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## **Major Energy Efficiency Gains, Emissions Cuts, 106% Annual Return, And Shovel-Ready Job Creation Possible With Greater Use Of Mechanical Insulation In Industrial Maintenance Market Segment**

### **Annually, \$3.7 Billion in Energy Savings with a 100% Return, 37.9 MMT/yr Emission Reductions, and 40,000 Green Jobs Achievable According to Updated Study**

A modest increase in the use of energy-efficient mechanical insulation would allow the United States to quickly generate significant energy demand reductions in the industrial sector, create tens of thousands of green jobs, and help cut the nation's greenhouse gas emissions, according to the National Insulation Association (NIA).

NIA and its partners in this effort estimate that mechanical insulation could deliver annually \$3.7 billion in energy savings and reduce 37.9 million metric tons of carbon emissions, with a return on investment in 11.3 months (106 percent annual return) from simple maintenance of mechanical insulation in industrial/manufacturing plants. NIA estimated this maintenance work would create over 27,000 jobs per year for insulation contractors, of which 90 to 95 percent are small businesses, in all 50 states. Those 27,000 jobs support other industry channels with job opportunities of more than 13,000, bringing the total job creation opportunity to 40,000. NIA also noted that 95 percent of materials required for these opportunities are made in the United States, with most of the balance made in Canada.

Said Jef Walker, Supervisor, Partnership Development and Deployment for the Industrial Technologies Program at the DOE, "Many of the large and medium plant energy assessments sponsored by the U.S. Industrial Technologies Program have identified mechanical insulation improvements as an important savings opportunity. Improvements in mechanical insulation in large and medium U.S. industrial plants are often a cost-effective opportunity for reducing energy use and energy costs and should be seriously considered."

"These findings once again confirm that mechanical insulation is truly an overlooked and undervalued technology," said NIA EVP/CEO Michele M. Jones. "NIA is working to help our nation move toward energy efficiency and independence, protecting the environment, and creating or preserving jobs through increased education about the benefits of mechanical insulation on the federal and state legislative levels and throughout the private business sectors."

Mechanical insulation improves the operation of heating, ventilating, and air conditioning (HVAC) systems; process piping and equipment; and refrigeration in commercial buildings and industrial plants, which are some of the largest energy consumers in the country.

In 2009 NIA worked with Oak Ridge National Laboratory (ORNL) and the U.S. Department of Energy's (DOE's) Industrial Technologies Program (ITP) to assess possible gains in large and medium industrial facilities. The team relied on data from DOE's Save Energy Now program, which conducts energy audits of industrial facilities, to determine the energy and environmental benefits in large and medium plants from mechanical insulation and other initiatives. Working again with the DOE's Industrial Technologies Program, ORNL, and the Project Performance Group (PPG), NIA examined a database that included an 83 percent increase in assessments through May 2010. The study confirmed the energy and emission reduction, annual rate of return, and job creation opportunities with increased use of mechanical insulation. The increased database added to the statistical significance of the data extrapolation and allowed analysis across multiple industry sectors.

The Save Energy Now assessments were primarily focused on process heating and steam systems and did not include potential efficiency gains achievable in small industrial plants, the power/utility sector, or the commercial sector (hospitals, schools, government buildings, etc.). Nor do the estimates consider energy efficiency improvements from increased use of mechanical insulation in new industrial or commercial facilities. Using the Save Energy Now assessment data, NIA estimated the potential in the maintenance potential in small industrial plants and the power/utility sector.

#### **About the National Insulation Association**

The National Insulation Association (NIA) is a not-for-profit trade association representing the merit (open shop) and union contractors, distributors, laminators, fabricators, and manufacturers that provide thermal insulation, insulation accessories, and components to the commercial, mechanical, and industrial markets throughout the nation. Since 1953, the association has been the voice of the insulation industry and is dedicated to keeping the commercial and industrial insulation industry up to date on the latest industry trends and technologies. In early 2009 NIA, in conjunction with its Foundation for Education, Training, and Industry Advancement, announced it had entered into a Memorandum of Understanding with the International Association of Heat and Frost Insulators and Allied Workers. With the changes in our nation's capital and the struggling economy, NIA and the International recognized an unprecedented opportunity to work together to help our nation move toward energy efficiency and independence, protecting the environment, and job creation/preservation. For more information, visit [www.insulation.org](http://www.insulation.org).

#### **About the International Association of Heat and Frost Insulators and Allied Workers**

The International is more than 100 years old. Established in 1903, its members continue to work conserving energy to help reduce the release of greenhouse gases into the atmosphere by insulation mechanical systems. The International signatory contractors, and members whom they employ, perform work in nuclear powerhouses to the smallest of commercial facilities. For more information about the International, visit [www.insulators.org](http://www.insulators.org).

#### **About DOE's Industrial Technologies Program and Save Energy Now**

The U.S. Department of Energy's Industrial Technologies Program's (ITP) mission is to improve national energy security, climate, environment, and



economic competitiveness by transforming the way U.S. industry uses energy. Save Energy Now is a national initiative of the ITP to drive a 25 percent reduction in industrial energy intensity in 10 years. Companies nationwide can participate in no-cost energy assessments and utilize ITP resources to reduce energy use while increasing profit. For more information, visit [www.eere.energy.gov/industry](http://www.eere.energy.gov/industry).

**About Project Performance Corporation**

Project Performance Corporation, part of the AEA group, is a management consulting firm integrating world leading expertise in the areas of environment and energy with cutting edge IT and global management. Their customers include top government and Fortune 500 decision makers. For more information visit [www.ppc.com](http://www.ppc.com).

\* The number of plants and size categories were determined from the 2002 Energy Information Administration (EIA) Manufacturing Energy Consumption Survey (MECS-2002) data: 4,014 large (Energy Consumption more than 500 billion Btu/yr) and 112,398 medium (26-500 billion Btu/yr) facilities were included in the data, in addition to 84,298 small facilities (less than 26 billion Btu/yr) not included in the assessment universe.

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