

Supporting Information for:

A New Prediction Method of Industrial Atmospheric Pollutant Emission Intensity Based on Pollutant Emission Standard Quantification

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Table A1. Name, regulations, emission limits and QRPES of pollutant emission standards currently implemented by coking enterprises in China

Standard name (Code)	Regulations	Emission limits			QRPES
		PM	SO ₂	NO _x	
Emission standard of pollutants for coking chemical industry (GB 16171-2012)	Machine coke, semi coke oven	30	50	500	1
	Heat recovery coke oven	30	100	200	1.33
	Special emission standards for air pollutants	15	30	150	0.47
Local standards of Hebei Province - Ultra-low emission standard of atmospheric pollutants for coking chemical industry (DB13/2863-2018)		10	30	130	0.40
Steel, coking, cement whole process flue gas standard treatment work plan (TangHuanQi (2019) number 3)	Tangshan city	10	15	100	0.28
Local standards of Shandong Province - Regional and Integrated Emission Standard of Air Pollutants (DB37/2376-2019)	Key control area	10	30	100	0.37
	General control area	10	30	150	0.41
Emission Standard of Air Pollutants for Thermal Power Plants in Shandong Province (DB37/664-2013)	Coal - fired (coal water slurry) boilers	20	100	100	0.96
Local standards of Heinan Province-emission standard of atmospheric pollutants for coking chemical industry (DB41/ 1955-2020)		10	30	100	0.37
Local standards of Shanxi Province - Emission standard of air pollutants for boilers (DB61/1226-2018)	Northern shaanxi, southern Shaanxi region	10	50	100	0.51
Emission standard of air pollutants for boilers (GB13271-2014)	New Gas Boiler	20	50	200	0.69
	In-use gas boiler	30	100	400	1.27
Emission standard of air pollutants for thermal power plants (GB 13223-2011)	Gas-fuel or gas turbine units - Other gas fired gas turbine units	10	100	120	0.86
	Gas-fueled boilers or gas turbine units - other gas fuel boilers	10	100	200	0.91
	Oil-fired boiler or gas turbine unit-new boiler	30	100	100	1.07

Standard name (Code)	Regulations	Emission limits			QRPES
		PM	SO ₂	NO _x	
Integrated emission standard of air pollutants (GB16297-1996)	Emission Limits of Air Pollutants from New Sources of Pollution	120	240	550	3.3

Table A2. QRPES and emission limits of coking enterprises in various provinces and cities in China

Province	City	Emission limits			QRPES
		PM	SO ₂	NO _x	
	Tangshan	10	15	100	0.28
Hebei	Handan, Qinhuangdao, Xingtai, Zhangjiakou, Chengde, Cangzhou	10	30	130	0.40
	Shijiazhuang, Baoding	15	30	150	0.47
	Taiyuan, Changzhi, Jincheng, Jinzhong, Yuncheng, Lvliang, Yangquan	15	30	150	0.47
Shanxi	Linfen	10	30	130	0.40
	Qingxu County, Taiyuan City	10	20	100	0.31
	Binzhou, Jining	10	30	150	0.41
Shandong	Heze, Jinan, Linyi, Liaocheng, Rizhao, Taian, Weifang, Zaozhuang, Zibo	10	30	100	0.38
	Yulin	10	50	100	0.51
	Weinan, Baoji, Yanan	15	30	150	0.47
Inner Mongolia	Wuhai, Huhehaote, Eerduosi, Baotou	15	30	150	0.47
	Alashanmeng, Chifeng, Bayannaer	30	50	500	1
	Shenyang, Benxi, Dandong, Jinzhou, Yingkou, Huludao, Liaoyang, Anshan	30	50	500	1
Heilongjiang	Qitaihe, Hegang, Shuangyashan, Jiamusi	30	50	500	1
Henan	Pingdingshan, Anyang, Xuchang, Luoyang, Xinyang, Yongcheng, Shangqiu	10	30	100	0.38
	Nanyang	10	30	150	0.41
	Huaibei	15	30	150	0.47
Anhui	Maanshan, Tongling	30	50	500	1
Fujian	Fuzhou, Sanming	30	50	500	1
Gansu	Lanzhou	15	30	150	0.47
	Jiuquan, Jinchang, Jiayuguan, Baiyin	30	50	500	1
	Zhanjiang	10	100	200	0.91
Guangxi	Guilin	30	50	500	1
Guizhou	Liupanshui, Zunyi, Bijie, Qiannan, Qianxinan	30	50	500	1
Hubei	Wuhan, Huangshi, Ezhou	30	50	500	1

Province	City	Emission limits			QRPES
		PM	SO ₂	NO _x	
Hunan	Loudi, Chenzhou, Xiangtan, Shaoyang	30	50	500	1
Jilin	Tonghua, Jilin	30	50	500	1
Jiangsu	Xuzhou, Yancheng, Nanjing, Huai'an	15	30	150	0.47
	Zhenjiang	30	50	500	1
Jiangxi	Jingdezhen, Pingxiang, Xinyu, Yichun	30	50	500	1
	Fuzhou	50	100	200	1.36
Ningxia	Shizuishan, Yinchuan, Wuzhong	15	30	150	0.47
	Zhongwei	30	50	500	1
Qinghai	Xining, Haixi	30	50	500	1
Shanghai		20	100	200	1.02
Sichuan	Leshan	15	30	150	0.47
	Panzhihua, Guangyuan, Neijiang, Dazhou, Liangshan	30	50	500	1
Tianjin		15	30	150	0.47
Xinjiang	Yili, Tulufan, Tacheng, Jichang, Akesu	30	50	500	1
Yunnan	Kunming, Qujing, Honghe, Yuxi, Chuxiong	30	50	500	1
Zhejiang	Ningbo, Huzhou	15	30	150	0.47
Chongqing		15	30	150	0.47