



Advancing U.S. Coal Exports

*An Assessment of Opportunities to
Enhance Exports of U.S. Coal*

David Lawson, Norfolk Southern & Justin Burk, Peabody

NCC Webcast ~ October 1st, 2018



Secretary Perry's Request

Formal Request

"... develop a white paper assessing opportunities to advance U.S. coal exports."

Key Questions to Address

- *What market, infrastructure and policy measures could be undertaken to increase export opportunities for U.S. coal?*
- *What global market dynamics present opportunities for increased U.S. coal exports?*
- *How can U.S. coal capitalize on its advantages and become more competitive in international markets?*
- *What institutional and regulatory constraints are limiting the advancement of U.S. coal exports?*



The Secretary of Energy
Washington, DC 20585

January 07, 2018

Mr. Greg Workman
Chair, National Coal Council
1101 Pennsylvania Avenue, NW, Suite 300
Washington, DC 20004

Dear Mr. Workman:

I am writing today to request that the National Coal Council (NCC) develop a white paper assessing opportunities to advance U.S. coal exports.

The white paper should focus on current market, policy, and infrastructure challenges and opportunities that are relevant to advancing U.S. coal resources in international power and industrial markets. The white paper should examine international market opportunities for both metallurgical and thermal coals from the Eastern, Central, and Western coal-producing regions of the U.S. The white paper should also provide a competitive assessment of the coal market supply chain and associated infrastructure, and offer recommendations that address key barriers impeding the export of U.S. coal.

The key questions to be addressed include:

- What market, infrastructure, and policy measures could be undertaken to increase export opportunities for U.S. coal?
- What global market dynamics present opportunities for increased U.S. coal exports?
- How can U.S. coal capitalize on its advantages and become more competitive in international markets?
- What institutional and regulatory constraints are limiting the advancement of U.S. coal exports?

The white paper should be managed under the auspices of the Executive Advisory Board within the NCC. I ask that the white paper be completed no later than March 30, 2018.

Upon receiving this request and establishing your internal working groups, please advise me of your schedule for completing the white paper. The Department looks forward to working with you on this effort.

Sincerely,

A handwritten signature in black ink that reads "Rick Perry".

Rick Perry



Report Leadership

- **Report Chairs**

- Justin Burk, Peabody
- David Lawson, Norfolk Southern Corp

- **Chapter Leads**

- Dan Byers, Global Energy Institute
- Justin Burk, Peabody
- Hans Daniels & Andy Blumenfeld, Doyle Trading Consultants
- David Lawson, Norfolk Southern
- Emily Medine, Energy Ventures Analysis
- Andy Roberts, Wood Mackenzie

