

Emission source	Scenario	Region	2015	...	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	...	2033	2034	2035	...	2040	...	2045	2046	2047	...	2050						
Coal-fired boilers (heating and industrial, residential)	BAU	All regions	GB 13271-2014 [SO ₂ -200/300; NO _x -200/300; PM-30/50]																																
	ECP	BTH & FW Plain	GB 13271-2014					limits ³								ultra-low emission standard ¹																			
		YRD	GB 13271-2014					limits ³								ultra-low emission standard ¹																			
		Other regions	GB 13271-2014					limits ³								ultra-low emission standard ¹																			
BHE	All regions	GB 13271-2014					limits ³								ultra-low emission standard ¹										BAT recommended value ²										
Iron and steel plants (sinter/coke/iron/steel)	BAU	All regions	GB 28662-2012 (sinter) [SO ₂ -200; NO _x -300; PM-50] / GB16171-2012 (coke) [SO ₂ -100; NO _x -200; PM-50] / GB 28663-2012 (iron) [PM-20; PM-fu-8] / GB 28664-2012 (steel) [PM-20/50; PM-fu-8]																																
	ECP	BTH & FW Plain	standards	special limits ⁴ [SO ₂ -50/100; NO _x -100/320; PM-15/20]										ultra-low emission standard ⁵ [SO ₂ -35/50; NO _x -50/200; PM-10]																					
		YRD	standards				limits ⁴								ultra-low emission standard ⁵																				
		Other regions	standards				limits ⁴								ultra-low emission standard ⁵																				
BHE	All regions	standards				limits ⁴								ultra-low emission standard ⁵										BAT recommended value ⁶ [SO ₂ -35; NO _x -50/100; PM-10]											
Nonferrous metal	BAU	All regions	GB 31574-201529(Pb,Zn), GB 31575-201530(Cu,Al), GB 25468-201031(Mg), GB 25467-201032(Ni) [SO ₂ -150/200; NO _x -200; PM-30/50]																																
	ECP	BTH & FW Plain	standards					special limits ⁷ [SO ₂ -100; NO _x -100; PM-15/20]												ultra-low emission standard ⁵															
		YRD	standards					special limits ⁷												ultra-low emission standard ⁵															
		Other regions	standards					special limits ⁷												ultra-low emission standard ⁵															
BHE	All regions	standards					special limits ⁷												ultra-low emission standard ⁵										BAT recommended value ⁶						
Cement plants	BAU	All regions	Cement energy norm; GB 4915-2013 [SO ₂ -200; NO _x -400; PM-30]																																
	ECP	BTH & FW Plain	GB 4915-2013					special limits ⁸ [SO ₂ -100; NO _x -320; PM-20]												ultra-low emission standard ⁹ [SO ₂ -100; NO _x -200; PM-15]															
		YRD	GB 4915-2013					special limits ⁸												ultra-low emission standard ⁹															
		Other regions	GB 4915-2013					special limits ⁸												ultra-low emission standard ⁹															
BHE	All regions	GB 4915-2013					special limits ⁸												ultra-low emission standard ⁹										BAT recommended value ¹⁰ [SO ₂ -50; NO _x -150; PM-10]						
Flat glass	BAU	All regions	GB29495-2013 [SO ₂ -400; NO _x -700; PM-50]																																
	ECP	BTH & FW Plain	GB29495-2013					special limits ¹¹ [SO ₂ -200; NO _x -300; PM-30]												ultra-low emission standard ⁹															
		YRD	GB29495-2013					special limits ¹¹												ultra-low emission standard ⁹															
		Other regions	GB29495-2013					special limits ¹¹												ultra-low emission standard ⁹															
BHE	All regions	GB29495-2013					special limits ¹¹												ultra-low emission standard ⁹										BAT recommended value ¹⁰ [SO ₂ -100; NO _x -150; PM-10/30]						
Brick/ lime and other industries	BAU	All regions	GB 29620-2013 (brick and lime) [SO ₂ -300; NO _x -200; PM-30]																																
	ECP	BTH & FW Plain	standards					special limits ⁸												ultra-low emission standard ⁹															
		YRD	standards					special limits ⁸												ultra-low emission standard ⁹															
		Other regions	standards					special limits ⁸												ultra-low emission standard ⁹															
BHE	All regions	standards					special limits ⁸												ultra-low emission standard ⁹										BAT recommended value ¹⁰						
Key VOC-related industries	BAU	All regions	no specific regulations																																
	ECP	BTH & FW Plain	no specific regulations	improve LDAR				further improve LDAR technology; install VOCs control facility in all VOC-related industries							relative low emission levels																				
		YRD	no specific regulations	improve LDAR				further improve the LDAR technology; install VOC control facility in all VOC-related industries							relative low emission levels																				
		Other regions	no specific regulations	improve LDAR in chemical industry							further improve the LDAR technology; install VOC control facility in all VOC-related industries							relative low emission levels																	
BHE	All regions	no specific regulations	improve LDAR				further improve LDAR technology; install VOC control facility in all VOC-related industries							relative low emission levels										Innovation of VOC control facilities											