



## Department of Energy

Washington, DC 20585

April 21, 2021

Mr. Nick Bauer  
Democratic National Committee  
Attn: Research Department  
430 S Capitol Street SE  
Washington, DC 20003

Via email: [researchinfo@dnc.org](mailto:researchinfo@dnc.org)

RE: HQ-2020-00688-F

Dear Mr. Bauer:

This is a final response to the request for information that you sent to the Department of Energy (DOE) under the Freedom of Information Act (FOIA), 5 U.S.C. § 552. You requested the following:

All e-mails (including attachments) exchanged between Assistant Secretary for Fossil Energy Steven Winberg and any employee or representative of any of the following entities:

- Consol Energy (Employees of this entity have been known to use e-mail addresses with the @consolenergy.com email domain.)
- Battelle Memorial Energy (Employees of this entity have been known to use e-mail addresses with the @battelle.org email domain.)
- FutureGen Industrial Alliance (Employees of this entity have been known to use e-mail addresses with the @angloamerican.com; @bhp.com; @chng.com; @eon.com; @foundationcoal.com; @peabodyenergy.com; @riotinto.com; or @xstrata.com email domain.)

Our request covers July 11, 2018 to July 25, 2018.

Your request was assigned to DOE's Office of Fossil Energy (FE) to conduct a search of their files for responsive documents. DOE began its search on May 11, 2020, which is the cutoff date for responsive records. FE has identified eighteen (18) documents responsive to your request. The documents are being provided to you as described in the accompanying index.

Upon review, DOE has determined that certain information should be withheld from the documents pursuant to Exemptions 5 and 6 of the FOIA, 5 U.S.C. §§ 552(b)(5), and



(b)(6).

Exemption 5 protects from mandatory disclosure “inter-agency or intra-agency memorandums or letters that would not be available by law to a party other than an agency in litigation with the agency . . . .” Exemption 5 incorporates the deliberative process privilege which protects recommendations, advice, and opinions that are part of the process by which agency decisions and policies are formulated. The information withheld under Exemption 5 consists of inter-agency pre-decisional information.

Some withheld portions of the documents in question are pre-decisional and deliberative and privileged attorney-client communications in nature. They reflect deliberations, comments, assessments, and draft proposals regarding the processing of certain DOE projects. The DOE considered these preliminary views as part of the process that will lead to the agency’s final policy decision about these matters. The redacted portions do not represent a final agency position, and their release would compromise the deliberative process by which the government makes its decision. In addition, these documents contain communications involving DOE attorneys and are being withheld under the attorney-client communications privilege. The information in these documents includes confidential communications between DOE attorneys and the staff of the program office to which they provide legal advice. Thus, documents are being withheld in part under Exemption 5 of the FOIA.

With respect to the discretionary disclosure of deliberative information, the quality of agency decisions would be adversely affected if frank, written discussion of policy matters were inhibited by the knowledge that the content of such discussion might be made public. For this reason, DOE has determined that discretionary disclosure of the deliberative material is not in the public interest because foreseeable harm could result from such disclosure.

Exemption 6 is generally referred to as the “personal privacy” exemption; it provides that the disclosure requirements of FOIA do not apply to “personnel and medical files and similar files the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.” 5 U.S.C. § 552(b)(6). In applying Exemption 6, the DOE considered: 1) whether a significant privacy interest would be invaded; 2) whether the release of the information would further the public interest by shedding light on the operations or activities of the Government; and 3) whether in balancing the privacy interests against the public interest, disclosure would constitute a clearly unwarranted invasion of privacy.

The information withheld under Exemption 6 consists of cell phone numbers, other nonpublic phone numbers, nonpublic or secure email addresses and personal matters of individuals and other personal information. This information qualifies as “similar files” because it is information in which an individual has a privacy interest. Moreover, releasing the information could subject the individuals to unwarranted or unsolicited communications. Since no public interest would be served by disclosing this information, and since there is a viable privacy interest that would be threatened by such disclosure, Exemption 6 authorizes withholding the information. Therefore, we have determined that

the public interest in the information's release does not outweigh the overriding privacy interests in keeping it confidential.

This satisfies the standard set forth at 5 U.S.C. § 552(a)(8)(A) that agencies shall withhold information under FOIA “only if (I) the agency reasonably foresees that disclosure would harm an interest protected by an exemption . . . ; or (II) disclosure is prohibited by law . . . .” 5 U.S.C. § 552(a)(8)(A) also provides that whenever full disclosure of a record is not possible, agencies shall “consider whether partial disclosure of information is possible . . . .” Thus, we have determined that, in certain instances, a partial disclosure is proper.

Pursuant to 10 C.F.R. § 1004.7(b)(2), I am the individual responsible for the determination to withhold the information described above. The FOIA requires that “any reasonably segregable portion of a record shall be provided to any person requesting such record after deletion of the portions which are exempt,” 5 U.S.C. § 552(b). As a result, a redacted version of the documents is being released to you in accordance with 10 C.F.R. § 1004.7(b)(3).

This decision, as well as the adequacy of the search, may be appealed within 90 calendar days from your receipt of this letter pursuant to 10 C.F.R. § 1004.8. Appeals should be addressed to Director, Office of Hearings and Appeals, HG-1, L'Enfant Plaza, U.S. Department of Energy, 1000 Independence Avenue, S.W., Washington, D.C. 20585-1615. The written appeal, including the envelope, must clearly indicate that a FOIA appeal is being made. You may also submit your appeal to [OHA.filings@hq.doe.gov](mailto:OHA.filings@hq.doe.gov), including the phrase “Freedom of Information Appeal” in the subject line. The appeal must contain all of the elements required by 10 C.F.R. § 1004.8, including a copy of the determination letter. Thereafter, judicial review will be available to you in the Federal District Court either: 1) in the district where you reside; 2) where you have your principal place of business; 3) where DOE's records are situated; or 4) in the District of Columbia.

You may contact DOE's FOIA Public Liaison at headquarters, Alexander Morris, FOIA Officer, Office of Public Information, at 202-586-5955, or by mail at MA-46/Forrestal Building 1000 Independence Avenue, S.W. Washington, D.C. 20585 for any further assistance and to discuss any aspect of your request. Additionally, you may contact the Office of Government Information Services (OGIS) at the National Archives and Records Administration to inquire about the FOIA mediation services they offer. The contact information for OGIS is as follows: Office of Government Information Services, National Archives and Records Administration, 8601 Adelphi Road-OGIS, College Park, Maryland 20740-6001, e-mail at [ogis@nara.gov](mailto:ogis@nara.gov); telephone at 202-741-5770; toll free at 1-877-684-6448; or facsimile at 202-741-5769.

The FOIA provides for the assessment of fees for the processing of requests. See 5 U.S.C. § 552(a)(4)(A)(i); see also 10 C.F.R. § 1004.9(a). In our April 16, 2020 letter, you were advised that your request was placed in the “other” category for fee purposes. Requesters in this category are entitled to two (2) free hours of search time and are

provided 100 pages at no cost. DOE's processing costs did not exceed \$15.00, the minimum amount at which DOE assesses fees. Thus, no fees will be charged for the processing of your request.

If you have any questions about this letter or the processing of this request, you may contact Marylenny Iglesias of my office at MA-46/ Forrestal Building, 1000 Independence Avenue, S.W., Washington, D.C. 20585, or at 202-586-5955.

I appreciate the opportunity to assist you with this matter.

Sincerely,

**Alexander C. Morris**

Digitally signed by  
Alexander C. Morris  
Date: 2021.04.21  
11:22:26 -04'00'

Alexander C. Morris  
FOIA Officer  
Office of Public Information

Enclosures

## INDEX

Request #: HQ-2020-00688-F

**Final response for request from Mr. Nick Bauer for:**

**All e-mails (including attachments) exchanged between Assistant Secretary for Fossil Energy Steven Winberg and any employee or representative of any of the following entities:**

- **Consol Energy (Employees of this entity have been known to use e-mail addresses with the @consolenergy.com email domain.)**
- **Battelle Memorial Energy (Employees of this entity have been known to use e-mail addresses with the @battelle.org email domain.)**
- **FutureGen Industrial Alliance (Employees of this entity have been known to use e-mail addresses with the @angloamerican.com; @bhp.com; @chng.com; @eon.com; @foundationcoal.com; @peabodyenergy.com; @riotinto.com; or @xstrata.com email domain.)**

**Our request covers July 11, 2018 to July 25, 2018.**

**In a June 9, 2020, email to Ms. Teresa Dixon of this office, you agreed to amend this request to waive subscription news article and list serve emails.**

DOE has completed its search for HQ-2020-00688-F and identified eighteen (18) documents responsive to your request.

- Fourteen (14) documents *are being withheld in part pursuant to Exemptions (b)(5) and (b)(6).*
- Four (4) documents *are being released in their entirety.*

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**From:** Simons, Robert P. <RSimons@ReedSmith.com>  
**Sent:** Thursday, February 27, 2020 3:03 PM  
**To:** Emily Medine; Brock, Jimmy; Connell, Daniel (DanielConnell@consolenergy.com); Tutich, Richard (richard.tutich@pnc.com); Doug Farnham; Ryan Russell (Ryan.russell@trade.gov); Nicholas Cron; Joy, Michael; Jamie Benard (jbenard@summit-dr.com); Dave Spigelmyer (dspigelmyer@marcelluscoalition.org); Charles Schliebs ; Evan Blumer - OsoMono, LTD; Winberg, Steven  
**Cc:** Aponte, Victoria R. (CONTR); Lewis, Randa M.; Howes, Dwight A.; Walker, Gary R.; Funari, Brad A.; Pleczkowski, Michael G.  
**Subject:** [EXTERNAL] Details For March 2nd Future of Fossil Fuels Roundtable  
**Attachments:** 151548926\_1.pdf; DirectionstoReedSmithCentre.doc  
**Categories:** Green Category

Good Afternoon To All,

For your planning , attached are directions and parking suggestions for Monday's Future of Fossil Fuels Roundtable . Also attached is a preliminary, draft outline of potential discussion topics . Please feel free to contact me with any suggestions, comments or criticisms . Participation by all is strongly encouraged and we are trying to achieve a balance of participants and topics.

The Roundtable will start at 4:00 pm and we will wind down the event around 5:30 p.m. to allow more time for discussion . This is slightly different from the initial invitation where we provided for a reception from 5 to 6 p.m. In lieu of the reception we will have dinner after the Roundtable at the Duquesne Club.

We are all grateful to Assistant Secretary Steven Winberg for taking the time to kick off the Roundtable discussion . The Roundtable should provide a framework for the exchange of important information and constructive ideas.

Thanks to all,

Bob

**Robert P. Simons**  
rsimons@reedsmith.com  
+1 412 288 7294 (direct dial)  
Reed Smith LLP  
Reed Smith Centre  
225 Fifth Avenue  
Pittsburgh, PA 15222-2716  
T: +1 412 288 3131  
F: +1 412 288 3063  
reedsmith.com

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<b>Overview</b>	<b>Future of Fossil Fuels.</b> Deregulation and Department of Energy programs have created a favorable business environment for the fossil fuel industry. Yet, anti-fossil fuel sentiment negatively influences the industry. How do we bridge the gap?		
<b>Timeline</b>	Start – 4 p.m.	End – 5 p.m.	Duration – 60 mins
<b>Ground rules</b>	<ul style="list-style-type: none"> <li>• Please be respectful with using mobiles/devices.</li> <li>• Please allow everyone to speak and try not to talk over people.</li> <li>• We encourage the conversation to flow freely but please try not to digress too far from the original topic.</li> </ul>		
<b>Names/Discussion Leaders</b>	Chairman: Robert P. Simons Reed Smith LLP 225 Fifth Avenue Pittsburgh, PA 15222 (412) 288-7294 <a href="mailto:rsimons@reedsmith.com">rsimons@reedsmith.com</a>	Steven Winberg: Fossil Fuels in the 21 <sup>st</sup> Century Oil & Gas; Shale Revolution. t/b/d Jimmy Brock, CEO , CONSOL Energy: Environmental , Social and Governance (“ESG”) Ryan Russell, U.S. Commercial Service; energy exports. Emily Medine, Energy Ventures. Low carbon technologies	
<b>Purpose</b>	<u>What do you want to get out of this discussion?</u> Reconciling present favorable regulatory and governmental support for fossil fuel production with lack of private finance and investment.		
<b>Agenda</b>	<b>Key discussion points :</b> Headlines : The Hartford to Limit Insurance for Fossil Fuel Companies”; BP PLC announcement to become a net zero-carbon company by offsetting greenhouse gas emissions contained in oil and gas extraction. “Capital Plays Hard to Get for Thermal Coal”. U.S.- China Phase 1 trade deal commitment for China’s purchase of U.S. oil, gas, and coal for \$52.4 billion over two years. New tax deal allocates extra \$10 million for a total of \$750 million towards technologies to advance coal, oil and natural gas. National Environmental Policy Act (“NEPA”) overhauled environmental impact studies required for federal projects. JP Morgan Chase will pull back from advising and lending to the coal-mining industry.  – <u>What market trends and environmental/energy policies do you think the energy sector must address in coming years?</u> “ESG Integration into Credit Rating Analysis”; Investment Divestiture.		



	<ul style="list-style-type: none"> <li>- <u>How critical to the future of the coal and gas industries are public and private investments in low carbon technologies?</u> (Power Magazine’s “Transformative Coal Power Technologies Take Shape” article describes projects including Power Plants of the Future supported by the Department of Energy); “CONSOL Invests in Alternative Use For Coal. It’s Part of a Diversification Strategy to Invest A Little and Hope That Something Takes”; “Carbon Capture Subsidies Don’t Go Far Enough, Oil and Gas Council Warns”.</li> <li>- <u>What recent governmental actions will have the biggest impact on the energy market?</u></li> <li>- Year End tax deal did not extend tax credits for solar at their current level and will gradually drop through 2022. Democrats failed to push through a package that would have extended credits on solar and electric vehicles. WSJ; December 21-22, 2019.</li> <li>- Wind facilities commencing construction in recent years have been subject to a yearly phase-down of the Production Tax Credit and construction after 2019 are not able to claim PTC.</li> <li>- <u>How is technology changing the energy industry?</u></li> <li>- Understanding the value of CO2 capture. The 45 Q tax credit for CCS provides a reduction of income tax liability in amounts depending on whether the captured CO2 is stored through EOR or stored in saline formations. DOE grants may be available to re-power power plants. Existing power plants in proximity to oil fields can be re-powered with coal.</li> <li>- “Another interesting concept led by CONSOL Coal, WorleyParsons Group and Farnham &amp; Pfile, also pairs the pressurized fluidized bed combustion and a supercritical steam cycle with Benefield CO2 Capture and promises to operate flexibly and accept a broad range of coal qualities including waste coal.”</li> <li>- <u>Should environmental policy consider the consequences of liquidating U.S. coal mine operations, e.g., reclamation responsibilities (with insufficient bond coverage)?</u> See article “More Than a Third of Western U.S. Coal Mine Land Left Unclaimed, Report Says”.</li> </ul>
	<p><u>What are your key takeaways from this roundtable discussion?</u> Significant opportunities for investment exists.</p>

**REED SMITH LLP**  
Reed Smith Centre  
225 Fifth Avenue, Suite 1200  
Pittsburgh, PA 15222

Reed Smith Centre is located in Three PNC Plaza, where Fifth Avenue, Market Street, and Liberty Avenue converge. Three PNC Plaza is also the site of The Fairmont Pittsburgh Hotel.

