



August 5, 2016

Suzie Cadieux  
Clerk of the Standing Committee on Finance  
House of Commons  
Ottawa ON K1A 0A6  
[FINA@parl.gc.ca](mailto:FINA@parl.gc.ca)

RE: Pre-budget Consultation Submission

Dear Ms. Cadieux,

On behalf of the International Association of Heat and Frost Insulators and Allied Workers, I am pleased to provide our recommendations on budget priorities to the Standing Committee on Finance.

Our Association is comprised of experts in the installation and maintenance of mechanical insulation systems. Our 5000 journeyman members are Red Seal Certified and are entrusted with the health and safety of both our mechanical insulators and our customers.

I would like to request the opportunity to appear in front of the committee when it hears from witnesses in the Fall.

Sincerely,

Vince Engel  
International Vice President, Western Canada  
International Association of Heat and Frost Insulators and Allied Workers

CC: Wayne Easter, Chair, Standing Committee on Finance



## Executive Summary

The International Association of Heat and Frost Insulators represents experts in the installation and maintenance of mechanical insulation systems. There are roughly 10,000 mechanical insulators across Canada, 5,000 of which are members of our Association. Mechanical Insulators are a recognized Red Seal Trade, with a mandatory apprenticeship for all Heat and Frost Insulators across Canada.

Mechanical insulation is an energy efficiency solution that restricts heat loss or gain on mechanical systems. When installed properly, mechanical insulation will extend the life of mechanical systems and protect people moving through sites from extremely hot or cold surfaces.

Fibres and other insulation materials used in modern insulation are made from raw materials mined in Canada; much of the material used in mechanical insulation is manufactured in Canada. Simply put, mechanical insulation is a Made-in-Canada solution to reduce greenhouse gas emissions (GHG) emissions, put Canadian skilled tradespeople to work while strengthening an important component of Canada's manufacturing and construction sectors.

Mechanical insulation has the following benefits:

- **Creates jobs:** With over 10,000 contractors in Canada, there is potential to grow this specialized trade.
- **Reduces GHG emissions:** Many private and public sector facility operators are not aware of the inefficiencies to be found in their buildings. Properly installed and maintained, mechanical insulation can reduce GHG emissions by as much as 30%.
- **Improved building efficiency:** Mechanical insulation is more cost effective than virtually any other effort designed to reduce energy use and operating costs.
- **Quick return on investment:** Cost recovery can be less than a year and typically less than two years. Modest updates to older buildings, including many government buildings, have the potential to realize substantial cost savings short and long term.

We respectfully submit that the Finance Committee recommend Budget 2017 include:

- **A program to make strategic investments in energy efficiency upgrades to federally owned buildings in Canada.**
- **A mechanical insulation pilot program to audit federal buildings across Canada to demonstrate the enormous potential for energy savings in both public and private sector buildings.**
- **Grants and other incentives for commercial and industrial sector building operators to make energy efficiency upgrades to private sector buildings.**



## **About Mechanical Insulation**

Mechanical insulation is a valuable energy efficiency solution that restricts heat loss or gain on mechanical systems. When installed properly, mechanical insulation will extend the life of mechanical systems and protect people moving through sites from extremely hot or cold surfaces. Mechanical insulation contractors also contribute to safety through installation of fire stop services as well as hazardous waste abatement.

Mechanical Insulation consists of materials or a combination of materials that will restrict heat loss or gain on mechanical systems. Efficiency is optimized through both proper installation, and the correct type and thickness of mechanical insulation. Mechanical Insulation is utilized in commercial and institutional buildings as well as industrial sites such as refining, manufacturing, mining, utilities, etc. Fibres and other insulation materials used in modern insulation are made from raw materials mined in Canada; much of the material used in mechanical insulation is manufactured in Canada.

## **About Mechanical Insulators**

The International Association of Heat and Frost Insulators are experts in the installation and maintenance of mechanical insulation systems. The Association has over 5000 members and there are 10,000 insulators across Canada. All Journeyman members are Red Seal Certified and are entrusted with the health and safety of both our mechanical insulators and our customers. We are a significant part of Canada's construction industry, which contributes billions to the Canadian economy annually.

Insulation Contractors can be small operations employing as few as 1 or 2 insulators; larger contractors can employ hundreds of insulators on an ongoing basis. Thousands of insulators are employed in the maintenance of existing buildings and industrial facilities, and insulators are trained to install fire stop materials that are a critical safety component of commercial buildings and industrial facilities. It is also worth noting that Red Seal Journeyman insulators are also fully qualified to handle the safe removal and remediation of asbestos, mold, lead, and other dangerous substances.