- **Principal Editors**

- Janet Gellici, National Coal Council
- Emily Medine, Energy Ventures Analysis

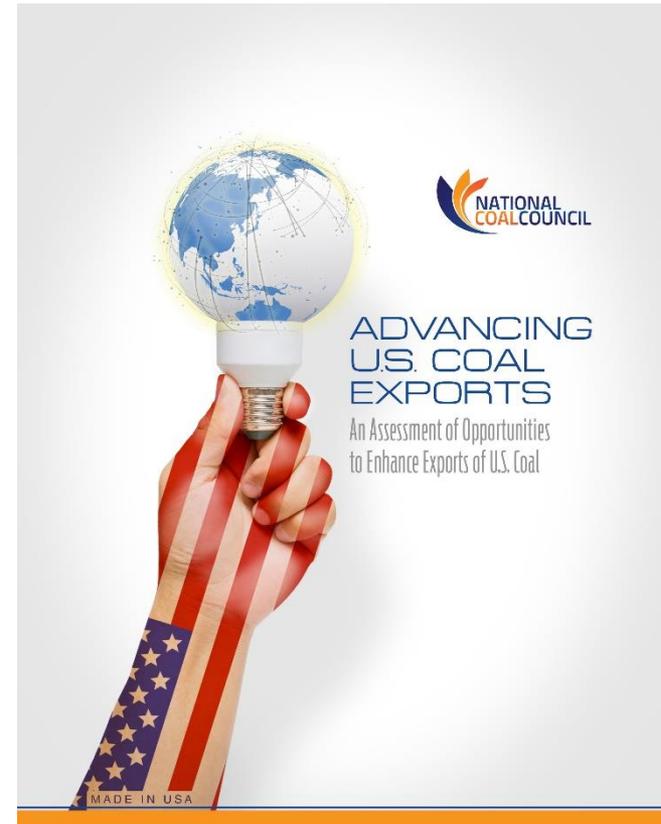


Principal Contributing Authors

- Roger Bezdek, MISI
- Dan Byers, Global Energy Institute, U.S. Chamber of Commerce
- Justin Burk, Peabody
- Andrew Blumenfeld, Doyle Trading Consultants
- Daniel Connell, Consol Energy, Inc.
- Hans Daniels, Doyle Trading Consultants
- George Duggan, BNSF Railway
- James (Leggett) Kitchens, Norfolk Southern Corporation
- David Lawson, Norfolk Southern Corporation
- Heath Lovell, Alliance Coal
- Emily Medine, Energy Ventures Analysis
- Andy Roberts, Wood Mackenzie
- Garrett Urban, Norfolk Southern Corporation

The Report

- **What We Considered**
 - U.S. Coal Export Landscape
 - Coal in the U.S.
 - Transportation
 - Prime Markets for U.S. Coal
 - Competitive Assessment
 - Global Supply & Demand
 - U.S. vis-à-vis Other Suppliers
 - Policy Effects on Global Coal Trade
 - Barriers to U.S. Coal Exports
 - Production/Supply
 - Transportation & Shipping
 - Institutional & Regulatory





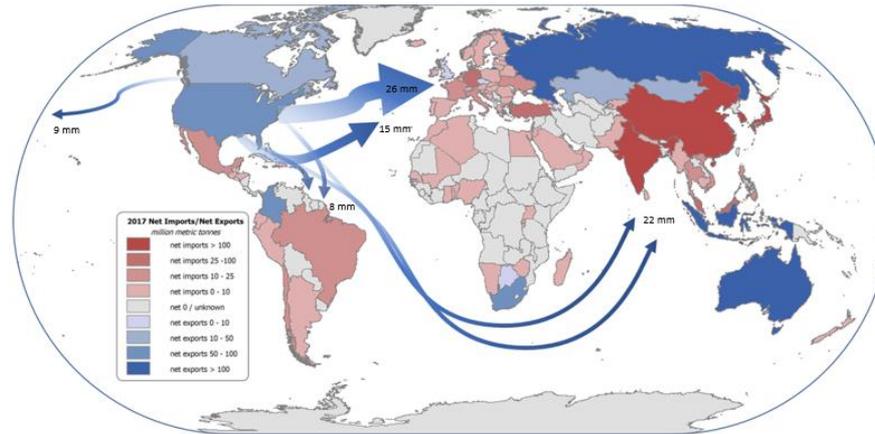
Key Findings

U.S. Coal Export Landscape

- U.S. coal exports provide significant economic and job benefits to the nation.
- U.S. reserves of thermal and metallurgical coal are vast and can support both U.S. domestic needs and expanding international market demand.
- While robust in many aspects, U.S. coal export infrastructure would be enhanced with improvements.

Country	Million Tonnes	Share
U.S	258,709	25.0%
Russia	160,364	15.5%
Australia	144,918	14.0%
China	139,919	13.5%
India	97,728	9.4%
Germany	36,100	3.5%
Ukraine	34,375	3.3%
Poland	25,811	2.5%
Kazakhstan	25,605	2.5%
Indonesia	22,598	2.2%
Other	88,885	8.6%
Total	1,035,012	100.0%

Source: BP Statistical Review of World Energy, June 2017



Major U.S. Coal Trade Flows (2017)

- Global coal trade is a robust and growing market; worldwide coal trade has more than doubled since 2000.
- Europe continues to be a principal market for U.S. eastern met coals; burgeoning demand in Asia represents a significant market opportunity for both eastern and western U.S. thermal coal.
- Global coal trade markets are volatile – influenced by economic growth/decline, weather, currency rates, energy policies, trade regulations/agreements and geopolitics.



