

Regulatory Indifference Hurts Vulnerable Communities

No. 7 in a Series of Regulatory Reports



U.S. CHAMBER OF COMMERCE

Environment, Technology & Regulatory Affairs Division

ACKNOWLEDGMENTS

AUTHORS

William L. Kovacs, *Senior Vice President, Environment, Technology & Regulatory Affairs*

Joseph M. Johnson, *Executive Director, Federal Regulatory Process Review & Analysis*

Keith W. Holman, *Senior Policy Counsel and Managing Director*

The authors work in the U.S. Chamber's Environment, Technology & Regulatory Affairs Division.
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No. 7 in a Series of Regulatory Reports

February 2016

Executive Summary



William L. Kovacs

U.S. Chamber Senior Vice-President for
Environment, Technology, and Regulatory Affairs
U.S. Chamber of Commerce

Over the past five years, the U.S. Chamber has studied the sources of dysfunction in our federal regulatory system. In a series of reports, we highlighted serious problems with the way agencies do the job of regulating that Congress assigned to them, including:

- Agencies downplay the costs of their biggest new regulations with estimates of far larger benefits that the public has no way to verify;
- Agencies are receptive to lawsuits from outside advocacy groups, then enter into binding settlement agreements that give advocacy groups control over the agency's policy agenda and budget;
- Agencies delay or kill proposed infrastructure projects by failing to take action on environmental permit applications; and
- Agencies fail to consider the impacts their regulations have on local employment and job displacement. Instead, they often refuse to acknowledge that these impacts even exist.

While the Chamber's previous reports have focused on large, complex regulatory actions that have widespread economic impacts, evidence shows that much smaller rules can also have significant negative impacts on specific industries and the towns where they are located. For example, when the U.S. Environmental Protection Agency (EPA) and the Occupational Safety and Health Administration (OSHA) proposed rules¹ that threaten the survival of many brick manufacturing plants in the United States, we realized that the relatively small size of the brick industry, the absence of foreign competition, and the stability of labor and material costs would allow us to zoom in on the specific impacts the EPA and OSHA rules will have on brick companies and their employees.

¹EPA, "National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Products Manufacturing," 79 Fed. Reg. 75,622 (December 18, 2014); OSHA, "Occupational Exposure to Respirable Crystalline Silica," 78 Fed. Reg. 56,274 (September 12, 2013).

What Our Research Revealed

The Chamber compared estimates of compliance costs prepared by EPA and OSHA with cost and burden estimates developed by five brick plants that are representative of the overall brick industry. EPA estimated that its final rule will have an annualized cost to the brick industry of about **\$25 million**, while delivering benefits between **\$75 and 170 million**.² OSHA projects that its rule would cost each workplace about **\$1,250** per year, while delivering between **\$2.8 and 4.7 billion** in benefits for all industries across the country.³ Both agencies made key assumptions to support their estimates of modest costs and substantial benefits, but little factual evidence was given as support.

According to the Brick Industry Association, the EPA rule actually carries a price tag of **\$100 million** or more per year, while the OSHA rule imposes an up-front capital cost of **\$900,000** or more per brick plant. These costs, broken down on a per-plant basis, are greater than many brick companies can ever afford—even if they were able to borrow the capital. Consequently, several plants will be forced by the EPA and OSHA rules to cut back their operations or close. This in turn will hurt small communities, whose residents depend on brick jobs for their middle-class wages and benefits.

Brick companies say they are willing to

make economic sacrifices in exchange for major improvements in air quality and worker health. EPA and OSHA have not demonstrated that their rules will actually deliver these benefits, however. On the contrary, virtually all of EPA's calculated benefits come from fine particulate matter reductions the rule might achieve—a total of about 309 tons spread across the nation—which is less than **1/500th** of the amount of PM2.5 EPA believes goes into the air from fast food restaurants alone.⁴ Similarly, the 147 pounds of mercury the rule is expected to reduce is about **1/400th** the amount of mercury now reported by EPA to be in dental amalgam (fillings) in the mouths of millions of Americans.⁵ Likewise, OSHA's rule imposes heavy costs on the brick industry while evidence cited by the Brick Industry Association indicates that the clay used in brick manufacturing is not a significant cause of silicosis for plant workers.⁶ Thus, the calculated benefits of the rules are far too small to notice or to improve the lives of the people in these communities.

⁴ See E.H. Pechan & Associates, "National Emissions Inventory for Commercial Cooking" (April 2004), available at www.epa.gov/ttnchie1/conference/ei13/pointarea/roe.pdf.

⁵ See EPA, "Mercury in Dental Amalgam," available at www.epa.gov/mercury/dentalamalgam/html. Moreover, while OSHA asserts that its rule will prevent 1,600 new silicosis cases each year, the Brick Industry Association counters that brick workers have historically experienced no silicosis cases, so the OSHA rule actually does nothing to improve worker safety in brick plants.

⁶ See, e.g., Love, R.G., Waclawski, E.R., Maclaren W.M., Porteous, R.H., Groat, S.K., Wetherill, G.Z., Hutchinson, P.A., Kidd, M.W., Soutar, C.A. "Cross-Sectional Study of Risks of Respiratory Disease in Relation to Exposures of Airborne Quartz in the Heavy Clay Industry" *Edinburgh: Institute of Occupational Medicine* (1994). (IOM Report TM/94/07); Love, R.G., Waclawski, E.R., Maclaren, W.M., Wetherill, G.Z., Groat, S.K., Porteous, R.H., and Soutar, C.A., "Risks of Respiratory Disease in the Heavy Clay Industry," *Occupational Environmental Medicine*, Vol. 56, pages 124-133 (1999); Buchanan, D., Miller, B.G., Soutar, C.A. "Quantitative Relationships Between Exposure to Respirable Quartz and Risk of Silicosis at One Scottish Colliery," *Edinburgh: Institute of Occupational Medicine*, 2001. (IOM Report TM/01/03).

²80 Fed. Reg. 65,470, 65,513 (October 26, 2015). EPA acknowledges that all of these benefits are actually "co-benefits" that come from estimated reductions in fine particulate matter, a pollutant that is already very well controlled by other regulations. Agency claims of expansive health benefit calculations stemming from such "co-benefits" were recently questioned by the U.S. Supreme Court in *Michigan v. EPA*, ___ U.S. ___ (2015), slip op. at 4.
³U.S. Department of Labor, OSHA Fact Sheet, "OSHA's Proposed Crystalline Silica Rule Overview" (August 2013) at 2.

The Policy Implications of Our Findings

The brick industry experience clearly illustrates the increasingly common situation where regulations—shaped in significant part by outside advocacy groups—impose heavy burdens on specific businesses and their host communities that far outweigh their assumed local and national benefits. Rules such as these—that do more harm than good to communities—should never be allowed to become legally binding requirements. Under our regulatory system, however, agencies like EPA and OSHA can make sweeping assumptions about the costs and benefits of a rulemaking, with confidence that their assumptions usually survive challenges until *after* the rule takes legal effect. Courts typically defer to agency decisions, and the agencies themselves are indifferent to the adverse impacts their rules have on vulnerable communities.

Recommendations

EPA needs to conduct the type of **in-depth employment analyses** required by Section 321(a) of the Clean Air Act, in order to provide Congress and the public with information about the impacts its regulations have had on businesses, workers, and communities. Other federal agencies should also be required to conduct analogous evaluations. Only by fully understanding how past regulatory approaches have affected American industries and the communities where they are located can the public see how additional requirements may affect their lives. It is time for Congress to demand that EPA and other agencies look at the long-term impacts of their regulations on real people, in real communities.