**Suggested Parking Garage:** Three PNC Plaza Garage – entrance is at corner of Market Street and Liberty Avenue, opposite Sixth Street. Take garage elevator to The Fairmont Pittsburgh Hotel lobby and exit to the left out of the elevator to enter the Reed Smith Centre lobby. See link: <http://www.downtownpittsburgh.com/go/three-pnc-plaza-garage>

**Other Nearby Parking Garages:** Oliver Garage; Fifth Avenue Place Garage; Sixth Street & Penn Avenue Garage. Below is a link to the Pittsburgh Downtown Partnership's Parking Web Page: <http://www.downtownpittsburgh.com/parking>

### **Driving Directions to Three PNC Plaza Garage:**

#### **From the North - I-279.**

1. Take I-279 south to I-579 across the Veterans Bridge.
2. Stay to the right and exit at the 7th Avenue/6th Avenue Exit, following signs for Sixth Avenue.
3. Bear to the right on Sixth Avenue then turn left onto Grant Street.
4. Turn right onto 5th Avenue and continue three blocks.
5. Turn right onto Liberty Avenue and continue one block.
6. Turn right onto Market Street.
7. The entrance to the Three PNC Plaza Garage is located on the left side of Three PNC Plaza.

#### **From the North - Route 28.**

1. Take Route 28 south, exiting at the sign for the Liberty Bridge.
2. Cross Veterans Bridge, keeping to the right, and exit at the 7th Avenue/6th Avenue Exit (before Liberty Bridge) and follow signs for Sixth Avenue.
3. Bear to the right on Sixth Avenue then turn left onto Grant Street.
4. Turn right onto 5th Avenue and continue three blocks.
5. Turn right onto Liberty Avenue and continue one block.
6. Turn right onto Market Street.
7. The entrance to the Three PNC Plaza Garage is located on the left side of Three PNC Plaza.

### **From the South - Route 19.**

1. Take Route 19 north through the Liberty Tunnel and across the Liberty Bridge.
2. Follow the signs for Sixth Avenue, continuing on Sixth Avenue then turn left onto Grant at the first intersection.
3. Follow Grant for two blocks then turn right onto 5th Avenue and continue three blocks.
4. Turn right onto Liberty Avenue and continue one block.
5. Turn right onto Market Street.
6. The entrance to the Three PNC Plaza Garage is located on the left side of Three PNC Plaza.

### **From the Parkway East - Route 376**

1. Exit at Grant Street.
2. Follow Grant Street for several blocks and turn left onto Fifth Avenue.
3. Follow Fifth Avenue for three blocks.
4. Turn right onto Liberty Avenue and continue one block.
5. Turn right onto Market Street.
6. The entrance to the Three PNC Plaza Garage is located on the left side of Three PNC Plaza.

### **From the Parkway West**

1. Go through Ft. Pitt Tunnel and across the Ft. Pitt Bridge.
2. Follow signs for Liberty Avenue.
3. Continue on Liberty Avenue only briefly.
4. Turn right onto Market Street.
5. The entrance to the Three PNC Plaza Garage is located on the left side of Three PNC Plaza.

### **From the Pennsylvania Turnpike.**

1. From the East, exit at Exit 57, the Pittsburgh/Monroeville Exit, and immediately get on I-376 heading toward Pittsburgh.
2. See above directions "From the Parkway East."
3. From the West, exit the turnpike at the Cranberry Exit, No. 27.
4. Follow signs for Route 79 south.
5. Follow Route 79 south to I-279 South.
6. Exit will be on your left.
7. Follow directions above "From the North - I-279."

**From:** Winberg, Steven  
**Sent:** Monday, February 24, 2020 7:21 AM  
**To:** Hrkman, Lou;Kokkinos, Angelos;Daniels, Jarad;Giove, Joseph;Ken Humphreys;Tadeo, Michael;Litynski, John  
**Cc:** Bob Gentile;John Huston;George Rudins  
**Subject:** RE: [EXTERNAL] Wye Workshop Number of Participants  
**Categories:** Green Category

Agree

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(www.blackberry.com)

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**From:** Hrkman, Lou <[lou.hrkman@hq.doe.gov](mailto:lou.hrkman@hq.doe.gov)>  
**Date:** Monday, Feb 24, 2020, 5:12 AM  
**To:** Kokkinos, Angelos <[angelos.kokkinos@hq.doe.gov](mailto:angelos.kokkinos@hq.doe.gov)>, Daniels, Jarad <[jarad.daniels@hq.doe.gov](mailto:jarad.daniels@hq.doe.gov)>, Winberg, Steven <[steven.winberg@hq.doe.gov](mailto:steven.winberg@hq.doe.gov)>, Giove, Joseph <[joseph.giove@hq.doe.gov](mailto:joseph.giove@hq.doe.gov)>, Ken Humphreys <[humphreysk@battelle.org](mailto:humphreysk@battelle.org)>, Tadeo, Michael <[michael.tadeo@hq.doe.gov](mailto:michael.tadeo@hq.doe.gov)>, Litynski, John <[john.litynski@hq.doe.gov](mailto:john.litynski@hq.doe.gov)>  
**Cc:** Bob Gentile (b) (6) >, John Huston <[jhuston@liti-global.com](mailto:jhuston@liti-global.com)>, George Rudins (b) (6)  
**Subject:** RE: [EXTERNAL] Wye Workshop Number of Participants

Let's invite them

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(www.blackberry.com)

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**From:** Kokkinos, Angelos <[angelos.kokkinos@hq.doe.gov](mailto:angelos.kokkinos@hq.doe.gov)>  
**Date:** Monday, Feb 24, 2020, 11:11 AM  
**To:** Daniels, Jarad <[jarad.daniels@hq.doe.gov](mailto:jarad.daniels@hq.doe.gov)>, Winberg, Steven <[steven.winberg@hq.doe.gov](mailto:steven.winberg@hq.doe.gov)>, Giove, Joseph <[joseph.giove@hq.doe.gov](mailto:joseph.giove@hq.doe.gov)>, Ken Humphreys <[humphreysk@battelle.org](mailto:humphreysk@battelle.org)>, Tadeo, Michael <[michael.tadeo@hq.doe.gov](mailto:michael.tadeo@hq.doe.gov)>, Hrkman, Lou <[lou.hrkman@hq.doe.gov](mailto:lou.hrkman@hq.doe.gov)>, Litynski, John <[john.litynski@hq.doe.gov](mailto:john.litynski@hq.doe.gov)>  
**Cc:** Bob Gentile (b) (6) >, John Huston <[jhuston@liti-global.com](mailto:jhuston@liti-global.com)>, George Rudins (b) (6)  
**Subject:** RE: [EXTERNAL] Wye Workshop Number of Participants

Agree. The other one will be Traci as she is the Program Manager if she is not invited already.

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**From:** Daniels, Jarad <[jarad.daniels@hq.doe.gov](mailto:jarad.daniels@hq.doe.gov)>  
**Date:** Monday, Feb 24, 2020, 3:35 AM  
**To:** Winberg, Steven <[steven.winberg@hq.doe.gov](mailto:steven.winberg@hq.doe.gov)>, Giove, Joseph <[joseph.giove@hq.doe.gov](mailto:joseph.giove@hq.doe.gov)>, Ken Humphreys <[humphreysk@battelle.org](mailto:humphreysk@battelle.org)>, Tadeo, Michael <[michael.tadeo@hq.doe.gov](mailto:michael.tadeo@hq.doe.gov)>, Hrkman, Lou <[lou.hrkman@hq.doe.gov](mailto:lou.hrkman@hq.doe.gov)>, Kokkinos, Angelos <[angelos.kokkinos@hq.doe.gov](mailto:angelos.kokkinos@hq.doe.gov)>, Litynski, John <[john.litynski@hq.doe.gov](mailto:john.litynski@hq.doe.gov)>

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**Cc:** Bob Gentile (b) (6), John Huston <[jhuston@liti-global.com](mailto:jhuston@liti-global.com)>, George Rudins (b) (6)  
**Subject:** RE: [EXTERNAL] Wye Workshop Number of Participants

Hi folks.

Lou and I both think that Chuck Zelek would be a good addition...he's a Ph.D. economist, detailed to work directly for Steve, and has boots on the ground knowledge of some of the firms working in this space.

Thoughts?

Jarad

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

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**From:** Winberg, Steven <[steven.winberg@hq.doe.gov](mailto:steven.winberg@hq.doe.gov)>  
**Date:** Sunday, Feb 23, 2020, 9:29 PM  
**To:** Giove, Joseph <[joseph.giove@hq.doe.gov](mailto:joseph.giove@hq.doe.gov)>, Ken Humphreys <[humphreysk@battelle.org](mailto:humphreysk@battelle.org)>, Tadeo, Michael <[michael.tadeo@hq.doe.gov](mailto:michael.tadeo@hq.doe.gov)>, Hrkman, Lou <[lou.hrkman@hq.doe.gov](mailto:lou.hrkman@hq.doe.gov)>, Kokkinos, Angelos <[angelos.kokkinos@hq.doe.gov](mailto:angelos.kokkinos@hq.doe.gov)>, Litynski, John <[john.litynski@hq.doe.gov](mailto:john.litynski@hq.doe.gov)>, Daniels, Jarad <[jarad.daniels@hq.doe.gov](mailto:jarad.daniels@hq.doe.gov)>  
**Cc:** Bob Gentile (b) (6), John Huston <[jhuston@liti-global.com](mailto:jhuston@liti-global.com)>, George Rudins (b) (6)  
**Subject:** RE: [EXTERNAL] Wye Workshop Number of Participants

So reach out to participants and find out who else wants to attend.

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

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**From:** Giove, Joseph <[joseph.giove@hq.doe.gov](mailto:joseph.giove@hq.doe.gov)>  
**Date:** Sunday, Feb 23, 2020, 8:26 PM  
**To:** Winberg, Steven <[steven.winberg@hq.doe.gov](mailto:steven.winberg@hq.doe.gov)>, Ken Humphreys <[humphreysk@battelle.org](mailto:humphreysk@battelle.org)>, Tadeo, Michael <[michael.tadeo@hq.doe.gov](mailto:michael.tadeo@hq.doe.gov)>, Hrkman, Lou <[lou.hrkman@hq.doe.gov](mailto:lou.hrkman@hq.doe.gov)>, Kokkinos, Angelos <[angelos.kokkinos@hq.doe.gov](mailto:angelos.kokkinos@hq.doe.gov)>, Litynski, John <[john.litynski@hq.doe.gov](mailto:john.litynski@hq.doe.gov)>, Daniels, Jarad <[jarad.daniels@hq.doe.gov](mailto:jarad.daniels@hq.doe.gov)>  
**Cc:** Bob Gentile (b) (6), John Huston <[jhuston@liti-global.com](mailto:jhuston@liti-global.com)>, George Rudins (b) (6)  
**Subject:** RE: [EXTERNAL] Wye Workshop Number of Participants

Rudins was unsuccessful (below) at lowering the number from 40 to 38. Contractually, they have us over a barrel. I highly recommend not paying for two rooms that remain empty - looks bad in an audit. Are there folks we can include from HQ...like Zelek, Mollot, or one of our Division Directors...or additional folks from NETL?

Kind regards,

Joe

### Joseph Giove III

Director of Coal Business Operations  
Office of Fossil Energy  
U.S. Department of Energy  
19901 Germantown Rd., Room E-136

Germantown, Md. 20874

Work/Cell: (b) (6)

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**From:** (b) (6) >  
**Date:** Saturday, Feb 22, 2020, 9:51 AM  
**To:** Giove, Joseph <[joseph.giove@hq.doe.gov](mailto:joseph.giove@hq.doe.gov)>  
**Cc:** Bob Gentile (b) (6), John Huston <[jhuston@lti-global.com](mailto:jhuston@lti-global.com)>  
**Subject:** [EXTERNAL] Wye Workshop Number of Participants

Joe

I just received a final response this morning from the management at the Inn of Perry Cabin.

I was not successful in negotiating a change in our contract with the Inn of Perry Cabin from 40 to 38 participants (with the recent cancellations).

The change was not allowable under the terms of the contract and I was not able to persuade the Inn management to make the change.

George

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Use caution if this message contains attachments, links or requests for information.

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**From:** Gupta, Neeraj <gupta@battelle.org>  
**Sent:** Monday, February 03, 2020 6:47 PM  
**To:** Winberg, Steven  
**Cc:** Gerst, Jacqueline L  
**Subject:** [EXTERNAL] Reference letter request for a team member  
**Attachments:** Bio\_Battelle\_(b) (6) .docx

**Categories:** Green Category

Good Evening Steve,

It was nice to see you last week at the USEA meeting. Great to see DOE supporting an elaborate outreach program to enable the CCUS buildout.

I am following up on our brief discussion as you were heading out. As I mentioned, one of our staff members is in the process of applying for (b) (5)

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

Thank you and best regards

*Neeraj Gupta, Ph.D.*  
*Senior Research Leader, Energy, Carbon Management*  
*Battelle*  
*505 King Ave, Columbus Ohio 43201*  
*Phone: +1-614-424-3820; Cell: (b) (6)*  
*E-Mail: [gupta@battelle.org](mailto:gupta@battelle.org)*

\*\*\*\*\*

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\*\*\*\*\*



(b) (6)



(b) (6)



---

**From:** Bahnsen, Dane M.  
**Sent:** Tuesday, January 28, 2020 12:05 PM  
**To:** Krutka, Holly;Demeter, Ruth E  
**Cc:** Tadeo, Michael;Kokkinos, Angelos;Jones, Ayaka;Loman, Carol (CONTR);Aponte, Victoria R. (CONTR)  
**Subject:** RE: Peabody  
**Categories:** Green Category

TY Steve, timing is right on. Moving to bcc to spare your inbox.

Holly, I just heard back from Ruth Demeter on your team in response to the same topic area Steve alluded to. Scheduled is bit compressed, do you have any time today or tomorrow that could work for a call? Myself and some members of our coal team would be joining.

Look forward to connecting.

Best,  
Dane

-----Original Message-----

**From:** Winberg, Steven  
**Sent:** Tuesday, January 28, 2020 12:00 PM  
**To:** Krutka, Holly <HKrutka@peabodyenergy.com>; Bahnsen, Dane M. <dane.bahnsen@hq.doe.gov>  
**Cc:** Tadeo, Michael <michael.tadeo@hq.doe.gov>  
**Subject:** Peabody

Dane, meet Holly. Holly, meet Dane. Dane, Holly has answers to our various coal-related questions. Holly, Dane is pulling together the info for coal sales to China.

I will let the two of you talk.

Thank you,  
Steve

Steven Winberg  
Assistant Secretary  
Office of Fossil Energy  
Department of Energy  
1000 Independence Avenue, SW  
Washington, DC 20585  
202 586 6660

**Dixon, Teresa A. (CONTR)**

**From:** Krutka, Holly <HKrutka@peabodyenergy.com>  
**Sent:** Tuesday, January 28, 2020 12:04 PM  
**To:** Bahnsen, Dane M.  
**Cc:** Tadeo, Michael;Demeter, Ruth E  
**Subject:** [EXTERNAL] RE: Peabody

**Categories:** Green Category

Thank you Assistant Secretary Winberg and moving you to bcc.

