



## **Executive Summary**

*Economic Impact of Pending Air Regulations on the U.S. Pulp and Paper Industry  
September 2011*

### **Findings**

The costs of implementing Boiler MACT regulations, when combined with the anticipated costs of implementing other pending air regulations, would place at risk 36 mills and 20,541 pulp and paper mill jobs nationally – 18 percent of the primary pulp and paper industry workforce. Those jobs losses would rise to 87,299 if jobs in the supplier and downstream industries and jobs associated with the re-spending of wages are figured into the equation. These 87,299 job losses would result in about \$4 billion in reduced wages and some \$1.3 billion in lost state, local and federal taxes (including FICA taxes).

### **Background**

In March 2011, the Environmental Protection Agency (EPA) issued final rules establishing Maximum Achievable Control Technology for industrial boilers, commonly referred to as the Boiler and Incinerator MACT rules. Several other unrelated air regulations are also pending. They include but are not limited to Cluster MACT reopening, Pulp and Paper Residual Risk, and several National Ambient Air Quality Standard (NAAQS) revisions that directly or indirectly drive more stringent rules.

Fisher International, authors of this report, conducted the economic and job impact analysis of the cumulative impacts of the final Boiler MACT rules and other pending air regulations under consideration by the EPA. Fisher International, a market leader specializing in market and economic data on U.S. paper mills, utilized its proprietary database of mill assets and cost-of-production to make its evaluations of potential job loss and mill closures.

The compliance cost data used in the Economic Impact analysis are attributed to URS, a leading provider of engineering, construction and technical services. While this report uses the same methodology as was used in the 2010 Fisher International report on the proposed rules, the capital and operating costs of compliance to regulations were updated by URS, based on the latest available information.

The focus of the Fisher International study was to quantify the likely impact of potential new air regulations on employment in U.S. pulp and paper mills.

### **Methodology**

Fisher International determined that the typical U.S. paper mill could, at most, absorb an average 12.5% increase in its cost of production before its free cash flow would be exhausted. Using information provided by URS, Fisher then determined mills that reached or exceeded the 12.5% threshold to be in jeopardy of closing. Finally, Fisher isolated the impact of Boiler MACT by determining whether the mills most at risk would not close if Boiler MACT were removed from the suite of pending air regulations.

As most regulations require both capital and operating costs, a formula was devised to translate capital costs into operating costs by using an interest rate of 11 percent and a term of five years. This weighted average cost of capital was based on a 2010 survey of investment bankers and industry analysts. Further details regarding the cost analysis can be found in the report.

### **Job Losses and Mills At Risk Associated with Boiler MACT and Air Regulations<sup>1</sup>**

	<b>Mills At Risk</b>	<b>Pulp and Paper Mill job losses</b>	<b>Including jobs in other industries sustained by the mills</b>
<b>Boiler MACT</b>	36	20,541	87,299
<b>All Air Regulations<sup>2</sup></b>	79	38,060	161,755

In brief, the Fisher findings suggest that the Boiler MACT regulations, considered along with the costs of other pending air regulations, would place at risk 36 mills and 20,541 pulp and paper mill jobs nationally (18% of the primary pulp and paper industry workforce). If jobs in the supplier and downstream industries and jobs associated with the re-spending of wages are figured into the equation, the job losses rise to 87,299. A multiplier effect of 4.25 was chosen based on a study by the Economic Policy Institute. AF&PA estimates that these 87,299 job losses would result in about \$4 billion in reduced wages and some \$1.3 billion in lost state, local and federal taxes (including FICA taxes).

According to URS, the total capital costs for the forest products industry from upcoming EPA air regulations are about \$17 billion. The Fisher findings indicate that the entire suite of air regulations could place 79 pulp and paper mills in jeopardy of closing, resulting in the loss of 38,060 pulp and paper mill jobs, or 33% of the primary pulp and paper workforce. If jobs in supplier industries and jobs associated with the re-spending of wages are also included, the jobs loss figure rises to 161,755. AF&PA estimates that these 161,755 job losses would result in \$7.4 billion in reduced wages and some \$2.5 billion in lost state, local and federal taxes (including FICA taxes).

This new study, when compared to the 2010 study, shows that the final Boiler MACT rules place about 3,500 more jobs at risk than the proposed rule. This is due partly to the fact that many more boilers using biomass as a fuel will be treated as incinerators rather than boilers and subject to much more costly control technology. Overall, slightly fewer jobs are placed at risk from the cumulative burden in the 2011 study. Several marginal mills have closed since the previous study was completed, taking them out of the calculation and the overall health of the industry improved as the overall economy improved between the two studies.

<sup>1</sup> Note that these estimates do not include jobs losses in the wood products manufacturing sector of the forest products industry from an estimated \$2 billion in new MACT costs.

<sup>2</sup> Roughly \$2 billion in new capital costs for pulp and paper mills meeting various National Ambient Air Quality Standards (NAAQS); changes to the New Source Review (NSR) requirements; New Source Performance Standards (NSPS) and the Clean Air Interstate Rule (CAIR) were not factored into the mill closure/job loss calculations because they could not be allocated to specific mills.