In addition, Congress should enact the **Regulatory Accountability Act of 2015 (RAA)**,⁷ of 2015, which would improve the transparency of regulations by requiring agencies to invest more effort earlier in the rulemaking process to gather data, evaluate alternatives, and receive public input about the costs and benefits of its rules. The RAA would provide stakeholders with a way to confront unfounded assumptions that agencies rely on to make their proposed rules seem less costly and/or more beneficial than they really are. Factual challenges and agency responses to those challenges would be part of the rulemaking record that a court would have before it when it reviews the rule. The RAA would be a powerful tool to keep agencies honest about the claims they make to support new regulations and help to prevent new rules that will do more harm than good.

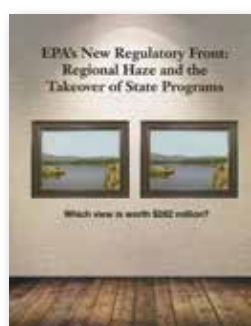
⁷H.R. 185, passed by the House of Representatives on January 23, 2015; S. 2006 was introduced in the U.S. Senate on August 30, 2015.

Report

The U.S. Chamber has spent several years analyzing the federal regulatory system in order to understand how new rules can affect the lives of ordinary Americans. The resulting reports identified specific problems associated with the federal regulatory process, i.e. procedural barriers to permitting new projects, federal agencies refusing to cooperate with the states, the impact of new regulations on employment, and the legal tactic used by advocacy groups known as “sue and settle.”



Understanding the roadblocks in permitting energy projects and their impacts (March 2011)



Understanding how federal agencies override states' regulatory discretion (July 2012)



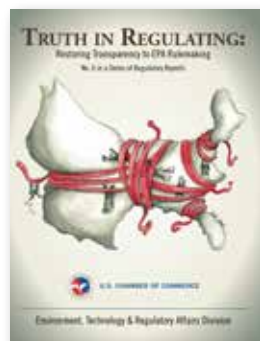
Understanding the impacts of regulations on employment loss and displacement (Feb. 2013)



Understanding how private parties control agencies through the “sue and settle” process (May 2013)



The Chamber's August 2014 report, *Charting Federal Costs and Benefits*, found that only a tiny number of new regulations (just one or two each year, on average) carry the vast majority of the costs and benefits from the 3,500 to 4,000 rules issued annually by all of the federal agencies combined.



The follow-up report, *Truth in Regulating: Restoring Transparency to EPA Rulemaking* (April 2015), concluded that the U.S. Environmental Protection Agency (EPA) has not been transparent in explaining to the public the details of its rulemakings, including the cost-per-ton of pollutant reduced, and the cost of the rule EPA chose versus other potential alternatives.

Each of these reports highlights a different problem with our current federal regulatory process:

- Federal agencies ignore the tremendous resource drain their rules impose on state and local governments, despite being obligated by statute and executive orders to do so;
- Agencies downplay the costs of their biggest new regulations with estimates of far larger benefits that the public has no way to verify or see what they are actually getting for their money;
- Agencies are receptive to lawsuits from outside advocacy groups, resulting in the agency binding itself through settlement agreements that give advocacy groups effective control of the agency's policy agenda and budget; and
- Agencies fail to carefully consider the impacts their regulations have on employment and job displacement. While Congress often considers the impact that a new law will have on jobs and communities—and may provide assistance for affected workers—federal agencies for decades have refused to acknowledge that these impacts even exist.

The Chamber's prior reports have focused on the largest federal rulemakings and regulatory issues that have the greatest potential impact on the U.S. economy (e.g., unfunded federal mandates on the states and the difficulty in getting key infrastructure projects permitted). While rules that impose billions of dollars in annual costs have the most obvious economic impact, evidence suggests that much smaller rules can also have significant negative impacts on specific industries and the communities where they are located.

It is often difficult to trace these impacts on specific industries to dysfunctional regulations, however, because of other important factors, such as foreign competition, rising costs of materials and labor, and changes in consumer demand.

When EPA and the Occupational Safety and Health Administration (OSHA) proposed rules⁸ that threaten the survival of many brick manufacturing plants in the United States, the Chamber decided to take a more detailed look at the brick industry and the impacts of the two rules on specific plants.

The U.S. brick industry is particularly useful to study, because:

- Foreign competition has not been a significant factor in the past;
- Regulation has not previously threatened the industry with large numbers of plant closures;
- Materials and labor costs have been stable;
- The industry is viable because long-term demand for brick as a building material is strong, though it varies significantly with business cycles;
- The modern brick industry is a relatively minor source of air emissions;
- The brick industry is dominated by small businesses;
- Workers at brick plants are often less-educated; and
- Brick plants are often located in smaller communities that depend on the plant jobs for middle-class wages.

⁸EPA, "National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Products Manufacturing," 79 Fed. Reg. 75,622 (December 18, 2014); OSHA, "Occupational Exposure to Respirable Crystalline Silica," 78 Fed. Reg. 56,274 (September 12, 2013).

Background: The U.S. Brick Industry

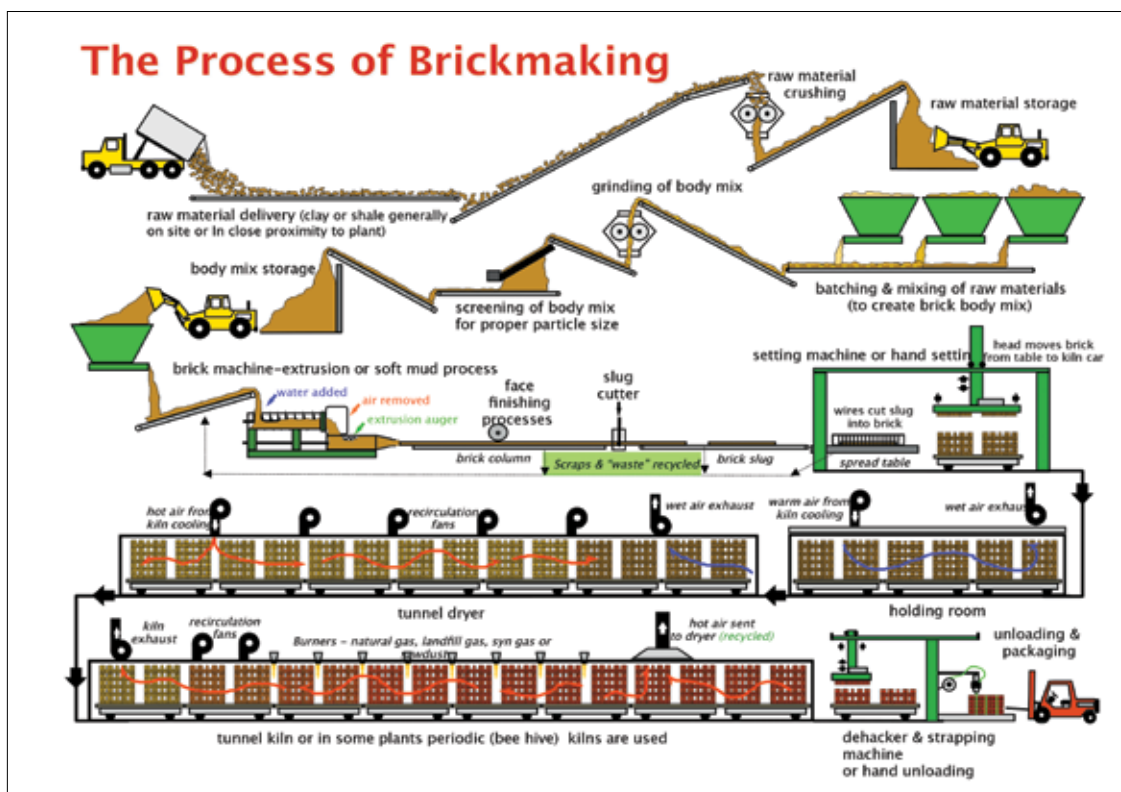
Historically, the U.S. brick industry has experienced periods of growth and decline that are closely tied to the overall economy and the construction industry. Over 80% of bricks sold are used in residential construction, with the remainder used for non-residential construction, paving, and other purposes.