Hi Dane – I’m copying Ruth Demeter, who I think you already shared emails with. Given that there’s less urgency about the answers you requested, please let me know how you’d like to proceed regarding a discussion. Would you still like to find a time to speak with us the week of Feb 17?

**Holly Krutka, PhD**

Vice President, Coal Generation and Emission Technologies  
**Peabody**  
Peabody Plaza | 701 Market St. | St. Louis, MO 63101-1826  
Office Phone: (314) 342-7833 | Cell: (b) (6)  
[hkrutka@peabodyenergy.com](mailto:hkrutka@peabodyenergy.com)

---

**From:** Winberg, Steven <steven.winberg@hq.doe.gov>  
**Sent:** Tuesday, January 28, 2020 11:00 AM  
**To:** Krutka, Holly <HKrutka@peabodyenergy.com>; Bahnsen, Dane M. <dane.bahnsen@hq.doe.gov>  
**Cc:** Tadeo, Michael <michael.tadeo@hq.doe.gov>  
**Subject:** Peabody

**\*\*This Message originated from a Non-Peabody source\*\***

Dane, meet Holly. Holly, meet Dane. Dane, Holly has answers to our various coal-related questions. Holly, Dane is pulling together the info for coal sales to China.  
I will let the two of you talk.  
Thank you,  
Steve

Steven Winberg  
Assistant Secretary  
Office of Fossil Energy  
Department of Energy  
1000 Independence Avenue, SW  
Washington, DC 20585  
202 586 6660

\*\*\*\*\*  
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**From:** Krutka, Holly <HKrutka@peabodyenergy.com>  
**Sent:** Thursday, September 12, 2019 4:56 PM  
**To:** Aponte, Victoria R. (CONTR)  
**Cc:** Loman, Carol (CONTR); Flannigan, Michael; Jennings, Sheryl L; Tharenos, Alice; Demeter, Ruth E; Winberg, Steven  
**Subject:** [EXTERNAL] Re: Outside Meeting Request Form-Peabody.docx  
**Categories:** Green Category

Dear Victoria,

We are very much looking forward to our visit at DOE next week. Is it possible for you to tell us who will be in that meeting? Also, would it be helpful for us to provide a list of potential discussion topics? Thank you.

Holly

Sent from my iPad

On Aug 23, 2019, at 9:14 AM, Aponte, Victoria R. (CONTR) <[victoria.aponte@hq.doe.gov](mailto:victoria.aponte@hq.doe.gov)> wrote:

**\*\*This Message originated from a Non-Peabody source\*\***

Good morning Holly,

Thank you for your email from last night.

I have made the change(s) to the meeting invite and an update should arrive shortly.

Have a great weekend.

Regards,

*Victoria*

<image001.png>Victoria Aponte  
Executive Secretary to Steven Winberg, Assistant Secretary, Fossil Energy  
Department of Energy (Contractor, MIRACORP)  
1000 Independence Avenue, SW  
Washington, DC 20585

M: (b) (6) | D: 202.287.5319 | E: [Victoria.Aponte@hq.doe.gov](mailto:Victoria.Aponte@hq.doe.gov)

---

**From:** Krutka, Holly [<mailto:HKrutka@peabodyenergy.com>]  
**Sent:** Thursday, August 22, 2019 5:15 PM  
**To:** Aponte, Victoria R. (CONTR) <[victoria.aponte@hq.doe.gov](mailto:victoria.aponte@hq.doe.gov)>  
**Cc:** Loman, Carol (CONTR) <[carol.loman@hq.doe.gov](mailto:carol.loman@hq.doe.gov)>; Flannigan, Michael <[MFlannigan@peabodyenergy.com](mailto:MFlannigan@peabodyenergy.com)>; Jennings, Sheryl L <[SJennings@peabodyenergy.com](mailto:SJennings@peabodyenergy.com)>; Tharenos, Alice <[ATharenos@peabodyenergy.com](mailto:ATharenos@peabodyenergy.com)>  
**Subject:** [EXTERNAL] RE: Outside Meeting Request Form-Peabody.docx

Hi Victoria and Carol,

Could we please make two changes to our outside meeting request form for our meeting with Assistant Secretary Winberg et al. at 11 am on Sept 20? I will be the point of contact and Michael Flannigan will be attending the meeting instead of Ray Shepherd. Please let me know if you have any questions or concerns. Thank you.

**Holly Krutka, PhD**

Vice President, Coal Generation and Emission Technologies  
**Peabody**  
Peabody Plaza | 701 Market St. | St. Louis, MO 63101-1826  
Office Phone: (314) 342-7833 | Cell: (b) (6)  
[hkrutka@peabodyenergy.com](mailto:hkrutka@peabodyenergy.com)

---

**From:** Shepherd, Ray <[rayshepherd@peabodyenergy.com](mailto:rayshepherd@peabodyenergy.com)>  
**Sent:** Tuesday, August 13, 2019 3:18 PM  
**To:** Aponte, Victoria R. (CONTR) <[victoria.aponte@hq.doe.gov](mailto:victoria.aponte@hq.doe.gov)>  
**Cc:** Loman, Carol (CONTR) <[carol.loman@hq.doe.gov](mailto:carol.loman@hq.doe.gov)>; Krutka, Holly <[HKrutka@peabodyenergy.com](mailto:HKrutka@peabodyenergy.com)>  
**Subject:** FW: Outside Meeting Request Form-Peabody.docx

Here is the completed form. If I am unavailable, another point of contact is Dr. Holly Krutka (314) 342-7833. She is cc'd on this email as well. Many thanks.

**Ray Shepherd**

Vice President and Senior Counsel, Federal Government Relations  
**Peabody**  
325 7<sup>th</sup> Street, NW, Suite 510  
Washington, DC 20004  
Office Phone: (202) 942-4301 | Cell: (b) (6)  
[rayshepherd@peabodyenergy.com](mailto:rayshepherd@peabodyenergy.com)  
<image004.png>

\*\*\*\*\*  
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**Dixon, Teresa A. (CONTR)**

**Subject:** Coal Technology Review | Michael Flannigan, Peabody Energy  
**Location:** Department of Energy 1000 Independence Ave., SW, WDC | Suite 4G-084

**Start:** Fri 9/20/2019 11:00 AM  
**End:** Fri 9/20/2019 12:00 PM  
**Show Time As:** Tentative

**Recurrence:** (none)

**Meeting Status:** Not yet responded

**Organizer:** Winberg, Steven  
**Required Attendees:** Hrkman, Lou; Maddox, Mark; Vincent, Kenneth; 'CMeintjes@peabodyenergy.com'; 'ATharenos@peabodyenergy.com'; 'hkrutka@peabodyenergy.com'  
**Optional Attendees:** Tadeo, Michael; Campbell, Lillie (CONTR); Flannigan, Michael

**Categories:** Green Category

Please arrive **20-30 minutes early** and enter through the 10th street entrance (here's a [Google Maps street view link](#)) and then go left to the reception desk. Please ask the receptionist or security personnel to call 6-6660 to verify that you have been authorized to visit. Once approved, you will be issued a visitor badge and someone from the Front Office will come down to escort you to our office.



Please bring a photo ID such as a driver's license or passport and the contact information of the person you are coming to see.

Thank you and kind regards,

*Victoria*

Victoria Aponte  
 Executive Secretary to Steven Winberg, Assistant  
 Secretary, Fossil Energy  
 Department of Energy (Contractor, MIRACORP)  
 1000 Independence Avenue, SW  
 Washington, DC 20585





**Dixon, Teresa A. (CONTR)**

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**From:** Krutka, Holly <HKrutka@peabodyenergy.com>  
**Sent:** Thursday, August 22, 2019 5:23 PM  
**To:** Winberg, Steven  
**Subject:** [EXTERNAL] Meeting Forward Notification: Fwd: Coal Technology Review | Ray Shepherd, Peabody Energy  
**Attachments:** mg\_info.txt  
**Categories:** Green Category

## Your meeting was forwarded

[Krutka, Holly](#) has forwarded your meeting request to additional people.

Meeting

Fwd: Coal Technology Review | Ray Shepherd, Peabody Energy

Meeting Time

Friday, September 20, 2019 10:00 AM - Friday, September 20, 2019 11:00 AM

Recipients

[Flannigan, Michael](#)

All times listed are in the following time zone: (UTC-06:00) Central Time (US & Canada)

---

**From:** Krutka, Holly <HKrutka@peabodyenergy.com>  
**Sent:** Thursday, August 15, 2019 11:46 AM  
**To:** Winberg, Steven  
**Subject:** [EXTERNAL] RE: Coal Technology Review | Ray Shepherd, Peabody Energy

**Categories:** Green Category

Steve,

Thank you for making the time to meet with us. This is everyone on our side. As far as DOE, this is a great group, but if Angelos, Peter Balash or Lynn Brickett are in town and available, they are always insightful. We are very much looking forward to it.

### Holly Krutka, PhD

Vice President, Coal Generation and Emission Technologies

#### Peabody

Peabody Plaza | 701 Market St. | St. Louis, MO 63101-1826

Office Phone: (314) 342-7833 | Cell: (b) (6)

[hkrutka@peabodyenergy.com](mailto:hkrutka@peabodyenergy.com)

-----Original Appointment-----

**From:** Winberg, Steven <steven.winberg@hq.doe.gov>

**Sent:** Thursday, August 15, 2019 9:44 AM

**To:** Winberg, Steven; Krutka, Holly; Hrkman, Lou; Maddox, Mark; Vincent, Kenneth; Meintjes, Charles; Tharenos, Alice; Shepherd, Ray

**Cc:** Tadeo, Michael; Campbell, Lillie (CONTR)

**Subject:** Fwd: Coal Technology Review | Ray Shepherd, Peabody Energy

**When:** Friday, September 20, 2019 11:00 AM-12:00 PM (UTC-05:00) Eastern Time (US & Canada).

**Where:** Department of Energy 1000 Independence Ave., SW, WDC | Suite 4G-084

FYI. To whom else should I send this?

Sent from my iPhone

Begin forwarded message:

**From:** "Winberg, Steven" <[steven.winberg@hq.doe.gov](mailto:steven.winberg@hq.doe.gov)>

**To:** "Hrkman, Lou" <[lou.hrkman@hq.doe.gov](mailto:lou.hrkman@hq.doe.gov)>, "Maddox, Mark" <[mrmaddox@hq.doe.gov](mailto:mrmaddox@hq.doe.gov)>, "Vincent, Kenneth" <[kenneth.vincent@hq.doe.gov](mailto:kenneth.vincent@hq.doe.gov)>, "Meintjes, Charles" <[CMeintjes@peabodyenergy.com](mailto:CMeintjes@peabodyenergy.com)>, "Tharenos, Alice" <[ATharenos@peabodyenergy.com](mailto:ATharenos@peabodyenergy.com)>, "Shepherd, Ray"

<[rayshepherd@peabodyenergy.com](mailto:rayshepherd@peabodyenergy.com)>, "Krutka, Holly" <[HKrutka@peabodyenergy.com](mailto:HKrutka@peabodyenergy.com)>

**Cc:** "Tadeo, Michael" <[michael.tadeo@hq.doe.gov](mailto:michael.tadeo@hq.doe.gov)>, "Campbell, Lillie (CONTR)" <[lillie.campbell@hq.doe.gov](mailto:lillie.campbell@hq.doe.gov)>

**Subject:** Coal Technology Review | Ray Shepherd, Peabody Energy

\*\*This Message originated from a Non-Peabody source\*\*

[X]

Please arrive 20-30 minutes early and enter through the 10th street entrance (here's a Google Maps street view

link<[http://maps.google.com/maps?f=q&source=s\\_q&hl=en&geocode=&q=1000+Independence+Ave.,+SW+in+Washington+D.C.+&sll=37.0625,-95.677068&sspn=48.555061,78.662109&ie=UTF8&hq=&hnear=1000+Independence+Ave+SW,+Washington,+District+of+Columbia,+20585&ll=38.887125,-77.025855&spn=0,0.019205&z=16&layer=c&cbll=38.88702,-77.025853&panoid=4U810uVgte0EIXKjtvNi2w&cbp=12,110.09,,0,4.24](http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1000+Independence+Ave.,+SW+in+Washington+D.C.+&sll=37.0625,-95.677068&sspn=48.555061,78.662109&ie=UTF8&hq=&hnear=1000+Independence+Ave+SW,+Washington,+District+of+Columbia,+20585&ll=38.887125,-77.025855&spn=0,0.019205&z=16&layer=c&cbll=38.88702,-77.025853&panoid=4U810uVgte0EIXKjtvNi2w&cbp=12,110.09,,0,4.24)>) and then go left to the

reception desk. Please ask the receptionist or security personnel to call 6-6660 to verify that you have been authorized to visit. Once approved, you will be issued a visitor badge and someone from the Front Office will come down to escort you to our office.

Please bring a photo ID such as a driver's license or passport and the contact information of the person you are coming to see.

Thank you and kind regards,

Victoria

[X]

Victoria Aponte

Executive Secretary to Steven Winberg, Assistant Secretary, Fossil Energy

Department of Energy (Contractor, MIRACORP)

1000 Independence Avenue, SW

Washington, DC 20585

\*\*\*\*\*

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**Dixon, Teresa A. (CONTR)**

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**From:** Shepherd, Ray <rayshepherd@peabodyenergy.com>  
**Sent:** Friday, August 09, 2019 9:11 AM  
**To:** Winberg, Steven  
**Cc:** Loman, Carol (CONTR);Aponte, Victoria R. (CONTR);Vincent, Kenneth;Hrkman, Lou;Maddox, Mark  
**Subject:** [EXTERNAL] Re: meeting request for August 1  
**Categories:** Green Category

Good morning. Would sometime on September 20 work for you and Lou? Thanks Steve.

Sent from my iPhone

On Jul 19, 2019, at 1:02 PM, Winberg, Steven <[steven.winberg@hq.doe.gov](mailto:steven.winberg@hq.doe.gov)> wrote:

**\*\*This Message originated from a Non-Peabody source\*\***

Ray

I will be in Germantown on 8/1 but perhaps Lou can meet with you. Do Holly and you have any other time that week?

