



15 MIN READ



Eiif WHITE PAPER 08|2026

INDUSTRIAL INSULATION: STOP WASTING ENERGY REDUCE IMPORTS IMMEDIATELY

EUROPE DEPENDS ON EXPENSIVE ENERGY IMPORTS
SHIPPED THOUSANDS OF KILOMETRES
PAID FOR – THEN WASTED IN EUROPEAN INDUSTRY

**STOP
THE
ENERGY
WASTE**



**THE SMART
SOLUTION**

Strengthen
EU energy security
and industrial
competitiveness

TABLE OF CONTENTS



Europe is importing energy it is immediately losing again	3
From waste to immediate savings	4
Stop the energy waste – 4 pillar insulation EU efficiency plan	5
Outlook – delivering 120 TWh annually by 2040	8
Stop the waste of tomorrow – by setting the standard today	9
Europe’s insulation industry is ready – now	10
Act now. Start saving energy instead of importing and wasting it	11
Technical insulation energy savings: case study “ETS” (pillar 1)	12
Technical insulation energy savings: case study “SME” (pillar 2)	13
You don’t know what you don’t know until you know - the TIPCHECK film	14
About Eiif	15

EUROPE IS IMPORTING ENERGY IT IS IMMEDIATELY LOSING AGAIN

Europe is currently facing a dual challenge:

- ✓ Securing affordable energy
- ✓ Reducing dependency on imports

At the same time, **large amounts of energy are wasted daily in EU industry** through uninsulated or poorly insulated equipment such as valves, flanges, pipes, and tanks.

- This is **not a technology gap**.
- This is an **implementation gap**.

A targeted EU action programme can deliver measurable gas savings before the next winter.

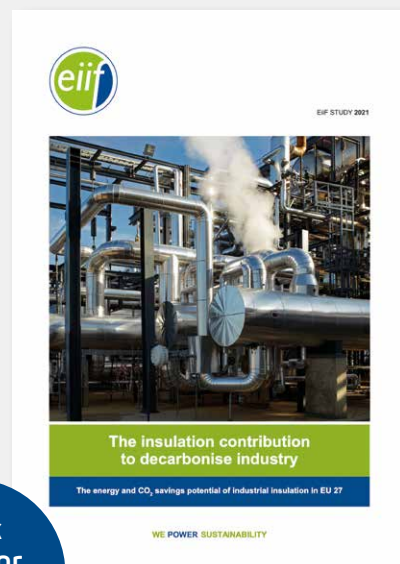
**IMMEDIATE
ENERGY
SAVINGS IN
EU INDUSTRY
THROUGH
INSULATION**

Key Facts:

- ✓ **160 TWh/year** wasted every year in EU industry
- ✓ **120 TWh/year** can be captured – starting immediately and financed through savings to 2040
- **3.500 TIPCHECKs confirm:**
no technology gap,
only implementation

TIPCHECK 

Click
here for
more
info





FROM WASTE TO IMMEDIATE SAVINGS



120 TWh + 27 MT CO₂ / EUROPE'S INSULATION ENERGY AND EMISSIONS SAVINGS POTENTIAL

- ✓ Delivered by insulating uninsulated components and repairing damaged insulation systems to EN 17956 class C
- This can be addressed immediately during full production and without redesigning processes



WHY THIS OPPORTUNITY IS HIDDEN

- ✓ Insulation is often designed for process or safety, not energy efficiency
- ✓ Many systems are aging or damaged
- ✓ Companies are not aware of the savings potential and give no priority to insulation projects



INSULATION SAVINGS EQUIVALENT TO 7,5 MILLION HOUSEHOLDS

- ✓ This quick-to-unlock savings potential equals the annual energy consumption of more than 7,5 million households



STOP THE ENERGY WASTE 4 PILLAR INSULATION EU EFFICIENCY PLAN 5 TWh IMMEDIATELY 120 TWh ANNUALLY BY 2040

→ PILLAR 1 – ETS HIGH POTENTIAL

57 TWh ANNUAL SAVINGS BY 2040

The EU ETS listed companies represent the largest and fastest opportunity to reduce industrial energy waste.

