



Harnessing the Potential of Industrial Insulation

Survey of 180 TIPCHECK Audits

To improve energy security and reduce CO₂ emissions, the EU has taken important steps to reduce energy consumption in major sectors such as buildings, transportation, and power generation. Recent studies have shown, however, that a significant amount of energy is lost in the day-to-day operations of industrial plants by virtue of insufficient industrial insulation— an area that is largely overlooked, not only by the current governmental efforts but even by industry itself.

In 2010, the European Industrial Insulation Foundation (Eiif) created an innovative programme, called Technical Insulation Performance Check (TIPCHECK), to provide a standardised energy auditing tool that plant asset owners and decision makers can use to assess their insulation-related energy losses and identify cost-effective remediation efforts. To date, TIPCHECK energy audits have been conducted at approximately 180 industrial plants, primarily across the EU.

This report presents a survey of those audits and summarises their findings and implications. Its major conclusions are these:

- The annual energy savings potential identified by approximately 180 TIPCHECK audits was more than **750.000 MWh/year (2,7 PJ/year)**, resulting in an estimated CO₂ emission reduction potential of more than **500.000 t CO₂**—equivalent to the annual greenhouse gas emissions of almost **110.000 cars**.
- Based on cost savings from a reduction in energy loss, investments in industrial insulation paid back after only one or two years, and some investments paid back in less than one year, resulting in a TIPCHECK identified cost saving potential for industry of at least **€ 23,5 million**.
- **Three out of four (75%)** industrial clients who commissioned a TIPCHECK audit have either already acted or plan to act in the near future (for example, at the next turnaround) on the recommendations of their TIPCHECK report by investing in insulation to remediate existing insulation deficiencies.
- Based on the observed implementation rate (55% of TIPCHECK clients have implemented 100% of the identified potential, 13% have implemented parts of the potential, and 14% are considering implementation), the TIPCHECK programme has already resulted in EU-wide annual energy savings of more than **500.000 MWh/year (1,8 PJ/year)** and CO₂ reductions of more than **370.000 t CO₂**— equivalent to the annual greenhouse gas emissions of almost **80.000 cars**.
- Implemented insulation improvements resulting from the first 119 realised TIPCHECK audits (68% of all TIPCHECK audits) represent approximately **€ 20 million** in insulation business.

These findings confirm the effectiveness of the TIPCHECK programme and reinforce its importance for EU policy makers, industrial plant asset owners and decision makers, and industrial insulation stakeholders.

For policy makers, the TIPCHECK programme results demonstrate the additional energy and CO₂ emissions savings that may be realised by addressing thermal energy losses due to insufficient industrial insulation. Such savings could contribute substantially to the EU 2020 and 2030 energy reduction goals while also lowering EU dependency on foreign energy imports.

For industrial plant asset owners and decision makers, the TIPCHECK results point to the cost effectiveness of insulation remediation efforts and to operational cost savings that far outweigh the required investments and that lead to rapid payback. The results also highlight the ability of industrial insulation to reduce plant CO₂ emissions, thereby helping industry to meet regulatory requirements and contribute to overall EU emissions reduction goals.

For insulation stakeholders, the TIPCHECK programme provides an invaluable tool that they can use to proactively help EU industry realise energy and operational cost savings by fixing industrial insulation deficiencies. By adding the TIPCHECK programme to their toolbox of offerings, such stakeholders are able to partner with clients for a common operational good rather than merely responding to bids for services. As a result, they may realise the noble goal of “doing well by doing good.”

EiiF

European Industrial Insulation Foundation
Avenue du Mont-Blanc 33
1196 Gland
Switzerland
t: +41 22 99 500 70
e: info@eiiF.org
w: www.eiiF.org

*The **EiiF** (European Industrial Insulation Foundation) is a non-profit foundation registered in Switzerland in 2009. The Foundation has been set up to promote and establish the use of industrial insulation as a widely understood and accepted means of achieving sustainability. Since its foundation, the EiiF has established itself as a resource for governments and industries that need to reduce CO₂ emissions and save energy.*