

Frequently Asked Questions

SMU Study on Impact of EPA's NESHAP

Q: Who Conducted this Study?

A: The study was conducted by economist Bernard “Bud” Weinstein, the associate director of the Maguire Energy Institute at Southern Methodist University’s Cox School of Business and adjunct professor of business economics.

Q: Why are they experts in this field?

Economist Bernard “Bud” Weinstein is the associate director of the Maguire Energy Institute at Southern Methodist University and an adjunct professor of business economics at SMU’s Cox School of Business. Previously, Weinstein was the longtime director of the Center for Economic Development at the University of North Texas. Weinstein also conducts research at SMU’s O’Neil Center for Global Markets and Freedom, which studies the impact of competitive market forces on freedom and prosperity in the global economy. He has extensive experience studying the global economy, having recently completed an assessment of the costs and benefits of the North American Free Trade Agreement, which celebrates its 15th anniversary this year. During the past few years, Weinstein has participated in economic development projects in China, India, Thailand and Mexico.

Q: What are the basic conclusions of the study?

A: Cement is a strategically important industry---literally the foundation of the nation’s infrastructure. It is a critical component of the construction industry, which accounts for more than \$1 trillion of the nation’s gross domestic product. The proposed NESHAP rule could force the closure of numerous U.S. cement kilns that will be unable to comply with costly new directives. EPA should rethink its approach and come up with a rule that is achievable in practice across the U.S. Such a rule would better balance the environmental and economic protections contemplated by the Clean Air Act.

Q: How did the Institute come to this conclusion?

A: The author utilized the IMPLAN input-output model to estimate the current economic and fiscal impacts of the Portland cement manufacturing industry in the U.S. The model was then used to estimate the direct and indirect job losses that would likely attend the closing of existing facilities should the costs of complying with the National Emissions Standards for Hazardous Air Pollutants (NESHAP) rule be prohibitive. In addition, the author used examples provided by other experts in the field in previous studies and testimony to Congress.

Q: Why would they conduct such a study?

A: Currently, EPA is considering a potential rule that could have a broad impact on the domestic cement industry and the manufacturing jobs and production it provides for our communities and infrastructure. The study is aimed at measuring some of the potential economic, fiscal and political impacts from a shrinking domestic cement industry. Import penetration, currently about 25 percent of domestic consumption, could easily increase to 35 or 40 percent with a substantial loss of domestic jobs and tax revenue. What’s more, to the extent the proposed NESHAP rule

inflates the cost of construction projects because of higher cement costs, the real economic impact of the infrastructure stimulus program will be reduced.

Q: Isn't the cement industry interested in reducing its emissions?

A: The cement industry is committed to cutting emissions and increasing efficiencies to benefit the environment and the communities in which it operates. Moreover, concrete and cement are often applied in construction methods that, over their lifetime, are greener and cleaner than many other traditional building materials.

Q: What is the U.S. cement industry doing to propose a solution?

A: With research like this that gives an accurate depiction of the current industry landscape and the potential implications of stringent EPA regulations, the cement industry hopes to be part of a debate that will result in an amenable solution for all parties involved and serve the nation for decades to come – particularly in light of the contributions the industry makes to U.S. jobs and how it provides a solution to the revitalization of our infrastructure.

Q. Isn't the cement industry exaggerating the costs of the regulations?

A: This is not your typical regulation—it is a whole new approach to regulating air toxics from industry, being applied to one of our nation's most essential industries. Adoption of this rule will make it difficult to raise the capital or the business confidence to modernize existing cement kilns, will reduce the capacity of existing kilns, and will make new plant construction almost impossible. Even the EPA, in its proposed rule, estimates that adoption of the proposed rule will result in \$340 million in new costs to cement industry, and an almost 10% drop in U.S. cement production. And, these predictions are unreasonably conservative because they do not take into account that the costs of adopting all of the differing MACT technologies. EPA's estimates are inherently unpredictable because there is no cement manufacturing plant that has attempted to use all of the proposed control technologies at once.

