CZECH REPUBLIC

The total energy savings and emissions reduction potential by improving insulation solutions in industry

Energy savings potential: 414 ktoe

Emissions reduction potential: 1.278 kt

The industrial insulation energy savings potential by different energy sources (in ktoe):

- **COAL: 158,1**
- **GAS: 159,2**
- **ELECTRICITY: 1,1**
- **OIL: 16,2**
- **HEAT: 38,1**
- **BIOMASS: 41,3**

The industrial insulation potential to reduce the energy consumption and carbon emissions by industry sector:

Potential by sector Czech Republic	Energy savings (ktoe)	CO_2 eq. emissions reduction (kt)
Electricity sector*	134	537
Chemical industry	46	130
Refineries	15	49
Paper & Pulp	25	58
Food industry	32	80
Non-metallic minerals	43	143
Steel industry	34	88
Machinery	30	68
Wood industry	14	32
Non-ferrous metal	3	7
Transport equipment	18	41
Textile	6	14
All other sectors	15	31
TOTAL	**414**	**1.278**

**Gas, Coal, Oil, Biomass Technologies*

The national insulation savings potential is equivalent to the annual energy consumption of:

The calculation is based on the national average energy consumption provided by the Odyssee-Mure EU project (www.odyssee-mure.eu)

MORE THAN **245.000** **HOUSEHOLDS**

OR

MORE THAN **623.000** **CARS**

EU 27 to be climate-neutral by 2050

The European Union has set itself two ambitious climate goals: to reduce greenhouse gas emissions by at least 55% by 2030 and to be climate-neutral by 2050, with net-zero emissions. Decarbonising EU industry is one of the major challenges for reaching this target. The good news is that there are effective short-term industrial insulation solutions which are cost-effective to the asset owners and ready to deliver.

The EiiF Study 2021 analyses that 14 Mtoe of energy can be saved by improving insulation standards in industry, offering the potential to reduce the EU's CO_2 equivalent emissions by 40 Mt every year. The annual industrial insulation savings potential for EU 27 is equivalent to the annual energy consumption of more than 10 million households or more than 20 million cars. The calculation is based on the national average energy consumption provided by the Odyssee-Mure EU project (www.odyssee-mure.eu).

The industrial insulation savings potential for EU 27 is equivalent to the annual energy consumption of:

MORE THAN **10 MILLION** HOUSEHOLDS

OR

MORE THAN **20 MILLION** CARS

Why is there still such a high industrial insulation potential in EU industry?

Several factors contribute to the tendency in industry to insulate less rather than implement more energy-efficient insulation systems: the pressure to reduce investment and maintenance costs, an increasing lack of insulation know-how and split responsibilities for energy and maintenance budgets. The energy-efficiency level of insulation in Europe's industrial installations is relatively low.
The existing insulation systems and technical requirements most often solely focus on safety to keep surface temperatures below 55 °C. Moreover, many plants in the EU 27 are aging and in a dire need for insulation repair.

The biggest part of the growing – but with energy-efficient insulation easily avoidable – carbon emissions in industry comes from uninsulated equipment or equipment which has damaged insulation.

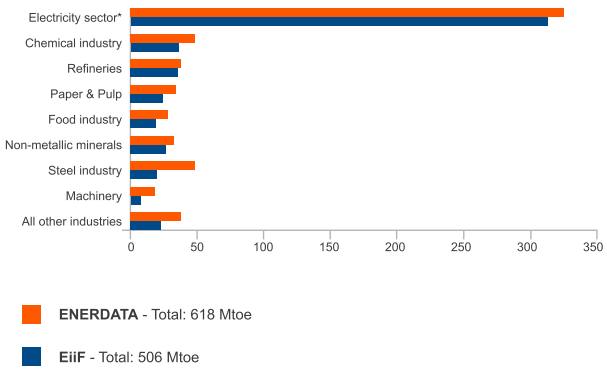
Depending on the temperature, the increasing share of uninsulated or damaged insulation systems varies from 10% to 2%. Insulating uninsulated equipment and repairing damaged insulation offers a large CO_2 and energy savings potential with short payback periods (two years on average and often just a few months).

LOW-TEMPERATURE	MIDDLE-TEMPERATURE	HIGH-TEMPERATURE
< 100 °C	100 °C - 300 °C	> 300 °C
10%	**6%**	**2%**

About the EiiF analysis

As the source of information, EiiF used the database from Enerdata and the Odyssee-Mure EU project providing data of the total energy use.

For defining the insulation energy savings potential, EiiF only considered the share of thermal energy consumed in each sector and estimated which part of it can be influenced by insulation.



**EiiF exclusively considered gas, coal, oil and biomass technologies in its study. However, insulation energy efficiency potential also exists in carbon-free technologies like nuclear and some renewables.*

More information can be found in EiiF's White Paper and on www.eiif.org/publications