



NIA Answers the Question *How Green Is Our Industry?*

Those of us in the mechanical insulation industry, and certainly members of NIA, understand that our products are inherently “green.” Unlike other components in the built environment, once properly installed, insulation saves energy and reduces a building or facility’s carbon footprint year after year, simply by existing! In addition, beyond requiring less energy to produce than it saves over time, as this month’s special section “How Green Is the Insulation Industry?” shows (see page 12), insulation is increasingly being made from recycled materials, reducing the amount of waste going into landfills. And insulation manufacturers are finding even more ways to green our

industry, from identifying and implementing different approaches to reduce emissions from shipping their products to incorporating innovative technologies to decarbonize other aspects of their operations.

We are proud of the many benefits that come from the Power of Insulation, including the following 10 ways a properly designed and installed insulation system improves a building/facility.

- Reduces energy costs
- Prevents moisture condensation
- Reduces capacity and size of new mechanical equipment
- Enhances process performance
- Reduces emissions of pollutants
- Provides safety and protection of personnel
- Improves acoustical performance by reducing noise levels
- Maximizes return on investment (ROI)
- Improves system/equipment appearance
- Provides fire protection

While all this is more than enough reason for building and plant owners, managers, and designers to make insulation a priority, NIA recently teamed with other trade associations (including the North American Insulation Manufacturers Association, the Insulation Contractors Association of America, the American Chemistry Council [Plastics Division], and the Polyisocyanurate Insulation Manufacturers Association) to commission a study to quantify the benefits of completing insulation retrofit projects across industrial, commercial, and residential buildings. The independent study was performed by ICF—an international consulting firm with specific expertise in the energy and energy efficiency sectors. Below is a summary of just the impacts related to insulation in industrial buildings¹:

The study assessed the state- and national-level energy and emissions impacts as well as the economic benefits that could accrue over a 20-year horizon from the installation of code-compliant steam pipe insulation in a select number of manufacturing sectors.

Key findings:

- Making pipe and mechanical insulation improvements to industrial facilities in eight major industrial sectors (Chemical, Food, Paper, Petroleum and Coal Products, Primary Meals, Nonmetallic Mineral Product, Transportation Equipment, and Plastics and Rubber Products) would save these sectors more than \$126 billion in energy costs based on an

average capital cost of \$3.77 billion. The average payback on this investment is about one year. For many industrial sectors, the payback is as little as 6 months.

- Energy savings from insulation upgrades can reduce natural gas use by 118 billion therms across the U.S. industrial sector and help reduce demand on the electric grid as electrification technologies roll out.

NIA did the math to arrive at the following bottom line: Insulation in industrial operations saves 211,000,000,000 pounds of CO₂ annually—and yes, all those zeroes equate to 211 billion pounds!

In the commercial realm²:

The study assessed the impact commercial roof and pipe insulation retrofits would have on state- and national-level energy use, energy costs, and carbon emissions on an annual basis and over a projected 30-year service life. ICF analyzed a range of commercial buildings, including schools, small to midsize office buildings, midrise apartments, and stand-alone retail.

Key findings:

- Insulation upgrades reduce energy use in primary schools by an average of nearly 9% and secondary schools would save an average of more than 7%.
- Upgrading roof and pipe insulation in just 25% of existing commercial building floor space in the United States would save more than 700 therms of natural gas each year, or the equivalent of having 800,000 fewer gasoline-powered passenger vehicles on the road.
- Over a 30-year service life of these insulation upgrades, cumulative CO₂ equivalent emissions savings reach nearly 360 million metric tons. This is equivalent to the annual energy use of more than 45 million American households.

To learn more, turn to page 48 and then read the full study at <http://insulation.org/about-insulation/carbon-reductions/>.

I also encourage you to read the special section in this month’s issue to learn more about what our industry is doing to help the planet. You might get some ideas you can incorporate into your own sustainability plan. I’m excited to announce that we are launching NIA’s Education Center this fall (see page 8). See how your company can get training to learn how to prove insulation’s value in your own projects.

Joe Leo
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REFERENCES

1. https://www.prweb.com/releases/independent_study_confirms_insulation_upgrades_are_keys_to_significant_energy_savings_and_emission_reductions_in_existing_buildings/prweb18896255.htm#/
2. *ibid*