

NORWAY

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



Energy savings potential: 134 ktoe



Emissions reduction potential: 405 kt

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



COAL: 19,7



GAS: 21,4



ELECTRICITY: 10,2



OIL: 59,8



HEAT: 1,8



BIOMASS: 20,6

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

Potential by sector in Norway	Energy savings (ktoe)	CO ₂ eq. emissions reduction (kt)
Electricity sector*	6	16
Chemical industry	5	10
Refineries	26	93
Paper & Pulp	46	164
Food industry	11	37
Non-metallic minerals	7	16
Steel industry	11	33
Machinery	8	18
Wood industry	1	3
Non-ferrous metal	11	8
Transport equipment	1	2
Textile	0	0
All other sectors	2	5
TOTAL	134	405

*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

78.000

HOUSEHOLDS



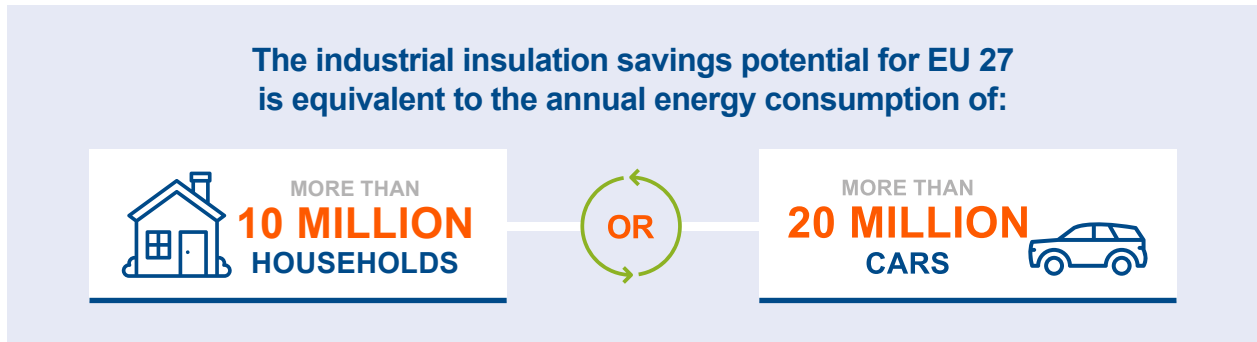
MORE THAN

201.000

CARS

The insulation energy savings and emissions reduction potential in EU 27 industry

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 CO₂ 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).



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.

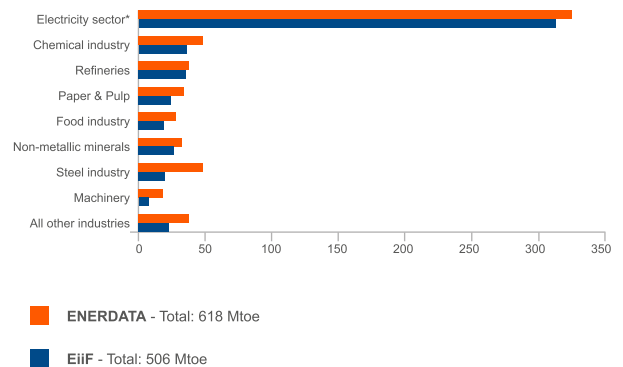
Depending on the temperature, the increasing share of uninsulated or damaged insulation systems varies from 10% to 2%. Insulating uninsulated equipment and repairing damaged insulation offers a large CO₂ and energy savings potential with short payback periods (two years on average and often just a few months).

LOW-TEMPERATURE < 100 °C	MIDDLE-TEMPERATURE 100 °C - 300 °C	HIGH-TEMPERATURE > 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