Supplementary Materials:

Table S1. The 14th Five-Year Plan (FFP) scenarios designed.

Region	Target concentration of $PM_{2.5}$ （μg/m³）	Target concentration of O_3（μg/m³）
Beijing	35	172
Tianjin	38	157
Hebei	37	159
Shanxi	39	163
Inner Mongol	National evaluation benchmarks	122
Liaoning	34	122
Jilin	29.5	123
Heilongjian	27	100
Shanghai	35	139
Jiangsu	33	162
Zhejiang	National evaluation benchmarks	137
Anhui	35	141
Fujian	National evaluation benchmarks	121
Jiangxi	29	126
Shandong	38	165
Henan	42.5	160
Hubei	36	143
Hunan	National evaluation benchmarks	133
Guangdong	22	148
Guangxi	26.5	122
Hainan	11	99
Chongqing	National evaluation benchmarks	145
Sichuan	29.5	117
Guizhou	22	112
Yunnan	20.5	100
Tibet	10.5	110
Shaanxi	37	143
Gansu	25	124
Qinghai	21	129

Ningxia	30.5	129
Xinjiang	33	122

Table S2. Parameter projections for 2025.

Province	Population (ten thousand)	Baseline mortality rate			GDP per capita（yuan）	Winter wheat production (Ten thousand
		All cause	RD	CVD		
Beijing	2300	712.16	29.11	335.43	212817	—
Tianjin	1500	712.16	29.11	335.43	132097	52.3
Hebei	7489	712.16	29.11	335.43	68087	1490.6
Shanxi	3422	724.23	30.94	374.78	89804	228.7
Inner	2364	695.61	62.93	353.31	105485	—
Liaoning	4121	712.16	29.11	335.43	84508	—
Jilin	2566	724.23	30.94	374.78	66359	—
Heilongjiang	2796	724.23	30.94	374.78	65932	—
Shanghai	2509	712.16	29.11	335.43	209344	—
Jiangsu	8689	712.16	29.11	335.43	165899	1460.3
Zhejiang	6712	712.16	29.11	335.43	135694	34.4
Anhui	6209	724.23	30.94	374.78	87446	1701.1
Fujian	4413	712.16	29.11	335.43	144318	—
Jiangxi	4563	724.23	30.94	374.78	78903	—
Shandong	10414	712.16	29.11	335.43	98849	2623.7
Henan	9955	724.23	30.94	374.78	74677	3873.6
Hubei	5877	724.23	30.94	374.78	109486	292.2
Hunan	6613	724.23	30.94	374.78	87942	—
Guangdong	13200	712.16	29.11	335.43	114524	—
Guangxi	5073	695.61	62.93	353.31	60958	—
Hainan	1203	712.16	29.11	335.43	83126	—
Chongqing	3417	695.61	62.93	353.31	102000	—
Sichuan	8386	695.61	62.93	353.31	81075	218.1
Guizhou	3866	695.61	62.93	353.31	70000	22.6
Yunnan	4704	695.61	62.93	353.31	74400	72.8
Tibet	389	695.61	62.93	353.31	72746	—
Shaanxi	3994	695.61	62.93	353.31	94208	414
Gansu	2475	695.61	62.93	353.31	53247	173.7
Qinghai	603	695.61	62.93	353.31	68801	—
Ningxia	763	695.61	62.93	353.31	74843	—
Xinjiang	2787	695.61	62.93	353.31	69715	414.3