

Project Coal to Electricity
2006 Summer Teacher Education Program

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Project Summary

This week-long summer session offers teachers in grades 3-6 and earth science a unique opportunity to learn about the coalfields in Virginia and the economic impact on the State's economy. Designed to address the natural resource and earth science standards of learning, the session provides teachers first hand field experience with the extraction, preparation and utilization of coal. In addition, the regulatory requirements and global economy associated with coal were examined.

Agenda

JULY 23 – SUNDAY

2:p.m. to 5:30p.m.
6:00 p.m.

Check-In: Martha Randolph Hall, UVA-Wise
Dinner: Cantrell Hall
Sponsored by: Alpha Natural Resources
Welcome to the program: Jon Rockett

JULY 24 – MONDAY

7:00 a.m.
8:00 a.m.

Breakfast: Cantrell Hall
Depart for Field Trip (Bus provided Monday – Thursday for all trips)

8:00 a.m. – Noon

Leslie Bright, Geologist, Virginia DMME
Local geologic structure and its impact on history & coal mining
Jon Rockett, Powell River Project Research & Education Center Post-mining land use opportunities for economic development

12 Noon to 1:00 p.m.
1:30 p.m. to 5:00 p.m.
operations

Lunch: PRP-R&EC
Mike Thomas, Red River Coal Co, coal surface mining

5:30 p.m. to 7:30 p.m.
Sponsored by:

Dinner: (cook out) at PRP-R&EC
Alpha Natural Resources
Guest Speaker: Mike Abbott, Public Relations Manager, Virginia DMME

JULY 25 – TUESDAY

7:00 a.m. Breakfast: Cantrell Hall
8:00 a.m. Depart for Field Trip
8:00 a.m. to Noon Underground Coal Mine tour – Paramount Coal Corp VA LLC
Noon to 1:00 p.m. Lunch sponsored by: Paramount Coal Corp VA LLC
1:30 p.m. to 5:00 p.m. Toms Creek Preparation Plant and Spectrum Coal Laboratory
6:30 p.m. Wine tasting & dinner: David Lawson, MountainRose Vineyard Inc
Guest Speaker: Tom Rappold, Norfolk Southern Corp
Sponsored by: Norfolk Southern Corp

JULY 26 – WEDNESDAY

6:45 a.m. Breakfast: Cantrell Hall
7:30 a.m. Depart for Buchanan County
9:00 a.m. CNX Gas Tour (coalbed methane gas), Claypool Hill, VA
11:00 a.m. Consol Energy Buchanan Mine (longwall operation)
12 Noon Lunch: hosted by Consol Energy
3:30 p.m. Jewell Smokeless Coke Ovens
7:00 p.m. Dinner: Breaks Interstate Park, sponsored by: CNX Gas and Jewell Smokeless Coal Co

JULY 27-THURSDAY

7:00 a.m. Breakfast: Cantrell Hall
8:00 a.m. Depart for Field Trip
8:00 a.m. to 12 Noon Appalachian Power, Carbo Plant
12 Noon to 1:00 p.m. Lunch: Appalachian Power, Carbo Plant
1:45 p.m. to 3:30 p.m. Fine coal recovery from gob, Dickenson/Russell Coal LLC
5:30 p.m. to 10:30 p.m. Social & Dinner, John Fox Jr. House, Big Stone Gap
Guest speaker: Herbert Wheary, Dominion Energy
Sponsored by: Dominion Energy
Outdoor Drama -- Trail of the Lonesome Pine
Sponsored by: Oliver Coal Sales

JULY 28 – FRIDAY

7:00 a.m. Breakfast: Cantrell Hall
8:00 a.m. Depart for Field Trip (Will take personal vehicles)
8:15 a.m. to 10a.m. Joy Mining Machinery Re-build Facility, Duffield, VA
11:00 a.m. Eastman Chemical Company's Coal Gasification Plant, Kingsport, TN
1:00 p.m. Lunch: Sponsored by: Eastman Chemical Co.
1:30 p.m. Discussion/evaluation of program with teachers
Professional Development Certificates presented

Evaluation of Program

Awareness Change Questions:

Overall, how appropriate were the field trip activities?

(11) Very Appropriate (0) Appropriate (0) Not Very Appropriate

Overall, how appropriate were the evening programs?

(8) Very Appropriate (2) Appropriate (0) Not Very Appropriate

Knowledge Change Questions:

As a result of this program, to what extent do you believe students will increase their understanding of the impact of coal on the Virginia economy?

(10) To A Great Extent (1) To Some Extent (0) Not Much (0) Not At All

As a result of this program, to what extent do you believe students will increase their understanding of the coal industry's future impact on the Virginia economy?

(10) To A Great Extent (1) To Some Extent (0) Not Much (0) Not At All

Practice Change Questions:

To what extent will you incorporate the information gained during this program into lesson plans?

A. Adapt material to existing lesson plans:

(0) Almost never (0) Seldom (6) Often (5) Almost always

B. Use material to create new lesson plans:

(0) Almost never (0) Seldom (4) Often (7) Almost always

What will be done differently regarding teaching as a result of participating in the program?