---

**From:** Shepherd, Ray [<mailto:rayshepherd@peabodyenergy.com>]  
**Sent:** Friday, July 19, 2019 12:15 PM  
**To:** Winberg, Steven <[steven.winberg@hq.doe.gov](mailto:steven.winberg@hq.doe.gov)>  
**Subject:** [EXTERNAL] meeting request for August 1

Steve—

Hope this email finds you well. Sorry we couldn't synch schedules when Glenn was in town in June. However, our #2 in the company as well as our resident CCS expert, Dr. Holly Krutka, will be in town on August 1. I was hoping that you and Lou could find 45 minutes for us to discuss:

- Mothballing coal-fueled power plants
- MEGS Report
- DOE efforts on carbon negative technologies, and
- CoalFIRST

Please let me know if you have availability. Many thanks

**Ray Shepherd**

Vice President and Senior Counsel, Federal Government Relations

**Peabody**

325 7<sup>th</sup> Street, NW, Suite 510

Washington, DC 20004

Office Phone: (202) 942-4301 | Cell: (b) (6)

[rayshepherd@peabodyenergy.com](mailto:rayshepherd@peabodyenergy.com)



---

**From:** Budd, Hunter <[hunter.budd@hq.doe.gov](mailto:hunter.budd@hq.doe.gov)>  
**Sent:** Thursday, June 27, 2019 2:54 PM  
**To:** Shepherd, Ray <[rayshepherd@peabodyenergy.com](mailto:rayshepherd@peabodyenergy.com)>; [steve.winberg@hq.doe.gov](mailto:steve.winberg@hq.doe.gov)  
**Cc:** Cortes, Farzaneh (CONTR) <[farzaneh.cortes@hq.doe.gov](mailto:farzaneh.cortes@hq.doe.gov)>; Walker, Kristen <[kristen.walker@hq.doe.gov](mailto:kristen.walker@hq.doe.gov)>  
**Subject:** RE: Peabody and Arch to Combine U.S. PRB and Colorado Assets in an Extraordinary Joint Venture

External Sender: This email originated from outside of the Peabody system. Please do not click on any links or open attachments unless you verify the source. If you have any doubts, forward the email as an attachment to [SPAM@peabodyenergy.com](mailto:SPAM@peabodyenergy.com) for assistance.

Ray,

Adding Faye and Kristen from our office to help you schedule a time to meet with the Under Secretary.

---

**From:** Shepherd, Ray [<mailto:rayshepherd@peabodyenergy.com>]  
**Sent:** Monday, June 24, 2019 12:55 PM  
**To:** EnergyUnderSecretary <[energyundersecretary@hq.doe.gov](mailto:energyundersecretary@hq.doe.gov)>; [steve.winberg@hq.doe.gov](mailto:steve.winberg@hq.doe.gov)  
**Cc:** Brouillette, Dan (b) (6)  
**Subject:** [EXTERNAL] FW: Peabody and Arch to Combine U.S. PRB and Colorado Assets in an Extraordinary Joint Venture

Mark and Steve—

Dan suggested that I reach out to you to see if we could schedule some time with my CEO to discuss the JV (discussed below and attached). He is meeting with the CO and WY delegations and Republican leadership on Wednesday. He has availability 10:30-1:30. Could you find twenty minutes for us? Many thanks

## Ray Shepherd

Vice President and Senior Counsel, Federal Government Relations

### Peabody

325 7<sup>th</sup> Street, NW, Suite 510

Washington, DC 20004

Office Phone: (202) 942-4301 | Cell: (b) (6)

[rayshepherd@peabodyenergy.com](mailto:rayshepherd@peabodyenergy.com)

<image002.png>

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**From:** Shepherd, Ray  
**Sent:** Wednesday, June 19, 2019 9:15 AM  
**To:** [Brian.mccormack@hq.doe.gov](mailto:Brian.mccormack@hq.doe.gov); (b) (6)  
**Subject:** Peabody and Arch to Combine U.S. PRB and Colorado Assets in an Extraordinary Joint Venture

Dan and Brian—

I wanted to personally reach out to you and share information about today's announcement between Peabody and Arch Coal combining our Powder River Basin (PRB) and Colorado assets in an extraordinary joint venture.

We believe this joint venture strengthens our ability to compete against natural gas and subsidized renewables while creating exceptional value for our many stakeholders. Among other assets, the joint venture will combine two of the most productive U.S. coal mines – Peabody’s North Antelope Rochelle Mine and Arch’s Black Thunder Mine, which share a property line of more than seven miles – into a single lower-cost complex.

Underpinning the combination, Peabody has the lowest-cost position among major PRB producers, and Arch has some of the highest-quality coal in the PRB. Arch is contributing its low-cost, higher-margin West Elk Mine that enhances Peabody’s Twentymile Mine in Colorado. Further PRB synergies are expected from the integration of the Caballo, Rawhide and Coal Creek mines, which have some of the best overburden-to-coal ratios in the world.

Together we will have the potential to significantly reduce costs well beyond what each of us could achieve alone. The transaction is projected to unlock synergies of approximately \$120 million per year over the initial 10 years. These aggregated synergies of \$820 million net present value provide the ability to significantly reduce operational costs well beyond what each company could achieve alone. A stronger operating complex enables coal to better compete against other energy sources for electricity generation and provide greater job security and economic strength for communities in which we operate.

Under one umbrella, we will be uniting two strong, culturally aligned workforces, including about 580 workers in Colorado and more than 2,800 in Wyoming who share a commitment to core values such as safety and sustainability. Additionally, many are friends, neighbors and family members who are accustomed to working alongside one another outside the workplace.

The joint venture will be operated by Peabody, which will hold a majority-ownership interest. Both companies will continue to operate assets independently until closing of the transaction, which is subject to regulatory approval and satisfaction of usual closing conditions.

Both companies have a strong history of environmental stewardship and are committed to restoring the land for future use. The combination of assets from our two recognized companies is expected to advance continued responsible mining and reclamation for decades to come, benefiting all stakeholders.

We look forward to your continued support of our industry and will keep you informed of new developments as they transpire. Please feel free to contact me with any questions you might have regarding the attached announcement.

**Ray Shepherd**

Vice President and Senior Counsel, Federal Government Relations

**Peabody**

[325 7<sup>th</sup> Street, NW, Suite 510](#)

[Washington, DC 20004](#)

Office Phone: [\(202\) 942-4301](tel:(202)942-4301) | Cell: (b) (6)

[rayshepherd@peabodyenergy.com](mailto:rayshepherd@peabodyenergy.com)

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**From:** Shepherd, Ray <rayshepherd@peabodyenergy.com>  
**Sent:** Monday, June 24, 2019 12:57 PM  
**To:** Winberg, Steven  
**Subject:** [EXTERNAL] FW: Peabody and Arch to Combine U.S. PRB and Colorado Assets in an Extraordinary Joint Venture  
**Attachments:** image003.png; ATT00001.htm; Oceans II PR FINAL.pdf; ATT00002.htm  
**Categories:** Green Category

With the correct address now

---

**From:** Shepherd, Ray  
**Sent:** Monday, June 24, 2019 12:55 PM  
**To:** energyundersecretary@hq.doe.gov; steve.winberg@hq.doe.gov  
**Cc:** Brouillette, (b) (6)  
**Subject:** FW: Peabody and Arch to Combine U.S. PRB and Colorado Assets in an Extraordinary Joint Venture

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## Ray Shepherd

Vice President and Senior Counsel, Federal Government Relations

### Peabody

325 7<sup>th</sup> Street, NW, Suite 510

Washington, DC 20004

Office Phone: (202) 942-4301 | Cell: (b) (6)

[rayshepherd@peabodyenergy.com](mailto:rayshepherd@peabodyenergy.com)



---

**From:** Shepherd, Ray  
**Sent:** Wednesday, June 19, 2019 9:15 AM  
**To:** [brian.mccormack@hq.doe.gov](mailto:brian.mccormack@hq.doe.gov); (b) (6)  
**Subject:** Peabody and Arch to Combine U.S. PRB and Colorado Assets in an Extraordinary Joint Venture

Dan and Brian—

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Peabody's Twentymile Mine in Colorado. Further PRB synergies are expected from the integration of the Caballo, Rawhide and Coal Creek mines, which have some of the best overburden-to-coal ratios in the world.

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Both companies have a strong history of environmental stewardship and are committed to restoring the land for future use. The combination of assets from our two recognized companies is expected to advance continued responsible mining and reclamation for decades to come, benefiting all stakeholders.

We look forward to your continued support of our industry and will keep you informed of new developments as they transpire. Please feel free to contact me with any questions you might have regarding the attached announcement.

**Ray Shepherd**

Vice President and Senior Counsel, Federal Government Relations

**Peabody**

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**FOR IMMEDIATE RELEASE**

June 19, 2019

***PEABODY AND ARCH TO COMBINE U.S. PRB AND COLORADO ASSETS IN HIGHLY SYNERGISTIC JOINT VENTURE TO UNLOCK APPROXIMATELY \$820 MILLION IN SYNERGIES***

- JV synergies projected to average approximately \$120 million per year over initial 10 years, with NPV of approximately \$820 million
- Optimal combination expected to create one of lowest-cost thermal coal suppliers in U.S. to strengthen competitiveness against natural gas and renewables and create value
- JV ownership to be 66.5% Peabody and 33.5% Arch; Peabody to serve as operator
- Centerpiece combines two adjacent and highly productive U.S. coal mines into single, lower-cost complex

ST. LOUIS, June 19 – Peabody (NYSE: BTU) and Arch Coal (NYSE: ARCH) today announced that they have entered into a definitive agreement to combine the companies’ Powder River Basin and Colorado assets in a highly synergistic joint venture aimed at strengthening the competitiveness of coal against natural gas and renewables, while creating substantial value for customers and shareholders.

The joint venture is expected to unlock synergies with a pre-tax net present value of approximately \$820 million.<sup>1</sup> Average joint venture synergies are projected to be approximately \$120 million per year over the initial 10 years.<sup>2</sup> The joint venture will be 66.5 percent owned by Peabody and 33.5 percent owned by Arch.

“The Peabody/Arch joint venture is an extraordinary example of industrial logic targeted to strengthen the competitive position of our products and create significant value for multiple stakeholders in a low-cost combination with exceptional physical synergies,” said Peabody President and Chief Executive Officer Glenn Kellow. “The transaction unites two strong, culturally aligned workforces with a commitment to core values such as safety and sustainability. We believe this joint venture allows us to offer enhanced products and security of supply for customers, increased value for shareholders, greater efficiencies for railroads, long-term opportunities for employees and strength for the communities in which we operate.”

“We are excited about this transaction’s potential to enhance the value of Arch’s top-tier thermal coal assets,” said Arch Chief Executive Officer John W. Eaves. “This new joint venture should allow us to realize the full potential of our valuable assets in the Powder River Basin and Colorado and benefit our customers in the process. The significant operating synergies will enhance the competitiveness of these assets and also enable us to continue to generate long-term, sustainable returns for our shareholders. We look forward to completing this transaction in a timely manner.”

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<sup>1</sup> Synergies of approximately \$820 million represent the combined net present value of estimated pre-tax synergies projected over standalone life-of-mine plans assuming third-party price assumptions and a 10 percent discount rate.

<sup>2</sup> Average combined synergies of approximately \$120 million per year projected over initial 10 years.

Governance of the joint venture will consist of a five-member board of managers appointed by Peabody and Arch. Each party will have voting rights in proportion to its ownership percentage, with certain items requiring supermajority approval. As the operator, Peabody will manage all activities including the marketing of coal. Peabody and Arch will share profits, capital requirements and cash distributions of the joint venture in proportion to ownership percentages.

Among other assets, the joint venture will combine two productive and adjacent U.S. coal mines – Peabody’s North Antelope Rochelle Mine (NARM) and Arch’s Black Thunder Mine, which share a property line of more than seven miles – into a single, lower-cost complex.

Aggregated synergies are expected to enable the joint venture to significantly reduce costs well beyond what each company could achieve alone. A lower cost structure enables coal to better compete against other energy sources for electricity generation and create value. Expected substantial synergies include, among others:

- Optimization of mine planning, sequencing and accessing otherwise isolated reserves;
- Improved efficiencies in deployment of the combined equipment fleet;
- More efficient procurement and warehousing;
- Enhanced blending capabilities to more closely meet customer requirements;
- Improved utilization of the combined rail loadout system and other rail efficiencies;
- Reductions in long-term capital requirements; and
- Leveraging Peabody’s shared services.

Underpinning the combination, Peabody has the lowest-cost position among major Powder River Basin producers and Arch has some of the highest-quality coal in the PRB. Arch is contributing its low-cost, higher-margin West Elk Mine that enhances Peabody’s Twentymile Mine in Colorado. Further PRB synergies are expected from the integration of the Caballo, Rawhide and Coal Creek mines, which have some of the best overburden-to-coal ratios in the world. Together with NARM and Black Thunder, these PRB assets represent five of the 10 most productive mines in the United States. The inclusion of the Colorado assets will lead to additional synergies and offer the ability to better serve domestic customers while preserving seaborne coal optionality.

The combination of assets from two recognized companies is expected to advance continued responsible mining and reclamation for decades to come, benefiting all stakeholders.

“For Peabody, the creation of the joint venture is a clear demonstration of the company’s U.S. thermal strategy to optimize our lowest-cost, highest-margin operations in a low-capital fashion to maximize cash generation,” said Kellow. “The transaction fully aligns with our stated investment filters, further enhances our financial strength and enables continued commitment to our shareholder return program, in which we are committed to returning an amount greater than our free cash flow to shareholders in 2019.”

Peabody and Arch will continue to operate the assets independently until closing of the transaction. Closing is subject to regulatory approval and satisfaction of usual closing conditions. Upon closing, Peabody and Arch will each contribute its active Powder River Basin and Colorado mines, as well as related assets and liabilities, into the joint venture. Each company expects to proportionally consolidate the joint venture within their respective financial statements.

In 2018, on a combined basis, the assets shipped 206.0 million tons of coal. The assets are operated by a workforce of approximately 3,300, with combined proven and probable reserves totaling 3.4 billion as of Dec. 31, 2018.

## Conference Call

On June 19, 2019, Peabody and Arch will each host conference calls to discuss the details of the joint venture. Peabody's call will be held at 9:00 a.m. CDT, with Arch's call immediately following at 9:30 a.m. CDT. Participants can access Peabody's call at [PeabodyEnergy.com](http://PeabodyEnergy.com) or using the following dial-in numbers:

U.S. and Canada	888-312-3049
Australia	1800 849 976
United Kingdom	0808 238 9907

All other international participants, please contact Peabody Investor Relations at (314) 342-7900 prior to the call to receive your dial-in number.

Participants can access Arch's call at [archcoal.com](http://archcoal.com) or using the following dial-in numbers:

U.S. and Canada	800-667-5617
International	334-323-0509

Peabody is the leading global pure-play coal company and a member of the Fortune 500, serving power and steel customers in more than 25 countries on six continents. The company offers significant scale, high-quality assets, and diversity in geography and products. Peabody is guided by seven core values: safety, customer focus, leadership, people, excellence, integrity and sustainability. For further information, visit [PeabodyEnergy.com](http://PeabodyEnergy.com).

U.S.-based Arch Coal, Inc. is a top coal producer for the global steel and power generation industries. Arch operates a streamlined portfolio of large-scale, low-cost mining complexes that produce high-quality metallurgical coals in Appalachia and low-emitting thermal coals in the Powder River Basin and other strategic supply regions. For more information, visit [www.ArchCoal.com](http://www.ArchCoal.com).

Credit Suisse and Lazard are acting as financial advisers to Peabody for the transaction. Cravath, Swaine & Moore LLP and Akin Gump Strauss Hauer & Feld LLP are acting as legal advisers to Peabody. Goldman Sachs & Co. LLC is acting as financial adviser to Arch. Latham & Watkins LLP and Baker Botts LLP are acting as legal advisers to Arch.

