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Exporting Coal from the U.S. Pacific Northwest

Potential Impacts of Removing an Energy Transportation Constraint

Working Paper by Mark Thurber

This working paper was commissioned for the 2014 Pacific Energy Forum, held in Seattle on April 23-24, 2014.

The event brought together energy experts and leaders from across the Asia-Pacific region to examine the prospects of expanding trans-Pacific energy trade and to address the dual challenge of ensuring Asia's energy and environmental security.

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Exporting Coal from the U.S. Pacific Northwest: Potential Impacts of Removing an Energy Transportation Constraint

EXECUTIVE SUMMARY

This working paper provides a general review of how transportation constraints affect energy markets and then offers a framework for thinking more specifically about the greenhouse gas implications of building new coal ports in the U.S. Pacific Northwest.

Main Argument

The nature and extent of transportation constraints crucially shape energy markets of all kinds. Oil markets are largely integrated worldwide except where rapid changes in supply and demand have outpaced the process of bringing new pipelines online. Natural gas markets remain regionalized, an outcome that stems in part from the capital intensity of LNG and pipeline infrastructure. Coal prices at major trading hubs track each other, but rail constraints exist within many countries. Port constraints can also be an issue, such as in the U.S., where they have helped isolate Powder River Basin (PRB) coal from world markets.

Removing constraints on exports tends to increase the price of an energy commodity in the exporting country and decrease it in importing countries, but the precise effects can be complex. Removing barriers to export of an energy commodity like coal, whose use entails negative environmental externalities, will not necessarily have a net negative environmental impact—for example, if decreased use of the commodity in the exporting country predominates over increased use in importing countries. However, it is important to consider long-term environmental impacts as well as short-term ones.

Policy Implications

- Whether new coal ports are built in the U.S. Pacific Northwest will likely hinge on international coal-market conditions as well as on the cost, delay, and uncertainty added by local stakeholder processes.
- It is unlikely that removing the port constraint on PRB coal exports will substantially increase global emissions of greenhouse gases in the short term, but long-term effects are more uncertain and require a more sophisticated analysis.
- Coal markets face significant uncertainties on both the demand and supply sides. In addition to the relative availability of PRB coal, these include the size of demand from India, whether countries like Japan and Germany continue to use coal as their default baseload energy source, and whether Indonesia can maintain its role as the most significant coal exporter.



The 2014 Pacific Energy Forum took place on April 23-24 in Seattle, Washington. The forum gathered leading experts from Asia, the United States, and Canada to assess the key policy questions that North America and Asia face in determining the future trans-Pacific energy relationship. [Learn more.](#)



Mark Thurber is Associate Director of the Program on Energy and Sustainable Development at Stanford University.

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