NCC CLEAN AIR TASK FORCE CHIEF TO ADDRESS NCC 2016 SPRING MEETING
APRIL 19-20 ~ HAMILTON CROWNE PLAZA ~ WASHINGTON, DC

NCC Members and Guests may register on line at https://www.etouches.com/157761

The National Coal Council is pleased to confirm that Armond Cohen, Executive Director of the Clean Air Task Force (CATF) will address members of the NCC at their 2016 Spring Council Meeting on April 20th. This presentation is in addition to a keynote address by the Honorable Ernest Moniz, U.S. Secretary of Energy.

CATF is a non-profit organization dedicated to reducing atmospheric pollution through research, advocacy and private sector collaboration. Mr. Cohen will discuss “The Need for Zero Carbon On-demand Power.” CATF is represented on the NCC by John Thompson, Director of CATF’s Fossil Transition Project.

The NCC program additionally features:

~ Advanced Ultra-Supercritical Technology Update
   Bob Purgert, Energy Industries of Ohio and Jeff Phillips, EPRI
~ Redefining Carbon Capture - Buz Brown, ION Engineering
~ Iron + Power + Steel - John Schultes, New Steel International
~ Converting Coal to High-Value Carbon Products & Chemicals
   Kipp Coddington, Carbon Management Institute, Univ. of Wyoming

A full meeting agenda, registration forms and sponsorship information are available in the events section of the NCC website.

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

THANK YOU SPONSORS/SUPPORTERS!
Soap Creek Energy & Southern Company
CH2M & University of Wyoming & West Virginia University
Additional sponsorship opportunities are available.
Contact Hiranthie Stanford at hstanford@NCC1.org.

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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 Gellicci at info@NCC1.org.

Lisa J.N. Bradley, PhD, DABT, Haley & Aldrich
Assumes NCC Communications Chair
www.haleyaldrich.com
Lisa Bradley, Vice President and Senior Toxicologist at Haley & Aldrich has stepped up to serve as Chair of the NCC Communications Committee, replacing Dawn Santolani, Duke Energy. Thank you for your service Dawn. Look forward to Lisa’s leadership and guidance. The next meeting of the NCC Communications Committee will be hosted on Tuesday, April 19th, 1:30-2:30 pm at the Hamilton Crowne Plaza Hotel in Washington, DC. All NCC members are welcomed to attend. Hope you can join us!

Brian Kalk, North Dakota Public Service Commission
Hosting Mid-America Regulatory Conference
www.marc-conference.org
Brian Kalk, Chairman of the North Dakota Public Service Commission is also serving as President of the Mid-American Regulatory Commission (MARC), an association of regional organizations of utility and energy regulatory agencies from 14 states. MARC will be hosting its annual meeting June 12-15 in Bismarck, ND, featuring presentations from David Mohler, Deputy Asst. Secretary for Clean Coal & Carbon Management at DOE; FERC Commissioners Tony Clark and Colette Honorable, and Travis Kavulla, NARUC President.

Xiaoliang Yang, World Resources Institute
Co-authors Paper on U.S.-China Clean Energy Collaboration
www.wri.org/publication/us-china-clean-energy-research-collaboration
Xiaoliang Yang, CCS Team Global Leader at the World Resources Institute (China) has co-authored a working paper that examines the first five years of the U.S.-China Clean Energy Research Center’s (CERC) Advanced Coal Technology Consortium, a collaborative effort by the U.S. and China to accelerate development of CCS and other advanced coal technologies.

John Cassidy, NRECA
Appointed Vice President of Legislative Affairs
www.nreca.coop
John Cassidy was recently named Vice President of Legislative Affairs for the National Rural Electric Cooperative Association, a national service organization that represents the nation’s more than 900 private, not-for-profit, consumer-owned electric cooperatives.

