



THE FORTHCOMING U.S. DOE PUMP EFFICIENCY REGULATION: INFORMING CONGRESS AND INDUSTRY STAKEHOLDERS

Purpose: This Hydraulic Institute (HI) position paper is to inform industry stakeholders and elected representatives about a **pending U.S. Department of Energy rule-making for industrial and commercial centrifugal pumps** that will establish pump efficiency levels and test procedures in the context of energy conservation regulations. This is the first time the federal government has addressed pump performance via an efficiency regulation.

It is expected that such a regulation could have a significant impact on the U.S. pump industry. It is for that reason that the Hydraulic Institute has developed this paper, to explain the intent of the regulation and the pump industry’s position and considerations with regard to addressing/meeting future regulations.

HI, working with members, customers and other energy efficiency organizations, supports the establishment of pump efficiency regulations and is pleased to collaborate in its development for the benefit of the U.S. economy, the pump industry and its customers.

Hydraulic Institute Overview

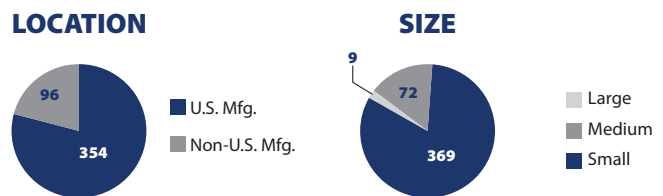
Established in 1917, the Hydraulic Institute (HI) represents the pump manufacturing industry in North America. It is the recognized authority on pumps and pumping systems. HI is also an ANSI accredited standards development organization. The Hydraulic Institute represents **105 member organizations** consisting of pump manufacturers and suppliers to the pump industry.

HI’s mission is to be a value-adding resource for member companies, engineering consulting firms, and pump users by developing and delivering comprehensive industry standards, expanding knowledge by providing education and tools for the effective pump testing, installation, operation, maintenance and performance optimization of pumps and pumping systems. HI, which represents over 70% of the U.S. pump market, also serves as a forum for the exchange of industry information.

HI serves a **\$6.3 billion pump market** comprised of approximately **450+ small to medium-sized pump manufacturers in 38 states** supported by numerous casting, motor, seal, coupling, bearing and controls suppliers. Together, these companies represent some 34,000 employees.

Pump manufacturers serving the U.S. market

There are an estimated 450 pump manufacturers serving the U.S. market



Source: Supplier Relations US, LLC; Eisevier; OneStone Reports; HI Market Intelligence Committee estimates.

Sectors served by the U.S. pump industry include residential, industrial, commercial and water infrastructure (wastewater and clean water utilities) among others. Pumps are the second most ubiquitous machine in the world (behind motors), and **represent 10% of the world's electrical energy demand for motor applications and 25% of the energy usage in certain industrial plant operations.***

Because pump systems use a lot energy, HI is guiding the U.S. pump industry in focusing on sustainability from this perspective:

Supporting energy conservation and demand reduction.

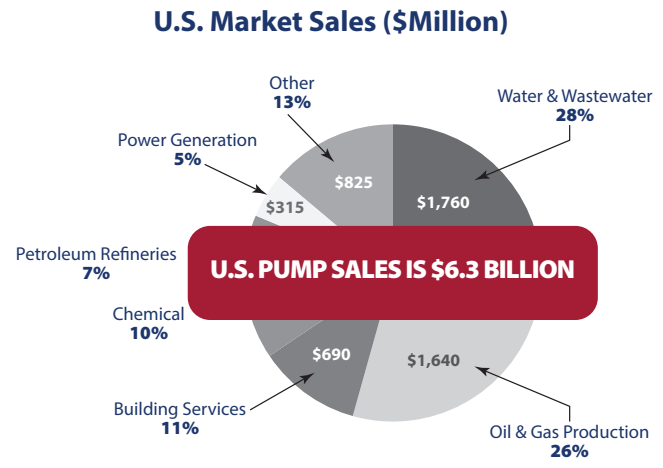
U.S. DOE and the Pump Industry

Considering the electrical consumption of pumping systems, the U.S. DOE is developing a **new regulation** aimed at establishing energy conservation regulations with minimum efficiency to thereby reduce electrical demand associated with pumping systems. Congress provided this authority to the U.S. DOE in 1975 as part of the Energy Policy Conservation Action (EPCA).