According to the Brick Industry Association, brick plants make approximately 9 billion “standard brick equivalents” each year and add nearly \$8 billion to our economy.⁹ About **200,000** American workers are employed directly in raw materials sourcing, manufacturing, distributing, and transporting bricks, and indirectly as skilled masons and contractors using bricks in construction.

⁹Brick Industry Association, *An Overview of the American Brick Industry*, available at www.gobrick.com/Resources/American-Brick-Industry.

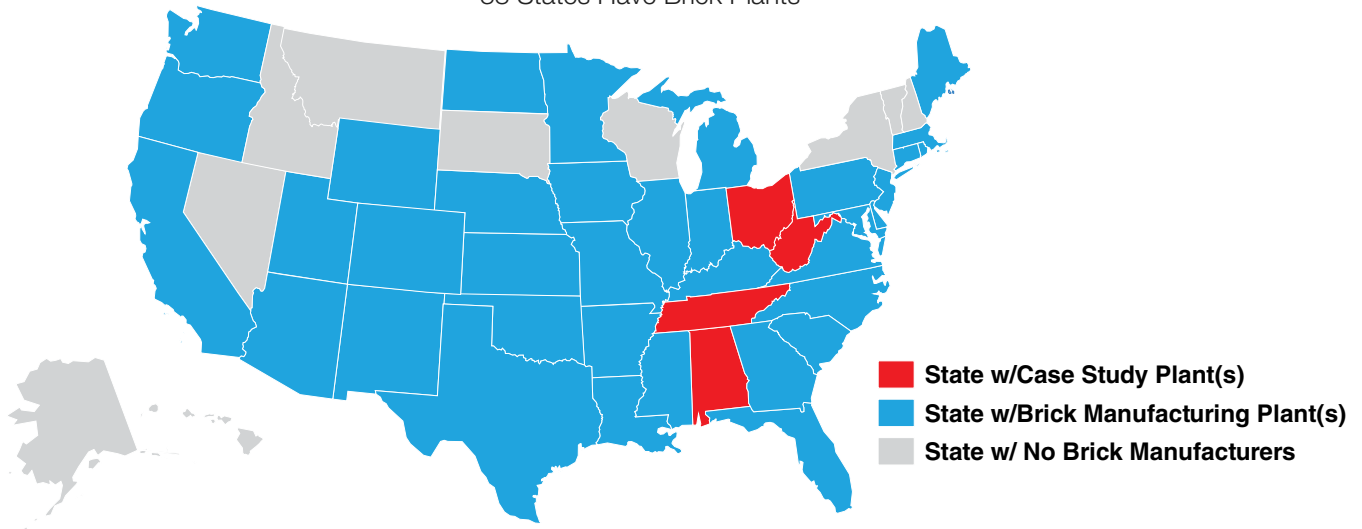
In 2014, there were **70** brick plants with **217** kilns in the United States, employing about **7,000** people. More than 60 of the 70 U.S. brick plants are owned and operated by small, often family-owned companies. Brick manufacturing firms are located in 38 states, with the heaviest concentration in the Southeast, Mid-Atlantic, and Midwest, in areas with major clay deposits. Because brick plants typically use natural gas to fire their kilns and dryers, they are far cleaner than facilities operating a generation ago.

In 2015, the brick industry operated at a capacity utilization rate of only about 40%, largely because of the post-2008 residential construction slowdown. Many plants now have productive capacity that hasn't been used since 2005. Based on the most recent Census data, the brick industry has lost 54% of its jobs since the housing peak in 2004.



States with Brick Manufacturing Plants

38 States Have Brick Plants



Two New Regulations Will Hit the Brick Industry Hard

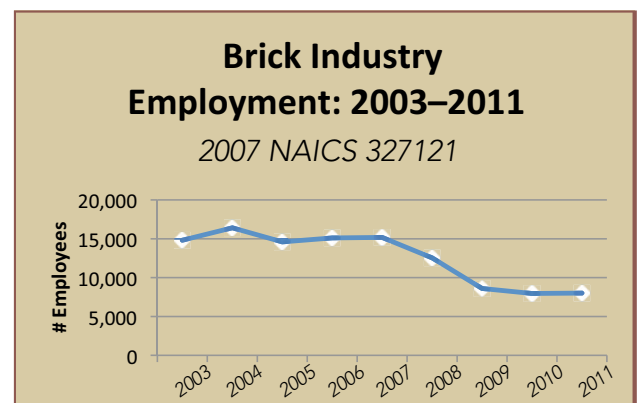
EPA's Clean Air Act regulation, called the **Brick Maximum Achievable Control Technology (Brick MACT) rule**,¹⁰ requires state-of-the-art air quality emissions controls for brick manufacturing plants (including smaller plants). The rule is intended to reduce emissions of hazardous air pollutants such as hydrogen fluoride (HF), hydrogen chloride (HCl), chlorine (Cl₂), and mercury (Hg).

Previously, in 2003, EPA finalized the first version of the Brick MACT rule.¹¹ The 2003 Brick MACT rule required brick plants to install equipment on their kilns to control HF and HCl, and to develop work practices to reduce other emissions. Brick companies spent millions of dollars to comply with the 2003 rule. An environmental advocacy group sued EPA, however, claiming that the agency did not fully comply with the Clean Air Act in writing the 2003 rule. A federal

court subsequently threw out the rule and ordered EPA to rewrite the Brick MACT rule.¹² The revised rule is far more difficult and costly for brick plants to comply with because EPA determined that the substantive emission reductions achieved by the control devices installed under the 2003 rule should be the starting point for the level of emissions reduction under the current rule. The 2015 Brick MACT seeks to achieve major emissions reductions over and above the near **95%** reductions achieved under the 2003 rule. While the agency could have written the rule to give the brick industry credit for emissions reductions already achieved, EPA in effect changed the rules for brick plants in the middle of the game.

¹⁰EPA, "National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Products Manufacturing," 80 Fed. Reg. 75,622 (October 26, 2015).

¹¹EPA, "National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Products Manufacturing," 68 Fed. Reg. 26,690 (May 16, 2003).



¹²*Sierra Club v. EPA*, 479 F.3d 875 (D.C. Cir. 2007).

OSHA's **Silica Dust Permissible Exposure Limit (PEL) rule**¹³ requires the installation of new large-scale, plant-wide ventilation systems and personal protective equipment (PPE) such as face masks and respirators for jobs where the PELs are exceeded. The PEL rule is intended to reduce worker exposures to silica dust in order to reduce incidents of silicosis, a lung disease that is caused by inhaling silica dust.

EPA and OSHA Contend That Their Proposed Rules Are Reasonable and Cost-Effective

EPA estimates that the Brick MACT rule will have an annualized cost to the brick industry of about **\$25 million**, while delivering benefits between **\$75 and \$170 million**,¹⁴ and that nearly all brick manufacturers can easily comply. EPA says that it has taken steps to make the rule affordable and achievable, including offering an unusual risk-based compliance alternative in the rule. OSHA projects that its rule would cost each workplace about **\$1,250** per year, while delivering between **\$2.8 and 4.7 billion** in benefits for all industries across the country.¹⁵ OSHA's benefits calculation is based on the agency's belief that the new standard will prevent 1,600 new silicosis cases each year.

¹³78 Fed. Reg. 56,274 (September 12, 2013).

¹⁴80 Fed. Reg. 65,470, 65,513 (October 26, 2015). EPA acknowledges that most of these benefits are actually "co-benefits" that come from reductions in fine particulate matter, a pollutant that is already well controlled by other regulations. Agency claims of expansive health benefit calculations stemming from such "co-benefits" were recently criticized by the U.S. Supreme Court in *Michigan v. EPA*, ___ U.S. ___ (2015), slip op. at 4.

