



Indonesia

Emission standards for Indonesia are established by the Ministry of Environment (see <http://www.menlh.go.id/>). Standards for stationary sources were first introduced in 1988 by Ministry of Environment (MOE) decree KEP-02/MENKLH/I/1998. They were replaced in 1995 by MOE decree KEP-13/MENLH/3/1995 and, most recently, in 2008. The current regulations are outlined in MOE decree no. 21 2008, which provides maximum concentrations for pollutants that can be emitted to the atmosphere for new and existing stationary sources, including thermal power plants. The standards are available in Indonesian at http://hukum.unsrat.ac.id/lh/menlh2008_21.pdf and the relevant standards for thermal power plants are available at http://hukum.unsrat.ac.id/lh/menlh2008_21_1.pdf. Emission standards for industrial boilers were released with MOE decree no. 7 2007 and are available in Indonesian at http://hukum.unsrat.ac.id/lh/menlh_7_2007.pdf and the actual standards are at http://hukum.unsrat.ac.id/lh/menlh_7_2007_lamp.pdf.

Emission standards for stationary sources

The emission standards for stationary sources, including thermal power plants, were issued on 1 December 2008 and replaced the earlier 1995 standards. The regulations include limits for the emissions of sulphur dioxide, nitrogen oxides (as nitrogen dioxide) and particulate matter for existing, in development and new power plants. Old power plants and those in development before the decree was issued must comply with the existing standards issued in 1995. The standards for new power plants are stricter and those in development must comply with these by 1 January 2015. Fuel types covered by the decree include coal, oil and natural gas. Power plants must meet these emission standards 95% of the time over 3 months.

Power plant	SO ₂ , mg/m ³	NO _x (as NO ₂), mg/m ³	Particulate matter, mg/m ³
Old coal-fired power plants and those in development before enactment	750	850	150
New coal-fired power plants and those in development before enactment by 1 January 2015	750	750	100

Note: Reference conditions are 25°C at 101.3 kPa (1 atm) on a dry flue gas basis with 7% of O₂ in the flue gas.

For power plants that utilise mixed fuels, for each generating unit the emission standard is calculated based upon the ratio of each fuel type as follows:

$$\text{Emission standard} = AX + BY + CZ$$

where:

- A = emission standard when only coal is used
- B = emission standard when only oil is used
- C = emission standard when only gas is used
- X = ratio of heat input from coal
- Y = ratio of heat input from oil
- Z = ratio of heat input from gas

Emission standards for industrial boilers

Emission standards for industrial boilers were issued on 8 May 2007. The regulations include limits for the emissions of sulphur dioxide, nitrogen oxides (as nitrogen dioxide) and particulate matter from industrial boilers. These standards were to be met within a year of the decree being issued. Fuel types covered include various forms of biomass, coal, oil and natural gas.

Boiler	SO ₂ , mg/m ³	NO _x (as NO ₂), mg/m ³	Particulate matter, mg/m ³
Coal-burning boilers	750	825	230

Note: Reference conditions are 25°C at 101.3 kPa (1 atm) on a dry flue gas basis, and for particulate matter, with 6% of O₂ in the flue gas.

For boilers that utilise mixed fuels the emission standard is calculated based upon the ratio of each fuel type as follows:

$$\text{Emission standard} = (AX + BY)/Q$$

where:

- A = emission standard when only fuel 1 is used
- B = emission standard when only fuel 2 is used
- X = heat input from fuel 1
- Y = heat input from fuel 2
- Q = total heat input

This paper reflects the IEA CCC understanding of the relevant legislation and is not a substitute for the official version. The IEA CCC does not guarantee the accuracy of the data included in this paper and accepts no responsibility for any consequences of their use.

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