### Contact:

Peabody  
314.342.4351

Arch Coal  
314.994.2897

## Peabody Forward-Looking Statements

*This press release contains forward-looking statements within the meaning of the securities laws. Forward-looking statements can be identified by the fact that they do not relate strictly to historical or current facts. They often include words or variation of words such as "expects," "anticipates," "intends," "plans," "believes," "seeks," "estimates," "projects," "forecasts," "targets," "would," "will," "should," "goal," "could" or "may" or other similar expressions. Forward-looking statements provide management's current expectations or predictions of future conditions, events or results. All statements that address operating performance, events or developments that Peabody or Arch expect or anticipate*

will occur in the future are forward-looking statements. They may include estimates of value accretion, joint venture synergies, closing of the joint venture, revenues, income, earnings per share, cost savings, capital expenditures, dividends, share repurchases, liquidity, capital structure, market share, industry volume, or other financial items, descriptions of management's plans or objectives for future operations, or descriptions of assumptions underlying any of the above. All forward-looking statements speak only as of the date they are made and reflect Peabody's and Arch's good faith beliefs, assumptions and expectations, but they are not guarantees of future performance or events. Furthermore, each Peabody and Arch disclaim any obligation to publicly update or revise any forward-looking statement, except as required by law. By their nature, forward-looking statements are subject to risks and uncertainties that could cause actual results to differ materially from those suggested by the forward-looking statements. Factors that might cause such differences include, but are not limited to, a variety of economic, competitive and regulatory factors, many of which are beyond the Peabody's and Arch's control, including (i) risks that the proposed joint venture may not be completed, including as a result of a failure to obtain required regulatory approvals, (ii) risks that the anticipated synergies from the proposed joint venture may not be fully realized, including as a result of actions necessary to obtain regulatory approvals, (iii) other factors that are described in Peabody's Annual Report on Form 10-K for the fiscal year ended Dec. 31, 2018, (iv) other factors that are described in Arch's Annual Report on Form 10-K for the fiscal year ended Dec. 31, 2018 and (v) other factors that Peabody or Arch may describe from time to time in other filings with the SEC. You may get such filings for free at Peabody's website at [www.peabodyenergy.com](http://www.peabodyenergy.com) and Arch's website at [www.archcoal.com](http://www.archcoal.com). You should understand that it is not possible to predict or identify all such factors and, consequently, you should not consider any such list to be a complete set of all potential risks or uncertainties.

## Peabody/Arch Joint Venture

### Joint Venture Mines

Mine	Company	Basin	2018 Sales Volume *tons in millions	Proven and Probable Reserves (as of Dec. 31, 2018) *tons in millions
NARM	Peabody	PRB	98.4	1,698
Black Thunder	Arch	PRB	71.1	816
Caballo	Peabody	PRB	11.3	465
Rawhide	Peabody	PRB	9.5	258
Coal Creek	Arch	PRB	8.0	95
West Elk	Arch	Colorado	4.8	54
Twentymile	Peabody	Colorado	2.9	28

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**From:** Kurt Waltzer <kwaltzer@catf.us>  
**Sent:** Tuesday, May 07, 2019 10:48 AM  
**To:** McConnell, Charles;Gupta, Neeraj  
**Cc:** Vello Kuuskraa;Robert G. Mannes;swade@wade-llc.com;Mike Godec;Harju, John;Eames, Frederick R.;tford@huntonAK.com;Steven Michael Carpenter;Mike Moore;Michael J. 'Nasi;Steve Melzer;Irfan Ali;Scott Nyquist;David Greeson;Winberg, Steven;Krishnamoorti, Ramanan;Hester, Tracy;Barrineau, Alyssa K;Kibler, Lauren  
**Subject:** Re: June 12 - UH Carbon MANAGEMENT Symposium  
**Categories:** Green Category

Chuck, sorry for the delayed response. I will be able to participate as well.

--



Kurt Waltzer  
Managing Director  
Clean Air Task Force

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---

**From:** "McConnell, Charles" <cmconne@Central.UH.EDU>  
**Date:** Saturday, May 4, 2019 at 5:39 PM  
**To:** Neeraj Gupta <gupta@battelle.org>  
**Cc:** Vello Kuuskraa <VKuuskraa@adv-res.com>, "Robert G. Mannes" <rgmannes@coreenergyllc.com>, "swade@wade-llc.com" <swade@wade-llc.com>, Mike Godec <MGodec@adv-res.com>, "Harju, John" <jharju@undeerc.org>, "Eames, Frederick R." <feames@hunton.com>, "tford@huntonAK.com" <tford@huntonak.com>, Steven Michael Carpenter <Steven.Carpenter@uwyo.edu>, Mike Moore <mmoore@ews-a-global.com>, Mike Nasi <mnasi@jw.com>, Steve Melzer <(b) (6)>, Irfan Ali <irfanali@tharpak.com>, Scott Nyquist <Scott\_Nyquist@mckinsey.com>, David Greeson <(b) (6)>, Kurt Waltzer <kwaltzer@catf.us>, "Winberg, Steven" <Steven.Winberg@hq.doe.gov>, "Krishnamoorti, Ramanan" <ramanan@uh.edu>, "Hester, Tracy" <tdheste2@Central.UH.EDU>, "Barrineau, Alyssa K" <akbarrin@Central.UH.EDU>, "Kibler, Lauren" <lkibler@Central.UH.EDU>  
**Subject:** Re: June 12 - UH Carbon MANAGEMENT Symposium

Perfect!!  
I feel like a student bringing in my teacher Neeraj!

Let's talk next week

Sent from my iPhone

On May 4, 2019, at 2:57 PM, Gupta, Neeraj <[gupta@battelle.org](mailto:gupta@battelle.org)> wrote:

Hi Chuck:

Just to confirm my prior tentative email, I can also make it to the meeting. I can call you next week about the topics of interest for the presentation.

Thanks for the invitation.

Neeraj Gupta  
Battelle

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**From:** Vello Kuuskraa <[VKuuskraa@adv-res.com](mailto:VKuuskraa@adv-res.com)>

**Sent:** Saturday, May 04, 2019 2:32 PM

**To:** McConnell, Charles <[cmconne@Central.UH.EDU](mailto:cmconne@Central.UH.EDU)>; Robert G. Mannes <[rgmannes@coreenergyllc.com](mailto:rgmannes@coreenergyllc.com)>; [swade@wade-llc.com](mailto:swade@wade-llc.com); Mike Godec <[MGodec@adv-res.com](mailto:MGodec@adv-res.com)>; Gupta, Neeraj <[gupta@battelle.org](mailto:gupta@battelle.org)>; 'Harju, John' <[jharju@undeerc.org](mailto:jharju@undeerc.org)>; 'Eames, Frederick R.' <[feames@hunton.com](mailto:feames@hunton.com)>; [tford@huntonAK.com](mailto:tford@huntonAK.com); Steven Michael Carpenter <[Steven.Carpenter@uwyo.edu](mailto:Steven.Carpenter@uwyo.edu)>; 'Mike Moore' <[mmoore@ewsa-global.com](mailto:mmoore@ewsa-global.com)>; Michael J. 'Nasi' <[mnasi@jw.com](mailto:mnasi@jw.com)>; 'Steve Melzer' (b) (6) ; Irfan Ali <[irfanali@tharpak.com](mailto:irfanali@tharpak.com)>; Scott Nyquist <[Scott\\_Nyquist@mckinsey.com](mailto:Scott_Nyquist@mckinsey.com)>; David Greeson (b) (6) ; [kwaltzer@catf.us](mailto:kwaltzer@catf.us); Winberg, Steven <[Steven.Winberg@hq.doe.gov](mailto:Steven.Winberg@hq.doe.gov)>

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**Subject:** RE: June 12 - UH Carbon MANAGEMENT Symposium

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Hi Chuck,

Thank you for the notice on the 12<sup>th</sup> of June Symposium. I would be pleased to talk about storage , including the various EOR opportunities. Currently, we are working on some "case studies" of deep water offshore EOR and storage and also looking CO2 storage costs of high quality regional geologic storage in area where EOR may not be an option.

Along with some folks at Southern Company, I have completed an article to be published in GHG Science and Technology this summer that addressed the topic of the impact of 45Q, including suggested changes to the current legislation, on the economic viability of adding CO2 capture to new and existing coal and gas fueled power plants. If interested , I could send you a copy of the article.

I look forward to contributing to you Symposium.  
Best, Vello

**Vello A. Kuuskraa**

*President*

**Advanced Resources International, Inc.**

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**From:** McConnell, Charles <[cmcconne@Central.UH.EDU](mailto:cmcconne@Central.UH.EDU)>  
**Sent:** Friday, May 3, 2019 2:13 PM  
**To:** Robert G. Mannes <[rgmannes@coreenergyllc.com](mailto:rgmannes@coreenergyllc.com)>; [swade@wade-llc.com](mailto:swade@wade-llc.com); Vello Kuuskraa <[VKuuskraa@adv-res.com](mailto:VKuuskraa@adv-res.com)>; Mike Godec <[MGodec@adv-res.com](mailto:MGodec@adv-res.com)>; [gupta@battelle.org](mailto:gupta@battelle.org); 'Harju, John' <[jharju@undeerc.org](mailto:jharju@undeerc.org)>; 'Eames, Frederick R.' <[feames@hunton.com](mailto:feames@hunton.com)>; [tford@huntonAK.com](mailto:tford@huntonAK.com); Steven Michael Carpenter <[Steven.Carpenter@uwyo.edu](mailto:Steven.Carpenter@uwyo.edu)>; 'Mike Moore' <[mmoore@ewsa-global.com](mailto:mmoore@ewsa-global.com)>; Michael J. 'Nasi' <[mnasi@jw.com](mailto:mnasi@jw.com)>; 'Steve Melzer' (b) (6) <[REDACTED]>; Irfan Ali <[irfanali@tharpak.com](mailto:irfanali@tharpak.com)>; Scott Nyquist <[Scott\\_Nyquist@mckinsey.com](mailto:Scott_Nyquist@mckinsey.com)>; David Greeson (b) (6) <[REDACTED]>; [kwaltzer@catf.us](mailto:kwaltzer@catf.us); Winberg, Steven <[Steven.Winberg@hq.doe.gov](mailto:Steven.Winberg@hq.doe.gov)>  
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**Subject:** RE: June 12 - UH Carbon MANAGEMENT Symposium

Please see the attached save the date and my previous note to you all. I have had several individual follow up conversations with some of you and am in the process of crafting an agenda with speakers identified. I know several of you cannot come and the next note will include several other identified speakers as well and I don't wish to commit anyone to the agenda prematurely. So please advise when you receive the note that you are good to go – and with that we can begin to secure your necessary information and pre-symposium plans.

THX – heads up this weekend for the agenda and I have just a few more calls to make to several of you.

Charles McConnell  
Executive Director, Carbon Management and Energy Sustainability  
UH Energy, Chancellor/President's Division  
University of Houston  
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Connect with us: [Facebook](#) | [LinkedIn](#) | [Twitter](#)

---

**From:** McConnell, Charles  
**Sent:** Monday, April 22, 2019 11:37 AM  
**To:** Robert G. Mannes <[rgmannes@coreenergyllc.com](mailto:rgmannes@coreenergyllc.com)>; [swade@wade-llc.com](mailto:swade@wade-llc.com); [vkuuskraa@adv-res.com](mailto:vkuuskraa@adv-res.com); [mcodec@adv-res.com](mailto:mcodec@adv-res.com); [gupta@battelle.org](mailto:gupta@battelle.org); 'Harju, John' <[jharju@undeerc.org](mailto:jharju@undeerc.org)>; 'Eames, Frederick R.' <[feames@hunton.com](mailto:feames@hunton.com)>; [tford@huntonAK.com](mailto:tford@huntonAK.com); Steven Michael Carpenter <[Steven.Carpenter@uwyo.edu](mailto:Steven.Carpenter@uwyo.edu)>; 'Mike Moore' <[mmoore@ewsa-global.com](mailto:mmoore@ewsa-global.com)>; Michael J. 'Nasi' <[mnasi@jw.com](mailto:mnasi@jw.com)>; 'Steve Melzer' (b) (6) <[REDACTED]>; Irfan Ali <[irfanali@tharpak.com](mailto:irfanali@tharpak.com)>; Scott Nyquist <[Scott\\_Nyquist@mckinsey.com](mailto:Scott_Nyquist@mckinsey.com)>; David Greeson (b) (6) <[REDACTED]>; [kwaltzer@catf.us](mailto:kwaltzer@catf.us); Winberg, Steven <[Steven.Winberg@hq.doe.gov](mailto:Steven.Winberg@hq.doe.gov)>  
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**Subject:** June 12 - UH Carbon MANAGEMENT Symposium

Please consider this a personal invitation to the first symposium of our recently formed Center for Carbon Management in Energy (CCME) at the University of Houston. We will be hosting any number of educational symposiums over the coming years in a series of interest areas, and the first symposium series is entitled "Monetization of Carbon" .... And the first symposium in the series is entitled "45Q – Technology, Policy, and Legal".

We will be sending a Save The Date flyer out later this week, but I am reaching out to you personally to consider addressing the audience in a 15-20 minute overview of your area of work, your organization and impact on activities to date with 45Q, and the future you envision. It is clear to me that the



community in Houston is critical to success for CCUS, and the member companies of our CCME have their own efforts underway. That said, the value our CCME brings is the ability to convene the marketplace and you are all leaders in your respective fields. Bringing you in to speak would add great value to our initial symposium and I would consider it a personal favor that you would choose to come.

This first symposium will in many ways be an opportunity for many of our member companies to meet you personally and to hear your experiences. The array of topics is quite broad – and what we then expect will occur is a number of verticals to get created from this in terms of workshops and deeper SME efforts. The other motive for having you come is to also meet our team at UH – our key faculty – and to become integrated with our CCME as associates to the CCME. The member companies may already know many of you but I am certain they do not all have the same working knowledge. Member companies will extend beyond the O&G energy folks you are familiar with and you can expect petrochemical companies, electric power companies, mid-streamers, etc. The value of the center is also in the diversity of the marketplace and the players – and the fact that we are here in Houston and can convene. Our target will be 200+ attendees.

You each have a powerful story that the market will be interested in. The goal here is to have those stories in play and not to educate the audience deeply in the SME areas – but to educate them on your story and what you do – and you. I have been fortunate to know you for a number of years and it would be a privilege to share that with the CCME member companies and the external audience we anticipate from the greater Houston energy market.

As I suggested – the save the date flyer will be out later this week – and based upon your personal interest, we will craft the agenda to fit. Please give it a serious thought to participate and then say yes ok ! 😊 I will follow up with you personally the week and I have copied you all to get a sense of the cast and the strength of it.

THX for your consideration and we look forward to a great first event at our CCME.