¹⁵U.S. Department of Labor, OSHA Fact Sheet, "OSHA's Proposed Crystalline Silica Rule Overview" (August 2013) at 2.

EPA and OSHA Had to Make Key Assumptions to Support These Low Burden Estimates

Claims by EPA and OSHA that their rules will impose only modest regulatory burdens and will deliver substantial health and safety benefits rest heavily on key assumptions that are unsupported by facts and contradicted by the brick companies.

- *Both agencies assume that brick companies already have or can readily borrow the capital needed to install required equipment.* Brick plant owners counter that at present it is almost impossible to get loans for critical projects like plant modernization. Securing financing for costly control equipment that does nothing to improve their productivity or their bottom line is even more problematic.
- Both agencies assume that the costs of complying with the rules can be *passed on to consumers simply by increasing brick prices.* This assumption ignores the reality that price is a critical factor in customer choice between brick and other construction materials. Thus, raising brick prices is not a feasible operating strategy.
- Both agencies assume that businesses will be able to comply with the regulatory standards if they use the prescribed technology—even in situations where *the agencies themselves* don't know whether a required technology will be sufficient.

EPA bases its claim that the Brick MACT rule will cost the industry “only” \$25 million per year on further key assumptions:

- EPA is confident that most small brick plants can meet the emission standards in the Brick MACT without having to install the most costly new control equipment. Most important, EPA thinks all small brick plants can meet the stringent mercury standard without installing costly mercury controls.
- Because EPA allows a less-costly risk-based standard for one type of emissions, the agency believes that most brick plants can use this alternative to avoid installing the most costly new controls.
- EPA also believes that many brick plants will be able to avoid the cost of the Brick MACT by electing to become “synthetic” minor sources—staying below the threshold of the rule by agreeing to limit output/operating hours, or to install relatively less costly controls, or both.

Brick Industry Information Tells a Very Different Story

The Brick Industry Association estimates that the annual cost of the Brick MACT will be **\$100 million or more**¹⁶ and that compliance will be nearly impossible for many smaller plants.

EPA assumes that if a plant captures *X tons* of particulate matter (PM), it will also capture *X ounces* of mercury and other hazardous air pollutants.

¹⁶Letter from Brick Industry Association to U.S. Chamber (January 4, 2016). Available upon request.

While the agency assumes that all but three small plants can meet the required PM standard, this assumption is not supported by any facts.

- Only a small handful of brick kilns currently have control equipment installed that can meet the MACT rule’s proposed emission limits for **all** of the air pollutants.
- Therefore, most kilns will require the installation of a dry injection fabric filter (DIFF) to control PM and acid gases, as well as an activated carbon injection (ACI) system to control mercury. The combined up-front capital cost of these controls is about **\$2.2 million per kiln**, or \$4.4 million per plant with two tunnel kilns (the industry average).
- The 2003 Brick MACT rule led to many plants installing dry lime absorber (DLA) control devices on their larger kilns. Brick companies that installed DLAs will likely have to tear out their DLAs and replace them with new DIFFs at a cost of **\$4.27 million per kiln—including removal costs and costs to install new equipment**.

Likewise, the OSHA silica PEL rule will require many brick plants to install ventilation systems across numerous sections of their plants, to provide new types of PPE for many employees, to provide training for exposed employees, and to institute new reporting and recordkeeping procedures.

- For brick plants, the up-front capital cost to the average small plant is estimated to be **\$906,000** and the

annual cost is **\$224,000**.¹⁷ These are the up-front costs for the typical small brick plant, which has two tunnel kilns. Larger plants often have as many as four to six kilns, and the cost for silica compliance scales upward significantly with the size of the plant.

- While OSHA imposes the silica PEL rule for the stated purpose of reducing exposure to silica dust, the Brick Industry Association cites studies showing that raw materials used in brick manufacturing do not represent a significant cause of silicosis for brick workers.¹⁸ OSHA has essentially

acknowledged this fact yet has done nothing to adjust the compliance burden for brick plants.¹⁹ Thus, brick plants are asked to shoulder a heavy burden to solve a problem that they play little or no part in causing.

Case Studies: Five Communities with Brick Plants

The Chamber considered brick plants in five different communities. These plants were chosen because they represent a range of different types of brick plants (e.g., large tunnel kilns, periodic or “batch” kilns, and plants that use specialty source clays). We included companies with a variety of plant sizes, production methods, products, input materials, and leadership structures.

¹⁷Testimony of Janet Whitacre Kaboth, Whitacre-Greer Brick, before the House Committee on Oversight and Government Reform, Subcommittee on Government Operations, Plymouth, Michigan (May 6, 2014) at 3.

¹⁸Love, R.G., Waclawski, E.R., Maclaren WM, Porteous, R.H., Groat, S.K., Wetherill, G.Z., Hutchinson, P.A., Kidd, M.W., Soutar, C.A. “Cross-Sectional Study of Risks of Respiratory Disease in Relation to Exposures of Airborne Quartz in the Heavy Clay Industry”, *Edinburgh: Institute of Occupational Medicine* (1994). (IOM Report TM/94/07); Love, R.G., Waclawski, E.R., Maclaren, W.M., Wetherill, G.Z., Groat, S.K., Porteous, R.H., and Soutar, C.A., “Risks of Respiratory Disease in the Heavy Clay Industry,” *Occupational Environmental Medicine*, Vol. 56, pages 124-133 (1999); Buchanan, D., Miller, B.G., Soutar, C.A.. “Quantitative Relationships Between Exposure to Respirable Quartz and Risk of Silicosis at one Scottish Colliery,” *Edinburgh: Institute of Occupational Medicine*, 2001. (IOM Report TM/01/03).