Mark Forwerck, LP Amina LLC
Technology Presented at Montana Energy Conference
www.lpamina.com
Mark Forwerck, Managing Director North America, LP Amina attended the Montana Energy Conference in Billings at which the company’s technology was presented. The “poor man’s coal gasification” technology improves coal’s quality while also capturing valuable components from the fuel. The company got its start in China in 2007.

COAL RESOURCES
U.S. Department of Energy
www.doe.gov
Office of Fossil Energy
National Energy Technology Laboratory
www.netl.doe.gov
Coal & Power Systems
EIA Coal Data Browser
www.eia.gov/coal/data/browser

Energy Policies & Electricity Prices: Cautionary Tales from the EU
E21 Manhattan Institute - Robert Bryce
Wind and solar have destroyed the ability of the market to signal price
The Telegraph 3-7-16
Obama rushes to replace climate diplomat ~ Jonathan Pershing to assume role
Washington Examiner 3-28-16
Rare earth elements found in coal
Register-Herald 3-27-16
Feds start public-land coal review process
The Hill 03-24-16
Byproduct from burning coal led to 35 new jobs
Leaf Chronicle 03-21-16
Defense Department Redefines Climate Change
New York Times 03-18-16
U.S. Takes Helm of International Carbon Capture Test Network
DOE Office of Fossil Energy 02-24-16
Yes, coal can power clean energy
The Hill 03-17-16
Gov. Matt Mead: “Double down” on coal
Wyoming News 03-16-16

National Coal Council
NationalCoalCouncil.org
Kipp Coddington is among the NCC’s newest members and has lost no time in becoming actively engaged in NCC activities. Kipp is chairing preparation of the NCC’s latest white paper for Secretary Moniz and also delivering a presentation at NCC’s Spring 2016 meeting. Thank you for being such a shining example of support for the NCC, Kipp!

Kipp Coddington is the Director of the Carbon Management Institute at the School of Energy Resources, University of Wyoming.

A chemical engineer and lawyer, Mr. Coddington has more than two decades of experience in helping fossil and renewable energy companies address some of their most challenging energy, environmental, and climate change issues.

He chairs the International Organization for Standardization’s (ISO) committee that is drafting the first international technical standard for storage of carbon dioxide (CO₂) during enhanced hydrocarbon recovery operations. He has: (1) testified before the U.S. Senate Committee on Energy and Natural Resources; (2) advised the State of California; and (3) advised the Interstate Oil & Gas Compact Commission.

He is listed in Chambers Global/Climate Change; Chambers USA/Nationwide-Climate Change; Chambers USA/District of Columbia-Environment; International Who’s Who of Environmental Lawyers; and International Who’s Who of Business Lawyers. He has a B.S. in Chemical Engineering from Purdue University (1986; With Highest Distinction; Outstanding Senior Engineer) and a Juris Doctor from Georgetown University (1993; Magna Cum Laude; Order of the Coif).

Want to learn more about your fellow NCC members? Check out our Members’ Focus feature on the NCC website. NCC Member Focus
NCC ACTIVITIES & NEWS

NCC Chair’s Advisory Council

NCC is pleased to welcome Deck Slone, Arch Coal as the newest member of our Chair’s Advisory Council (CAC). CAC members work with NCC leadership to guide the strategic direction of the Council and also serve as members of the NCC Executive Advisory Board, convened at the request of Secretary Moniz to provide him with more impactful, more timely and more responsive advice.

The CAC most recently provided guidance for NCC’s efforts to participate in the Department of Energy’s Quadrennial Energy Review. The CAC will be meeting in April with Deputy Assistant Secretary for Clean Coal & Carbon Management, David Mohler.

For information on joining the CAC, please contact Janet Gellici jgellici@NCC1.org.

Thank you 2016 CAC members!

NCC Policy Parity White Paper Follow Up

In November 2015, NCC members prepared a white paper for the Secretary of Energy detailing policy parity measures that could be undertaken to level the playing field for CCS technologies. In January 2016, NCC members met with Secretary Moniz to discuss the recommendations from this report. Secretary Moniz requested that NCC help convene a meeting of coal industry executives and senior staff at DOE’s Office of Fossil Energy and Office of Energy Policy & Systems Analysis to identify opportunities to implement recommendations from the NCC report in support of accelerating deployment of CCS/CCUS.