## **Mechanical Insulation Benefits**

**Green Job Creation:** The insulation trade is key to a low-carbon economy and greening buildings in Canada. These skilled jobs are vital to build capacity for new infrastructure and retrofits under a variety of portfolios, including social housing, residential complexes, and major industrial facilities. While we are a small trade in the construction industry, energy efficient buildings cannot be built without heat and frost insulators, representing a significant opportunity for our trade to grow. This opportunity comes at a time when many of our tradespeople are facing low employment opportunities due to the downturn in Canada's oil industry. Transitioning skilled tradespeople from the oil economy to a green economy is welcomed by our trade as we look to expand our area of work.

**Reduction in Greenhouse Gas (GHG) Emissions:** We know that the Government of Canada has made climate change a priority, and our industry is very supportive of this. The National Insulation Association suggests that proper use of mechanical insulation can eliminate GHG emissions by as much as 30% in buildings. Support for mechanical insulation reaffirms that Canada can both protect the environment and grow the economy at the same time.

**Improved Building Efficiency:** Energy use for heating and cooling is one of the major ongoing costs of operating any building or facility. The installation of this technology is less expensive and more effective than virtually any other effort designed to reduce energy use and operating costs, including changing windows, light bulbs, electronic controls, etc. Properly installed insulation can pay for itself very quickly, ultimately minimizing building energy costs.

**Return on Investment:** Upon installation of mechanical insulation, cost recovery can be achieved in as little as 6 months and typically less than 2 years based on the ratio of the financial value of energy saved and the installed cost of the insulation. Mechanical insulation is a low-cost solution that will pay for itself, save energy, limit future spending, and reduce GHG emissions. Savings from mechanical insulation could even be used to fund other environmental initiatives.

## **Where has the installation of mechanical insulation been successful?**

### *Case Study #1 Natural Resources Canada CANMET Complex*

- Mechanical Insulation audit conducted on heating plant, 10 buildings and mechanical rooms at NRCan's CANMET facility in Ottawa.
- Projected annual energy savings of \$16,500.
- Annual GHG reductions of 80 tons.
- Return on Investment of less than one year.
- This project has proceeded to tender with the federal government.



*Case Study #2: University of Western Ontario (UWO) in London, ON*

- E3 Ecology conducted a mechanical insulation energy savings analysis and implementation in the UWO Steam Plant, UCC, Medical Sciences, Spencer Engineering, Thompson Engineer and Wind Tunnel buildings.
- Results of the analysis and implementation:
  - Annual Energy Savings: \$78,355.00
  - GHG Emission reduction of 8,937 tons when spanned across life of building
  - Return on investment of 9 months.

*Case Study #3: 25 Storey Residential Tower in Vancouver BC*

- 10 year old building heated with natural gas
- A mechanical insulation audit and subsequent installation resulted in the following:
  - Estimated energy savings amounted to 320,000 kWh / year from replaced pipe insulation
  - Overall payback period was just under 2.7 years.
  - CO2 emission reductions estimated at 59 Tonnes /year
  - Average energy savings per square meter were 24.6 kWh / year
  - Energy savings = 14.6% of total annual use

*Case Study #3: Montana State Pilot Program*

- An assessment of mechanical rooms in 25 facilities pre-selected by the State of Montana personnel based on potential for energy savings resulted in the following:
  - Estimated energy savings amounted to 1.76 million kWh / year
  - Overall payback period was just over 4 years, with an annualized rate of return of 24%.
  - CO2 emission reductions estimated at 300 Metric Tonnes /year
  - Average energy savings per square meter were 14.5 kWh / year, while energy cost savings averaged \$0.463 per square meter.



## Opportunity for the Government of Canada

The federal government owns or leases 38, 192 buildings covering more than 27 million square meters. We also know that 2,429 properties are listed by Public Service and Procurement Canada as being in poor or critical condition. With targeted investments in an energy efficiency retrofit program, the Government of Canada can achieve emission reduction goals and create green jobs.

The Government of Canada should dedicate financial support in Budget 2017 to facilitate mechanical insulation audits in 10 to 15 federally owned buildings to demonstrate the enormous potential for energy savings in both the private and public sector, while reducing emissions and energy costs. These audits would be carried out by qualified third-party contractors at a cost of approximately \$3,000 to \$5,000 per audit, depending on the size of the building.

## Recommendations

The International Association of Heat and Frost Insulators strongly recommends that the Finance Committee consider the following recommendations for Budget 2017.

- **A dedicated funding program to make strategic investments in energy efficiency upgrades to federally owned buildings across Canada.**
- **A mechanical insulation pilot program to audit federal buildings across Canada to demonstrate the enormous potential for energy savings in both public and private sector buildings.**
- **Grants and other incentives for commercial and industrial sector building operators to make energy efficiency upgrades to private sector buildings.**

## Why should the Government of Canada support these asks?

- The mechanical insulation industry contributes to Canada's skilled trades agenda.
- Promotion of mechanical insulation encourages better conservation and energy efficiency practices with industry, increasing the productivity of the Canadian economy.
- Mechanical insulation has a proven and rapid cost recovery model.
- Without incentives to conduct energy efficiency audits, private and public sector decision-makers remain reluctant to install or properly maintain mechanical insulation.