity are the cause of global warming. It is aimed at influencing negotiators heading into the UN climate change talks in Paris at year’s end, the publication added, “pressuring the United States and the rest of the developed world to enact policies that will reduce carbon emissions.” However, the AP indicated, the Pope’s pronouncements on climate were received “much as a presidential address might be: with enthusiastic embraces by those who already agreed with him, and disavowals or silence from most everyone else.”

China Pledges Carbon Emissions Cuts

China, the world’s largest carbon emitter, has submitted an emissions-cutting pledge to the United Nations (UN), including a goal of peaking greenhouse gas (GHG) output by 2030, the Christian Science Monitor reported. The pledge represents the country’s contribution to the global deal to be signed in Paris late this year. It gives prospects a boost after UN chief Ban Ki-Moon recently indicated negotiations were moving at a “snail’s pace,” according to The Guardian. But questions remain as to whether nations’ emissions cuts will be enough to keep temperatures from rising more than the 2 degrees Celsius above pre-industrial levels that could trigger catastrophic consequences, the CSM said. Meanwhile, National Journal’s Energy Edge indicated that countries accounting for about 70% of global carbon emissions now have made long-term climate pledges. The White House reported that President Obama has made the Paris talks a “central component” of bilateral discussions with a range of world leaders. This represents not only a legacy effort for the President, an aide said, but is necessary to shore up his climate plan at home.
Coal Currents (continued)

ENVIRONMENTAL REGULATION

Clean Power Plan Continues to Draw Fire from States

While most states are on track to meet the requirements of EPA's as-yet-unreleased Clean Power Plan (CPP), political and legal contention remains, even though the regs' final unveiling is likely at least a month and a half away, two new studies indicate. According to Utility Dive, a study by the Union of Concerned Scientists shows that 45 of the 50 states are at, or at least halfway to, the 2020 benchmark emissions reduction rate starting points set by EPA in the previously released CPP draft. The top 14 states, which represent one-third of the country’s population and 38% of its GDP, are on track to better their 2020 benchmarks, it added. Meanwhile, the publication said, an analysis by the Brookings Institution found “strong indications of increased controversy over the regulations at the state level.” The CPP aims at reducing overall U.S. GHG emissions 30% below 2005 levels by 2030, Utility Dive noted.

No State Plan on Emissions, Indiana Gov Informs EPA

The State of Indiana will not comply with EPA's efforts to reduce power plants' CO₂ emissions unless the Agency “dramatically overhauls its regulation,” Governor Mike Pence indicated. The governor's letter to President Obama did not outline exactly what changes he wanted, National Journal’s Energy Edge noted, but asserted that the rule’s treatment of the environment and the economy were out of balance. He warned that Indiana would “reserv[e] the right to use any legal means available to block the rule from being implemented.” Senate Majority Leader Mitch McConnell (R-Ky.) has encouraged the nation’s governors not to submit the state plans for lowering carbon emissions that the measure requires, leaving it to EPA to develop and impose its own federal plan for the state. According to Energy Edge, the Administration plans to release a federal implementation plan (FIP) directing states to achieve required emissions cuts if they do not submit their own plans.

EIA Projects Major Hits to Coal Under Clean Power Plan

Utilities will switch quickly from coal to natural gas to fuel their power plants if EPA's Clean Power Plan takes effect as proposed, with renewables playing a growing role in the mid-2020s and beyond, the Energy Information Administration (EIA) said. According to an EIA report, “Analysis of the Impacts of the Clean Power Plan,” which used EIA’s Annual Energy Outlook 2015 as a starting point, retirements of coal-fired generation over the 2014-2040 period could more than double, from 40 GW in the AEO2015 Reference Case (most before 2017) to 90 GW (nearly all by 2020) in the Base Policy Case. In a related change, coal-fired generation would decrease by more than 600 billion kWh by 2025 as a result of the plan’s implementation. Retail electricity prices would rise most in the early 2020s, due to initial compliance measures, increased investment in new generating capacity and increased use of natural gas for generation, with an increase of 3% to 7% compared with projections without the plan, EIA said. Projected utility industry CO₂ emissions would fall between 29% and 36% relative to 2005 levels by 2030, the Energy Department statistical unit projected.

