Resource Shuffling and Wholesale Power Markets

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Illustration

- Plant A burns high-carbon coal, while Plant B uses relatively low-carbon natural gas. For years, Plant A has operated under a contract with a CA utility, while Plant B has a contract with a NV utility.
- CA utility has to buy permits for its GHG emissions, so Plant A becomes more expensive.
- Resource shuffling occurs when the CA utility swaps contracts with the NV utility, lowering its compliance costs. Both plants continue operating but with no overall emissions reduction.

Phase I Regulation

- AB 32 obligates CARB to minimize carbon leakage to the extent feasible.
- Resource shuffling is prohibited. Under initial regulations importers regulated under California's program must attest that they or their suppliers have not engaged in the the practice. 17 Cal. Code Regs. § 95852(b)(2).
- "Resource Shuffling" means any plan, scheme, or artifice to receive credit based on emissions reductions that have not occurred, involving the delivery of electricity to the California grid. § 95802(a)(251).

Significance of Problem?

- Imports account for 31% of CA's electricity consumption.
- Coal plants represent the most significant source of power imports, and GHG emissions from imported power account for 47% of CA's total emissions from the electricity sector.
- Resource shuffling "could result in leakage that exceeds the cumulative mitigation required under the cap-and-trade market through 2020." Cullenward & Weiskopf, 2013.
  - 108 to 187 million metric tons of carbon dioxide leakage, translating to 47% to 197% of cumulative expected mitigation under AB 32.

FERC Intervention

- August 2012: FERC Commissioner Moeller's letter to Gov. Brown requested suspension of CARB's resource shuffling attestation requirement/prohibition until compliance and enforcement are clarified.
- FERC has jurisdiction over "the transmission of electric energy in interstate commerce" and "the sale of electric energy at wholesale in interstate commerce." 16 U.S.C. § 824(b)(1).
- Impact on wholesale power markets – potential for legitimate least cost dispatch of electric power in wholesale markets to constitute shuffling.

Phase 2 - CARB Response

- Amended definition of “Resource Shuffling”:

  “any plan, scheme, or artifice undertaken by a First Deliverer of Electricity **to substitute** electricity deliveries from sources with relatively lower emissions for electricity deliveries with relatively higher emissions resources to reduce its emissions compliance obligation.”

- Focus definition on excluding things that are not shuffling; does not include substitutions that occur under the [13] **“safe harbors”.**

Some [of the 13] Specific Safe Harbors

- Changes in imports needed to meet RPS goals
- Compliance with state or federal laws and regulations (including SB 1368)
- Retirement or divestiture of resources, or contracts
- Transmission constraints, or emergencies□
- Short term trading activities
- Termination of a contract for reasons other than reducing GHG compliance obligation

Impact of Safe Harbors?

- CA utility contracts with a power importer. That power importer can get power from a coal-fired power plant and a wind farm, both in Utah. Assume initially that the power supplied is 50% clean energy.
- But clean power commands a premium in California's market, because the CA utility may need to purchase allowances to cover the emissions associated with the coal-fired power.
- CA utility could use that clean power to meet the state's 33% RPS standard so it falls within a safe harbor.

Early Examples

- SCE divested units 4 and 5 of the coal-fired **Four Corners** plant, yet Arizona Public Service continues to operate it, resulting in at least 19.4 tons of emissions through 2020.
- CA Dept of Water Resources has ended power deliveries from the coal-fired **Reid Gardner** plant, but Nevada Power will continue to operate it, resulting in at least 2.6 million tons of emissions through 2020. (Displacing this contract with natural gas, which seemingly increases emissions.)
- The LA Dept of Water & Power is planning to terminate its contract with the **Navajo Generating Station** and replace this with power from a gas-fired plant in Nevada. This will result in 11.5 million tons of emissions by 2020.

Significance of Impacts (Cullenward 2014)

	NGCC	**Zero-GHG**
Four Corners	19.5	34.8
Reid Gardner	2.6	4.2
Navajo	11.5	19.9
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Total Leakage	33.5	58.9

Minimum impact: 33.5 million metric tons of carbon emissions (assuming replacement power is natural gas rather than renewable or nuclear plants).

Regulatory Problems

- Calling something a “safe harbor” rather than “shuffling” does not change the reality that there is no net carbon reduction; may even be increases in GHG emissions from non-CA sources.
- Safe harbors give some certainty regarding least cost dispatch practices, but they are very broad.

Improving CA Approaches

- CA can consider the impact on out-of-state emissions in its cap & trade regime – see *Rocky Mountain Farmer's Union v. Corey* (9th Cir. 2013).
- Narrow safe harbors, treat them as rebuttable presumptions where there is an adverse out of state carbon impact over a certain level.
- Close loopholes created by giving CA utilities allowances – use "reverse offsets" to impose liability where they ship dirtier power out of state.
- Lower carbon cap proportionate to expected degree of shuffling (Bushnell, 2013).

Regional Solutions?

- California, Oregon, Washington and British Columbia recently concluded a regional agreement – Pacific Coast Action Plan on Climate and Energy.
- Could all neighboring states opt into the California approach going forward, producing an integrated Western power market based on cap & trade?

EPA Solutions

- National emissions standards for GHG emissions for both existing plants under 111(d) would potentially address the leakage problem produced by shuffling.
- If all neighboring states have imposed 111(d) CO2 emissions limits on plants is California preempted from regulating imports from out-of-state generators?
- But differential impacts of a single year emissions baseline (along with flexibility in enforcement) will continue to create opportunities for shuffling, and national emissions standards presumably would only serve as a floor.

Can FERC Play a Any Further Role?

- FERC must act to set the stage for both national and subnational GHG regulation in wholesale energy markets.
- FERC guidelines specifying least-cost protocols for regional markets with state or regional GHG emissions requirements could a) sidestep potential preemption conflicts, b) encourage subnational innovation, and c) reduce opportunities for states to advance parochial interests in addressing shuffling.

In Conclusion …..

- Shuffling potentially thwarts CA's ability to meet its AB 32 GHG emission reduction goals.
- Shuffling is extremely difficult to regulate at the state level. Short of CA reducing its emissions limits a state solution seems elusive – at a minimum a regional solution is necessary.
- National solutions will probably be necessary to address the problem. EPA will undoubtedly play a role, but FERC can help too.

Sources

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