



U.S. DEPARTMENT OF
ENERGY

Fossil
Energy



REPORT

WESTERN STATES COAL STRATEGIES FORUM

**NOVEMBER 20 – 22, 2019
MOAB, UT**

WESTERN STATES COAL STRATEGIES FORUM

On November 20-22, 2019 the United States Energy Association, in partnership with the U.S. Department of Energy's Office of Fossil Energy (DOE-FE) and the Utah Governor's Office of Energy Development, conducted the inaugural Western States Coal Strategies Forum held in Moab, Utah. The forum provided stakeholders from industry, government, tribal entities, trade and market partners a platform to discuss:

- Opportunities to deploy high efficiency, low emissions coal technologies in the Western United States
- The potential for carbon capture, utilization, and storage technologies
- Advanced research on emerging coal technologies
- International markets and the export of American coal through western ports.
- Opportunities presented by a burgeoning Coal to Products industry

Forum registrants included DOE officials, academia (UND-EERC, University of Utah, University of Wyoming), foreign government officials (Mexico), state and local government officials (Campbell County, Carbon County, City of Farmington, City of Kemmerer, Emery County, Lincoln County, Millard County, Moffat County, State of New Mexico, State of Kentucky, State of Utah, State of Wyoming, Sanpete County, Sevier County, Utah Public Service Commission), NGOs (ACCCE, Energy Policy Network, National Energy Foundation, USEA, Utah Advanced Materials & Manufacturing Initiative, Utah Mining Association, Wyoming Business Council,) and representatives of industry (Acme Equities LLC, Alton Coal, Atlast Carbon, Basin Electric Power Cooperative, BNSF Railway, Charah Solutions, Insight Terminal Solutions, Jackson Walker LLP, Lighthouse Resources, Millcreek Engineering, Occidental Petroleum, Peabody Energy, Prairie State Generating Company, Sage Government Solutions, Savage Services, Snell & Wilmer, Solid Carbon Products, Sustainable Energy Solutions, Tri State Generation & Transmission, TYR Energy, Uinta Group, Westmoreland Coal, Wolverine Fuels). Native American Tribes and tribal-affiliated companies and organizations included representatives of the Crow Tribe, Grey LLC (Navajo Nation), National Tribal Energy Association, Navajo Transitional Energy Company LLC, Hopi, and Sagebrush Hill Group (Navajo).

KEY TAKEAWAYS

The purpose of the Forum was to discuss:

- Opportunities to deploy high efficiency, low emissions coal technologies in the Western United States
- The potential for carbon capture, utilization, and storage technologies
- Advanced research on emerging coal technologies
- International markets and the export of American coal through western ports.
- Opportunities presented by a burgeoning Coal to Products industry

The forum began on the afternoon of November 20th with introductory remarks from Jordan Clark of the Utah Office of Energy Development followed by keynote and welcoming remarks from Mr. Steve Winberg, Assistant Secretary of DOE-FE and Joe Giove, DOE-FE. This was followed by a panel discussion on Coal's Economic Benefits and Challenges in the West featuring Jim Grech of Wolverine Fuels, Steve Grey from NTEC, and Jeffrey Kukura from Westmoreland Coal. After a break, the group broke out into two working group sessions on Policy, Regulation, and Permitting and Energy Corridors and Infrastructure. The Policy session featured Don Gaston from Prairie State Generating Company,

Kipp Coddington from the University of Wyoming, and Thad LeVar from the Utah Public Service Commission. The Energy Corridors session featured Jason Begger from the Wyoming Infrastructure Authority, Michael Klein from Lighthouse Resources, and NTEC's Steve Grey.