MINING & TRANSPORTATION

DOE Unit Sees Major Coal Production Cuts Under EPA Plan

Production from U.S. coal mines would fall 25% by 2024 if EPA's Clean Power Plan (CPP) goes into effect, EIA projected. According to the St. Louis Post-Dispatch, the DOE statistical unit’s "Analysis of the Impacts of the Clean Power Plan" projected that the nation would mine 20% less coal by 2040 than it would without the emissions-cutting initiative. "That would be 10% below 2014 production levels -- levels last seen in the 1980s," it pointed out. However, EIA said, "a sharp downturn during the early years of carbon limits would be made up, somewhat, in the 15 years after 2025." The basis for this projection? Growing demand for electricity and higher prices for natural gas.

However, for Western coal producers, many in the Powder River Basin, EIA forecast that production would fall 21% from last year's level by 2024, with gradual increases over the succeeding 15 years still leaving mining in the region 19% below EIA's Business as Usual Case. The CPP is expected to be finalized by August, EIA noted. However, it added, "the final rules could look far different from the initial proposal that EIA used in its analysis."
Coal Currents (continued)

ENERGY ISSUES

Coal in Crosshairs if Climate Pledges Met, IEA Reports

Wind, solar, hydropower and other renewables will overtake coal to become the world’s major source of electricity if countries meet their pledges to counter climate change, the International Energy Agency (IEA) forecast. These commitments would boost renewable power from about one-fifth of global electricity consumption to almost one-third by 2020, the Paris-based IEA indicated in a new World Energy Outlook Special Report on Energy and Climate Change. However, Utility Dive reported, the Agency said that this probably would not be sufficient by itself to keep warming below 2 degrees Celsius by 2040, the global target for climate change mitigation. Based on submitted commitments, termed Intended Nationally Determined Contributions (INDCs), and existing energy policies, “there is now only a 50% chance of keeping the temperature rise below 2 degrees C by 2040, the IEA study reports.” While the IEA is not the first organization to suggest that the world is off target in this regard, The Washington Post said, “its analysis is probably the most definitive.”

IN THE INDUSTRY

Kemper County IGCC Project Nearing Completion

Mississippi Power’s Kemper County 582 MW integrated gasification combined cycle (IGCC) clean coal power plant is “essentially complete and ready for final testing and certification,” a company staffer told the Mississippi Business Journal. The staffer, Lee Youngblood, told the newspaper that “the facility should be up and running and doing what it’s supposed to do,” converting lignite into a cleaner-burning gas, while capturing and storing CO₂ emissions, by early 2016. He said the utility and its Southern Company parent stand by Kemper’s technology and long-term viability, terming it “the epitome of what fuel diversity is all about.” Fuel cost stability is a strength, he said; while the cost of oil and natural gas has fluctuated in recent years, there is an excellent supply of lignite on-site at Kemper, “a great deal for our ratepayers.” While Kemper’s costs have been much of the focus in recent years, Youngblood said, it is now near the point where long-term benefits and advantages can be discussed.

Cheap Natural Gas Ranked as Coal’s No. 1 Challenge

Coal companies concerned with the effects of the Obama Administration’s clean air rules are facing an even larger threat, from natural gas, BloombergBusiness reported. Shale formations in the eastern U.S. are yielding record amounts of gas, pushing prices of the fuel below coal, which had been 61% less expensive on average since 2001, the news service said. And as power generators use more gas, “coal is piling up at the fastest rate since 2009,” according to BB&T Capital Markets, it added. The article pointed out that coal accounted for 36% of electricity generation nationwide through March, down from 42% a year earlier, while gas’s share was 29%, from the year-earlier level of 24%, according to EIA. According to Bloomberg New World Finance, coal demand may fall next year to its lowest level since 1987. “The problem is anywhere you look you can find gas,” an IHS Inc. executive told Bloomberg. “You can’t have natural gas prices as low as they’ve been for so long and coal inventories not be a problem.”

Canadian Utility Opens Carbon Capture Test Facility

SaskPower has officially launched its Carbon Capture Test Facility (CCTF) in Saskatchewan, Power Engineering Magazine reported. The event was attended by representatives of about 20 countries that belong to the Carbon Sequestration Leadership Forum (CSLF), a group of policy makers who meet biannually to discuss CCS potential around the world. According to the publication, “The CCTF is a modular facility in which individual parts can be isolated, modified, and operated to test specific carbon capture technologies using sophisticated measurement tools and a data system that continually records operating conditions at a hundred locations. Companies that use the facility are able to track how their particular technology performs over time and in response to realistic commercial operating conditions.” SaskPower President and CEO Mike Marsh pointed to the need for a mix of resources to meet growing power demands “in a way that balances reliability, affordability and sustainability.” Carbon capture and storage is part of the mix, he underscored.

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. To discuss your editorial needs, contact Todd via email at tcunningham03@comcast.net.