IMMEDIATE ACTION

Launch a targeted programme across 10.000 ETS-listed production sites:

- Incentivise insulation scans (e.g. TIPCHECK)
- Identify uninsulated and poorly insulated equipment
- Ensure that at least 10% of identified equipment is insulated immediately

→ **IMPACT:** ~5 TWh annual savings in the short term

SCALING TO 2040

- Establish regular insulation scan cycles
- Implement all measures with a payback period ≤ 3 years

→ **IMPACT:** Up to 57 TWh annual savings by 2040



Immediate action in the ETS sector delivers fast results and creates the foundation for large-scale savings.

→ PILLAR 2 – SME HIGH POTENTIAL**23 TWh ANNUAL SAVINGS BY 2040**

SMEs represent a large, untapped efficiency potential, particularly due to uninsulated equipment.

ACTION

Introduce a simple and scalable insulation scan programme (e.g. TIPCHECK) for:

- >100.000 SME facilities
- Identification of uninsulated equipment

Encourage implementation of:

- All measures with payback ≤ 3 years

→ **IMPACT:** Up to 23 TWh annual savings by 2040



Simple insulation measures in SMEs can deliver significant savings quickly.

→ PILLAR 3 – NON-RESIDENTIAL SECTOR**7 TWh ANNUAL SAVINGS BY 2040**

The non-residential sector offers a relevant but often overlooked opportunity to reduce energy losses.

ACTION

Develop and deploy a tailored insulation scan programme:

- Covering >500.000 buildings/units
- Focused on identifying uninsulated HVAC equipment

Encourage landlords to:

- Implement measures with payback ≤ 4 years

→ **IMPACT:** Up to 7 TWh annual savings by 2040



Targeted programmes in non-residential buildings unlock additional efficiency potential beyond industry.

→ PILLAR 4 – INSULATION UPGRADES (ETS & SMEs)

33 TWh ANNUAL SAVINGS BY 2040

Beyond quick wins, upgrading existing insulation systems is essential for long-term performance.

ACTION

Encourage ETS companies and SMEs to:

- Upgrade existing insulation systems to EN 17956 Class C performance.

FRAMEWORK CONDITIONS

- Longer payback periods (up to 7 years)
- Projects with payback periods of more than 5 years could be supported by targeted subsidy programmes

→ **IMPACT:** Up to 33 TWh annual savings by 2040

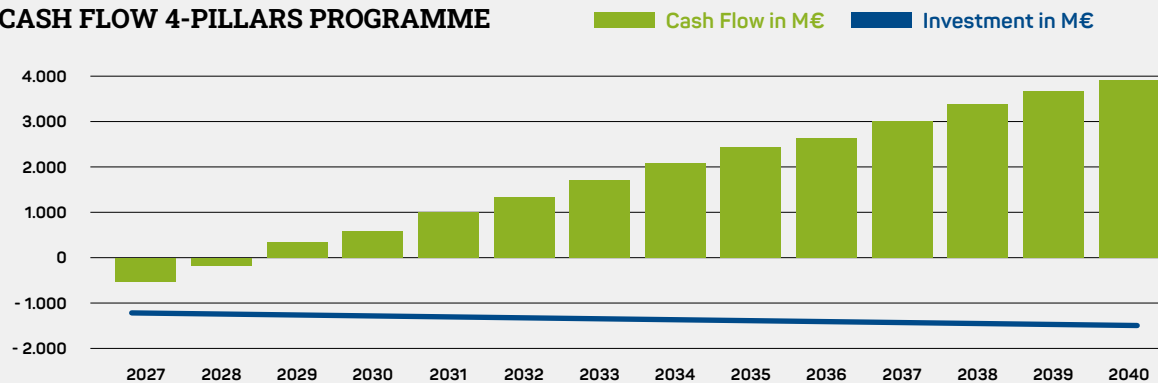


Structural upgrades deliver deeper savings and complete the transition to energy efficient insulation systems.