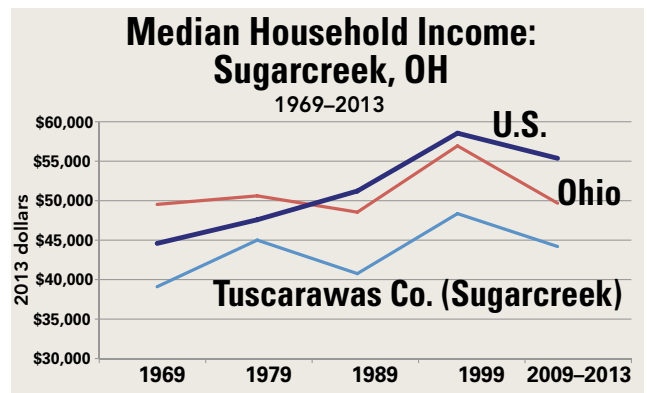
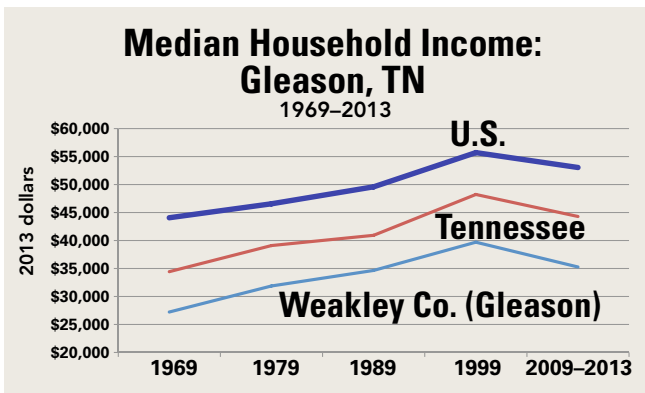
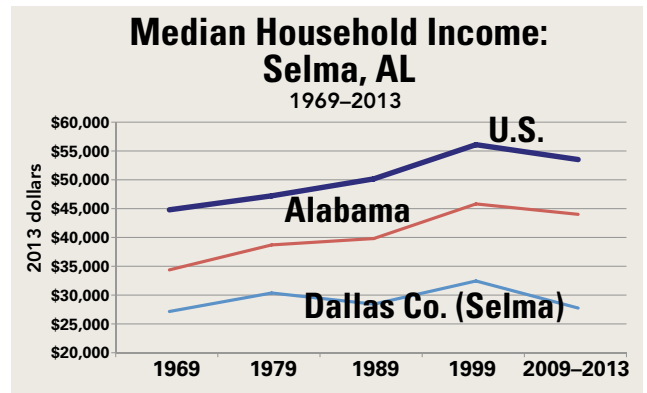
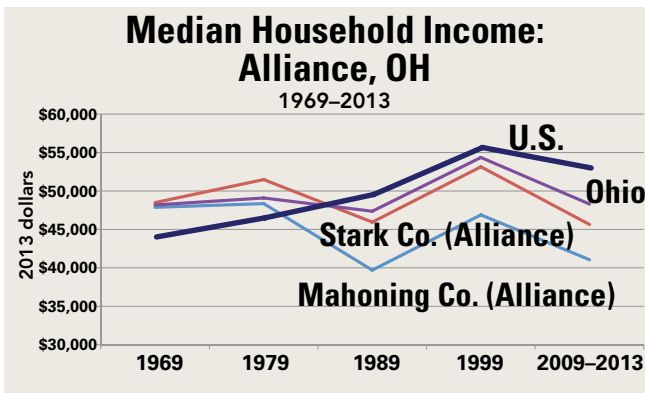
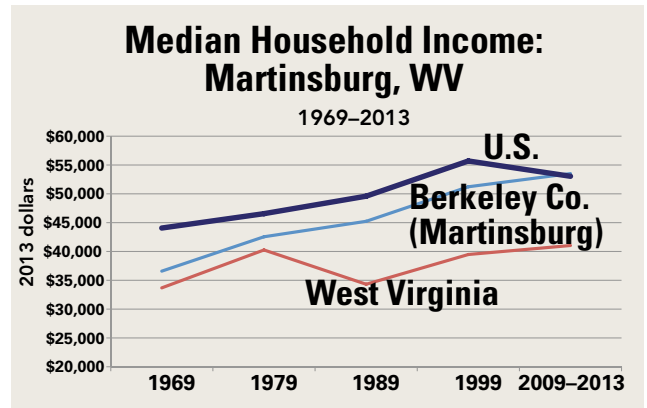
¹⁹See 78 Fed. Reg. 56,333. OSHA notes that “The finding of reduced silicosis risk among pottery workers is consistent with other studies of clay and brick industries that have reported *finding a lower prevalence of silicosis compared to that experienced in other industry sectors* (Love et al., 1999; Hessel, 2006; Miller and Soutar, 2007) as well as a *lower silicosis risk per unit of cumulative exposure* (Love et al., 1999; Hessel, 2006; Miller and Soutar, 2007.)” (emphasis added).

City Name	Brick Firm	City Pop.	Unemp. %	Poverty %	Mfg. %
Alliance, OH	Whitacre-Greer Brick	22,183	5.6%	26%	35%
Gleason, TN	Boral Brick	1,425	11.8%	21.7%	26%
Martinsburg, WV	Continental Brick	17,513	6.0%	23.8%	17%
Selma, AL	Henry Brick	20,251	13.8%	43.5%	21%
Sugarcreek, OH	Belden Brick	2,217	6.5%	2.7%	30%

Median Household Income in the Five Study Communities

U.S. Census data give a comparative historical perspective on the economic health of the five communities included in our study between 1969 and 2013. The following charts compare median household income in the counties where the plants are located against state and national median household income.

All data are U.S. Census Bureau data.



Case Studies: Estimated Impacts of EPA and OSHA Rules on the Five Brick Plants Studied

Based on interviews with the five companies listed below and/or information supplied by the companies and by the Brick Industry Association, we compiled the following information about the impacts of the two rules on specific brick plants.²⁰

Whitacre-Greer Brick, Alliance, Ohio

Revenue	\$8.7 million (EPA est.)
Capital Cost-MACT	\$3.0 million
Annual Cost-MACT	\$1.27 million
Capital Cost-Silica	\$906,000 for 2 kilns
Annual Cost-Silica	\$224,130
Total Annual Cost	\$1.49 million
Total Annual Cost % Rev.	17.2%

- Whitacre-Greer has one facility with two kilns. The plant employs 75 people, offers health insurance, education and training benefits, and profit sharing for all employees (skilled and unskilled). The company produces a specialty brick that has allowed it to remain competitive during a prolonged construction downturn.
- To comply with the MACT standard, the firm must install a fabric filter on one kiln and a DIFF on the other.

²⁰Estimated brick company revenues are from EPA, *Regulatory Impact Analysis: Proposed Brick and Structural Clay Products* (July 2014), Docket ID No. EPA-HQ-OAR-2013-0291 Table 2-4, pages 2-10, 2-11.

- The company estimates that it will cost **\$906,000** to meet the silica PEL.
- Recently, after a **two-year** search, Whitacre-Greer was finally able to secure funding for a kiln renovation project. Small firms like Whitaker-Greer say they cannot borrow the required \$3.9 million capital cost to pay for control equipment that provides **zero** return on investment, and would greatly increase operating expenses.
- In order to eliminate at most **four pounds** of mercury per year, EPA would force the company to spend nearly \$4 million it can't borrow or go out of business and leave 75 workers and their families without paychecks or benefits.²¹

Boral Brick, Gleason, Tennessee

Revenue	NA
Capital Cost-MACT	\$4.4 million
Annual Cost-MACT	\$1.6 million
Capital Cost-Silica	\$906,000 for 2 kilns
Annual Cost-Silica	\$224,000
Total Annual Cost	\$1.9 million
Total Annual Cost % Rev.	NA

- Boral is one of the largest brick manufacturing firms, with multiple plants spread across nine states. The

²¹Whitacre-Greer Brick was forced to close another brick plant located in Waynesburg, Ohio, in 1989. The 87-year-old plant was unable to meet new environmental requirements, and the company was not willing to completely rebuild the old plant. Without the brick plant—which was the only industrial employer in the immediate area—Waynesburg's population decreased by **20%**, from 1,160 in 1980 to 923 in 2010, according to the U.S. Census Bureau.



Gleason, Tennessee, plant has two small tunnel kilns and, like most brick manufacturing facilities, is located near source clay that allows it to make a specific type and color of brick.

- The kilns at Gleason are currently uncontrolled, but they would be able to meet the rule’s emissions standard for each of the pollutants except mercury. Thus, the plant will have to install a DIFF with ACI on each kiln *just to meet the mercury standard.*
- The Brick MACT rule’s controls will yield perhaps *three pounds* of mercury reductions annually at the plant at a cost of over \$4 million.
- While Boral is a large company, the Gleason plant is a small branch operation analogous to most of the small, single-facility companies. The capital investment needed to install emissions controls at this facility risks the jobs of everyone at the plant and potentially the economic health of the tiny town.

Continental Brick, Martinsburg, West Virginia

Revenue	\$15 million (EPA est.)
Capital Cost-MACT	\$4.4 million
Annual Cost-MACT	\$1.6 million
Capital Cost-Silica	\$906,000 for 2 kilns
Annual Cost-Silica	\$224,000
Total Annual Cost	\$1.9 million
Total Annual Cost % Rev.	12.7%

- Continental Brick in Martinsburg, West Virginia, has two small kilns. The plant employs 75 people.
- Continental’s small kilns were not required to install controls under the 2003 Brick MACT. Under the revised rule, the plant will have to install new DIFFs with ACI on both kilns.
- Like Whitacre-Greer Brick, the most insurmountable problem for Continental Brick is finding a way to finance the high capital costs of compliance with the two regulations.
- Although it is uncertain because of a lack of emissions testing data, controlling the two small kilns at Continental will reduce at best a pound of mercury and very small amounts of fine particulate matter each year.