Key Findings

Barriers to U.S. Exports

- Government initiatives at the Federal and state levels could provide support for coal production in traditional U.S. supply regions and aid in expanding production in non-traditional U.S. regions.
- U.S. coal export economics would improve with channel deepening to accommodate larger bulk carrier vessels, improved dredging and maintenance of the inland waterways, and expansion of export port capacity on the U.S. West Coast.
- U.S. and international proscriptions denying or limiting financial community support for development of coal facilities overseas restricts opportunities for U.S. coal exports.



Asian Development Bank



- **Advance U.S. Coal Exports as part of the nation's efforts to:**
 - Achieve U.S. Energy Dominance
 - Enhance International Energy Security
 - Eliminate Global Energy Poverty





Recommendations: Coal Production

- **Develop & Deploy Advanced Coal Mining & Processing Technologies**
 - Technology innovation reduces production costs
 - Makes U.S. coals more competitive in international markets
- **Enhance U.S. Mining Operations with Export Potential in Traditional & Non-traditional Supply Regions**
 - Employ state tax credits to support mining operations
 - Advance mining infrastructure projects in non-traditional regions (AK, AR, OK)
 - Eliminate barrier on Federal lands associated with bonus payments, rents and royalties



Recommendations: River Transport

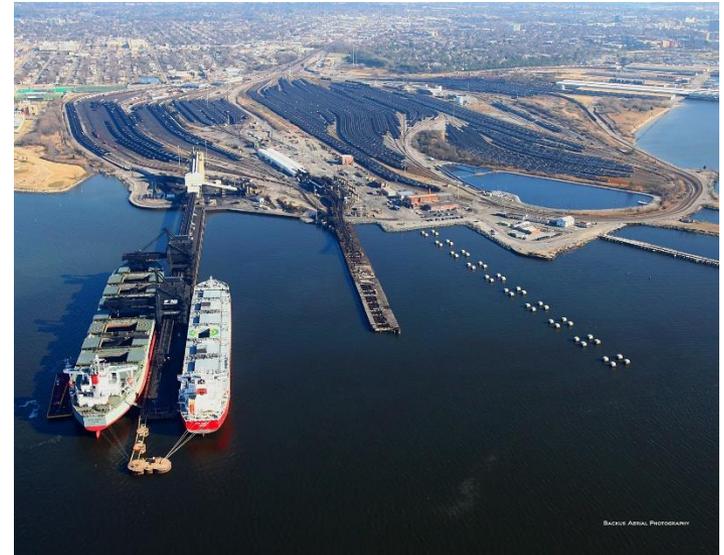
- **Streamline funding support for the nation's inland waterways system**
 - Facilitates cost-effective flow of U.S. coal exports
 - Supports regular maintenance and dredging of inland river channels
 - Deploy funds from current excess balance of fees collected from the Harbor Maintenance Tax to maintain inland waterways locks and dams





Recommendations: Ports & Terminals

- **Enhance coal export port/terminal capacity on U.S. Atlantic, Gulf & Pacific Coasts**
 - Dredge key export ports/shipping channels to accommodate larger vessels
 - Improve planning and cooperation between state and Federal authorities on environmental reviews and permitting of export projects
 - Assess potential to develop export terminal capacity on Federal properties
 - Address bottlenecks and infrastructure upgrades at existing export terminals
 - Advance NEPA reforms and related permitting processes



Recommendations: Trade & Int'l Relations

- **Eliminate policy & technology barriers to financing coal facility deployment in international markets.**
 - Reform EXIM bank policies to support coal mining and coal projects.
 - Revise OPIC and USAID policies to support coal generation projects.
 - Reassess U.S. policies prohibiting MDB financial support for construction of overseas coal power plants.
 - Promote installation of advanced emissions controls on international coal facilities.
 - Work with other nations to design new power plants for a wider range of coal qualities.