Charles McConnell  
Executive Director, Carbon Management and Energy Sustainability  
UH Energy, Chancellor/President's Division  
University of Houston  
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**From:** McConnell, Charles <cmconne@Central.UH.EDU>  
**Sent:** Saturday, May 04, 2019 5:40 PM  
**To:** Gupta, Neeraj  
**Cc:** Vello Kuuskraa;Robert G. Mannes;swade@wade-llc.com;Mike Godec;Harju, John;Eames, Frederick R.;tford@huntonAK.com;Steven Michael Carpenter;Mike Moore;Michael J. 'Nasi;Steve Melzer;Irfan Ali;Scott Nyquist;David Greeson;kwaltzer@catf.us;Winberg, Steven;Krishnamoorti, Ramanan;Hester, Tracy;Barrineau, Alyssa K;Kibler, Lauren  
**Subject:** [EXTERNAL] Re: June 12 - UH Carbon MANAGEMENT Symposium  
**Categories:** Green Category

Perfect!!  
I feel like a student bringing in my teacher Neeraj!  
Let's talk next week

Sent from my iPhone

On May 4, 2019, at 2:57 PM, Gupta, Neeraj <[gupta@battelle.org](mailto:gupta@battelle.org)> wrote:

Hi Chuck:

Just to confirm my prior tentative email, I can also make it to the meeting. I can call you next week about the topics of interest for the presentation.

Thanks for the invitation.

Neeraj Gupta  
Battelle

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**From:** Vello Kuuskraa <[VKuuskraa@adv-res.com](mailto:VKuuskraa@adv-res.com)>  
**Sent:** Saturday, May 04, 2019 2:32 PM  
**To:** McConnell, Charles <[cmconne@Central.UH.EDU](mailto:cmconne@Central.UH.EDU)>; Robert G. Mannes <[rgmannes@coreenergylc.com](mailto:rgmannes@coreenergylc.com)>; [swade@wade-llc.com](mailto:swade@wade-llc.com); Mike Godec <[MGodec@adv-res.com](mailto:MGodec@adv-res.com)>; Gupta, Neeraj <[gupta@battelle.org](mailto:gupta@battelle.org)>; 'Harju, John' <[jharju@undeerc.org](mailto:jharju@undeerc.org)>; 'Eames, Frederick R.' <[feames@hunton.com](mailto:feames@hunton.com)>; [tford@huntonAK.com](mailto:tford@huntonAK.com); Steven Michael Carpenter <[Steven.Carpenter@uwyo.edu](mailto:Steven.Carpenter@uwyo.edu)>; 'Mike Moore' <[mmoore@ews-a-global.com](mailto:mmoore@ews-a-global.com)>; Michael J. 'Nasi' <[mnasi@jw.com](mailto:mnasi@jw.com)>; 'Steve Melzer' (b) (6) ; Irfan Ali <[irfanali@tharpak.com](mailto:irfanali@tharpak.com)>; Scott Nyquist <[Scott\\_Nyquist@mckinsey.com](mailto:Scott_Nyquist@mckinsey.com)>; David Greeson (b) (6) ; [kwaltzer@catf.us](mailto:kwaltzer@catf.us); Winberg, Steven <[Steven.Winberg@hq.doe.gov](mailto:Steven.Winberg@hq.doe.gov)>  
**Cc:** Krishnamoorti, Ramanan <[ramanan@uh.edu](mailto:ramanan@uh.edu)>; Hester, Tracy <[tdheste2@Central.UH.EDU](mailto:tdheste2@Central.UH.EDU)>; Barrineau, Alyssa K <[akbarrin@Central.UH.EDU](mailto:akbarrin@Central.UH.EDU)>; Kibler, Lauren <[kibler@Central.UH.EDU](mailto:kibler@Central.UH.EDU)>  
**Subject:** RE: June 12 - UH Carbon MANAGEMENT Symposium

Message received from outside the Battelle network. Carefully examine it before you open any links or attachments.

Hi Chuck,

Thank you for the notice on the 12<sup>th</sup> of June Symposium. I would be pleased to talk about storage , including the various EOR opportunities. Currently, we are working on some “case studies” of deep water offshore EOR and storage and also looking CO2 storage costs of high quality regional geologic storage in area where EOR may not be an option.

Along with some folks at Southern Company, I have completed an article to be published in GHG Science and Technology this summer that addressed the topic of the impact of 45Q, including suggested changes to the current legislation, on the economic viability of adding CO2 capture to new and existing coal and gas fueled power plants. If interested , I could send you a copy of the article.

I look forward to contributing to you Symposium.  
Best, Vello

**Vello A. Kuuskraa**

*President*

**Advanced Resources International, Inc.**

4501 Fairfax Drive, Suite 910, Arlington, VA 22203 USA

P: 703.528.8420 | W: [www.adv-res.com](http://www.adv-res.com) | E: [tkuuskraa@adv-res.com](mailto:tkuuskraa@adv-res.com)

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**From:** McConnell, Charles <[cmcconne@Central.UH.EDU](mailto:cmcconne@Central.UH.EDU)>

**Sent:** Friday, May 3, 2019 2:13 PM

**To:** Robert G. Mannes <[rgmannes@coreenergyllc.com](mailto:rgmannes@coreenergyllc.com)>; [swade@wade-llc.com](mailto:swade@wade-llc.com); Vello Kuuskraa <[VKuuskraa@adv-res.com](mailto:VKuuskraa@adv-res.com)>; Mike Godec <[MGodec@adv-res.com](mailto:MGodec@adv-res.com)>; [gupta@battelle.org](mailto:gupta@battelle.org); 'Harju, John' <[jharju@undeerc.org](mailto:jharju@undeerc.org)>; 'Eames, Frederick R.' <[feames@hunton.com](mailto:feames@hunton.com)>; [tford@huntonAK.com](mailto:tford@huntonAK.com); Steven Michael Carpenter <[Steven.Carpenter@uwyo.edu](mailto:Steven.Carpenter@uwyo.edu)>; 'Mike Moore' <[mmoore@ewsa-global.com](mailto:mmoore@ewsa-global.com)>; Michael J. 'Nasi' <[mnasi@jw.com](mailto:mnasi@jw.com)>; 'Steve Melzer' (b) (6) ; Irfan Ali <[irfanali@tharpak.com](mailto:irfanali@tharpak.com)>; Scott Nyquist <[Scott.Nyquist@mckinsey.com](mailto:Scott.Nyquist@mckinsey.com)>; David Greeson (b) (6) >; [kwaltzer@catf.us](mailto:kwaltzer@catf.us); Winberg, Steven <[Steven.Winberg@hq.doe.gov](mailto:Steven.Winberg@hq.doe.gov)>

**Cc:** Krishnamoorti, Ramanan <[ramanan@uh.edu](mailto:ramanan@uh.edu)>; Hester, Tracy <[tdheste2@Central.UH.EDU](mailto:tdheste2@Central.UH.EDU)>; Barrineau, Alyssa K <[akbarrin@Central.UH.EDU](mailto:akbarrin@Central.UH.EDU)>; Kibler, Lauren <[kibler@Central.UH.EDU](mailto:kibler@Central.UH.EDU)>

**Subject:** RE: June 12 - UH Carbon MANAGEMENT Symposium

Please see the attached save the date and my previous note to you all. I have had several individual follow up conversations with some of you and am in the process of crafting an agenda with speakers identified. I know several of you cannot come and the next note will include several other identified speakers as well and I don't wish to commit anyone to the agenda prematurely. So please advise when you receive the note that you are good to go – and with that we can begin to secure your necessary information and pre-symposium plans.

THX – heads up this weekend for the agenda and I have just a few more calls to make to several of you.

Charles McConnell  
Executive Director, Carbon Management and Energy Sustainability  
UH Energy, Chancellor/President's Division

**University of Houston**

(b) (6)

[cmcconnell@uh.edu](mailto:cmcconnell@uh.edu)

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**From:** McConnell, Charles

**Sent:** Monday, April 22, 2019 11:37 AM

**To:** Robert G. Mannes <[rgmannes@coreenergyllc.com](mailto:rgmannes@coreenergyllc.com)>; [swade@wade-llc.com](mailto:swade@wade-llc.com); [vkuuskraa@adv-res.com](mailto:vkuuskraa@adv-res.com); [mgodec@adv-res.com](mailto:mgodec@adv-res.com); [gupta@battelle.org](mailto:gupta@battelle.org); 'Harju, John' <[jharju@undeerc.org](mailto:jharju@undeerc.org)>; 'Eames,

Frederick R.' <[feames@hunton.com](mailto:feames@hunton.com)>; [tford@huntonAK.com](mailto:tford@huntonAK.com); Steven Michael Carpenter <[Steven.Carpenter@uwyo.edu](mailto:Steven.Carpenter@uwyo.edu)>; 'Mike Moore' <[mmoore@ewsa-global.com](mailto:mmoore@ewsa-global.com)>; Michael J. 'Nasi' <[mnasi@jw.com](mailto:mnasi@jw.com)>; 'Steve Melzer' (b) (6) Irfan Ali <[irfanali@tharpak.com](mailto:irfanali@tharpak.com)>; Scott Nyquist <[Scott\\_Nyquist@mckinsey.com](mailto:Scott_Nyquist@mckinsey.com)>; David Greeson (b) (6) ; [kwaltzer@catf.us](mailto:kwaltzer@catf.us); Winberg, Steven <[Steven.Winberg@hq.doe.gov](mailto:Steven.Winberg@hq.doe.gov)>

**Cc:** Krishnamoorti, Ramanan <[ramanan@uh.edu](mailto:ramanan@uh.edu)>; Hester, Tracy <[tdheste2@Central.UH.EDU](mailto:tdheste2@Central.UH.EDU)>; Barrineau, Alyssa K <[akbarrin@Central.UH.EDU](mailto:akbarrin@Central.UH.EDU)>; Kibler, Lauren <[kibler@Central.UH.EDU](mailto:kibler@Central.UH.EDU)>

**Subject:** June 12 - UH Carbon MANAGEMENT Symposium

Please consider this a personal invitation to the first symposium of our recently formed Center for Carbon Management in Energy (CCME) at the University of Houston. We will be hosting any number of educational symposiums over the coming years in a series of interest areas, and the first symposium series is entitled "Monetization of Carbon" .... And the first symposium in the series is entitled "45Q – Technology, Policy, and Legal".

We will be sending a Save The Date flyer out later this week, but I am reaching out to you personally to consider addressing the audience in a 15-20 minute overview of your area of work, your organization and impact on activities to date with 45Q, and the future you envision. It is clear to me that the community in Houston is critical to success for CCUS, and the member companies of our CCME have their own efforts underway. That said, the value our CCME brings is the ability to convene the marketplace and you are all leaders in your respective fields. Bringing you in to speak would add great value to our initial symposium and I would consider it a personal favor that you would choose to come.

This first symposium will in many ways be an opportunity for many of our member companies to meet you personally and to hear your experiences. The array of topics is quite broad – and what we then expect will occur is a number of verticals to get created from this in terms of workshops and deeper SME efforts. The other motive for having you come is to also meet our team at UH – our key faculty – and to become integrated with our CCME as associates to the CCME. The member companies may already know many of you but I am certain they do not all have the same working knowledge. Member companies will extend beyond the O&G energy folks you are familiar with and you can expect petrochemical companies, electric power companies, mid-streamers, etc. The value of the center is also in the diversity of the marketplace and the players – and the fact that we are here in Houston and can convene. Our target will be 200+ attendees.

You each have a powerful story that the market will be interested in. The goal here is to have those stories in play and not to educate the audience deeply in the SME areas – but to educate them on your story and what you do – and you. I have been fortunate to know you for a number of years and it would be a privilege to share that with the CCME member companies and the external audience we anticipate from the greater Houston energy market.

As I suggested – the save the date flyer will be out later this week – and based upon your personal interest, we will craft the agenda to fit. Please give it a serious thought to participate and then say yes ok ! ☺ I will follow up with you personally the week and I have copied you all to get a sense of the cast and the strength of it.

THX for your consideration and we look forward to a great first event at our CCME.

Charles McConnell  
Executive Director, Carbon Management and Energy Sustainability  
UH Energy, Chancellor/President's Division  
[University of Houston](http://www.uh.edu)

(b) (6)

[cmccconnell@uh.edu](mailto:cmccconnell@uh.edu)

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**SAVE  
THE  
DATE**

for the Center for  
Carbon Management in Energy  
*Symposium Series 2019*

**Monetization of Carbon:  
45Q - Technology,  
Policy, and Legal**

Wednesday, June 12, 2019  
9:00AM - 4:00PM  
Reception to Follow  
Student Center South - Theater

UNIVERSITY of HOUSTON | UH ENERGY

**From:** Krutka, Holly <HKrutka@peabodyenergy.com>  
**Sent:** Friday, February 22, 2019 11:19 AM  
**To:** Hrkman, Lou; Winberg, Steven  
**Subject:** [EXTERNAL] FW: CURC ACTION ITEM: CURC General Membership Reception Invitation - February 27th, 2019

**Categories:** Green Category

Hi Steve and Lou,

No pressure since no doubt you get a lot of these, but I would like to extend an invitation to the CURC network reception next Wednesday. Take care.

### Holly Krutka, PhD

Vice President, Coal Generation and Emission Technologies

#### Peabody

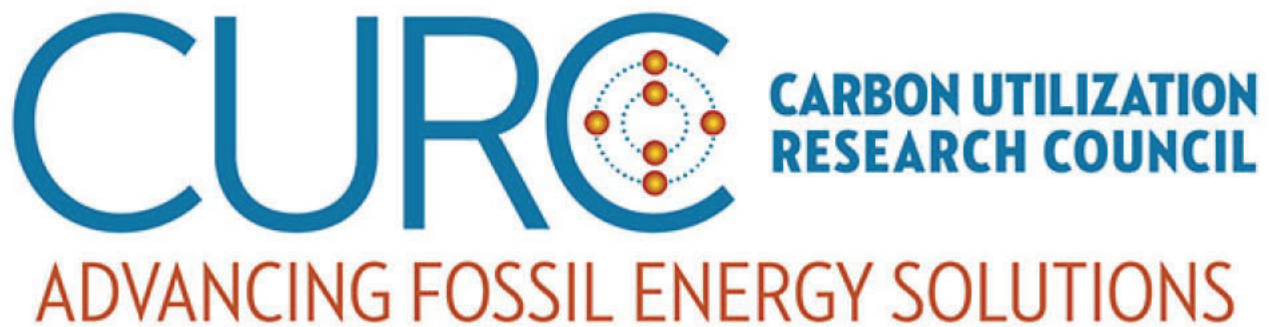
Peabody Plaza | 701 Market St. | St. Louis, MO 63101-1826

Office Phone: (314) 342-7833 | Cell: (b) (6)

[hkrutka@peabodyenergy.com](mailto:hkrutka@peabodyenergy.com)

**From:** Carbon Utilization Research Council

**Subject:** CURC General Membership Reception Invitation - February 27th, 2019



*The Carbon Utilization Research Council (CURC) is focused on technology solutions for the responsible use of our fossil energy resources to support our nation's need for reliable and affordable energy. For more information, please visit our website at [www.curc.net](http://www.curc.net).*

#### **CURC Staff**

[Shannon Anqielski](#)  
Executive Director

[Michael Weiner](#)

### **CURC General Membership Reception**

*February 27th, 2019*

The Carbon Utilization Research Council (CURC) cordially invites you to join our membership for our Winter General Membership Meeting cocktail reception on Wednesday, February 27th from 5:00 - 7:00 pm. The reception is being held in the Russell Senate Office Building, Room 188. We expect approximately 40-50 members of CURC to attend the reception, as well as representatives from Congress, DOE, and other industry stakeholders.

*This event is considered a "widely attended event" under House and Senate ethics rules.*

Director of Coalition Services

Please direct your RSVP to Sofia Baneth at [sbaneth@vnf.com](mailto:sbaneth@vnf.com).