Henry Brick, Selma, Alabama

Revenue	\$5.3 million (EPA est.)
Capital Cost-MACT	\$8.5 million
Annual Cost-MACT	\$2.4 million
Capital Cost-Silica	\$906,000 or more
Annual Cost-Silica	\$224,000
Total Annual Cost	\$2.6 million
Total Annual Cost % Rev.	49%

- Henry Brick in Selma, Alabama, has two large kilns and the plant employs 60 people in a largely African-American community with high unemployment and high rates of poverty. Jobs such as those at Henry are extremely valuable as relatively high-paying employment for low-skilled laborers.
- Henry Brick spent about \$1.5 million to install DLAs on both kilns, as required by the 2003 Brick MACT, but now will have to tear that equipment out and retrofit DIFFs with ACI to meet the new MACT.
- According to the Brick Industry Association, Henry Brick could face one of the highest capital costs for retrofit of new emissions control equipment. Consequently, the annual cost to operating revenue ratio forecast for Henry is an insurmountably high 49%, making it hard to envision how this firm could remain in business under these costly regulations.

- The emissions reductions achieved by controlling Henry's two kilns are minimal and certainly do not warrant putting the firm out of business and costing 60 jobs at the plant alone.

Belden Brick, Sugarcreek, Ohio

Revenue	\$87.5 million (EPA est.)
Capital Cost-MACT	\$17.5 million
Annual Cost-MACT	\$6.4 million
Capital Cost-Silica	\$4.5 million
Annual Cost-Silica	\$1.1 million
Total Annual Cost	\$7.5 million
Total Annual Cost % Rev.	8.6%

- Belden Brick in Sugarcreek, Ohio, has 10 kilns and employs about 200 workers. Belden is the largest family-owned brick company in the U.S., and is managed by the fourth generation of the Belden family.
- In addition to extremely high capital costs to comply with the EPA rule, Belden Brick faces unusually high costs to meet the OSHA silica rule.
- Because Belden is a large brickmaking operation (the sixth largest in the United States), the total environmental benefit of mercury controls on its kilns is expected to be slightly larger, perhaps as much as **12 pounds** of mercury annually, but the unusually high capital cost of controls makes the cost-effectiveness of these reductions extremely poor.

The Negligible Benefits of the Two Regulations Do Not Justify Their High Costs and Impacts on Vulnerable Communities

Pollutant	Reduction
Mercury (Hg)	147 pounds
Acid Gases	368 tons
PM 2.5	309 tons
Non-Hg metals	7.08 tons

Many brick plants face high capital costs to meet the EPA and OSHA rules, as well as large annual operating costs that represent a substantial percentage of revenues. Brick companies say they would be more willing to make economic sacrifices if the rules would result in major improvements in air quality and worker health. For example, Allen Puckett III, the owner of Columbus Brick Company in Columbus, Mississippi, testified in a House Judiciary Subcommittee hearing in 2013 that “[i]f this burden resulted in some great benefit to the environment, it might be worth it.”²² Unfortunately, there is no evidence that these rules will deliver any “great benefit.”

Advocacy groups and EPA point to the significant environmental value of the Brick MACT rule by suggesting that the rule would reduce *thousands of tons* of hazardous air pollutants such as mercury, arsenic, lead, chromium, and dioxin.²³ EPA refers in the preamble to its proposed rule to the (unquantified) benefits of “reducing the exposure to close to 450 tons of [hazardous air

pollutants] each year.”²⁴ OSHA claims that the silica PEL rule will prevent thousands of cases of silicosis and save some 700 lives of workers each year.²⁵ EPA’s own emissions reduction estimates, however, indicate that the costs imposed by the Brick MACT rule will produce only very small emissions reductions, which in turn will have negligible health benefits.

The total mercury reduction of **147 pounds** per year from the entire industry is a tiny mercury reduction that, when spread across the nation, will have little measurable health benefit. By way of comparison, in EPA’s 2012 Mercury Air Toxics Standards (MATS) rule,²⁶ where mercury reductions were estimated by EPA to be about **seven tons** per year, the agency was able to claim only **\$4 to \$6 million** in direct benefits.²⁷ The Brick MACT rule’s mercury reductions equate to only about **\$26,000** in direct benefits.

With respect to the 368 tons of acid gases across the country the rule is anticipated to reduce each year, EPA itself has acknowledged that the brick industry’s emissions are orders of magnitude below the threshold the agency considers safe. Based on its evaluation of the low risk of health effects from the small amounts of acid gases emitted by brick plants, EPA concluded that “we do not expect that the combined emissions of HF, HCl, and Cl₂ from [brick plants] and nearby other sources would result in substantial cumulative health and environmental impacts.”²⁸

²⁴79 Fed. Reg. 75,668.

²⁵U.S. Department of Labor, OSHA Fact Sheet, “OSHA’s Proposed Crystalline Silica Rule Overview” (August 2013) at 1.

²⁶See 77 Fed. Reg. 9,304 (February 10, 2012).

²⁷77 Fed. Reg. 9,306, 9,424.

²⁸79 Fed. Reg. 75,642. Accordingly, EPA allows brick plants to utilize a risk-based flexibility tool known as a Health-Based Compliance Alternative standard.

²²Allen Puckett III, Written Testimony before the House Committee on the Judiciary, Subcommittee on Regulatory Reform, Commercial and Antitrust Law (June 5, 2013) at 6.

²³See, e.g., Earthjustice, Fact Sheet “Cutting Toxic Air Pollution from Brick Kilns.”

In fact, in its economic analysis, virtually **all** of EPA’s estimated benefits come from fine particulate matter reductions, but the modest reductions the rule may achieve—about 309 tons spread across the nation—is less than **1/500th** of the amount of PM2.5 EPA estimates now comes from fast food restaurants. Similarly, the **147 pounds** of mercury the rule is expected to reduce is less than **1/400th** the amount of mercury now reported by EPA to be in dental amalgam in the mouths of millions of Americans. Even if EPA is correct that the rule would impose just \$25 million in costs, the rule’s purported benefits are swamped by its costs and its damaging impact on local communities.

Keeping in mind that the brick industry already committed millions of dollars to install and operate controls to reduce air emissions from brick kilns by about **95%**, the current Brick MACT imposes costs that—for the brick industry—are cripplingly high while delivering scant benefits over and above those from the 2003 rule.²⁹ And, as noted above, because most of those benefits are actually estimated “co-benefits” from PM2.5 reductions (precisely the same co-benefits questioned recently by the Supreme Court in the *Michigan v. EPA* case), the Brick MACT rule actually imposes more than **\$100 million** in annual costs to deliver significantly less in quantifiable benefits.³⁰ OSHA’s silica rule also imposes substantial capital costs (estimated by the brick industry to be \$906,000 per small plant and more

for larger plants) and high annual costs (\$224,000 per year) that are a significant percentage of annual revenues. The OSHA silica rule will also provide scant benefits in exchange for the required expenditures. The brick industry notes that incidents of silicosis are practically nonexistent for the industry,

“If these regulations would save lives—of our workers or our neighbors—it would be worth it. However, in both cases, the regulatory authority has data that shows that the benefit of these regulations is minimal or non-existent for the brick industry.”

