PIMA 25TH ANNIVERSARY RETROSPECTIVE

Award-Winning Association Recognized for Energy-Saving Building Initiatives



Polyisocyanurate Insulation Manufacturers Association Building Strong Foundations for Industry Growth

2012 PIMA Board of Directors

Chris Griffin, *Chairman* Johns Manville

Jared Blum, *President* PIMA

Steve Burns, *Treasurer* Huntsman

Alma Garnett Hunter Panels

John Geary Firestone Building Products

Martin Heiskell Rmax Operating, LLC

Jerry Phelan Bayer MaterialScience

Tom Rowe, Atlas Roofing Corporation

Bill Trowell INVISTA

Ken Willoughby Momentive Performance Materials



Twenty-five years ago, the Polyisocyanurate ("Polyiso") industry faced a crisis that threatened its survival.

Proposals were in place at the international, federal, state and local levels to ban or heavily tax ozone-depleting

chlorofluorocarbons (CFCs) used in the making of Polyiso insulation and other products. Without the time to research and manufacture new blowing agents, the Polyiso industry had no future.

To deal with the threat, fierce competitors banded together to save the industry from potentially devastating regulatory action. The six founding members of PIMA — the Polyisocyanurate Insulation Manufacturers Association — moved quickly. Armed with extensive third-party studies, PIMA members testified before Congress on the damaging economic and environmental impact of a hasty ban on Polyiso insulation.

Through adroit and intelligent action, combined with data to support its positions, PIMA persuaded lawmakers to drastically scale back the proposed CFC taxes on the Polyiso industry. Equally important, PIMA helped persuade the United States Environmental Protection Agency (EPA) to give the Polyiso industry five years to develop an alternative to CFCs through the Clean Air Act. PIMA kept its promises to the EPA and the marketplace with an earlier-than-required phase-out. The industry developed new Polyiso products that were free of ozone-depleting chemicals while remaining the best-performing commercially available building insulation.

This productive, cooperative effort created a bond among PIMA members that remains strong to this day. As the association has grown and evolved, this core strength has allowed it to broaden from its advocacy roots. Today, PIMA is a widely respected multidimensional trade association whose members serve on government-sponsored advisory committees to the EPA and U.S. Department of Energy (DOE); testify frequently before Congress and state legislatures; strenuously advocate for energy-code development and adoption; and invest numerous hours developing technical standards to improve overall building performance.

A generation ago, the founding members of PIMA understood the meaning of Benjamin Franklin's famous quote: "We must all hang together, or assuredly we shall all hang separately." They still live by those words today.

Kand

Jared O. Blum President, PIMA



POLYISO – The Best Insulation Choice

In a study of energy-saving products, McKinsey & Company highlighted insulation as the product that can provide the greatest investment return and offer the most carbon abatement; and among insulation products, Polyiso is the superior choice. Forbes Magazine recently cited Polyiso as a "green" insulation because it not only has the highest thermal performance of any building insulation product on the market, but also because of its climate and ozone protection characteristics. Polyiso offers the highest R-value in its class, with a 20 to 70 percent greater R-value per inch than other rigid foam plastic insulation.

For those unfamiliar with Polyiso, the product is a closed-cell, rigid foam board insulation consisting of a foam core sandwiched between two facers. The facers are composed of various organic and inorganic materials, usually paper and fiberglass reinforcement. Polyiso is widely used in residential and commercial markets for both roof and wall applications.

Another key feature is Polyiso's superior performance in fire tests. Polyiso roof insulation is the only foam plastic roof insulation board product that passes the strictest fire codes. Polyiso meets both FM Approvals (Standard 4450) and UL (UL1256) without the use of an additional thermal barrier layer between the insulation and the supporting steel roof deck. As a result, it can be installed directly to a steel deck without a fire barrier.

The BuildingGreen Guide to Insulation Products and Practices published by BuildingGreen Inc., 2012 said the following about Polyiso insulation: "Polyiso has the highest R-value per inch of any common insulation material, and it is generally considered the 'greenest' of the foam-plastic insulations."





Polyiso's many other benefits include:

- · Moisture resistant foam core
- · Compatible with most solvents used in construction adhesives
- · Excellent dimensional stability
- Wide range of service temperatures
- Long-Term Thermal Resistance R-value (only roof insulation with third party certification)
- CFC and HCFC free zero ozone depletion potential
- · Recycled content in most products (see manufacturer for details)
- Negligible global warming potential
- An American-made product that creates jobs here in the U.S. and is available throughout the U.S. and Canada

A new study commissioned by PIMA analyzed and quantified the energy and environmental contribution of Polyiso board insulation over the Association's 25-year history. The study found that on a yearly basis, Polyiso helps save more than 700 trillion BTU in building heating and cooling energy and reduced CO² emissions by over 4 million metric tons – the equivalent of the greenhouse gas emissions from 784,314 passenger vehicles.