A full report on the outcomes of the meeting, which will be hosted later this month, will be sent to all NCC members.
Secretary Moniz has requested that the NCC develop an expanded white paper assessing opportunities to advance commercial markets for CO₂ from coal-based power generation. The white paper is to be focused on profit-generating opportunities for CO₂ utilization, both for Enhanced Oil Recovery (EOR) and for non-EOR applications.

Report Chair, Kipp Coddington, Director of the Carbon Management Institute at the University of Wyoming, is finalizing the study outline based on comments received at a scoping session hosted in March and additional input from NCC leadership and CAC members.

If you are interested in contributing your time and expertise to the report, please contact Janet Gellici at jgellici@NCC1.org or 202-756-4524. The white paper is expected to be completed by late August 2016.

A Good Looking Bunch!

In November 2015, NCC hosted its annual fall meeting at the U.S. Department of Energy’s National Energy Technology Laboratory (NETL) in Pittsburgh, PA. We had a great member turnout for the meeting, a strong program of speakers and an enlightening tour of the NETL facility highlighting the many and varied projects in which NETL staff are engaged. Thank you, again, to the folks at NETL for your hospitality!

We’re exploring opportunities to host the NCC Fall 2016 meeting outside of Washington, DC. If you have ideas on prospective locations that might include an industry facility tour option, please let us know.

To view a larger version of the photo: [http://www.nationalcoalcouncil.org/page-Meetings-Photos.html](http://www.nationalcoalcouncil.org/page-Meetings-Photos.html).
THE CASE FOR COAL
THE POWER OF HIGH EFFICIENCY COAL

WCA report finds high efficiency low emission coal-fired power generation mitigates more CO2 emissions than renewables

The World Coal Association (WCA) launched its flagship publication in late-March “The Power of High Efficiency Coal”. The report demonstrates the impact deploying high efficiency low emission (HELE) coal technologies has on delivering affordable energy while reducing CO2 emissions.

Significant findings from the report include:
- HELE coal-fired power generation mitigates more CO2 emissions than renewables per dollar of investment.
- By 2040, 1.1 billion tonnes of CO2 per year could be avoided by deploying HELE technologies.
- Given the higher capital costs of renewable technologies and their lower load factors, in most regions, conversion to HELE technologies represents the lowest cost CO2 abatement alternative.

Following the launch of the publication, WCA Chief Executive Benjamin Sporton commented: “As we approach the signing of the Paris Agreement next month, it is important to recognize that HELE technologies are vital to its long-term success. Nationally Determined Contributions submitted by countries in the lead-up to COP21 are the foundation of the Paris Agreement and in many of those plans HELE coal technology plays a significant role. The power of HELE technology needs to be understood.”

The new report also demonstrates that HELE coal technology is one of the most affordable ways to reduce CO2 emissions while providing affordable electricity.

“Our research shows that focusing on a shift away from the least efficient coal technology to more efficient coal technology represents the lowest cost option for reducing CO2 emissions. In Southeast Asia coal can generate electricity at close to half the price of gas and deploying high efficiency coal for power generation in Southeast Asia costs a fifth less than using wind. That’s why demand for coal is forecast to grow significantly in the region in the decades to come,” Sporton said.

To support implementation of the Paris Agreement the WCA has advocated for an international mechanism to be established to provide financial and other support necessary for countries to accelerate deployment of HELE technologies.

To this end the WCA has proposed the establishment of a Platform to Accelerate Coal Efficiency (PACE). The vision of PACE is to deploy the most efficient power plant technology possible.

“An international financial mechanism to help drive the deployment of high efficiency coal would help to ensure that the Paris Agreement is a success by ensuring countries reduce emissions in a cost effective way,” Sporton concluded.