Q: Why is the U.S. portland cement industry important to infrastructure and economic recovery?

The U.S. cement industry employs tens of thousands of Americans and produces a product that is absolutely essential to the nation's economic recovery and security. Without affordable cement it will be impossible to pursue many of the construction projects that have been identified as important to the economic recovery, such as infrastructure projects. Adoption of this rule will, by the EPA's own admission, reduce the number of U.S. jobs in the industry, increase our reliance on foreign producers of cement, and increase costs for all consumers of cement. This means that the rule will apply pressure on the U.S. economy both directly, by driving U.S. cement producers out of business, and indirectly, by increasing the costs of cement for all of the industries that depend upon cement.

The Obama Administration and the Congress have enacted a stimulus program in part designed to make infrastructure investments an engine for economic recovery. If this rule is adopted, and domestic cement supply is constrained and investments in cement capacity expansion are avoided, the stimulus package will advance fewer projects with less jobs created. A reasonable rule – based soundly on Clean Air Act requirements and building on the demonstrated record of current regulatory programs – would not act at cross-purposes to economic recovery.

Basics of the Proposed Rule

Q: What is the portland cement NESHAP rule?

A: On May 6, the EPA published a new proposed rule that would significantly change the air pollution standards applicable to cement kilns. The proposed rule establishes new national emission standards for hazardous air pollutants for cement kilns under the Clean Air Act.

Q: When will plants need to follow the proposed regulations?

A: EPA is expected to issue its final rule by June 2010. While it has many options, including revising the proposed rule, delaying implementation, or publishing a final rule for adoption, it will likely move forward with some restrictions that will impact the industry.

Q: What plants must follow the proposed rule?

A: The proposed rule covers all portland cement manufacturing facilities in the U.S. and Puerto Rico that are operated by private industry, or by State, local, and tribal governments.

Q: Why are the emissions standards in the proposed rule significant?

A: The proposed rule does more than change the degree of emissions regulations applicable to cement kilns—it utilizes an unduly burdensome and unrealistic "pollutant-by pollutant" approach to develop maximum achievable control technology ("MACT") requirements that fail to reflect adequate real world data about demonstrated emissions control strategies. MACT requirements are designed to direct industries towards the pollution control technology used by the "best performers" in a certain industry sector. The proposed rule, however, cobbles together a range of different performance characteristics applicable to different pollutants without determining if it is feasible or possible for any one kiln to comply with all of the standards simultaneously. Additionally, the rule does not account for the fact that the chemical composition of key cement inputs, such as limestone, varies from region to region. As a result, the proposed rule will have disproportionate impacts on different manufacturing locations.

Q: Is the approach in the proposed rule legal?

A: No. The Clean Air Act requires EPA to base MACT floor standards on emissions control that has been achieved in practice. It also requires EPA to set achievable standards. The proposed standards do not meet either requirement. The rule requires every U.S. facility to implement very costly control strategies to achieve compliance simultaneously with four excessively stringent standards that have not been demonstrated to be simultaneously achievable in practice and that do not take into account important factors impacting achievable emissions control by facilities, such as the composition of their nontechnological raw material inputs.

Impacts on the Cement Industry

Q: What is the portland cement industry?

A: The cement industry is, quite literally, the key building block of the nation's construction industry. Virtually no new construction activity can be undertaken without the use of concrete, and portland cement is in the key ingredient in concrete. Portland cement is calcium silicate cement made with a combination of calcium, silicon, aluminum, and iron. Lime and silica make

up about 85% of its mass, and large cement kilns, operating at temperatures of approximately 2,700 degrees Fahrenheit, convert the raw materials into portland cement that is then mixed with sand, gravel, and water to create concrete.

Q: How will the proposed rule affect the U.S. portland cement industry?

A: As written, the proposed rule would be devastating to the U.S. cement industry. The U.S. cement industry already faces extreme pressure from foreign competitors that do not have to comply with rigorous environmental or labor standards. Requiring U.S. cement manufacturers to comply with the MACT approach will result in much higher manufacturing costs and will further undermine the ability for U.S. cement to compete with unregulated foreign products. Further, because adopting all of the emissions control technologies in the rule is neither practical nor economically feasible, it is likely that many U.S. cement jobs will have to be relocated to foreign locations.

