

Table S1. Agricultural energy consumptions and carbon emissions under different scenarios.

	Baseline		Scenario I		Scenario II		Scenario III		Scenario IV	
	En. Con	Car.Emi	En. Con	Car.Emi	En. Con	Car.Emi	En. Con	Car.Emi	En. Con	Car.Emi
East	1527.21	3579.64	1559.86	3648.41	1592.21	3716.61	1494.56	3510.87	1463.13	3444.61
			2.14%	1.92%	4.26%	3.83%	-2.14%	-1.92%	-4.20%	-3.77%
Anhui	376.82	797.40	385.37	815.06	393.92	832.72	368.26	779.74	359.71	762.07
			2.27%	2.21%	4.54%	4.43%	-2.27%	-2.21%	-4.54%	-4.43%
Fujian	36.81	76.37	37.75	78.35	38.70	80.33	35.87	74.39	35.00	72.53
			2.56%	2.59%	5.12%	5.18%	-2.56%	-2.59%	-4.93%	-5.02%
Jiangsu	313.16	654.78	319.48	667.46	325.80	680.13	306.84	642.11	300.52	629.43
			2.02%	1.94%	4.04%	3.87%	-2.02%	-1.94%	-4.04%	-3.87%
Jiangxi	195.68	396.90	200.56	407.03	205.44	417.16	190.80	386.77	185.92	376.64
			2.49%	2.55%	4.99%	5.10%	-2.49%	-2.55%	-4.99%	-5.10%
Shandong	506.81	1448.46	516.45	1470.03	526.10	1491.59	497.16	1426.89	487.51	1405.32
			1.90%	1.49%	3.81%	2.98%	-1.90%	-1.49%	-3.81%	-2.98%
Shanghai	11.78	28.53	12.00	28.99	12.22	29.44	11.56	28.07	11.34	27.62
			1.87%	1.60%	3.74%	3.20%	-1.87%	-1.60%	-3.74%	-3.20%
Zhejiang	86.16	177.20	88.25	181.50	90.02	185.23	84.07	172.90	83.14	170.98
			2.42%	2.43%	4.49%	4.53%	-2.42%	-2.43%	-3.51%	-3.51%
North	874.76	2594.70	890.54	2630.12	906.32	2665.55	858.98	2559.27	843.20	2523.84
			1.80%	1.37%	3.61%	2.73%	-1.80%	-1.37%	-3.61%	-2.73%
Beijing	8.37	25.60	8.52	25.95	8.67	26.29	8.21	25.26	8.06	24.91
			1.81%	1.34%	3.62%	2.69%	-1.81%	-1.34%	-3.62%	-2.69%
Hebei	391.24	1233.80	397.90	1249.08	404.56	1264.36	384.58	1218.52	377.93	1203.24
			1.70%	1.24%	3.40%	2.48%	-1.70%	-1.24%	-3.40%	-2.48%
Inner-Mongolia	294.66	753.73	300.63	766.54	306.59	779.35	288.70	740.92	282.74	728.11
			2.02%	1.70%	4.05%	3.40%	-2.02%	-1.70%	-4.05%	-3.40%
Shanxi	162.97	527.01	165.67	533.30	168.37	539.59	160.27	520.71	157.57	514.42
			1.66%	1.19%	3.31%	2.39%	-1.66%	-1.19%	-3.31%	-2.39%
Tianjin	17.51	54.56	17.82	55.26	18.13	55.96	17.21	53.86	16.90	53.16
			1.75%	1.28%	3.50%	2.56%	-1.75%	-1.28%	-3.50%	-2.56%
South	462.65	861.94	462.91	864.42	462.88	866.35	461.98	858.57	460.35	852.72
-west			0.06%	0.29%	0.05%	0.51%	-0.14%	-0.39%	-0.50%	-1.07%
Chong-qing	62.22	119.57	63.71	122.60	65.19	125.63	60.74	116.54	59.26	113.51
			2.38%	2.53%	4.77%	5.07%	-2.38%	-2.53%	-4.77%	-5.07%
Guizhou	79.14	143.55	80.83	146.85	82.51	150.14	78.86	142.58	85.35	152.79
			2.13%	2.29%	4.26%	4.59%	-0.36%	-0.67%	7.84%	6.43%
Sichuang	185.11	346.25	189.11	354.23	193.11	362.21	181.10	338.27	177.10	330.29
			2.16%	2.30%	4.32%	4.61%	-2.16%	-2.30%	-4.32%	-4.61%
Tibet	1.70	3.13	1.74	3.21	1.78	3.29	1.66	3.05	1.62	2.97
			2.37%	2.57%	4.73%	5.15%	-2.37%	-2.57%	-4.73%	-5.15%
Yunnan	134.48	249.44	127.53	237.54	120.29	225.08	139.62	258.14	137.02	253.17
			-5.17%	-4.77%	-10.55%	-9.76%	3.82%	3.49%	1.89%	1.49%
Nouth	524.56	1559.23	524.65	1549.86	524.48	1539.93	524.28	1568.18	518.89	1560.23
-west			0.02%	-0.60%	-0.01%	-1.24%	-0.05%	0.57%	-1.08%	0.06%
Gansu	114.29	265.08	116.61	270.00	118.93	274.90	111.96	260.15	109.63	255.23
			2.04%	1.86%	4.06%	3.70%	-2.04%	-1.86%	-4.07%	-3.71%
Ningxia	29.16	53.08	29.82	54.39	30.48	55.69	28.50	51.77	27.84	50.46
			2.26%	2.47%	4.52%	4.93%	-2.26%	-2.47%	-4.52%	-4.93%
Qinghai	8.36	16.07	8.57	16.49	8.77	16.91	8.16	15.65	7.95	15.23
			2.44%	2.61%	4.89%	5.22%	-2.44%	-2.61%	-4.89%	-5.22%
Shaanxi	182.87	591.77	185.70	598.24	188.52	604.72	180.04	585.29	177.21	578.82
			1.55%	1.09%	3.09%	2.19%	-1.55%	-1.09%	-3.09%	-2.19%
Xinjiang	189.89	633.24	183.95	610.74	177.78	587.72	195.62	655.32	196.26	660.48
			-3.13%	-3.55%	-6.38%	-7.19%	3.02%	3.49%	3.36%	4.30%
South	258.93	511.84	265.36	525.08	271.79	538.32	252.49	498.59	246.06	485.35
			2.48%	2.59%	4.97%	5.17%	-2.48%	-2.59%	-4.97%	-5.17%
Guangdong	120.50	245.58	123.55	251.92	126.59	258.25	117.45	239.25	114.41	232.91
			2.53%	2.58%	5.06%	5.16%	-2.53%	-2.58%	-5.06%	-5.16%
Guangxi	120.36	231.02	123.24	236.87	126.11	242.72	117.48	225.17	114.60	219.32