The Power of High Efficiency Coal can be accessed here.
WHO KNEW?*

NRG | COSIA CARBON X PRIZE

A $20 Million global competition to develop breakthrough technologies that will convert CO₂ emissions from power plants and industrial facilities into valuable products like building materials, alternative fuels and other items that we use every day. Teams will be scored on how much CO₂ they convert and the net value of their products.

The $20M NRG COSIA Carbon XPRIZE challenges the world to reimagine what we can do with CO₂ emissions by incentivizing and accelerating the development of technologies that convert CO₂ into valuable products. These technologies have the potential to transform how the world approaches CO₂ mitigation, and reduce the cost of managing CO₂.

Competition Overview

The competition has two tracks – one focused on testing technologies at a coal power plant and one focused on testing technologies at a natural gas power plant. Each track will operate as a separate competition on the same timeline.

Teams will compete in three rounds for a total prize purse of $20 million:

- **Round 1**: Teams will choose a track and submit technical and business information about their technology, process, potential products, and how they plan to achieve the technical requirements and goals of the competition. Teams will be assessed and ranked based on these submissions. In each track, up to 15 teams will move onto Round 2.

- **Round 2**: Teams will demonstrate technologies in a controlled environment (such as a laboratory), using a simulated power plant flue gas stream. Teams must meet minimum requirements and will be scored on how much CO₂ they convert and the net value of their products. In each track, up to 5 teams will move onto Round 3 and share a $2.5 million milestone purse.

- **Round 3**: Teams will demonstrate technologies under real world conditions, at a larger scale. Teams will have access to two test centers adjacent to existing power plants, and will prove their technologies using actual power plant flue gas. Teams must meet minimum requirements and will be scored on how much CO₂ they convert and the net value of their products. In each track, the winner will be awarded a $7.5 million grand prize.

Impact

The prize will incentivize development of new and emerging CO₂ conversion technologies, accelerating them from laboratory testing to demonstration under real world conditions. The prize will help identify the most promising pathways for CO₂ conversion and prove they can be deployed at power plants and other industrial facilities.


http://carbon.xprize.org/


*A regularly featured column on industry, university and government initiatives in support of clean coal technology development & commercialization.
CLIMATE CHANGE

Study Quickens Pace of Warming-Induced Rise in Sea Levels

Continued high emissions of greenhouse gases (GHG) “could launch a disintegration” of the West Antarctic ice sheet within decades, spurring significant rises in sea levels much sooner than previously anticipated, a new study warned. These increases could reach three feet by 2100, according to an article in The New York Times. Ice melting elsewhere could push the rise to five or six feet -- about double the increase cited as a plausible worse-case scenario by a United Nations (UN) panel only three years ago, the newspaper noted. The new research, published in the journal Nature, is based on a computerized model likely to be further improved, and does not portray oceanic inundation as inevitable, The Times pointed out. It also contains "some good news": a far more stringent effort to limit GHG emissions would stand a fairly good chance of saving the West Antarctica ice sheet, which is larger than Mexico, from collapse. However, The Times added, the recent Paris climate agreement "would not reduce emissions nearly enough to achieve that goal."

State Dept.'s Climate Envoy Departs After Seven-Year Tenure

Todd Stern is ending his seven-year tenure as U.S. special envoy for climate change, the State Department has announced. Secretary of State John Kerry commended Stern for his leadership in helping “hammer out an international agreement in Paris to curb carbon emissions and spur development of clean technologies,” and “enormous role in achieving many of our climate milestones.” Stern will be succeeded by his former deputy, Dr. Jonathan Pershing, a geologist and geophysicist who has spent the past three years as Energy Secretary Moniz’s senior climate advisor. He previously worked at the International Panel on Climate Change (IPCC). According to ClimateWire, a former Canadian counterpart said Pershing’s “time in the trenches” at international negotiations will make him a good fit for the upcoming technical phase, which will center on “nitty-gritty issues like monitoring, reporting and verification, or technology and finance.”