The U.S. DOE pump efficiency rule-making began in 2011 and is currently following two paths:

- **Traditional Rule-making** based on a significant data gathering and analysis, with published U.S. DOE positions and public meetings to allow for comments on U.S. DOE recommendations or positions.
- **Negotiated Rule-making** which commenced involving a group of U.S. DOE appointed individuals to meet on a regular basis in public meetings to work towards a consensus on rule-making under rules established by DOE's Appliance Standards Advisory Committee (ASRAC). HI members and other industry stakeholders have been appointed to the ASRAC Working Group on Pumps. The ASRAC Pump Working Group will continue to meet through July 2014 to reach a compromise consensus agreement. In this effort HI is collaborating with a wide range of relevant parties, that includes energy efficiency non-governmental organizations and other industry stakeholders.

Pump manufacturers serving the U.S. market



Source: EIF; HI Q11 Reports; HI Market Intelligence Committee estimates.

Hydraulic Institute Recommendations for the Consensus Agreement

1. **Phased-in efficiency regulation over multi-year program involving two steps (ASRAC Working Group will continue to discuss on behalf of its members at future meetings).**
2. **Retain federal preemption over state-by-state regulations.**
3. **Ensure adequate enforcement of new pump efficiency regulation.**

*U.S. Industrial Electric Motor Systems Market Opportunities Assessment, Xenergy, Inc., 1998

Hydraulic Institute Recommendations Explained

1. Phased-in Efficiency Regulations:

To accomplish higher pump efficiency, pump companies may have to **redesign and retool** its existing pump lines and retire lower efficiency pumps. Original equipment (OEM) pump manufacturers, who offer hundreds of pump models, understand that **a certain percentage of existing pump lines will be eliminated.**

HI recommends the establishment of a two-tiered, phased-in approach to meet the new efficiency regulation, as was the case when **European Union** countries went through a similar process starting in 2009. In the European case, pump manufacturers were allowed **seven years** to bring their pump lines up to the new standards. This was accomplished by first removing 10% of the most inefficient pumps, and then a subsequent 40% of the remaining inefficient pumps.

This seven-year staggered process took the least efficient product types out of the marketplace in two steps. In doing so, **it allowed manufacturers the time** needed to develop more efficient products and to protect their market share and business positions.

To allow a two-tiered, phased-in approach the DOE needs to be granted the authority to establish a two-tiered efficiency regulation. This authority must be provided through an act of Congress.

