



Vietnam

Emission standards are set by the Ministry of Natural Resources and Environment; their website is available in English at <http://www.monre.gov.vn/wps/portal/english>. Industrial sources of pollution were first regulated in 1995 and were most recently updated in 2009 by NTR 19: 2009/BTNMT *Industrial emission standards for dust and inorganic substances*, which can be found in Vietnamese at http://enidc.com.vn/Client/upload/News/User_2/2010/07/04/QCVN%2019-2009-BTNMT_Khi%20thai%20cong%20nghiep%20%28Bui%20%20Cac%20chat%20vo%20co%29_Thay%20the%20TCVN%205939-2005.DOC. Emission standards for power stations are covered separately by NTR 22: 2009/BTNMT *Emission standards for thermal power industry*, which can be found in Vietnamese at http://enidc.com.vn/Client/upload/News/User_2/2010/07/04/QCVN%2022-2009-BTNMT_Khi%20thai%20cong%20nghiep%20nhiet%20dien_Thay%20the%20TCVN%207440-2005.DOC.

Emission standards for industrial sources

Emission standards for industrial sources were released on 16 November 2009 and replaced the earlier 2005 standards. The regulations set limits for the emissions of particulate matter, sulphur dioxide, nitrogen oxides and a large number of other pollutants. Unlike the emission standards for most countries, Vietnam's standards are based on the size of operation and location of the facility. The relevant emission standard for a pollutant is calculated using the following formula:

$$\text{Emission limit in mg/m}^3 = C \times K_p \times K_v$$

where C is the concentration parameter
 K_p is the emission flowrate coefficient
 K_v is the region coefficient.

Pollutant	Concentration parameter, mg/Nm ³	
	Existing plants operating before 16 May 2007 and valid until 31 December 2014	Plants operating since 16 May 2007 and all plants after 1 January 2015
particulate matter	400	200
SO ₂	1500	500
NO _x (as NO ₂)	1000	850
CO	1000	1000

Note: Reference conditions are 25°C at 101.3 kPa

Emission flowrate, m ³ /h	K _p coefficient
≤20,000	1.0
20,000 – ≤100,000	0.9
>100,000	0.8

Zoning area	Kv coefficient
cities, historic, cultural or natural heritage	0.6
inner city and urban suburbs	0.8
industrial zones, suburbs and outskirts	1.0
rural	1.2
rural mountains	1.4

Emission standards for thermal power plants

Emission standards for thermal power plants were released on 16 November 2009 and replaced the earlier 2005 standards. The regulations set limits for the emissions of particulate matter, sulphur dioxide and nitrogen oxides from coal-, natural gas- and oil-burning power plants. Unlike the emission standards for most countries, Vietnam’s standards are based on the size of operation and location of the facility. The relevant emission standard for a pollutant is calculated using the following formula:

$$\text{Emission limit in mg/m}^3 = C \times K_p \times K_v$$

where C is the concentration parameter
 K_p is the power plant size coefficient
 K_v is the region coefficient.

Pollutant	Concentration parameter, mg/Nm ³	
	Existing plants operating before 17 October 2007 and valid until 31 December 2014	Plants operating since 17 October 2007 and all plants after 1 January 2015
particulate matter	400	200
SO ₂	1500	500
NO _x (as NO ₂)	1000	650 with coal volatile content >10% 1000 with coal volatile content ≤10%

Note: Reference conditions are 25°C at 101.3 kPa, dry basis, 15% O₂ concentration in exhaust gas.

Power plant size, MW	K _p coefficient
P ≤ 300	1.0
300 < P ≤ 1200	0.85
P > 1200	0.7

Note: P is the total designed capacity of the thermal power plant, which includes one or multiple units

Zoning area	Kv coefficient
cities, historic, cultural or natural heritage	0.6
inner city and urban suburbs	0.8
industrial zones, suburbs and outskirts	1.0
rural	1.2
rural mountains	1.4

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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