OUTLOOK DELIVERING 120 TWh ANNUALLY BY 2040

CASH FLOW 4-PILLARS PROGRAMME



If implemented immediately, these four pillars provide a clear and practical pathway to:

- Achieve 120 TWh annual energy savings by 2040
- Reduce expensive energy imports and energy dependence
- Strengthen EU energy security and industrial competitiveness

ECONOMIC IMPACT

The proposed measures are highly profitable for European industry:

- €5.400 million net positive cash flow
- 27 Mt CO₂-eq. emissions reduction annually

CASH FLOW PERFORMANCE

- ETS High Potential (57 TWh): €3,5 return per €1 invested
- SME High Potential (23 TWh): ~2-year payback, €1,6 return per €1
- Non-Residential (7 TWh): ~4-year payback
- Upgrades ETS & SMEs (33 TWh): ~7-year payback

IMPORTANT NOTE: CO₂ emission certificate costs and related savings are not included. Taking these effects into account would likely improve payback periods and overall profitability.

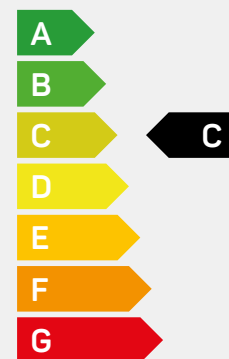
STOP THE WASTE OF TOMORROW BY SETTING THE STANDARD TODAY

MAKE ENERGY EFFICIENCY CLASS C THE MINIMUM ENERGY PERFORMANCE STANDARD FOR INDUSTRY

For all new installations (from the planning and design phase)
it should become mandatory by 2030 (the latest)
that all industrial equipment and piping should be insulated
to at least EN 17956 Class C.

WHY THIS MATTERS

- Prevents new energy waste at the source
- Provides a clear, harmonised performance benchmark
- Ensures technology-neutral and future-proof solutions
- Complements existing frameworks (EED, ISO 50001, energy audits) without adding complex bureaucracy and based on the European Norm EN 17956



**EFFICIENCY
MUST BE BUILT
IN FROM
THE START**

EUROPE'S INSULATION INDUSTRY IS READY NOW

CAPACITY
EXISTS TODAY
TO SCALE
ACTIVITY BY
10-20%
IMMEDIATELY



Insulation contractors
(market leaders in Europe and EiiF members)
confirm that an additional 10–20% capacity
is available and can be immediately deployed
to insulate uninsulated equipment.

ACT NOW. START SAVING ENERGY INSTEAD OF IMPORTING AND WASTING IT.



**THE FASTEST,
CLEANEST AND
CHEAPEST ENERGY
FOR EUROPE IS THE
ENERGY WE STOP
WASTING.**

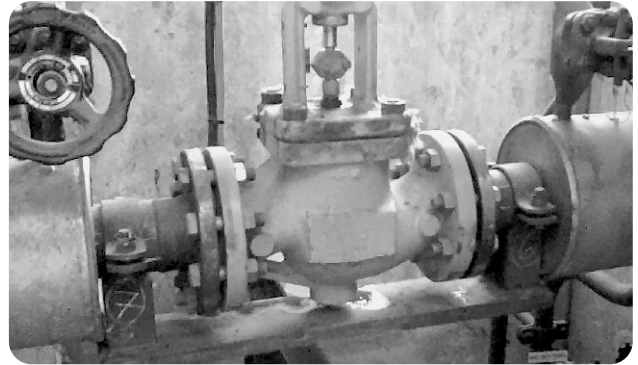
ENERGY EFFICIENCY STARTS WITH TECHNICAL INSULATION: WHY IT WORKS

- ✓ Easy to identify – using standardised TIPCHECK thermal energy audits
- ✓ No new tech – well proven energy efficiency technology
- ✓ No bureaucracy – minimum performance based on product neutral standard EN 17956
- ✓ Immediate impact – many installations and insulation upgrades are possible during production
- ✓ Increases competitiveness
- ✓ Delivers energy security
- ✓ Helps to decarbonise industry
- ✓ In line with EU legislation like the EED and IED

