ACCCE
AMERICAN COALITION FOR CLEAN COAL ELECTRICITY

Impacts of Seven EPA Regulations

Impacts	Scenario 1	Scenario 2	Scenario 3
Annual cost (electric sector)	$15.4 B	$15.0 B	$16.7 B
Peak year cost (electric sector)	$37.1 B	$36.1 B	$44.1 B
Total cost (electric sector, 2013 - 2034)	$203 B	$198 B	$220 B
U.S. average employment loss	590,000/yr	887,000/yr	544,000/yr
U.S. peak year employment loss	Over 700,000	2.2 million	Almost 900,000
Peak loss in Upper Midwest	207,000	455,000	236,000
Peak loss in Miss. Valley	159,000	591,000	155,000
Total coal shutdowns	69,000 MW	69,000 MW	54,000 MW
U.S. average income loss per household	$226/yr	$512/yr	$217/yr
U.S. peak year income loss	$415/family	$723/family	$415/family
Peak loss in Upper Midwest	$685/family	$1,300/family	$650/family
Peak loss in Miss. Valley	$654/family	$1,600/family	$644/family

EXPLANATION

National Economic Research Associates (NERA) analyzed the impacts of seven EPA regulations that affect coal-fired electricity generation: Mercury and Air Toxics Standards (aka Utility MACT rule), regional haze, national ambient air quality standards (NAAQS) for ozone, SO_2 NAAQS, $PM_{2.5}$ NAAQS, 316(b), and coal combustion residuals. The N_{ew}ERA model was used to conduct the analysis. Many of the economic and cost assumptions are taken directly from EPA's analysis and EIA data.

NERA's analysis involved modeling three scenarios. Scenario 1 uses EPA's annualized costs for a revised ozone standard and assumes the costs are incurred beginning in the year in which compliance is required for each nonattainment area. Scenario 2 assumes that EPA's annualized costs for a revised ozone standard are capitalized and incurred before and during the year in which compliance is required for each nonattainment area. Thus, scenarios 1 and 2 bracket the costs of a revised ozone standard of 65 ppb. Scenario 3 assumes natural gas prices that are similar to EIA's low Estimated Ultimate Recovery (EUR) case, which makes the prices from $0.50/MMBtu to $1.50/MMBtu higher than EIA's AEO 2012 reference case. The analysis is careful to avoid double counting. For example, emission controls installed to comply with one rule are not counted again in determining the cost of complying with another rule that might require the same emission controls. All dollars are reported by NERA in either 2010$ or 2012$. All cumulative impacts, except employment, are present values as of January 2013, calculated at a five percent discount rate.

NERA's analysis does not use worst case assumptions and relies, in most instances, on EIA data and EPA cost estimates. For example, NERA uses EPA costs to model the effects of regulating coal combustion residuals and cooling water intakes (316(b)). Overall, we believe the impacts projected by

NERA are conservative; it is very possible the impacts of these regulations could be more severe than NERA's projections. For example -

- The analysis does not include CSAPR, which has been vacated. If EPA adopts a replacement rule, the impacts projected by NERA could be greater than shown in this analysis.
- The analysis assumes that (1) EPA will regulate coal combustion residuals as non-hazardous waste; (2) EPA will not require the installation of closed cycle cooling at all electric generating facilities; (3) EPA will lower the ozone standard to a level of 65 ppb, rather than a more stringent level; and (4) no further emission reductions from coal-fueled units will be necessary due to EPA's revised SO_2 standard. If EPA adopts regulations that are more stringent than these assumptions (or if the regulations are implemented in a more stringent manner), the impacts will be more severe than NERA's projections.
- The analysis does not include the potential effects of EPA's planned greenhouse gas regulations for existing coal-fired units. EPA has not proposed any such regulations yet but has indicated that it will at some future time.
- The analysis does not consider possible changes to EPA's effluent guidelines for power plant water discharges. EPA has not proposed any changes yet, but is expected to later this year.
- The analysis assumes that all necessary emission controls can be installed by 2016 to comply with MATS without incurring any additional costs due to unusually large demands for labor and materials.
- The modeling does not analyze the potential for electric reliability problems that could be caused by the large number of premature coal unit shutdowns over a short time frame in order to comply with EPA deadlines. Many experts and public officials have raised concerns about electric reliability.

Employment losses caused by the EPA rules take into account the net effect of jobs that are lost (e.g., due to higher energy prices) and jobs that are created (e.g., construction of pollution controls) by these regulations.

Household disposable income is the total amount of money available for spending or saving by a family after taxes have been paid.

The N_{ew}ERA macroeconomic model includes 11 regions of the U.S. The Upper Midwest region is comprised of Ohio, Michigan, Indiana, Kentucky and West Virginia. The Mississippi Valley region is comprised of Wisconsin, Illinois, Missouri and Arkansas.

October 26, 2012