—Janet Whitacre-Kaboth

Testimony before the House Committee on Government Reform, Subcommittee on Government Operations (May 6, 2014)

owing to the nature and character of the raw materials used in brick manufacturing. Brick plants will also have a difficult time demonstrating compliance because of unique technical difficulties in air monitoring. Thus, the OSHA rule compels brick plants to make large capital expenditures to address a health issue that they have not been shown to cause. In sum, EPA and OSHA have not shown that their rules regulating the brick industry will actually deliver these benefits to brick workers, local residents, or anyone else. On the contrary, the calculated benefits of the rules are far too small for the people in communities with brick plants to even notice.³¹

²⁹The Brick MACT rule is unique in that the brick industry actually came into full compliance with the 2003 MACT rule at least a year before it was vacated by the court. Brick plants installed the required controls and fully met the rule’s standards. The 2015 Brick MACT sets new standards based on the level of control achieved under the vacated 2003 MACT, rather than on pre-2003 emissions. This so called “MACT-On-MACT” situation results in a rule that is much more stringent than it otherwise would be.

³⁰*Michigan V. EPA*_ U.S. ___ (2015), slip op. at 4.

³¹As noted above, while OSHA asserts that its rule will prevent 1,600 new silicosis cases each year, the Brick Industry Association counters that brick workers have historically experienced no silicosis cases, so the OSHA rule actually does nothing to improve worker safety in brick plants.

In Summary

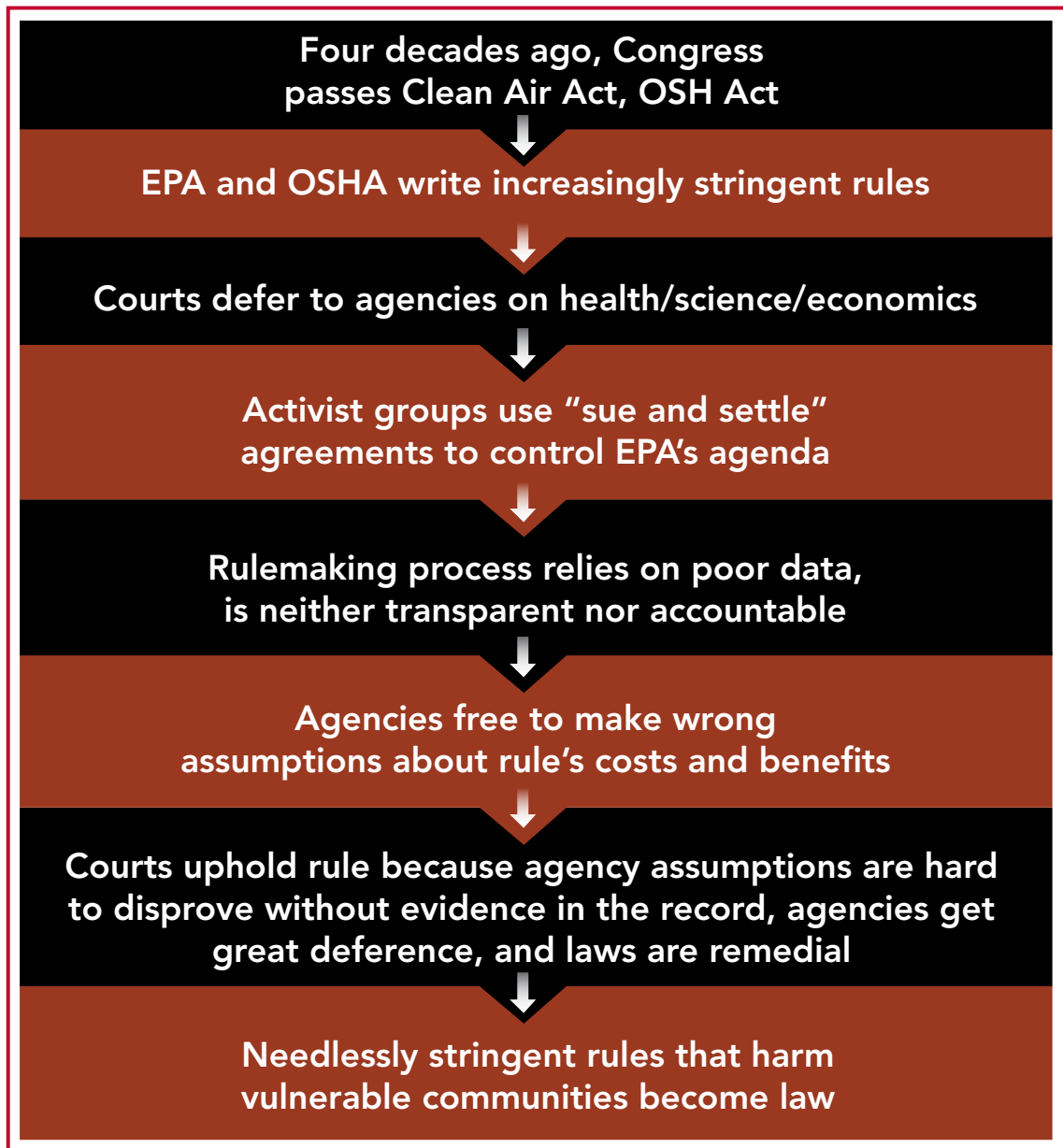
The net result of the EPA and OSHA rules is that communities with brick plants will be worse off than they were before the two rules were written. The nation's air quality and workplace health will not be improved in any discernable way, yet local communities will feel the loss of jobs and the shuttering or downscaling of brick plants. Potentially thousands of workers will be deprived of middle-class jobs and benefits, for no good reason. This type of rule—one that does vastly more harm than good—is the type of rule that should never be written and acquire the force of law.

The Policy Implications of Our Findings

The brick industry experience with the EPA and OSHA rules illustrates how several factors have come together over time to make our regulatory system produce nonsensical regulatory outcomes.

- 1** In the 1970s, Congress wrote sweeping new laws that were designed to broadly benefit all Americans, such as the Clean Air Act and the Occupational Safety and Health (OSH) Act. These laws reflected the view of Congress and the American people that environmental protection and worker health and safety were important factors that needed to be balanced against traditional economic priorities. Congress knew the new laws would have significant adverse economic impacts on newly regulated industries and communities, but expected they would yield massive national health and safety benefits to *all* Americans.
- 2** Congress gave federal agencies broad authority to implement these new laws, while also allowing agencies some discretion and flexibility in implementing them.
- 3** The federal agencies that write the rules implementing laws—in this case EPA and OSHA—interpret their mission to take priority over all competing considerations.
- 4** Over time, the courts have been more and more willing to defer to agency decision-making. Advocacy groups increasingly rely on lawsuits to get agencies to pursue ever more stringent rules without any regard for other policies or interests. In the case of the brick industry, an advocacy group sued EPA, had the 2003 Brick MACT overturned, and forced EPA to develop an excessively strict rule that does far more harm than good.
- 5** EPA and OSHA both imposed stringent requirements that not only were based on groundless, unproven assumptions, but that arrogantly refused to acknowledge local harms that far outweigh any nationwide benefits.
- 6** Thus, instead of developing rules that trade off some localized sacrifice in order to achieve substantial national benefits—the type of regulation intended by Congress when it wrote the Clean Air Act and the OSH Act in the 1970s—federal agencies now write needlessly stringent rules that indiscriminately shutter industries and devastate communities while delivering little or no real benefit to the country as a whole.
- 7** Regulated entities like brick companies have few opportunities to effectively challenge the many assumptions agencies make about the low cost and high benefits of a rulemaking. Agencies ignore adverse comments, and courts defer to agency decisions. Agencies' groundless assumptions typically become obvious **after** the adverse effects of a poorly written rule manifest themselves. If the rule does more harm than good, there is little recourse for affected parties, since agencies rarely take existing rules off the books.

How We Got Here



Significantly, neither the agencies nor the courts have any major institutional incentive to prevent or stop rulemakings that will do more harm than good to local communities. In the current regulatory system, **the agencies** are essentially indifferent to economic considerations or the real-world impacts their rules have on employees. An agency's objective is to further what it perceives to be its statutory mandate and to impose the most stringent requirements it can successfully defend before a court. Other considerations are irrelevant. This

is particularly true now that advocacy groups are asserting far greater control over agency priorities and objectives.