Day Two, November 21st, began with a perspective on coal's past, present, and future opportunities followed by a session looking at the future of CCUS and clean coal technologies featuring Occidental Petroleum's Charlene Russell and DOE-FE's Angelos Kokkinos. This session was followed by report outs from the previous day's working group sessions. After the report outs, a second round of working group sessions were held focusing on Power Production, Transmission, and Partnerships as well as Tribal Opportunities, Western Port Access, Military and Tribal Ports. The Power Production working group featured Tyler Hamman from Basin Electric Power Cooperative, UND-EERC's John Harju, and Brenton Bennett from Life:Powered. The working group on Tribal Opportunities, Western Port Access, Military & Tribal Ports was facilitated by C.J. Stewart of the National Tribal Energy Association and a member of the Crow Tribe. Speakers included Wolverine Fuel's Jim Grech, Michael Klein of Lighthouse Resources, and Casey Hopes of Carbon County, UT. Working group report outs were held after lunch, followed by the final working group session of the day focused on research and development, federal, and state partnerships with industry. This group featured BYU's Andrew Fry, Larry Baxter of Sustainable Energy Solutions, Gay Wyn Quance from Solid Carbon Products, Eric Eddings of the University of Utah, DOE-FE's John Litynski, University of Wyoming's Kipp Coddington, and Bill Sharer from the New Mexico State Legislature. Following a break and working group report outs, the day ended with keynote remarks from Laura Nelson, Energy Advisor to the Governor of Utah and Executive Director of the Utah Office of Energy Development.

Day Three, November 22nd, with a two final working groups on Coal's Energy Security and Reliability Attributes in a Western States Context and Energy Education – Western Coal, Global Sustainability, Mining, Power Generation, and Emissions Controls. The energy security and reliability group was facilitated by A/S Winberg and featured Laura Nelson, Angelos Kokkinos, Chris Skates from the Governor's Office of Kentucky and Renny MacKay from the Governor's Office of Wyoming. The Energy Education session was facilitated by Brian Somers of the Utah Mining Association and speakers included Elissa Richards from the National Energy Foundation, Mike Nasi from Jackson Walker LLP, and Kevin Brooks from the Utah Office of Energy Development. The working group sessions were followed by A/S Winberg providing the federal perspective on bringing coal back to the west and the final working group report outs. The day and forum concluded with closing plenary remarks on the next steps from bringing coal back to the west by Laura Nelson.

Below are the key considerations and potential actions discussed in the planning for and during the Forum for enhancing future programming, capacity building, and partnerships.

Education:

1. Status of Current Energy Education

Energy education, such that it exists for k-12 students, fails to provide a comprehensive, fact-based curriculum that explains the geology of coal, the uses of coal and the importance of coal to electric network reliability, environmental stewardship and economic growth in the Western States.

2. Energy Literacy

Low levels of energy literacy and awareness have led to a failure to recognize the economic, reliability and environmental benefits of coal and clean coal technologies.

3. Energy Education Resources

Federal resources, including those of DOE-FE, are not employed to the extent necessary to inform and educate stakeholders and the public on the importance of coal and clean coal technologies to reliability and economic development.

4. **45Q Tax Credit Awareness**

One factor mitigating the use of the 45Q tax credit is a general lack of awareness of the credit's objectives, the requirements for its use and its potential for CCUS project finance.

5. **Tribal Energy Education**

Citizens of Sovereign Nations lack education on the benefits of natural resources to the economic development and sustainability of their Tribal communities.

6. **Energy Knowledge of Officials**

Elected officials, FERC, and Tribal leaders fail to understand the negative grid reliability and economic impacts of decommissioning existing coal infrastructure.

Effective Use of Resources:

1. **Industry Coordination**

Industry stakeholders lack a common, readily available information package and set of talking points to use when educating decision makers on the economic, reliability and environmental benefits of coal in the Western States. There is no unifying voice among coal sector stakeholders to communicate the benefits of coal in the Western States.

2. **Tribal Sovereignty**

Tribal sovereignty principles have not been employed effectively to maintain existing coal infrastructure (mining, generation and coal transport), and to develop new coal infrastructure, including ports to facilitate the export of Western coal.

3. **Integrated Resource Planning**

There is no effective means for Western coal stakeholders to intervene in the Integrated Resource Planning (IRP) process of public utility commissions.

Messaging:

1. **Lack of Messaging**

Lack of effective messaging campaigns inhibit coal sector outreach in the Western states.

2. **Even Playing Field for Energy Resources**

There is disparity between the incentives provided for renewable energy technologies and the level of support for clean coal technologies.

The Forum reinforced the importance of well-planned programming and robust partnerships, highlighting opportunities for capacity building and streamlined processes to empower clean coal development and energy initiatives.