We look forward to seeing you on February 27th!

\*\*\*\*\*

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**From:** Krutka, Holly <HKrutka@peabodyenergy.com>  
**Sent:** Monday, November 05, 2018 4:50 PM  
**To:** Winberg, Steven  
**Cc:** Daniels, Jarad  
**Subject:** [EXTERNAL] FW: CCUS Summit - Information for briefing call #3  
**Attachments:** Draft Chair summary 3 Nov.docx; CCUS Summit Participants (3 Nov).docx; Draft CCUS Summit Agenda 3 Nov.docx; mg\_info.txt

**Categories:** Green Category

Dear Steve,

I noticed that you are now listed as an attendee at the IEA CCUS Ministerial Summit in Edinburg. There are bilateral meeting rooms available. Do you have availability to meet with Glenn Kellow, Peabody's President & CEO (and me)? There are meeting rooms available before noon and then during the buffet lunch from 13.15, but it might be better to meet before the lunch begins. Would 11 am local time work for you? If not we could just catch up at the reception or at another time during the day. Thanks

## Holly Krutka, PhD

Vice President, Coal Generation and Emission Technologies

### Peabody

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[hkrutka@peabodyenergy.com](mailto:hkrutka@peabodyenergy.com)

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**From:** Samantha MCCULLOCH, IEA <Samantha.MCCULLOCH@iea.org>  
**Sent:** Sunday, November 04, 2018 3:37 AM  
**Cc:** Lochhead, Will (Clean Electricity) <will.lochhead@beis.gov.uk>; 'Lord, Hannah (Clean Electricity)' <hannah.lord@beis.gov.uk>; Thomas BERLY, IEA <Thomas.BERLY@iea.org>; David TURK, IEA <David.TURK@iea.org>  
**Subject:** CCUS Summit - Information for briefing call #3

Dear all

In advance of our briefing call on Wednesday, please find below and attached updated information relating to the CCUS Summit.

### Agenda and Chairs Summary

An update of both the Summit Agenda and Chairs' Summary is attached. Many thanks to all who provided feedback on the initial draft and comments on these new drafts are welcome, **no later than Friday 9 November.**

In relation to the Chairs' summary, we have made edits to improve the language and flow but without major substantive changes. In the interests of keeping the document fairly concise we have also decided not to include specific examples or announcements throughout the summary but will still include Summit outcomes and new announcements up-front.

For the Agenda, please note that in order to accommodate a proposed press conference at the conclusion of the Summit, **the start time for the Summit has changed to 13:15**. We apologise if this causes any inconvenience. The venue will be open from 12:00 with a buffet lunch served between 12:00-13:30. Bilaterals can also be held over this period and rooms are also available before 12.00 for bilaterals if required (please contact Hannah Lord – [Hannah.lord@beis.gov.uk](mailto:Hannah.lord@beis.gov.uk) – if you require a room for a bilateral(s)).

### **Media engagement and press conference**

The UK government and IEA are exploring options for media engagement at the Summit, recognising that this is an important opportunity to highlight the very high level of interest and activity on CCUS technologies globally, as well as their critical role in meeting climate and energy goals ahead of COP24. As mentioned we are proposing to have a press conference at the conclusion of the Summit with Minister Perry and Dr Birol (and potentially 3-4 other participants) where the Chairs' summary will be issued together with a short press release from IEA and UK government. In addition, press releases from both UK government and IEA will be released in the morning of the 28<sup>th</sup> November. If you are planning an announcement, please can you contact Will and myself and we can link you up with the UK government and IEA press leads.

We are also considering allowing invited journalists access to the Summit discussions via a listening room and strictly under Chatham House rule, so that no comments would be attributable to particular organisations. We feel this would improve coverage of the event and we would appreciate your feedback on this. Please feel free to contact Will and myself to discuss, and we will also have this as a topic for discussion at the call on Wednesday.

### **Gentle reminder – confirmation of dinner attendance, logistics and translation**

If you have not already done so, please confirm with Hannah Lord ([Hannah.lord@beis.gov.uk](mailto:Hannah.lord@beis.gov.uk)) the names of any advisors attending the Summit and the dinner, noting that we can only accommodate one advisor per delegate for the dinner. Also please let Hannah know if you have any specific dietary or accessibility requirements. A translation service is available and if you have not already informed us that you require translation, please can you let Hannah Lord know as soon as possible.

A separate update on logistics will be circulated next week.

### **Agenda for Wednesday 7 November call (14:00 CET)**

1. Update on participation and logistics
2. Media engagement and communications
3. Agenda and meeting arrangements
4. Chairs' summary
5. Any other business

If you have not received the outlook invitation for the call with dial-in details, please let us know.

Please contact Will and myself if you have any questions or would like to discuss any aspect of the Summit. We look forward to speaking with you on Wednesday.

Regards  
Sam and Will

**Samantha McCulloch**  
Head of CCUS Unit  
Tel: + 33 1 40 57 67 79  
Mobile: (b) (6)

E-mail: [Samantha.MCCULLOCH@iea.org](mailto:Samantha.MCCULLOCH@iea.org)

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## International CCUS Summit

28 November 2018

Chairs' Summary

### *Accelerating investment in a critical climate solution*

#### *Summit highlights:*

- [Key agreements/points from Summit...]
- [Announcements made by participants]

Global energy leaders met in Edinburgh, United Kingdom, to drive new momentum in carbon capture, utilisation and storage (CCUS) technologies as a proven and critically-important climate solution. Energy ministers, CEOs and representatives of the financial community recognised considerable progress and an increased commitment to deploying CCUS. The potential of CCUS to unlock value across the economy and support industrial competitiveness while achieving significant emissions reductions was highlighted.

The Summit, held just days before the COP24 climate negotiations commence in Katowice, Poland, underscored that investment in CCUS must be scaled-up urgently to achieve global climate and energy goals. Stable policy frameworks will be central to supporting this investment while new business models are ensuring that CCUS is increasingly cost-competitive.

CCUS will support deep emissions reductions in industrial sectors that are important for economic growth and high-value jobs, such as steel, cement and chemicals production. In the power sector, CCUS will provide greater diversity in generation options – reducing overall system costs – and protect substantial capital investment in existing infrastructure.

CCUS can also enable the rapid emergence of new clean energy pathways, including low carbon hydrogen production for heating, transport and power generation. It can provide the infrastructure and knowhow to accelerate the deployment of carbon dioxide removal (CDR) technologies. The IPCC's 1.5 degree report suggests that several hundred gigatonnes of CDR would be needed by the end of the century if a broad range of climate actions are taken – rising to 1,000 GT cumulatively if other levers are not used.

### ***A rapid scale-up of CCUS investment is required***

According to the International Energy Agency (IEA), progress on CCUS is well off-track when measured against globally agreed climate and energy goals. Today's CO<sub>2</sub> capture rate represents less than 4% of that required by 2030 under a pathway consistent with the Paris Agreement objectives.

To address this, delegates recognised the urgent need for early investment. CCUS projects have a typical development time of between five and eight years, meaning investment decisions need to be taken today for facilities to be operating by the mid-2020s. The Summit identified priorities and strategies to enable these investment decisions, including:

- ***Prioritise competitive investment opportunities:*** The IEA has identified that as much as 450 Mt CO<sub>2</sub> globally could be captured for CO<sub>2</sub> use or storage with an incentive of less than USD 40 per tonne. This CO<sub>2</sub> is primarily from industrial facilities such as ethanol production, hydrogen or natural gas processing that otherwise vent relatively pure CO<sub>2</sub>. Delegates recognised that these early opportunities for CCUS investment could make a substantial contribution to emissions reductions at a competitive cost.
- ***Reduce costs through better business models and CCUS "hubs":*** CCUS requires clear commercialisation pathways if investment is to be accelerated. Delegates recognised the need for a swift transition from building stand-alone CCUS facilities with dedicated transport and storage infrastructure, to developing multi-user "hub and cluster" facilities in industrial regions. This approach can reduce unit costs through economies of scale, while reducing commercial risk and financing costs by separating out the CCUS value-chain. Public-private partnerships can play an effective role in the development of transport and storage infrastructure. The Summit underlined the importance of agreeing appropriate risk-sharing arrangements between governments and industry to support the cost-effective deployment of CCUS infrastructure.
- ***Develop policy frameworks for investment certainty:*** A carbon price or CO<sub>2</sub> tax can provide an important long-term investment signal for CCUS, but boosting early investment will require complementary and targeted policy measures. A range of options including tax credits, grant funding, feed-in tariffs, public procurement, low-carbon product incentives and CCUS obligations and certificates could all play a role.
- ***Include CCUS in long-term climate strategies:*** The deployment of CCUS is critical in all viable pathways to achieving globally-agreed climate goals. The preparation of the next round of Nationally Determined Contributions (NDCs) and submission of mid-century climate strategies provides an opportunity to identify and articulate the future role for CCUS at a national level. These strategies can play an important role in informing near-term policy and investment decisions for CCUS.
- ***Identify and develop "bankable" CO<sub>2</sub> storage:*** Confidence in the availability of safe, secure and adequate CO<sub>2</sub> storage is a prerequisite for investment in both transport and storage infrastructure and capture facilities. Global CO<sub>2</sub> storage resources are considered to be well in excess of likely future requirements. In many regions, however, significant further assessment work is required to convert theoretical storage capacity into "bankable" storage, where capacity, injectivity and containment are well understood. Regional collaboration and partnerships are playing an important role in the identification and development of CO<sub>2</sub> storage facilities globally and need to be increased.
- ***Unlock the value of CO<sub>2</sub>:*** CCUS can be central to a new market for low carbon products. Innovation in CO<sub>2</sub> use – for the production of chemicals, building materials and fuels – could boost future

demand for CO<sub>2</sub> as a valuable commodity, driving new markets and provide a commercial incentive for CO<sub>2</sub> capture. Two-thirds of CCUS projects operating today were driven by demand for CO<sub>2</sub> for enhanced oil recovery (EOR), and there is significant further potential for EOR-enabled CCUS investment in North America, China and the Middle East. Given the scale of the climate challenge, opportunities for CO<sub>2</sub> use are expected to complement, rather than replace, the need for geological storage, but the proliferation of projects is expected to lower costs on capture technology and help unlock the economic value of CCUS to countries.

### ***Strengthened partnerships for accelerated deployment***

Accelerating the deployment of CCUS is complex but increasingly urgent and important. It requires government, industry, financial services and key stakeholders to work in partnership and put in place new investable business models, reaching agreement on the sharing of costs, risks and liabilities. This requires building a significant level of trust on all sides which this Summit has helped strengthen.

The Summit highlighted that parties are actively seeking partnerships to build CCUS investment opportunities and to accelerate CCUS deployment globally through sharing best practices, technology transfer and project-specific learnings. It acknowledged that multilateral initiatives such as the Clean Energy Ministerial CCUS Initiative, the Carbon Sequestration Leadership Forum, Mission Innovation, the Oil and Gas Climate Initiative (OGCI), and the Global CCS Institute are facilitating international CCUS partnerships. Delegates identified strengthening such initiatives as a priority and recognised the need to extend them across industries, reaching out to include financial services and NGOs, whose support is critical to the accelerated deployment of CCUS.

Importantly, the Summit also confirmed that the private sector is ready and able to deliver CCUS if it can operate within a well-understood fiscal, policy and risk-allocation framework.

Closing paragraph/next steps...

Signed:

Claire Perry MP  
Minister of State for Energy and Clean Growth  
United Kingdom

Dr Fatih Birol  
Executive Director  
International Energy Agency

**INTERNATIONAL CCUS SUMMIT – 28 NOVEMBER 2018**

**CONFIRMED PARTICIPANTS (as at 31 October 2018)**

<i>Ministers and Senior Government Officials</i>			
<b>1. United Kingdom</b>	<b>Perry</b>	<b>Claire</b>	<b>Minister of State for Clean Energy and Growth (Co-Chair)</b>
<b>2. Norway</b>	Freiberg	Kjell-Børge	Minister of Petroleum and Energy
<b>3. Poland</b>	Kurtyka	Michał	Vice-Minister of Environment President, COP24
<b>4. Saudi Arabia</b>	al-Falih	H.E Khalid	Minister of Energy, Industry and Mineral Resources
<b>5. Scotland</b>	Wheelhouse	Paul	Minister for Energy, Connectivity and the Islands
<b>6. United States</b>	Winberg	Steven E.	Assistant Secretary for Fossil Energy
<b>7. Japan</b>	Ishikawa	Akimasa	Parliamentary Vice Minister of Economy, Trade and Industry
<b>8. Canada</b>	Wilson	Amanda	Director General, Office of Energy Research and Development, Natural Resources Canada
<b>9. Netherlands</b>	Gaastra	Sandro	Director General, Ministry of Economic Affairs and Climate Policy
<b>10. United Arab Emirates</b>	Alneyadi	H.E Dr. Matar	Undersecretary, Ministry of Energy and Industry
<b>11. Germany</b>	Gaeckle	Thomas	Deputy Director General, BMWi
<i>CEOs and Senior Industry Executives</i>			
<b>12. Royal Dutch Shell</b>	van Beurden	Ben	CEO
<b>13. BP</b>	Dudley	Bob	Chief Executive Officer
<b>14. China Energy</b>	Ling	Wen	President & CEO
<b>15. Equinor</b>	Sætre	Eldar	President and CEO
<b>16. ENI</b>	Descalzi	Claudio	Chief Executive Officer
<b>17. Peabody</b>	Kellow	Glenn	President and Chief Executive Officer
<b>18. J-Power</b>	Kitamura	Masayoshi	Chairman
<b>19. Occidental Petroleum</b>	Hollub	Vicki	President and CEO
<b>20. Drax Group</b>	Gardiner	Will	Chief Executive Officer
<b>21. Ervia</b>	Quinn	Mike	Group Chief Executive Officer
<b>22. Port of Rotterdam</b>	Castelein	Allard	Chief Executive Officer
<b>23. Kuwait Petroleum Corporation</b>	Al-Adsani	H.E. Nizar M.	Deputy Chairman of the Board and Chief Executive Officer
<b>24. Saudi Aramco</b>	Al Khowaiter	Ahmad	Chief Technology Officer
<b>25. Chevron</b>	Nelson	Mark	Vice President, Midstream, Strategy and Policy
<b>26. Glencore</b>	Freyberg	Peter	Global Head of Coal Assets
<b>27. ExxonMobil</b>	Trelenberg	Peter	Manager of Environmental Policy and Planning
<b>28. Total</b>	Paszkievicz	Ladislav	Senior Vice President Strategy and Climate
<b>29. LafargeHolcim</b>	Diebold	Jens	Head of Sustainability
<b>30. BHP</b>	Wild	Fiona	Vice President, Sustainability and Climate Change