PIMA TIMELINE

1987

PIMA first incorporated as a group dealing solely with technical issues.

THE PIMA ADVANTAGE

- From the day PIMA was founded, its member representatives have come from the highest levels of leadership in their companies, enabling the association to be nimble, decisive and proactive. In part, this is because Polyiso is a significant strategic product for integrated building systems manufacturers.
- PIMA's comprehensive approach to member and marketplace needs legislative, regulatory, technical and communications — adds value to member companies' bottom lines and benefits the public interest in national energy efficiency efforts.
- PIMA is based in Washington, D.C., giving it a front-row seat to government action. This
 has helped PIMA become a recognized source of information and counsel in all areas of
 federal energy efficiency initiatives and energy policy.
- PIMA has created powerful alliances, effectively leveraging its activities with other trade associations and environmental advocates to support policies that promote safe, cost-effective, sustainable and energy-efficient construction.

PIMA's partners include:

- Alliance to Save Energy
- Oak Ridge National Laboratories
- Center for the Polyurethanes Industry
- Building Owners and Managers Association
- Business Council for Sustainable Energy
- Environmental and Energy Study Institute
- National Roofing Contractors Association
- Sustainable Building Industry Council
- EPA and DOE Energy Star Programs

- U.S. Department of Energy Building Technologies Program
- Construction Specifications Institute
- RCI, Inc.
- Building Codes Assistance Project
- Responsible Energy Codes Alliance
- Center for Environmental Innovation in Roofing
- National Association of State Energy Code Officials
- PIMA fosters collaboration between members representing both manufacturers and raw materials suppliers. These internal relationships allow PIMA to be on the cutting edge of regulatory issues and technical advances, such as improved product formulations and performance characteristics.

1990

Jared Blum joins PIMA as president. He coordinates the Polyiso industry's response to international, federal and local efforts to ban Polyiso because of its CFC usage and the 1990 Clean Air Act, which required the EPA to setup a program for phasing out production and use of ozone destroying chemicals.

1992

PIMA is a founding member of the Business Council for Sustainable Energy, a leading business voice in international efforts to adopt policies reducing climate-change emissions.

THE PIMA RECORD

- PIMA was one of the first trade associations in the United States to receive two environmental awards from the EPA: the Climate Protection Award for the association's leadership in promoting energy efficiency and climate protection, and the Stratospheric Ozone Protection Award for "leadership in CFC phase-out in Polyiso insulation and in recognition of exceptional contributions to global environmental protection."
- As a founding member of the Building Codes Assistance Project, PIMA has been an unflagging advocate for enhanced state energy codes and other government policies that motivate building



owners and contractors to heighten building envelope performance. In addition, PIMA has strongly supported legislation to encourage federal tax incentives for energy-efficient commercial buildings.

- PIMA helps to increase the nation's energy security by promoting energy efficiency through public education and the PIMA University training program.
- PIMA continues its strong support of the federal government's important leadership role in encouraging energy efficiency. PIMA has long supported the Federal Energy Management Program and DOE technology initiatives, and has worked to enact the legislation that created the U.S. General Services Administration's (GSA) high-performance buildings program.



1996

U.S. ceases production of many of the chemicals capable of doing the most harm to the ozone, such as CFCs, halons and methyl chloroform. PIMA responds by speeding up the Polyiso industry's transition to the use of more benign chemicals and beginning a massive effort to demonstrate the economic and environmental benefits of Polyiso.

1997

The EPA gives PIMA the Stratospheric Ozone Protection Award for its members' early removal of CFCs from their products.

- PIMA is committed to ensuring that when buildings are reroofed, they are brought up to current energy efficiency standards with added insulation. With an existing building stock of more than 50 billion square feet of roofing, the potential impact on national energy savings is enormous. For PIMA and other insulation manufacturers, this is a 20 to 30 year opportunity to enhance the performance of roofing systems and improve energy efficiency throughout the country.
- PIMA instituted the QualityMark^{cm} Certification program, administered by FM Global, one
 of the world's largest independent commercial and industrial property insurance and
 risk management organizations. Since 2004, this voluntary program has allowed Polyiso
 manufacturers to obtain certification for the Long-Term Thermal Resistance (LTTR) values
 of their Polyiso insulation products. Polyiso is the only insulation to be certified by this
 unique program for its LTTR value, a scientifically supported determination of the 15-year,
 time-weighted average R-value of the roof insulation. All PIMA members have adopted the



LTTR method as the exclusive means to measure thermal performance of permeable-faced Polyiso roof insulation. Only products that have had their LTTR-value certified by PIMA's third-party administrator, FM Global, can bear the PIMA QualityMark^{cm} logo.