TECHNICAL INSULATION ENERGY SAVINGS: CASE STUDY “ETS” (PILLAR 1)

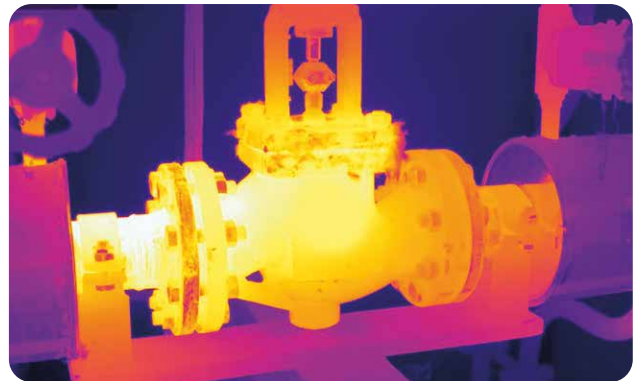
ONE UNINSULATED PROCESS VALVE

- Size: DN 150/6 inch
- Temperature: 150 °C
- Operational time: 8.760 hours
- Annual energy loss: 10.500 kWh



TYPICALLY UNINSULATED EQUIPMENT

The TIPCHECK experience shows that valves and flanges in industrial plants are typically uninsulated. The energy loss can be detected and illustrated with infrared thermography.



REAL
SAVINGS.
IMMEDIATE
IMPACT.

**BY INSULATING
THE VALVE 10.000 KWH
CAN BE SAVED!**

Transforming the saved 10.000 kWh thermal energy with a 40% thermodynamic efficiency into 4.000 kWh electric energy and using this to charge the battery of an electric car, one could **drive more than 20.000 km.**

4.000 kWh
20.000 km



TECHNICAL INSULATION ENERGY SAVINGS: CASE STUDY “SME” (PILLAR 2)

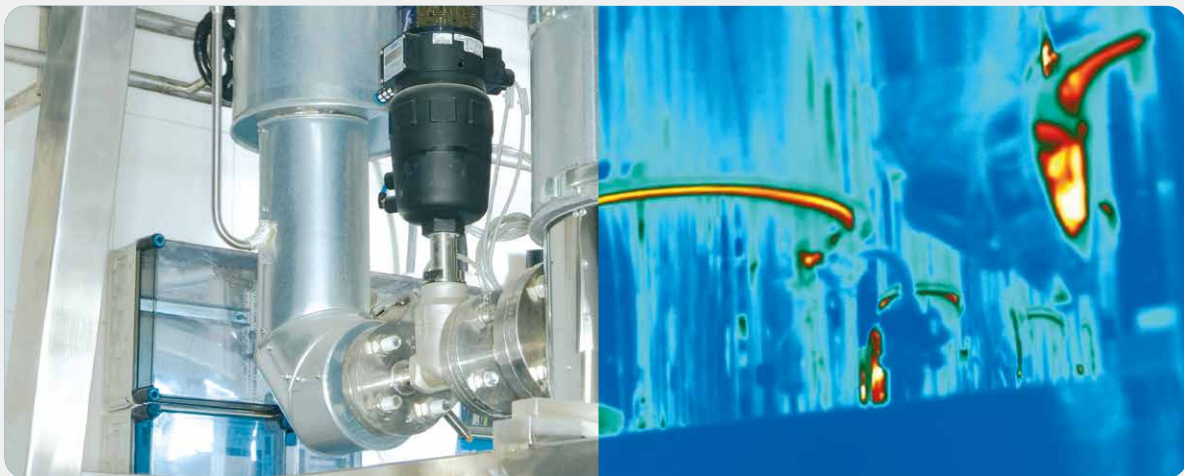
REAL EXAMPLE – IMMEDIATE IMPACT:

- 30 uninsulated valves
- Investment: **€7.500**
- Savings: **250.000 kWh/year**
- Annual savings: **€8.000**
- Payback: **< 1 year**

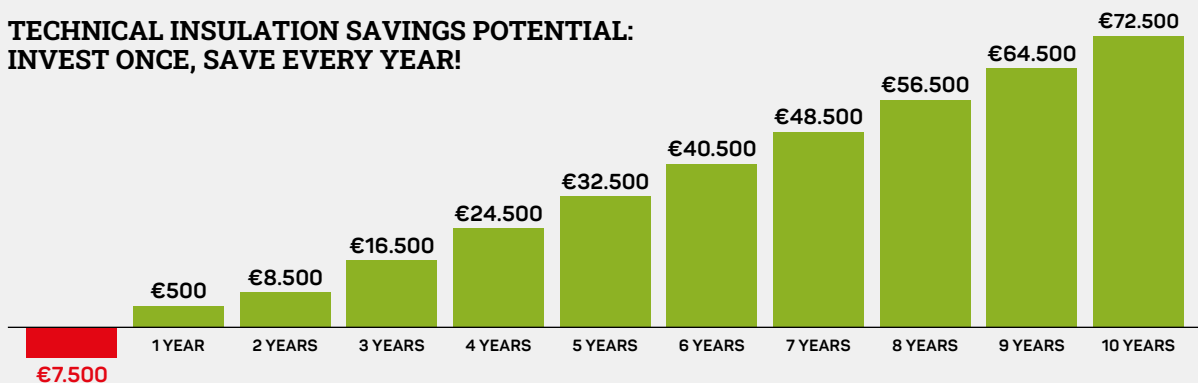
3.500 TIPCHECKs conducted globally since 2010 reveal that nearly every audit identifies uninsulated equipment, offering significant energy savings and CO₂ reductions with rapid payback.

EXAMPLE: 30 UNINSULATED PROCESS VALVES (DN 80 – DN 200):

ENERGY EFFICIENCY: THROUGH IMPROVED TECHNICAL INSULATION



**TECHNICAL INSULATION SAVINGS POTENTIAL:
INVEST ONCE, SAVE EVERY YEAR!**





**YOU DON'T KNOW
WHAT YOU DON'T KNOW
UNTIL YOU KNOW**

**Click
here to
watch**

A large industrial facility, likely a refinery or chemical plant, with numerous storage tanks, pipes, and distillation columns. The scene is captured at sunset or sunrise, with a warm orange and yellow sky. The facility is framed within a black border, resembling a tablet screen.

TIPCHECK



**Discover in under 90 seconds
how certified TIPCHECK Experts help industry
uncover their insulation savings potential.**

ABOUT EiiF

The European Industrial Insulation Foundation (EiiF) is an international foundation headquartered in Switzerland. As a neutral and non-profit institution, EiiF promotes insulation as a top-of-mind method for enhancing sustainability and profitability.

Since its foundation, EiiF has established itself as a resource for industries that need to reduce CO₂ equivalent emissions and save energy. Its programme raises awareness of the multiple benefits of industrial insulation.

EiiF was established in 2009 by 12 Founding Partners. Nowadays, it comprises more than 80 leading industrial insulation companies from global players to small and medium sized companies.

GET IN TOUCH

Learn more about the EiiF Foundation and how to co-operate or participate:

www.eiif.org

EiiF Deed of Foundation:

Read here about the purpose and the primary task of the Foundation:

www.eiif.org/deed-of-foundation



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TIPCHECK

Technical Insulation Performance Check:

EiiF's energy auditing programme to evaluate the performance of industrial insulation systems:

www.eiiF.org/tipcheck



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