ON CAPITOL HILL

McConnell Repeats Call for States to Stop Complying With CPP

Citing the stay placed on Environmental Protection Agency’s (EPA) Clean Power Plan (CPP) by the Supreme Court as a validation of his opposition, Senate Majority Leader Mitch McConnell (R-Ky.) has again encouraged state officials to stop working toward compliance with the issuance. "Wait-and-see remains the most responsible approach today," the Senator asserted in a letter to National Governors Association (NGA) members. "Keep in mind that many of us in Congress stand ready to help you as you fight for the best interests of your states." According to The Hill, numerous governors decided after the stay to cease planning for compliance, “reasoning that the regulation is much less likely to survive the litigation process on its merits.” Meanwhile, EPA Administrator Gina McCarthy urged states to continue compliance efforts, asserting the issuance will be upheld on its merits, the publication reported. EPA said it would comply with the court’s order, but “would also help any state that wants to keep working toward the carbon cuts the rule tries to mandate.”
**Coal Currents** (continued)

**PRIMARY CONCERNS**

**Clinton Campaign Comment**

Mobilizes Coal Advocates

Recent comments by Democratic presidential frontrunner Hillary Clinton have provided coal advocates with a new rallying cry, SNL Financial has noted. The words were offered at a CNN town hall event, where Clinton spoke of the need to bring “economic opportunity using clean renewable energy into coal country.” Why? “Because we’re going to put a lot of coal miners and coal companies out of business,” she explained. The remark provoked a firestorm of condemnation, with former presidential contender Sen. Rand Paul (R-Ky.) asserting that Clinton had “said out loud what the national Democratic party has been trying to do quietly for the last eight years.” She quickly issued a statement emphasizing, “Coal will remain a part of the energy mix for years to come, and we have a shared responsibility to ensure that coal communities receive the benefits they have earned.” The about-face inspired the New York Post to run a photo of the grinning, thumbs-up candidate with the headline, “Hillary to coal country: I love coal, I swear.”

**MINING & TRANSPORTATION**

**Interior Dept. States**

“Next Step” in Coal Program Review

The Interior Department (DOI) has kicked off “the next step” in a comprehensive review of the federal coal program, aimed at identifying and evaluating potential reforms to provide a fair return to taxpayers and reflect impacts on the environment, while continuing to help meet energy needs. The effort began with publication of a notice of intent to conduct a Programmatic Environmental Impact Statement; this will include solicitation of public input at meetings in Wyoming, Colorado, Tennessee, Pennsylvania, Utah and Washington State (details TBA). According to an AP report, changes could include a 50% increase in royalty rates -- from 12.5% to 18.75% -- for strip mining on public lands, as well as lower royalty rates to stimulate mining. “[Coal will continue to be an important domestic energy source in the years ahead,” noted Bureau of Land Management (BLM) Director Neil Kornze. But there has been no comprehensive evaluation of the federal coal program in more than three decades, he added, and “it’s time for a top to bottom review.”

**Primaries Spotlight**

Job Losses in Energy-Producing States

The only states to lose significant numbers of jobs in the past year are energy-reliant North Dakota, West Virginia and Wyoming, where presidential primaries feature the economic challenges facing many working-class white voters, The Wall Street Journal reported. “These voters have been hit hard by the downturn in energy prices that has swept away jobs in coal mining, (subscription) fracking and related industries, fueling an antiestablishment wave that has benefited outsiders Donald Trump and Bernie Sanders at the expense of more establishment candidates,” the newspaper said. It noted that the coal industry has been steadily losing jobs in the past five years, with the slump in energy prices intensifying that loss. The Journal pointed out that in Wyoming, which produces about 40% of U.S. coal, EPA’s proposed Clean Power Plan could further affect jobs, with a University of Wyoming economist forecasting that it could reduce employment by 2.5% to 3.2% by 2030 compared with 2012 levels, as job losses in coal production outweigh gains in the natural-gas sector.

