

Title of the measure:	GER5	Heating Installations Ordinance (Heizungsanlagenverordnung) of 1994/98
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General description

The Heating Installations Ordinance (Heizungsanlagenverordnung) applies to boilers and sanitary hot-water production with an output >4kW if they are newly installed in buildings or have been replaced, extended or adapted. The amended version of the Ordinance of 22 March 1994 (BGBl. I p. 613) came into force on 1 June 1994 (last amendment: 4 May 1998; BGBl. I p. 852). It tightened the requirements for heating and hot-water systems compared to the original Ordinance of 1978 and the first amendment of 1982. The 1994 Ordinance also translated into national law a significant part of the EC directive on new hot-water boilers (Directive 92/42/EEC) which sets forth requirements for minimum efficiencies of oil-fired and gas-fired boilers used to heat buildings with a rated output between 4 and 400 kW. Beginning on 1 January, new boilers must carry the CE mark pursuant to the EC hot-water boiler directive as low-temperature boilers or gas condensing boilers. On 1st February 2002, the Heating Installations Ordinance was replaced by the new Energy Savings Ordinance (GER7).

Impact evaluation (methods and results)

The data on boilers and hot-water systems are part of the building plans which have to be approved by local building administrations. There is, however, no monitoring of the actual implementation of the standard in Germany. Neither is there a specific ex-post evaluation of the current Heating Installations Ordinance. There are only some results available from other studies with regard to single aspects.

The CO₂ reduction potential of the amended version of the Heating Installations Ordinance of 1994 was estimated by Ziesing et al (1997) compared to the former 1982 regulation (GER16). For the tertiary sector, the estimated impact is relatively high since it is assumed, that almost all boilers will be replaced up to 2005 and that the share of gas condensing boilers will considerably increase. As a result, the study estimates a CO₂ reduction by about 2.4 Mt in the year 2005 which can be ascribed to Heating Installations Ordinance of 1994 (see Table 3). Compared to total CO₂ emissions of the sector, the impact can be categorized as medium.

Table 1: CO₂ and savings in the tertiary sector due to the 1994 Heating Installations Ordinance in Germany

Ex-post evaluation	1995	2000		
direct CO ₂ (kt)				
Energy (TJ) (Fuels/Electricity)				
Ex-ante evaluation	1995	2000	2005	2020
CO ₂ (kt) ¹⁾		1 200	2 400	
Energy (TJ) ²⁾ (Fuels/Electricity)		18 460	36 920	

1) Compared to mid 1994; additional CO₂ and energy savings due to the tightening of the requirements in 1994; including CO₂ reduction by electricity savings for circulating pumps (0.3 Mt in 2005).

2) Assuming a CO₂ Factor of 65 kt CO₂/PJ

Source: Ziesing et al. 1997

Historical data

The first version of the Heating Installations Ordinance came into force on 1 October 1978 and was revised on 24 February 1982. The Ordinance contained

- maximum exhaust losses of boilers

- boiler design prescriptions
- minimum insulation of pipes
- minimum boiler regulation requirements.

An evaluation by the Ifo-Institute (Karl et al. 1982) estimated primary energy savings of 1.28 Mt for the period 1979-1982 due to the new Ordinance.

References

Karl, H.-D. et al.: Abschätzung der quantitativen Wirkung von Energiesparmaßnahmen – Möglichkeiten und Grenzen. München: Ifo, July 1982

Ziesing, H.-J. et al. Politikszenerarien für den Klimaschutz. Jülich, Forschungszentrum 1997