



Mechanical Insulation: A Forgotten Technology for Energy Conservation and Emission Reduction in The Commercial, Industrial, and Mechanical Industry Segments

Mechanical insulation is a powerful technology that gets overlooked more times than not, and it is often underutilized and undervalued as an energy conservation initiative. Its benefits are taken for granted, and recognition of the multiple long-term benefits are often unrecognized or relegated to the bottom of the list in favor of more glamorous but potentially less effective alternatives. The general knowledge base related to the design, maintenance, and benefit analysis for mechanical insulation has eroded substantially over the last 10 to 15 years. This development has compounded the problem, which has led to increased energy consumption and greenhouse gas emissions across all commercial, industrial, and mechanical industry segments.

Mechanical insulation is normally examined on a project or individual opportunity basis versus an industry-wide basis, which has not adequately portrayed the magnitude of this opportunity. The DOE, through its Industrial Technology Program (ITP), has the database from which to extract and extrapolate data on a variety of industry segments to effectively illustrate the magnitude of this opportunity. This data would become the nucleus by which to raise awareness about the importance of this technology.

The increased use of mechanical insulation provides one solution that can drastically help simultaneously solve numerous hot-button, nationwide issues. This simple technology accomplishes the following:

- It conserves energy, reducing overall energy demand, our dependence on foreign energy sources, and greenhouses gas emissions.
- It improves our commercial infrastructure in the public, educational, and health-care sectors, among others.
- Mechanical insulation can benefit both industrial and commercial markets, creating and preserving jobs in both while providing an immediate “stimulus package” for the economy.

The return on investment with this technology is often less than 1 or 2 years. Identification of the opportunities on a facility basis is relatively easy. The cost,

contractual and schedule implications, and implementation can be finalized in weeks versus years, and the benefits are immediate. This is a time-tested and proven technology. Industry (management, labor, and manufacturing) has developed a series of unbiased and widely accepted measurement tools and programs by which to qualify and quantify the value of this technology, including educational and awareness programs.

Amazingly enough, there are no generally recognized, accepted, or enforced energy regulations for the use of mechanical insulation across industry segments, especially in the industrial sector. This has produced an enormous opportunity not only for new construction, but **immediate results** can also be obtained in the maintenance sector.

Action plans for consideration:

- ❑ Provide the information and work with industry to extract and produce the data obtained with the DOE-ITP assessments, and extrapolate that data to determine the opportunity by industry segment and in total
- ❑ As an integral component of an energy conservation and economic stimulus package, provide meaningful tax incentives to private industry to implement and execute insulation maintenance and upgrade initiatives over the next 4 years
- ❑ Provide subsidies to the government, private, educational, and health-care industry segments to implement and execute maintenance and upgrade programs over the next 4 years
- ❑ Implement immediate maintenance and upgrade programs in all federal facilities
- ❑ Provide shared cost programs for states to implement immediate maintenance and upgrade programs in all state facilities
- ❑ Work in cooperation with industry associations, support educational and awareness programs, including higher education programs, in both the public and private sectors
- ❑ Work with industry manufacturers to encourage development of new technologies to improve insulation efficiencies
- ❑ Work with government agencies and private industry to establish stand-alone insulation codes and regulations, which would become an integral component of an overall energy policy

Industry is committed to working with the DOE and other agencies in developing and implementing these programs, including measurement and monitoring processes. Industry has formed alliances with engineering and other industry trade organizations and has offered to work with the DOE to bring together a coalition of these various industry segments to help develop, implement, and provide educational awareness programs and support for these programs and for the betterment of America.

Respectfully submitted by an alliance of the International Association of Heat and Frost Insulators and Allied Workers and the National Insulation Association on behalf of the mechanical insulation industry.

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