- * I now have pictures & first hand stories/brochures/visuals/samples etc to share with my students
- * I will be able to speak more intelligently and more accurately about the coal mining industry and all related activities.
- * More information will be imparted to students about the importance of the coal industry, the miners and its effect on the economy of our state & nation
- * Through this program, I have a better understanding of the coal industry from start to finish. I will stress the economic impact that coal has on VA as well as all of the products that are created from coal.
- * I now have information to expand essential knowledge for my students. I will share my experience with the class, and help build interest.
- * More visuals to explain process and resources.

- * Students as well as the teacher will have a much better idea of what really goes on in mines and the region.
- * Will create a problem based learning unit to create an understanding of all available energy sources. Consensus & compromise.
- * I will be able to give the students more in-depth/critical thinking skills based activities.
- * Make connections to real world – job opportunities & requirements
- * Develop labs/activities integrating my experiences
- * Use the week’s experiences to enhance students’ understanding of coal to electricity and related what I learned to jobs & job skills my students need access to.
- * Since I have information and direct experience, I will be more confident and interesting in my presentation. Hopefully, this will result in greater interest and understanding.

End Result Change Questions:

Has your ability to implement grade level Standards of Learning with SW VA coalfield examples improved as a result of your participating in the program?

(11) Yes (0) No

If Yes, to what extent?

(9) To a Great Extent (2) To Some Extent (0) Not Much (0) Not At All

Do you believe this will result in students gaining a better understanding of the world around them than would be the case if this program were not offered?

(11) Yes (0) No

Explain:

- * Personally, I am better prepared to teach my students about all of the topics & I can share my enthusiasm with them.
- * I don’t think any of us realize what our coal miners do for us as a state or nation.
- * I have seen firsthand how coal is mined, processed, and utilized. I now know of other industries that are created because of coal mining in VA.
- * I can’t bring 20 5th graders to this course, but I can take my experiences back to them, and share these experiences for years to come!
- * I have learned numerous details that will enhance students’ understanding.
- * Science & social studies (economics) will be integrated to help students transfer their practical knowledge to their everyday lives.
- * Teachers are the best people to campaign for things. Not only do we understand the world better we are able to share this knowledge with lots of students.

- * I, a teacher, learned much new information & interesting information to share, help my students make discoveries & address critical thinking & problem solving.

Additional comments/impressions/thoughts:

- * This has been an incredible & unforgettable experience. If I can only share a fraction of what I've learned, it will be much more than I've done before.
- * This was the best, most enjoyable, organized conference and most informative activity I have ever attended! Barbara and Jon are a first-rate team! Thanks!!
- * Overall this was an excellent program, one that I think all people, not just teachers, should have to experience. It really was an eye-opening experience.
- * Jon and Barbara were wonderful hosts who were very knowledgeable about the coal industry and history of southwest VA. The program was well organized and very informative! All of the companies that we visited were very enthused and accommodating.
- * This, by far, has been the most informative and ENJOYABLE week of training I've ever had (including military). Jon and Barbara made us feel so very special, and willingly gave of their time and energy to make this experience unforgettable!
- * This one a great program – informative, interesting, and a thoroughly educational experience.
- * Wonderful program!!! I really enjoyed the program and it will definitely help me reach my students and inform them on the importance of coal to the nation and state.
- * Teaching materials provided by Joy were just what was needed.
- * The whole program has been totally enlightening. A better understanding of the whole coal mining/mountain culture has been reached. Meals and programs have been exceptional!
- * Kudos to Jon and Barbara!! Thanks so much!!
- * This is the best program I have ever participated in! Thank you!
- * I greatly appreciate the time & effort you both have put into helping us be better teachers.
- * The flow & order of events as the week progressed built on each other. Thanks for helping me be a better teacher.
- * Thank you for an amazing unforgettable week! The evening activities were unexpectedly wonderful as well as each presentation! This workshop far exceeded my expectations! It has been an invaluable experience!

CONCLUSION

The 2006 Project: Coal to Electricity was an outstanding success. Participating teachers will return to their classrooms this fall with a wealth of newfound knowledge, informed understanding, and teaching resources.

ACKNOWLEDGMENTS/SPONSORS

Teachers can stay abreast of important topics and remain informed about relevant topics they need to address in the classrooms through quality educational efforts.

The Project: Coal to Electricity Energy Education Program would not be possible without the continued partnerships and interest of many individuals and sponsors. We want to acknowledge the following:

Alpha Natural Resources
Appalachian Power Co. - Carbo Plant
CONSOL Energy
Dickenson Russell Coal
Dominion Energy
Eastman Chemical Company
Jewell Smokeless Resources
Joy Mining Machinery
Norfolk Southern Corporation
Oliver Coal Sales
Paramont Coal Corp VA LLC
Red River Coal Company
Spectrum Laboratories
Virginia Department of Mines, Minerals & Energy

These industry partners have made it possible for educators to broaden their understanding of environmental issues related to coal, rail and power, to experience the coalfields with hands on opportunities, to appreciate the important role of coal in the Commonwealth of Virginia's economy, as well as the United States.