<b>31. Mitsubishi Heavy Industries</b>	Shiraiwa	Yoshihiro	Senior Vice President and Regional CEO for Europe, Africa, and Middle East.
<b>32. Abu Dhabi National Oil Company (ADNOC)</b>	Al Daghar	Khadija	Manager, Research and Technology Development Department
<b>Global partnerships and organisations</b>			
<b>33. IEA</b>	<b>Birol</b>	<b>Fatih</b>	<b>Executive Director (Co-Chair)</b>
<b>34. Gassnova</b>	Sundset	Trude	Chief Executive Officer
<b>35. Global CCS Institute</b>	Mandil	Claude	Chairman ( <i>former IEA Executive Director</i> )
<b>36. Global CCS Institute</b>	Page	Brad	Chief Executive Officer
<b>37. IPCC</b>	Skea	Jim	Co-Chair Working Group III
<b>38. Oil and Gas Climate Initiative (OGCI)</b>	Schmitt	Jerome	Chairman of the Executive Committee
<b>39. OGCI Climate Investments</b>	Rangarajan	Pratima	CEO
<b>40. IFP Energies nouvelles</b>	Houssin	Didier	President
<b>41. Kuwait Institute for Scientific Research</b>	Shihab-Eldin	Adnan	Director General ( <i>former Secretary-General of OPEC</i> )
<b>42. International CCS Knowledge Centre</b>	Monea	Michael	President and CEO
<b>Finance</b>			
<b>43. Asian Development Bank</b>	Wijayatunga	Priyantha	Director South Asia Energy
<b>44. World Bank</b>	Puliti	Riccardo	Senior Director, Energy and Extractive Global Practice
<b>45. Société Générale</b>	Musset	Olivier	Global Head of Energy, Natural Resources Group
<b>46. Barclays</b>	Smedley	Iain	Managing Director; Chairman, EMEA Power, Utilities & Infrastructure Investment Banking
<b>47. Generali Global Infrastructure</b>	Kamp	Sacha	Executive Director
<b>48. Legal &amp; General Capital</b>	Bromley	John	Head of Clean Energy Strategy
<b>49. MUFG Bank</b>	Gould	Carol	Head of Power and Renewables Structured Finance Office for EMEA





Department for  
Business, Energy  
& Industrial Strategy



## INTERNATIONAL CCUS SUMMIT

28 November 2018  
Edinburgh, Scotland

**Venue:**

The Assembly Rooms  
54 George Street, Edinburgh

### Draft Agenda

*For discussion with participants*

**Chairs:** The Rt Hon Claire Perry MP, Minister of State for Energy and Clean Growth,  
United Kingdom

Dr Fatih Birol, Executive Director, International Energy Agency

12:00-13:15	Buffet lunch will be available <sup>1</sup>
13:15-13:30	Official photograph
<b>Summit Roundtable</b>	
13:30-13:50	<b>Welcome and opening remarks</b> <ul style="list-style-type: none"><li>• Minister Claire Perry</li><li>• Dr Fatih Birol</li></ul>
13:50-15:10	<b>Session 1: Priority actions to scale-up CCUS deployment</b> <i>Discussion points:</i> <ul style="list-style-type: none"><li>• <i>What are the significant challenges to scaling up CCUS deployment?</i></li><li>• <i>What business models could best overcome these challenges and support investment, including in CO<sub>2</sub> transport and storage infrastructure?</i></li><li>• <i>Can a new economic model for CCUS be focused around clean hydrogen, carbon dioxide removal technologies, carbon utilisation and low carbon products?</i></li><li>• <i>What is required to engage the finance sector to stimulate investment in CCUS (including innovative and deployment investment)?</i></li><li>• <i>How can the narrative for CCUS support its central role in meeting global climate ambitions?</i></li></ul>
15:10-15:30	Coffee break

<sup>1</sup> Please note that there will be rooms available before 12.00 for bilaterals. Rooms will also be available for bilaterals over the lunch period.

15:30-16:35	<p><b>Session 2: Strengthening industry-government partnerships</b></p> <p><i>Discussion points:</i></p> <ul style="list-style-type: none"> <li>• <i>What types of institutional arrangements could facilitate closer industry-government partnerships on CCUS deployment?</i></li> <li>• <i>What approaches or mechanisms would allow project risks to be equitably shared between government and industry?</i></li> <li>• <i>How can collaboration across and between industries be improved?</i></li> <li>• <i>Can we build on existing initiatives such as the Clean Energy Ministerial and Mission Innovation and bring industry, governments and investors closer through these?</i></li> </ul>
16:35-16:45	<b>Closing remarks from co-chairs</b>
16:50-17:20	<i>Press conference</i>
<b>Summit Reception</b>	
17:30-18:00	<i>Transport to Edinburgh Castle</i>
18:00-19:00	Viewing Honours of Scotland (The Crown Jewels) and drinks reception
19:00-21:30	<p>Dinner hosted by Nicola Sturgeon, First Minister of Scotland</p> <p>19:05: First Minister opening remarks</p> <p>19:15: starter served</p> <p>19:45: main course served</p> <p>20:15: keynote speaker, Minister Kurtyka, President, UNFCCC COP24, with introduction from Dr Fatih Birol</p> <p>20:25: desert/tea/coffee served</p> <p>20:55: closing remarks, Claire Perry, Minister of State for Energy and Clean Growth, United Kingdom</p> <p>21:00: pipe band will do a beat the retreat in Crown Square</p>
21:15-21:30	Evening ends and return travel arranged for delegates

**From:** Giove, Joseph  
**Sent:** Saturday, September 08, 2018 8:57 PM  
**To:** jgellici@ncc1.org;Slone, Deck;Danny Gray;Lawson David;Holly Krutka PhD;Brownell, Bill;(b) (6);Burk, Justin M;George Duggan;Matheney, Doug;Hiranthie Stanford  
**Cc:** Gordon, Wayne;Winberg, Steven;Maddox, Mark;Daniels, Jarad;Hrkman, Lou;Kokkinos, Angelos;Vincent, Kenneth;Sarkus, Thomas (NETL);Sneed, Michelle;Bossie, Darren;Loman, Carol (CONTR);Desouza, Shannon (CONTR);Mathis, Shayla (CONTR)  
**Subject:** RE: NCC Meeting - Tropical Storm Florence  
**Categories:** Green Category

Janet, (b) (5)

--Joe

**Joseph Giove III**  
Director of Coal Business Operations  
Office of Fossil Energy  
U.S. Department of Energy  
19901 Germantown Rd., Room E-136  
Germantown, Md. 20874  
Work/Cell: (b) (6)

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**From:** jgellici@ncc1.org [mailto:jgellici@ncc1.org]  
**Sent:** Saturday, September 08, 2018 11:36 AM  
**To:** Slone, Deck <DSlone@archcoal.com>; Danny Gray <dgray@charah.com>; Lawson David <dtlawson@nscorp.com>; Holly Krutka PhD <hkrutka@peabodyenergy.com>; Brownell, Bill <bbrownell@hunton.com>; (b) (6); Burk, Justin M <JBurk@peabodyenergy.com>; George Duggan <george.duggan@bnsf.com>; Giove, Joseph <Joseph.Giove@HQ.DOE.GOV>; Matheney, Doug <Doug.Matheney@hq.doe.gov>; Hiranthie Stanford <hstanford@ncc1.org>  
**Subject:** NCC Meeting - Tropical Storm Florence  
**Importance:** High

Well, absolutely nothing about the NCC 2018 Fall Annual Meeting has been easy and the challenges continue. I'm fortunate enough to have friends who are weather gurus and I'm working with them to secure their best advice on the pending path and intensity of now Tropical Storm Florence. Currently, it appears that Norfolk will be wet but spared the brunt of the storm. But of course that could change. I think we'll have a more definite projection of the storm's path and intensity on Monday.

On Monday afternoon, we'll need to make a decision about whether to proceed with the meeting or not. On Monday morning, we'll begin discussions with the hotel regarding execution of our force majeure clause just in case.

Regardless of the storm's Norfolk impact, I do anticipate that travel will be disrupted and we are unlikely to have a quorum of members able to attend the meeting on Thursday. (b) (5)

[Redacted]

[Redacted]

[Redacted]

This means we would have a very abbreviated program with just three speakers (Lou Hrkman, Bill West, Seth Schwartz). Given the weather outlook, I also think the boat excursion on the evening of 9-12 and the terminal tour the afternoon of 9-13 are in jeopardy (we do have a backup plan to host the 9-12 reception inside).

So there you have it. I just wanted to provide you all with a heads up. Would welcome any thoughts or advice at this point. I'm not sure there's enough chocolate in the world to get me through this meeting. ☺

Cheers ~

Janet Gellici

CEO

National Coal Council

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[jgellici@NCC1.org](mailto:jgellici@NCC1.org)

[www.nationalcoalcouncil.org](http://www.nationalcoalcouncil.org)



Virus-free. [www.avg.com](http://www.avg.com)

**From:** Winberg, Steven  
**Sent:** Friday, August 31, 2018 3:03 PM  
**To:** Osborne, Rodney L  
**Cc:** Desouza, Shannon (CONTR); Loman, Carol (CONTR); John Schultes (john.schultes@n-steel.com)(b) (6)  
**Subject:** RE: Updates on New Steel Inc - Ohio and Michigan Projects  
**Categories:** Green Category

Carol and Shannon will find a time. Include Lou, Angelos, Mark and Doug

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**From:** Osborne, Rodney L <[osborner@battelle.org](mailto:osborner@battelle.org)>  
**Date:** Friday, Aug 31, 2018, 9:46 AM  
**To:** Winberg, Steven <[Steven.Winberg@hq.doe.gov](mailto:Steven.Winberg@hq.doe.gov)>  
**Cc:** Desouza, Shannon (CONTR) <[Shannon.Desouza@Hq.Doe.Gov](mailto:Shannon.Desouza@Hq.Doe.Gov)>, Loman, Carol (CONTR) <[CAROL.LOMAN@HQ.DOE.GOV](mailto:CAROL.LOMAN@HQ.DOE.GOV)>, John Schultes (john.schultes@n-steel.com) <[john.schultes@n-steel.com](mailto:john.schultes@n-steel.com)>, (b) (6)  
**Subject:** Updates on New Steel Inc - Ohio and Michigan Projects

Mr. Winberg – Much has happened with New Steel since our visit in April. John Schultes of New Steel and I would like to brief you on these updates and discuss the future plans of New Steel. May we request a meeting with you and your colleagues? I'd like to suggest perhaps Sept 14, after the National Coal Council meeting in Norfolk, or any day the following week (Sept 17) at DOE.

As you know, I am leaving Battelle, so please correspond directly with Mr. Schultes (john.schultes@n-steel.com).

Thank for all your great efforts on fossil energy, on behalf of the nation.

All the best,

**Rod Osborne**  
Battelle :: **Energy**  
Mobile: (b) (6)  
[osborner@battelle.org](mailto:osborner@battelle.org)  
(b) (6)

**From:** Giove, Joseph  
**Sent:** Friday, July 27, 2018 10:27 AM  
**To:** osborner@battelle.org  
**Cc:** Winberg, Steven; Matheney, Doug; Sneed, Michelle; Bossie, Darren; Daniels, Jarad; Kokkinos, Angelos; Mollot, Darren; Loman, Carol (CONTR); Lacey, Cynthia (CONTR); Darby, Esther-Elizabeth (CONTR); Davis, Karrnett; Janet Gellici; Gordon, Wayne; Butler, Latanya  
**Subject:** RE: Regarding your Appointment to the NCC  
**Categories:** Green Category

Sorry for the typo. . .meant to say you intend to begin work on 12/31/18. . .but the result is the same.

Have a great weekend!!!

--Joe

Joseph Giove III  
Director of Coal Business Operations  
Office of Fossil Energy  
U.S. Department of Energy  
19901 Germantown Rd., Room E-136  
Germantown, Md. 20874  
Work/Cell: (b) (6)

-----Original Message-----

**From:** Giove, Joseph  
**Sent:** Friday, July 27, 2018 10:24 AM  
**To:** 'osborner@battelle.org' <osborner@battelle.org>  
**Cc:** Winberg, Steven <Steven.Winberg@hq.doe.gov>; Matheney, Doug <Doug.Matheney@hq.doe.gov>; Sneed, Michelle <Michelle.Sneed@hq.doe.gov>; Bossie, Darren <Darren.Bossie@hq.doe.gov>; Daniels, Jarad <Jarad.Daniels@hq.doe.gov>; Kokkinos, Angelos <Angelos.Kokkinos@hq.doe.gov>; Mollot, Darren <Darren.Mollot@HQ.DOE.GOV>; Loman, Carol (CONTR) <CAROL.LOMAN@HQ.DOE.GOV>; Lacey, Cynthia (CONTR) <Cynthia.Lacey@Hq.Doe.Gov>; Darby, Esther-Elizabeth (CONTR) <Esther-Elizabeth.Darby@hq.doe.gov>; Davis, Karrnett <Karrnett.Davis@hq.doe.gov>; Janet Gellici <jgellici@NCC1.org>; Gordon, Wayne <Wayne.Gordon@hq.doe.gov>; Butler, Latanya <Latanya.Butler@hq.doe.gov>  
**Subject:** Regarding your Appointment to the NCC

Mr. Osborne, it was a pleasure to speak with you just now on the phone, and thank you for your understanding of the current situation. As we discussed, you have been successfully appointed as a representative to the National Coal Council . . .congratulations!! I am attaching a PDF copy of your appointment letter. An official copy of the letter will be sent to you shortly in the mail. (b) (5)

I believe the current date of your work for NETL is scheduled to being on 12/31/17, however it could be earlier as well. The next five months is still a fantastic time to be part of the NCC as we are finalizing two major reports and will likely be starting another. I'm certain you can be of great

assistance on several fronts, even if your time on the council is brief. Please let me know if you have any questions and I look forward to hearing from you in the future.

Kind regards,

--Joe

Joseph Giove III  
Director of Coal Business Operations  
Office of Fossil Energy  
U.S. Department of Energy  
19901 Germantown Rd., Room E-136  
Germantown, Md. 20874  
Work/Cell: (b) (6)



**The Secretary of Energy**  
Washington, DC 20585

July 18, 2018

Mr. Rodney Osborne  
Line Manager, Energy Group  
Battelle Memorial Institute  
505 King Avenue  
Columbus, Ohio 43201

Dear Mr. Osborne:

I am pleased to invite you to serve as a member of the National Coal Council for a two-year term ending two years from the date of this letter.

Chartered under the authority of the U.S. Department of Energy, in accordance with the provisions of the Federal Advisory Committee Act, the Council is one of three Federal Advisory Committees that provide recommendations for Fossil Energy programs and policies. Its principal activity is to provide advice and recommendations to the Secretary of Energy on matters relating to coal or the coal industry by conducting studies at the Secretary's request.

I am appointing you to represent the viewpoints of organizations developing technology for the storage and re-use of coal-generated carbon dioxide emissions. In the coming months, the work of the Council will be extremely important to the Nation; and I am certain you will find your association with this organization both challenging and productive.

Members of the Council serve without compensation. Members of the Council are asked to recuse themselves from participation in any meeting, study, recommendation, or other Council activity that would have a direct and predictable effect on the companies, organizations, agencies, or other entities with which they have a financial interest.

I hope that you will accept this appointment. Please relay your decision to Mr. Joseph Giove, who is currently serving as the Deputy Designated Federal Officer for the National Coal Council. He would be pleased to answer any questions you may have, and can be reached by email at: [Joseph.Giove@hq.doe.gov](mailto:Joseph.Giove@hq.doe.gov) or by phone at (301) 903-4130.

Sincerely,

*Rick Perry*

Rick Perry