Q: Isn't the cement industry exaggerating the costs?

A: This is not your typical regulation—it is an entirely new approach to regulating air toxics from industry, being applied to one of our nation's most essential industries. Adoption of this rule will make it difficult to raise the capital or the business confidence to modernize existing cement kilns and will reduce the capacity of kilns. Even the EPA, in its proposed rule, estimates that adoption of the proposed rule will result in \$340 million in new costs to cement industry, and an almost 10% drop in U.S. cement production. And, these predictions are unreasonably conservative because they do not take into account that the costs of adopting all of the differing MACT technologies simultaneously are inherently unpredictable because there is no cement manufacturing plant that has attempted to use all of these control technologies at once.

Q: Why is it bad to rely on foreign cement?

A: From an economic perspective, relying on foreign cement production will place the U.S. construction industry at the mercy of potentially uncertain sources of supply. From an environmental perspective, reliance on foreign sources of supply actually will increase global greenhouse emissions because transporting cement to the United States from international markets will require tremendous additional use of fossil fuels, thus substantially increasing the amount of carbon emissions per unit of cement used in this country. Finally, many foreign sources of cement are manufactured under conditions that are simply not as environmentally protective as we find in the United States.

For example, one of the purposes of the NESHAP is to reduce mercury emissions. However, the increase in the release of mercury from overseas facilities with less oversight will simply add to the global pool of mercury in the Earth's biosphere. Such mercury can travel, increasing in soil and water deposits throughout the world, including in the U.S. So, increasing mercury emissions overseas under less-controlled conditions defeats an important environmental purpose of the proposal.

Similarly, while the Congress is actively debating regulation of greenhouse gas emission, it recognizes that emissions leakage (i.e. the movement of U.S. industry to foreign production) could have a net increase in the global emissions of CO₂. To the extent the NESHAP rule pushes production of cement out of the U.S. to countries with higher carbon footprints will

directly increase CO2 emissions as both a result of the increased levels of “dirtier” production globally, and high levels of CO2 emitted to move huge quantities of cement to the U.S. marketplace.

Alternatives

Q: What changes can be made to the proposed rule to reduce its negative impacts on the U.S. cement industry?

A: This rule should be re-worked to take into account more real-world data and more realistic assumptions about the cement industry and about what controls can be placed on cement kilns and the emissions reductions such controls can achieve in practice. The EPA should reject the pollutant-by-pollutant approach and set MACT floors based upon requirements that are demonstrably achievable and that take regional and other kinds of relevant variability into account. And, as suggested in the recent Brick MACT decision*, EPA should establish appropriate subcategories of the regulated community in order to ensure that standards are both achievable and reasonable.

* *Sierra Club v. EPA*, 479 F3d 875 (D.C. Cir. 2007) (“*Sierra Club*” or “*Brick MACT*”)

Existing Track Record of Environmental Performance

Q: If the proposed rule is altered, will the industry go unregulated?

A: No. Cement manufacturing in the United States today is regulated by a complex system of federal, state, and local regulations. Cement plants utilize sophisticated air pollution control devices and monitoring systems. Further, cement companies have worked hand in hand with EPA to enhance the energy efficiency of their facilities, meaning less fuel is consumed per unit of production. Cement plants also have extensive recycling programs that include recovery of cement kiln dust, and use of fly ash and wastes to supplement both raw feed and energy needs. Such programs have important positive impacts on the environment. In short, sustainability is not just a slogan to the modern cement industry; it is a core operating principle.

Q: How can neighbors learn more about cement kilns and their environmental performance?

A: Cement companies actively engage the communities in which they operate to address conservation and ecological issues in the region and provide direct employment and skill acquisition training for community members. Examples of these activities can be found at www.cement.org in the 2008 Sustainability Manufacturing Report.