

## The Overlooked Industry Decarbonization Champion: Technical Insulation

### THE OPPORTUNITY

Improved technical insulation offers an attractive opportunity to save annually 14 Mtoe energy in EU industry ([see Eiif Study 2021](#)) avoiding 40 Mt of CO<sub>2</sub>.

An **annual savings potential** equivalent to the annual energy consumption of **10 MILLION HOUSEHOLDS**.

### ATTRACTIVE INVESTMENT FOR INDUSTRY

More than 3.000 [TIPCHECKS](#) carried out worldwide since 2010 show technical insulation cuts costs, reduces energy consumption and CO<sub>2</sub> emissions. In July 2024, Eiif analyzed the most recent 100 TIPCHECKS carried out in European plants:

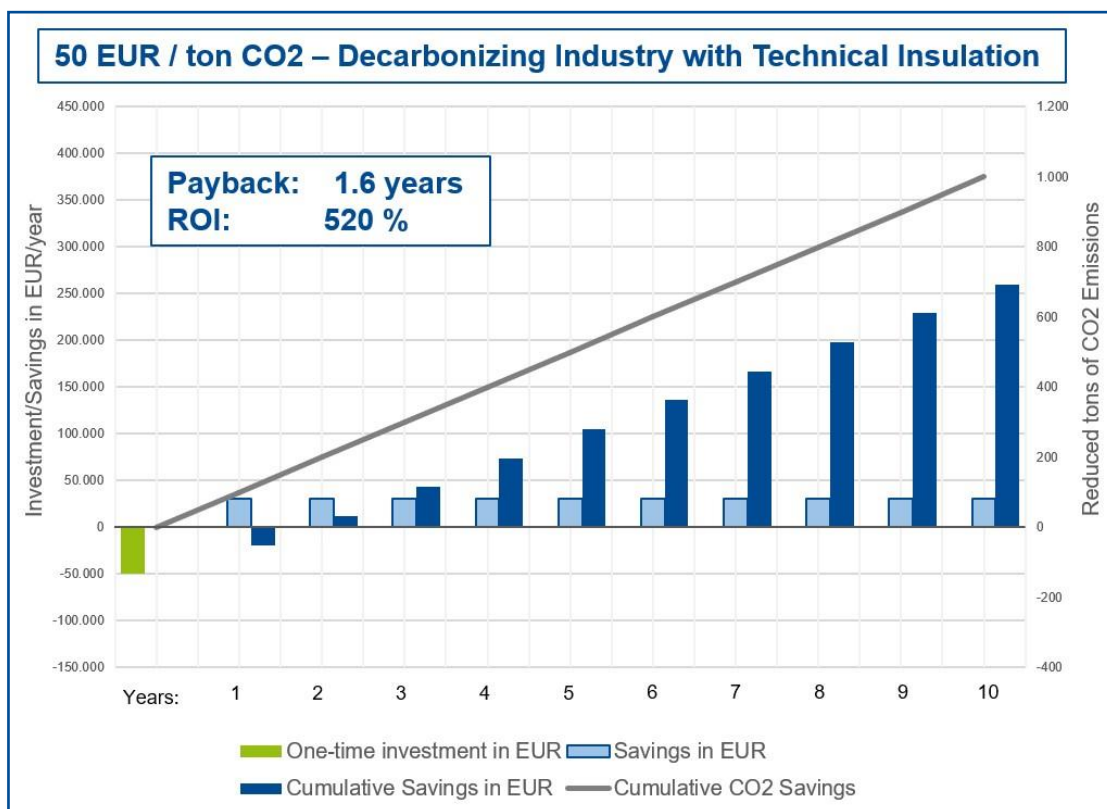
**A one-time investment of 50.000 EUR in technical insulation will deliver over a period of 10 years the following results:**

#### Savings Achieved:

- > CO<sub>2</sub> Reductions: **1.000 tons** (200 g CO<sub>2</sub>/kWh)
- > CO<sub>2</sub> Cost Savings: **60.000 EUR** (60 EUR/t)
- > Energy Savings: **5.000 MWh** (24/7 operating time)
- > Energy Cost Savings: **250.000 EUR** (0.05 EUR/kWh)

#### Valuation of the energy related investment:

- ✓ Simple Payback: **1.6 years**
- ✓ Return of Investment (ROI): **520 %**
- ✓ Investment in CO<sub>2</sub> Reduction: **50 EUR/t CO<sub>2</sub>**



## Eiif's Recommendations

To accelerate the uptake of the annual energy savings potential of 14 Mtoe (160 TWh) in industry, avoiding 40 Mt of CO<sub>2</sub> emissions per year, Eiif recommends mandatory technical insulation improvements guided by EN 17956 and regular insulation scans.

### 1. Mandatory Upgrades to EN 17956 Insulation Energy Efficiency Class C for Industry

Insulate all equipment and piping to at least insulation energy efficiency class C according to EN 17956. This shall be mandatory for new installations (in the planning phase), installations under construction and for existing installations in industry if the payback period for the insulation improvement to class C is less than 5 years.

### 2. Stipulate Regular Insulation Scans

- Option 1: Introduce an insulation scan obligation (see NL: [Energy Saving Investigation Obligation](#)).
- Option 2: Subsidies for qualified insulation scans (e.g. [TIPCHECK](#)).
- Option 3: Awareness campaigns: Benefits of technical insulation & [EN 17956](#).

## Feasibility Analysis of Eiif's Recommendations

### 1. Using the EN 17956 Standard to Set Minimum Performance Requirements

To define maximum heat loss levels for standard insulation solutions using the new EN 17956 standard is straightforward, product and service independent and tailored to industrial process needs. In addition, everybody is familiar with energy classes, and it is a simple 3-step approach to get to the minimum performance levels:

1. Select Insulation Energy Efficiency Class C (*or better*)
2. Specify Operating Temperature
3. Define Geometry (surface or piping and its size)

Check online: <https://www.eiif.org/energy-efficiency-class-calculator>

### 2. Building on The Success of 3.000 TIPCHECKs

- ✓ More than 3.000 TIPCHECKs worldwide demonstrate the savings potential and return on investment:
  - ⇒ 3 out of 4 clients invest, reduction of 4 TWh & 1 Mt CO<sub>2</sub> emissions until today.
- ✓ TIPCHECK aligns with industry standards like EN 17956 and EN 16247.
- ✓ [160 certified TIPCHECK Experts qualified & ready to support industry.](#)

## CONCLUSION: Mandatory Improvement of Technical Insulation is a Win-Win-Win

Implementing a mandatory requirement for industries to improve technical insulation systems to EN 17956 insulation energy efficiency class C creates a Win-Win-Win scenario:

- **Industry:** Realizes widely overlooked insulation efficiency opportunities and increases its competitiveness.
- **Society:** Contributing towards net zero, job creation and workplace safety.
- **Climate:** Reducing energy consumption and thereby lowering annual CO<sub>2</sub> emissions.

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