FORUM AGENDA

November 20 – Forum Day 1

- | | |
|--------------------|--|
| 12:00 pm – 3:00 pm | Registration |
| 3:00 pm – 3:30 pm | Introduction and Welcome Remarks <ul style="list-style-type: none">• Jordan Clark, Utah Office of Energy Development• Assistant Secretary Steve Winberg, U.S. Department of Energy, Office of Fossil Energy |
| 3:30 pm – 4:30 pm | Panel Discussion: Coal's Economic Benefits and Challenges to the West <ul style="list-style-type: none">• Facilitator: Alair Emory, Utah Office of Energy Development• Jim Grech, Wolverine Fuels• Steve Grey, NTEC• Jeffrey Kukura, Westmoreland Coal |
| 4:30 pm – 4:45 pm | <i>Break</i> |
| 4:30 pm – 6:00 pm | Session 1
WG 1.1: Policy, Regulation and Permitting <ul style="list-style-type: none">• Don Gaston, Prairie State Generating Company• Kipp Coddington, University of Wyoming• Thad LeVar, Utah Public Service Commission
WG 1.2: Energy Corridors and Infrastructure <ul style="list-style-type: none">• Facilitator: Mike Moore, USEA• Jason Begger, Wyoming Infrastructure Authority• Michael Klein, Lighthouse Resources• Steve Grey, NTEC |

November 21 – Forum Day 2

- | | |
|---------------------|--|
| 8:45 am – 9:00 am | Perspective on Coal's Past, Present, and Future Opportunities |
| 9:00 am – 10:00 am | Looking at the Future of CCUS and Clean Coal Technologies : <ul style="list-style-type: none">• Introduction by: Lou Hrkman, DOE-FE• Charlene Russell, Occidental Petroleum• Angelos Kokkinos, DOE-FE |
| 10:00 am – 10:15 am | <i>Break</i> |
| 10:15 am – 11:00 am | Working Group Reports |
| 11:00 am – 12:30 pm | Session 2
WG2.1: Power Production, Transmission, and Partnerships <ul style="list-style-type: none">• Facilitator: Jim Ford, Wyoming Integrated Test Center• Tyler Hamman, Basin Electric Power Cooperative• John Harju, UND-EERC• Brenton Bennett, Life:Powered |

WG2.2: Tribal Opportunities, Western Port Access, Military & Tribal Ports

- Facilitator: C.J. Stewart, National Tribal Energy Association
- Jim Grech, Wolverine Fuel
- Michael Klein, Lighthouse Resources
- Casey Hopes, Carbon County Utah

12:30 pm – 1:30 pm

Lunch

1:30 pm – 2:30 pm

Working Group Reports

2:30 pm – 4:00 pm

Session 3

WG3.1: Research and Development, Federal, and State Partnership with Industry

- Facilitator: Andrew Fry, BYU
- Larry Baxter, Sustainable Energy Solutions
- Gay Wyn Quance, Solid Carbon Products
- Eric Eddings, University of Utah
- John Litynski, DOE-FE
- Kipp Coddington, University of Wyoming
- Bill Sharer, New Mexico State Legislature

4:00 pm – 4:30 pm

Break

4:30 pm – 5:30 pm

Working Group Reports

5:30 pm – 5:40 pm

Remarks

- Laura Nelson, Utah Governor's Energy Advisor and Utah Office of Energy Development

November 22 – Day 3

8:30 am – 10:00 am

Session 4

WG4.1: Coal's Energy Security and Reliability Attributes in a Western States Context

- Facilitator: A/S Steve Winberg, DOE-FE
- Laura Nelson, Utah Office of Energy Development
- Angelos Kokkinos, DOE-FE
- Chris Skates, Office of the Governor of Kentucky
- Renny MacKay, Office of the Governor of Wyoming

WG4.2: Energy Education – Western Coal, Global Sustainability, Mining, Power Generation, and Emissions Controls

- Facilitator: Brian Somers, Utah Mining Association
- Elissa Richards, National Energy Foundation
- Mike Nasi, Jackson Walker LLP
- Kevin Brooks, Utah Office of Energy Development