Recommendations: Trade & Int'l Relations

- **Capitalize on trade expansion opportunities; assess U.S. trade policies that inhibit or promote U.S. coal exports**
 - Expand market access opportunities for U.S. coal.
 - Support USTDA efforts to advance U.S. coal and coal technology exports.
 - Pursue partnership opportunities with African Development Bank/Power Africa to expand electricity access.
 - Pursue bilateral relationships that advance energy security, such as Japan-US Strategic Energy Partnership.
 - Facilitate relationships between U.S. coal exporters and overseas markets similar to recent U.S.-Ukraine coal export deal.



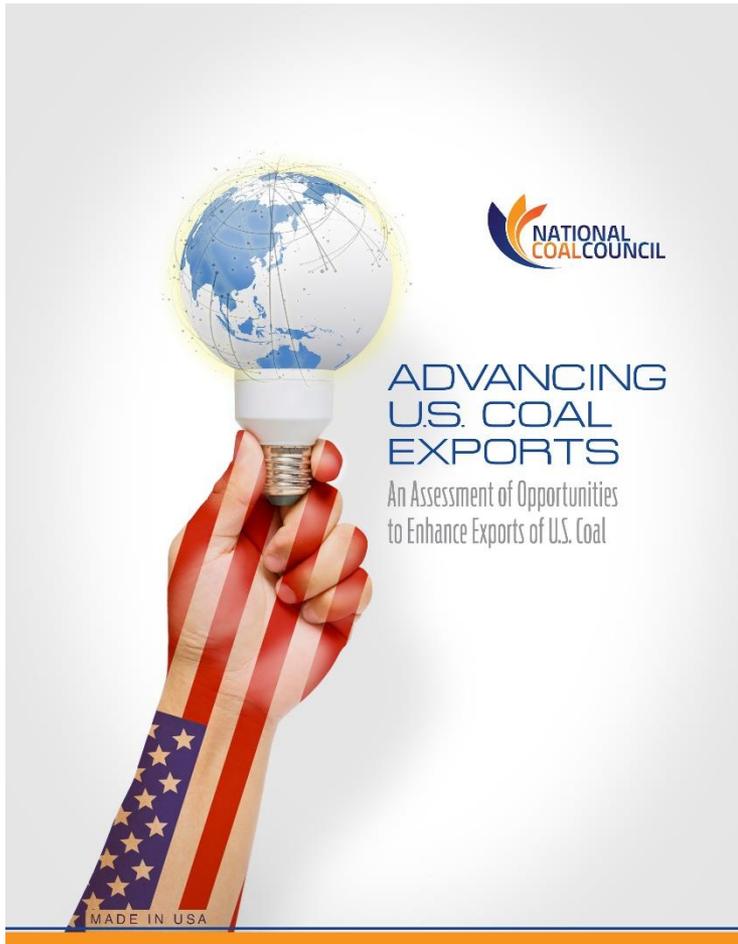
Recommendations: Int'l Economic Development



- **Support efforts to advance economic growth in international markets and the global development of advanced coal technologies**
 - Create a new international development finance corporation to assist developing nations' efforts to achieve economic growth and reduce poverty.
 - Assess negative environmental impacts associated with restrictive financing for advanced coal technologies in international markets.
 - Assess opportunities for U.S. to export advanced coal technologies.
 - Establish a global fossil fuels alliance to promote energy access/energy security.



Implementation of NCC Recommendations



Establish a DOE-led, government-wide COAL EXPORTS TASK FORCE to monitor and coordinate policy developments relevant to advancing U.S. coal exports.

Include all agencies engaged in energy development & international relations