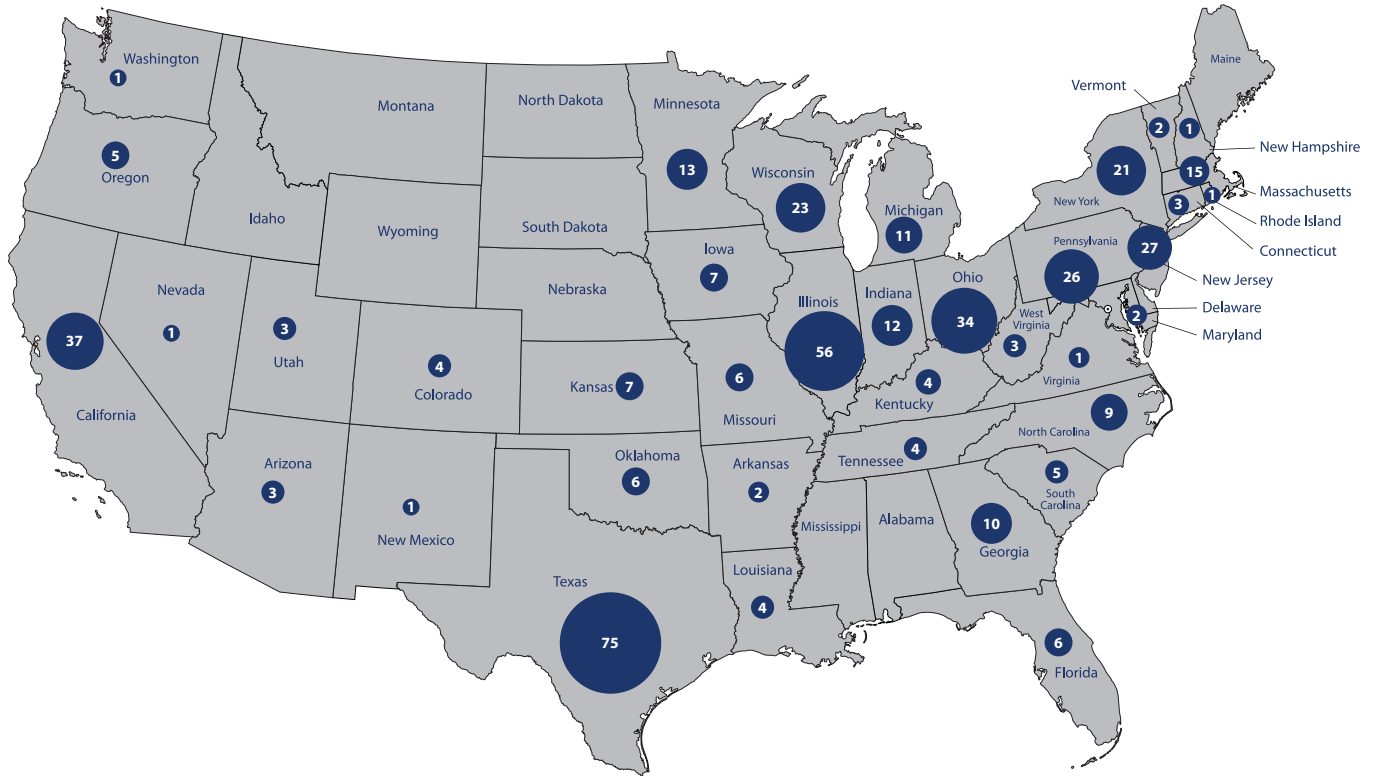
2. Retain federal preemption under EPCA Section 6311 (1) (A):

HI opposes any change to EPCA's section 6311 (1) (A) wherein federal statute prevails over any state regulation. HI is opposed to any change in the current preemption status: preeminent state-by-state regulations governing pump efficiency would cause havoc for any pump manufacturer, which sells nationwide. Adhering to a single regulation across all 50 states is preferable for the pump manufacturing industry.

3. Ensure adequate enforcement of the new regulation:

The costs to enforce the new regulation must be included as part of any economic justification requirement. Without a stringent enforcement program, **organizations and their workers that manufacture pumps in compliance with the energy efficient standards could be unfairly exposed to unregulated, non-compliant manufacturers.**

Distribution of U.S. Pump & Pumping Equipment Manufacturers



Arizona.....3	Kansas.....7	New Jersey.....27	Tennessee.....4
Arkansas.....2	Kentucky.....4	New Mexico.....1	Texas.....75
California.....37	Louisiana.....4	New York.....21	Utah.....3
Colorado.....4	Maryland.....2	North Carolina.....9	Vermont.....2
Connecticut.....3	Massachusetts.....15	Ohio.....34	Virginia.....1
Florida.....6	Michigan.....11	Oklahoma.....6	Washington.....1
Georgia.....10	Minnesota.....13	Oregon.....5	West Virginia.....3
Illinois.....56	Missouri.....6	Pennsylvania.....26	Wisconsin.....23
Indiana.....12	Nevada.....1	Rhode Island.....1	
Iowa.....7	New Hampshire.....1	South Carolina.....5	

To learn more, a comprehensive article on the subject of the U.S. DOE Rule-making was published in the January and February 2014 issues of *Pump & Systems Magazine*. For a copy of the article and for more information visit www.Pumps.org/DOERulemaking