

Germany

Halving heating oil consumption through higher efficiency

Why?

The building sector is of major importance in ensuring a successful climate and resource protection policy. This field accounts for approximately 40% of energy use and a third of CO₂ emissions in Germany. The Federal Government has set an objective of reducing 20% of energy usage by 2020. Higher efficiency through heating system modernisation, the use of renewable energies and insulation of buildings can have a major contribution to this objective.

Outcome

- The average heating oil use per equipment has been halved within 20 years.
- Half of the savings are due to higher efficiency oil heating equipment.
- 75% of oil heating systems installed in 2015 used condensing technologies.
- One out of two installed oil condensing boiler is combined with thermal solar equipment.
- Since 2015 the market share of low-sulphur heating oil (<50 ppm S) was almost 100%.

What?

As early as 1995, the German mineral oil sector decided to take a voluntary agreement in the framework of the Kyoto process to protect the climate in the heating market. This agreement was renewed in 2001. The objective of this self-commitment was to increase the average efficiency of approximately 6 million oil heating appliances in Germany from 68% in 1990 to 86-88% in 2012.

To achieve this, under the coordination and the lead of the Institute for Heating and Oil Technology (IWO), together with the heating equipment industry, the technical conditions have been introduced for a general introduction of condensing oil technologies. Trainings have been carried out for heating manufacturing firms. Mineral oil industry, heating sector SMEs, chimney sweepers and other professionals, along with advertisement and media work, have played a crucial role by informing customers about the energy saving opportunities achievable by the use of efficient heating technologies.

In 2007, the activities were further strengthened through an agreement between the German mineral oil industry and the Federal Government to generalise low-sulphur heating oil and oil condensing technologies.

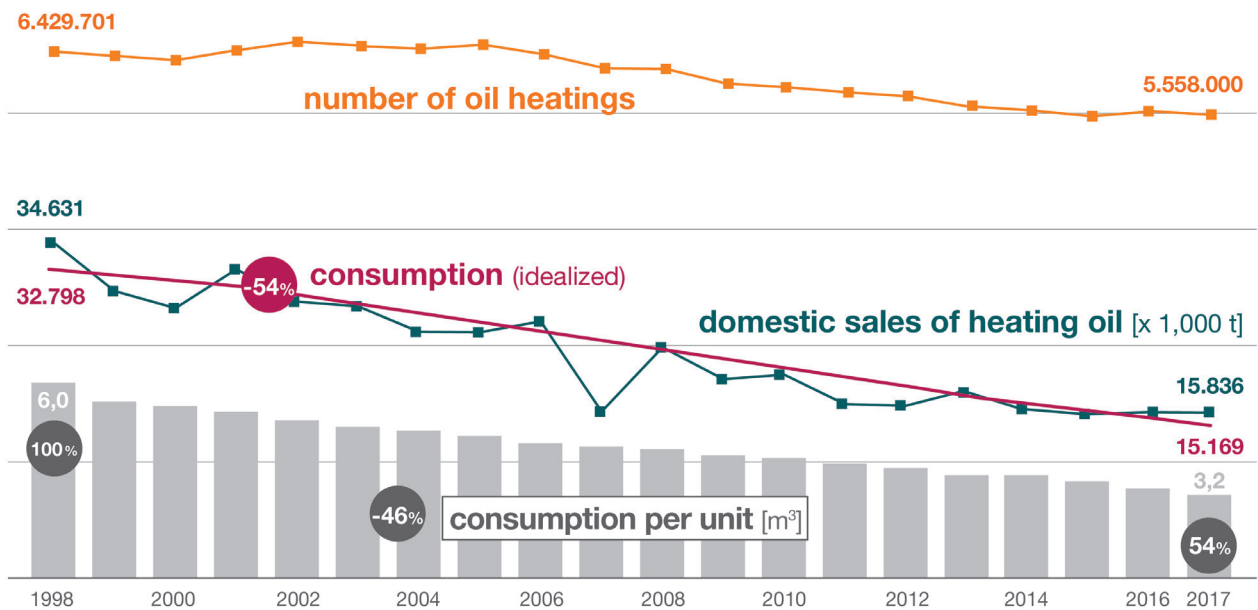
All targets concerning oil heating technology and heating oil consumption have been achieved ahead of schedule.

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Heating oil consumption halved with stable number of oil heating systems in Germany



Source: ZIV-Bericht; BAFA April 2018; Grafik: IWO

Energy savings by efficient heating technology and combination with renewables

Basis: old standard boiler



Energy savings:



30%
oil-condensing boiler



40%
oil-condensing boiler
plus solar thermal



50%
oil condensing boiler
plus solar thermal plus
woodstove

Grafik: IWO