10:00 am – 10:15 am

The Federal Perspective on Bringing Coal Back to the West

- A/S Steve Winberg, DOE-FE

10:15 am – 12:00 pm

Working Group Reports

12:00 pm – 12:30 pm

Closing Plenary: Next Steps for Bring Coal Back to the West

FORUM REGISTRATION LIST

First Name	Last Name	Organization
Michelle	Bloodworth	ACCCE
Jason	Selch	Acme Equities, LLC
Robert	Nead	Alton Coal
Jim	Ford	Atlast Carbon
Tyler	Hamman	Basin Electric Power Cooperative
Karen	Burchfield	BNSF Railway
Mark	Christensen	Campbell County
Casey	Hopes	Carbon County
Danny	Gray	Charah Solutions, Inc.
Nathan	Duckett	City of Farmington
Brian	Muir	City of Kemmerer
John	Litynski	DOE
Lynn	Sitterud	Emery County
John	Harju	Energy & Environmental Research Center
Randy	Eminger	Energy Policy Network
Florentino	Lopez Treviño	Federal Government of Mexico
Pedro	Romero Torres Torija	Fiscal Stimulus Program - North Border Free Zone and Infrastructure
Craig	Andrews	Hopi Tribe
Clifford	Qotsaquahu	Hopi Tribe
Dale	Sinquah	Hopi Tribe
James	Wolf	Insight Terminal Solutions
Mike	Nasi	Jackson Walker, LLP
Michael	Klein	Lighthouse Resources, Inc.
Wendy	Hutchinson	Lighthouse Resources, Inc.
Kent	Connelly	Lincoln County
Jerry	Harmon	Lincoln County Wyoming
Robert	King	Lincoln County Wyoming
Scott	Barney	Millard County
Evelyn	Warnick	Millard County
Rick	Hoggan	Millcreek Engineering
Don	Cook	Moffat County, Colorado
Elissa	Richards	National Energy Foundation
C.J.	Stewart	National Tribal Energy Association
Steve	Grey	Navajo Transisitional Energy Company
William	Sharer	New Mexico State Legislature
Charlene	Russell	Occidental Petroleum
Adam	Snow	Office of Congressman Chris Stewart
Chris	Skates	Office of the Governor of Kentucky
Laura	Nelson	Office of the Governor of Utah
Renny	MacKay	Office of the Governor of Wyoming
Holly	Krutka	Peabody Energy

Don	Gaston	Prairie State Generating Company
Jeff	Hartley	Sage Government Solutions
Derrick	Watchman	Sagebrush Hill Group
Steve	Lund	Sanpete County
Rob	Davidson	Savage Services
Malcolm	Nash	Sevier County
Denise	Dragoo	Snell & Wilmer
Gay Wyn	Quance	Solid Carbon Products
Larry	Baxter	Sustainable Energy Solutions
Chris	McCourt	Tri State Generation & Transmission
Michael	Walter	TYR Energy
Angelos	Kokkinos	U.S. Departemnt of Energy - Office of Fossil Energy
Lou	Hrkman	U.S. Department of Energy
Joe	Giove	U.S. Department of Energy - Office of Fossil Energy
Mike	Tadeo	U.S. Department of Energy, Office of Fossil Energy
Jeremiah	Riley	Uinta Group
Dr. Eric	Eddings	University of Utah
Kipp	Coddington	University of Wyoming
Steve	Winberg	USDOE Fossil Energy
Jeff	Edwards	Utah Advanced Materials & Manufacturing Initiative
Jordan	Clark	Utah Govenor's Office of Energy Development
Alair	Emory	Utah Govenor's Office of Energy Development
Meghan	Stettler	Utah Govenor's Office of Energy Development
Kevin	Brooks	Utah Governor's Office of Energy Development
Brian	Somers	Utah Mining Association
Thad	LeVar	Utah Public Service Commission
Pierro	Steven	Westmoreland San Juan Mining LLC
Jace	Foutz	Westmoreland Coal Company
Paul	Fritzler	Westmoreland Mining LLC
Jeffrey	Kukura	Westmoreland Mining LLC
Garret	Atwood	Wolverine Fuels
James	Grech	Wolverine Fuels
Marc	Maglione	Wolverine Fuels
Elaina	Zempel	Wyoming Business Council
Jason	Begger	Wyoming Infrastructure Authority
Donald	Burkhart, Jr	Wyoming State Legislature
Dan	Dockstader	Wyoming State Legislature
Cindy	Crane	