**Energy Woes Put U.S. Rail Industry in Dire Straits, Exec Says**

Declining coal demand and oil prices have thrust the rail industry “into depths not seen since the Great Depression,” according to Burlington Northern Santa Fe (BNSF) Chairman Matthew Rose. Speaking at the Montana Energy Conference in Billings, Rose characterized today’s business environment as “an energy depression and industrial recession,” the Billings Gazette reported. The executive specified that about 4,600 rail employees are furloughed nationwide, about 10% of the workforce, the Gazette said. He added that volumes at BNSF, with an energy portfolio of about 30%, are down 3% in 2015. The company “is bracing for a tough few years,” he added. In the fossil fuel industry, the article noted, executives are concerned about “looming federal regulations, such as the Clean Power Plan.” However, it said, they still believe hydrocarbons will remain a component of the long-term U.S. energy portfolio. Sen. Steve Daines (R-Mont.), the conference’s host, expressed the hope that the event would “help people better understand the diverse impact of energy statewide.”
Coal Currents (continued)

ENERGY ISSUES

Natural Gas Generation Will Surpass Coal in 2016, EIA Says

The Energy Information Administration (EIA) has forecast that natural-gas fired generation will exceed the amount fueled by coal on an annual basis for the first time in 2016. EIA pointed out that the generation shares of coal and gas were nearly identical in 2015, with each providing about one-third of U.S. electricity. The Agency reported that the fuel mix has evolved over time, with respective shares in the past decade responsive to changes in relative fuel prices. EIA said that environmental regulations affecting power plants have played a secondary role in driving coal’s declining generation share during the past decade. But looking forward, these regulations may play a larger role, the DOE unit forecast, with the combination of market forces and government policies continuing to stimulate the use of natural gas and non-hydro renewables for power generation. The Agency forecast that gas will provide 33% of generation in 2016, while coal’s share falls to 32%. The expected share of non-hydro renewables will increase to 8% in 2016, with hydropower’s share at 6%, it added.

IN THE INDUSTRY

American Banks Backing Away From Coal Lending

American banks are backing away from coal-related lending, The New York Times has reported, terming the development "an ominous sign for the industry." While the publication pointed out that some banks say the move is aimed at helping curtail climate change, it added that others acknowledge there is a more basic reason: "Lending to coal companies is too risky and could ultimately prove unprofitable." This concern is not limited to big banks, The Times said, but also affects hedge funds and private equity firms. The shift is not absolute, however, as a few foreign institutions, such as Deutsche Bank, have been willing to step in, and most American banks are not cutting off financing overnight. The Times piece cites coal industry officials as saying coal will ultimately bounce back, once supplies burn off and demand rebounds in places like China. There is another implication, the article notes: "The banks' retreat could inflict collateral damage on an industry that ... needs financing not only to keep operating, but also to clean up coal mines after they close."

INTERNATIONAL INTEREST

China’s Coal Consumption Forecast to Drop for Third Year

China’s coal use is forecast to decline for a third straight year as industrial output slows, Bloomberg News has reported. This development is “adding force to President Xi Jinping’s drive to cut overcapacity and dimming the hopes of global miners for an uptick in demand by the world’s biggest consumer,” it added. Bloomberg specified that coal consumption has weakened “amid a push to use cleaner fuels and shift a slowing economy away from heavy industry.” It specified that demand for coal, which accounted for 64% of China’s total energy use last year, contracted 3.7% during the year, on the heels of a 2.9% decline in 2014. China’s Xinhua News Agency quoted an official of the China Coal Industry Association as saying “This year’s coal situation is equally bleak.” Meanwhile, Reuters reported, China will stop the construction of coal-fired power plants in 15 regions as part of efforts to address overcapacity. It pointed out that the country intends to raise the share of non-fossil fuels to 15% of total primary energy by 2020, up from 12% at the end of 2015.

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.