



NIA National Insulation Association
REDUCE EMISSIONS FASTER WITH INSULATION™

The superhero is now identified and quantified: Mechanical insulation

In my March 2023 article in BIC Magazine, I wrote that when booking a trip online, I came across the opportunity to offset the round-trip carbon emissions by purchasing carbon offsets from companies. Carbon offsets are tradable “rights” or certificates linked to activities that lower the amount of CO₂ in the atmosphere. In this way, the certificates “offset” the buyer’s CO₂ emissions with an equal amount of CO₂ reductions somewhere else. Think of it as a friendly quid pro quo for the skies.

Offsets are a useful tool in the fight against global warming. Many people are concerned that offsets are used by companies and countries as a “get out of jail free card,” to avoid lowering their carbon emissions. Offsets are fine, but the reality is that the world actually needs to cut emissions. We need a superhero that delivers cuts. That is where mechanical insulation enters the picture. The mechanical insulation industry has always had a compelling case because our products reduce the amount of emissions produced — so lower levels of emissions enter the environment in the first place. It has been hard to quantify the emissions that don’t happen as well as the cost

savings on a large scale over a long period of time — until now.

Enter the superhero

The National Insulation Association commissioned survey research services and analytics firm, Industry Insights, to perform an independent, third-party survey consisting of four manufacturers of “ready-to-use” insulation products for higher operating service temperatures. The survey was intended to assess the amount of energy saved and the reduction in carbon and other GHG emissions. It answered questions on how much energy is saved, and GHG emissions reduced, over time using mechanical insulation systems in the higher operating service temperatures in both the commercial and industrial market segments. The study and related materials can be found at insulation.org/carbon.

The four manufacturers were asked to provide Industry Insights their 2022 annual linear footage sales by pipe size and thickness, and square footage of board thickness. The study results were cumulative, beginning in early 2017 and ending in late 2027. “Cumulative,”

for the purposes of the study, means successive inclusion from year-to-year, so what exists in one year will exist in the next — and every year thereafter unless something happens that changes the basis of the information.

The impressive results of the survey are shown in the table. Let’s focus on 2022: Sales in the U.S. and Canada from the four manufacturers, when converted to savings of CO₂, amounted to 682 million mt of CO₂ kept from entering the atmosphere. To put this number in perspective, the DOE estimates that the proposed 95% annual fuel utilization efficiency rule for newly manufactured furnaces in 2028 would only cut 332 million mt of emissions over 30 years, or only 11 million mt per year. That’s 11 million mt compared to 682 million mt. And the CO₂ savings for insulation would compound each year for the life of the project as long as its maintained.

Mechanical insulation can and should play a substantial role alongside the transition to renewable energy and electrification. This study confirms the surprising contribution the mechanical insulation market segment can make to energy efficiency and carbon reduc-

Cumulative Findings	
Study Results – Insulation Savings	
Base Year: 2022	Total Study Results
Dollars Saved	
\$25.2 Billion	\$ 278.3 Billion
Energy Savings in Kbtu	
9.7 Trillion	85.9 Trillion
CO ₂ Savings in Pounds	
1.5 Trillion	16.6 Trillion
CO ₂ Savings in Metric Tons	
682.0 Million	7.5 Billion

tion initiatives. We often say that the cheapest form of energy is the energy you don’t use in the first place: Insulate.

The study was very detailed, so I will write more about it in future columns. It’s safe to say we have identified our superhero, and it is mechanical insulation products.

For more information, visit insulation.org/carbon.

Turnarounds are a big deal. You need solutions with *impact*.

RTI performed TA services in over 140 facilities last year, reducing clients’ shutdown timeline by an average of three days.

Scan below to begin your TA journey to success.



refinedtechnologies.com