			2.39%	2.53%	4.78%	5.06%	-2.39%	-2.53%	-4.78%	-5.06%
Hainan	18.07	35.24	18.58	36.29	19.09	37.35	17.56	34.18	17.05	33.12
			2.82%	3.00%	5.64%	6.01%	-2.82%	-3.00%	-5.64%	-6.01%
Central	1039.02	2261.27	1063.40	2312.34	1087.78	2363.41	1014.63	2210.20	992.68	2163.77
			2.35%	2.26%	4.69%	4.52%	-2.35%	-2.26%	-4.46%	-4.31%
Henan	525.54	1194.45	537.20	1219.04	548.86	1243.63	513.88	1169.87	502.23	1145.28
			2.22%	2.06%	4.44%	4.12%	-2.22%	-2.06%	-4.44%	-4.12%
Hubei	257.40	552.30	263.39	564.79	269.39	577.28	251.41	539.82	245.42	527.33
			2.33%	2.26%	4.66%	4.52%	-2.33%	-2.26%	-4.66%	-4.52%
Hunan	256.08	514.51	262.81	528.51	269.54	542.50	249.34	500.52	245.04	491.16
			2.63%	2.72%	5.26%	5.44%	-2.63%	-2.72%	-4.31%	-4.54%
North-east	948.16	2342.66	958.26	2357.46	967.89	2371.24	937.60	2326.88	924.36	2304.67
			1.07%	0.63%	2.08%	1.22%	-1.11%	-0.67%	-2.51%	-1.62%
Heilong-jiang	561.22	1476.17	562.48	1472.29	563.26	1467.34	559.51	1479.10	555.14	1475.63
			0.23%	-0.26%	0.36%	-0.60%	-0.30%	0.20%	-1.08%	-0.04%
Jilin	233.56	518.85	239.43	531.35	245.29	543.85	227.70	506.35	221.83	493.85
			2.51%	2.41%	5.02%	4.82%	-2.51%	-2.41%	-5.02%	-4.82%
Liangning	153.37	347.64	156.34	353.82	159.33	360.05	150.39	341.43	147.39	335.19
			1.94%	1.78%	3.88%	3.57%	-1.95%	-1.79%	-3.90%	-3.58%
China	5635.28	13711.28	5724.97	13887.69	5813.35	14061.41	5544.52	13532.58	5448.68	13335.18
			1.59%	1.29%	3.16%	2.55%	-1.61%	-1.30%	-3.31%	-2.74%