• PIMA worked tirelessly with the National Association of State Fire Marshals, coordinating efforts to ensure safe fire-performance standards for buildings.



1997

PIMA leads effort among business associations encouraging U.S. adoption of the Kyoto Protocol, the United Nations agreement to reduce global warming emissions from man-made activities.

1999

PIMA receives the EPA Climate Protection Award.

2000

John Letts of Firestone develops the Rolling Load Emulator, an invention that assists the industry in assessing the strength of foam core to external crushing forces.

PIMA TRIBUTES

"As an active Associate member of the Alliance to Save Energy (ASE) since 1991– just a few years after its own inception – PIMA has been a key player in our efforts to advance energy efficiency," noted Kateri Callahan, President of ASE. "PIMA's participation in our advocacy work has helped us achieve a number of important federal policies that reduce energy use and costs in the buildings sector, which accounts for some 40 percent of U.S. energy use. We congratulate PIMA on its 25th anniversary and look forward to many more years of fruitful collaboration."



"This effort was helped tremendously by [PIMA] raw material supplier members through an immense amount of technical research," said Dr. James L. Hoff, DBA and President of TEGNOS Research Inc., Carmel, IN. "The initial change to HCFC blowing agents focused on formulations and the second change to pentane involved equipment. But there was a huge amount of chemical research done during a relatively short period of time."

PIMA has established itself as one of the roofing industry's most important voices, a respected authority on any number of industry issues," said Bill Good, Executive Vice President of the National Roofing Contractors Association in Rosemont, IL. "NRCA and PIMA have worked extremely well together, and we look forward to the next 25 years."

2002

PIMA members transition to blowing agents free of ozone-depleting chemicals and adopt a consensus standard, Long-Term Thermal Resistance, to measure R value.

2003

PIMA announces the QualityMark^{cm} program for third-party certification for R-value of Polyiso roof insulation products.

2006

PIMA launches market program that combines energy code development promotion with branding of Polyiso.



"In my view, the commitments of our raw materials suppliers are what make PIMA so different from other trade associations," said Alma Garnett, Hunter Panels. "It's a major differentiating point that leads to lively and proactive work on the part of the committees within PIMA."

"PIMA is working hard to get building codes up to the point where they should be in terms of energy efficiency," said Tom Rowe, Atlas Roofing Corporation. "In fact, we feel that PIMA is directly responsible for the fact that our company was able to survive so well during the economic downturn and is poised to do well in the future."

> "We have enjoyed a productive mutual relationship with PIMA over the years. They remain a valuable source of technical information for *Interface* and its readers," said Kristen Ammerman, Executive Editor, *Interface*, RCI, Inc.

PIMA has provided "exceptional contributions to global environmental protection." – United States Environmental Protection Agency Climate Protection Award

2007

With PIMA's strong support, American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), dramatically increases R-values in roofs and walls by 30 percent for the first time in 18 years.

2010

The International Energy Conservation Code (IECC) adopts a requirement for a 30 percent increase in energy savings in residential and commercial buildings as compared to the 2006 code. This represents the single largest efficiency increase in the history of the model energy code.

THE PIMA AGENDA

Building on its platform of strength, PIMA will move forward in its anniversary year to further the agenda of its membership by:

- Supporting rapid state adoption of IECC 2009 and initial adoption efforts of IECC 2012.
- Implementing the 2012 International Green Construction Code. This model code focuses on new and existing commercial buildings and addresses "green" building design and performance.
- Increasing support of the RoofPoint[™] Guideline for Environmentally Innovative Roofing to promote higher energy efficiency and reduced environmental impact for roofs. RoofPoint[™] is an exclusive trademark of the Center for Environmental Innovation in Roofing.
- Advocating for the DOE and GSA to require all federal buildings be reroofed according to the most current energy code standards.
- Ensuring that tax policies encourage and reward the installation of high R-value roofing and allow accelerated depreciation for energy-efficient roofs.
- Supporting the use of the latest Life Cycle Assessment techniques and Environmental Product Declarations and advocating their use in codes and voluntary standards to enhance the visibility and desirability of high-performance insulations in the "green" marketplace.
- Supporting rational and scientifically based building product content declarations for "green" construction.



2011

2011

The International Green Construction Code calls for low-slope roof replacements involving above-deck insulation to meet the minimum thermal requirements of the current IECC. PIMA launches major wall market promotion effort.

PIMA Thanks

The Association would like to thank the following companies for their support of PIMA's 25th Anniversary celebration.







PIMA Manufacturing Members



BUILDING PRODUCTS



2



ΡΙΜΑ 7315 Wisconsin Avenue Suite 400E Bethesda, MD 20814

www.polyiso.org