In the rare situations where an agency uses its discretion to write flexible rules that consider the technical and economic feasibility concerns of industry—as EPA did in the 2003 Brick MACT—the agency is likely to be challenged by advocacy groups and have the rule overturned by the courts.

For their part, **the courts** are typically only interested in whether an agency has reasonably interpreted statutory requirements, regardless of their actual impact on communities. Because statutes like the Clean Air Act are remedial and their provisions can be interpreted to authorize very stringent regulations, courts often simply defer to agencies' actions. **The Executive Branch** rarely takes much interest in meaningfully addressing regulatory dysfunction, and sometimes adds to the problem by using administrative agencies to aggressively pursue its policy objectives. Ultimately, only **Congress** is in a position to correct this problem.

What Can Be Done to Prevent Agencies from Issuing Rules That Do More Harm Than Good?

The first critical step in preventing agencies from issuing rules that do more harm than good is for agencies to admit that some rules impose devastating effects on individual industries and communities, rather than denying that these effects exist. As Justice Antonin Scalia observed in a 2001 Supreme Court decision interpreting the Clean Air Act:

[T]he economic cost of implementing a very stringent standard might produce health losses sufficient to offset the health gains achieved in cleaning the air—for example, by closing down whole industries and thereby impoverishing the workers and consumers dependent upon those industries.

That is unquestionably true, and Congress was unquestionably aware of it.³²

Congress was indeed aware of the danger that agencies might reflexively impose needlessly stringent regulations with no thought for their consequences. Accordingly, Congress in 1977 inserted into every major environmental statute a requirement that EPA must continuously evaluate potential loss or shifts in employment from its regulations in order to gauge the real impact of its rule on people and communities.

Section 321(a) of the Clean Air Act provides:

(a) **Continuous evaluation of potential loss of shifts of employment**

The Administrator shall conduct continuing evaluations of potential loss or shifts of employment which may result from the administration or enforcement of the provision of this chapter and applicable implementation plans, including where appropriate, investigating threatened plant closures, or reductions in employment allegedly resulting from such administration or enforcement.³³

³²*Whitman v. American Trucking Ass'ns*, 531 U.S. 457, 466 (2001).

³³42 U.S.C. § 7621(a). Section 321(a) became law as part of the 1977 Amendments to the Clean Air Act. Similar provisions are contained within the Clean Water Act and other major statutes.

In the legislative history of the analogous provision of the Clean Water Act, Section 507 (e), Representative Bella Abzug stated that “[t]his amendment will allow the Congress to get a close look at the effects on employment of legislation such as this, *and will place us in a position to consider such remedial legislation as may be necessary to ameliorate those effects.*”³⁴

Although the information that an evaluation of job loss/displacement would produce could be essential in directing future congressional and agency policies, EPA has refused for nearly 40 years to conduct such an evaluation.

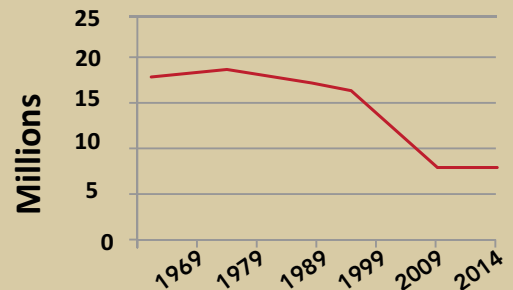
EPA asserts that traditional cost/benefit analyses produced for major rules under Executive Order 12,866³⁵ are sufficient to evaluate the economic impacts of new regulations. These analyses largely ignore employment impacts from new regulations, however, and fail to identify vulnerable communities that will be hardest hit by new rules.

The job loss/displacement impacts that the continuous evaluation would identify are real. The chart at right shows the long decline in U.S. manufacturing employment since 1969. While it is clear that this decline had many causes, federal environmental regulations were a major contributing factor. Although it is currently difficult to know exactly how many jobs have been lost or displaced due to federal environmental regulations, the continuous evaluation required by Congress would provide this critical information.

³⁴See *EPA v. National Crushed Stone Ass'n*, 449 U.S. 64(1980) at n. 24 (*emphasis added*) (citing Clean Water Act Leg.Hist. 654-659).

³⁵Executive Order 12,866, “Regulatory Planning and Review,” 58 Fed. Reg. 51,735 (September 30, 1993).

Manufacturing Employment 1969–2014



Manufacturing employment declined by 35% between 1969 and 2014, even as U.S. population grew by 57% over the same time period. Thus, while 1 in 4 American workers were in the manufacturing sector in 1969, that number had shrunk to 1 in 12 by 2014.

Source: Bureau of Labor Statistics

The effect of job displacement is known to be particularly hard on older workers, reflecting the difficulty of transferring established skills to new jobs. Among long-tenured displaced workers ages 55 to 64, nearly half (44%) of workers who lost jobs over the three years 2009–2011 were still without a job in January 2012.³⁶ These impacts would be expected to be worse for lower-skilled, less-educated workers in smaller, more rural communities. Yet EPA avoids its duty under the law to evaluate these real-world impacts. This situation needs to change, so that Congress and the public can see for themselves the true costs and benefits of regulatory programs at the community level.

³⁶U.S. Bureau of Labor Statistics, Displaced Worker Survey, January 2012.

Recommendations

EPA needs to conduct the type of **in-depth employment analyses** required by Section 321(a) of the Clean Air Act, in order to provide Congress and the public with information about the impacts its regulations have had on businesses, workers, and communities. Other federal agencies should also be required to conduct analogous evaluations. Only by fully understanding how past regulatory approaches have affected American industries and the communities where they are located can the public see how additional requirements may affect their lives. It is time for Congress to demand that EPA and other agencies look at the long-term impacts of their regulations on real people, in real communities.

In addition, Congress should enact the **Regulatory Accountability Act of 2015 (RAA)**³⁷ of 2015, which would improve the transparency of regulations by requiring agencies to invest more effort earlier in the rulemaking process to gather data, evaluate alternatives, and receive public input about the costs and benefits of its rules. The RAA would provide stakeholders with a way to confront unfounded assumptions that agencies rely on to make their proposed rules seem less costly and/or more beneficial than they really are. Factual challenges and agency responses to those challenges would be part of the rulemaking record that a court would have before it when it reviews the rule. The RAA would be a powerful tool to keep agencies honest about the claims they make to support new regulations and help to weed out new rules that will do more harm than good.

³⁷H.R. 185, passed by the House of Representatives on January 23, 2015; S. 2006, introduced in the U.S. Senate on August 30, 2015.

Notes on Methodology

- This report was developed using a combination of publicly available data taken from federal government sources, including the U.S. Census Bureau, Bureau of Labor Statistics, Environmental Protection Agency, and Occupational Safety and Health Administration, together with data provided by the Brick Industry Association and individual brick companies affected by the regulations discussed herein.
- The report focuses on five specific brick manufacturing plants that provide a sample of the 70 plants that comprise the U.S. brick industry. The sample was obtained with the assistance of the Brick Industry Association, which polled its membership for volunteers willing to share individual, plant-specific information about their business and how these regulations would impact them. These plants were also chosen because they represent a range of different types of brick plants (e.g., large tunnel kilns, periodic or “batch” kilns, and plants that use specialty source clays. We included companies with a variety of plant sizes, production methods, products, input materials, and leadership structures.
- All data on individual brick manufacturing plants, including estimates of their site-specific compliance costs for both the EPA Brick MACT and OSHA Silica PEL rules, come from the brick companies and the Brick Industry Association. However, the costs of the various control technologies and their operation and maintenance are estimated by EPA in the agency’s Regulatory Impacts Analysis.

Recommendations

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