

Table S1: The spatial metrics values of the 20 cities from 2000 to 2010

		Class Area (km ²)	NP	LPI (%)	SHAPE_A M	ENN_AM (m)
Changchun	2000	405.32	2,022	3.87	12.01	190.58
	2003	473.32	2,006	1.93	10.83	199.50
	2006	600.77	2,255	2.59	12.81	179.96
	2010	734.96	2,161	3.72	17.52	156.86
Changsha	2000	144.70	202	15.78	15.04	92.02
	2003	157.23	179	18.67	17.63	85.37
	2006	234.55	130	20.04	23.81	75.21
	2010	314.36	103	28.50	25.95	63.76
Fuzhou	2000	123.06	145	7.86	16.10	106.64
	2003	156.30	138	7.15	16.62	96.75
	2006	180.63	123	6.18	23.98	86.87
	2010	210.92	113	7.36	20.97	81.88
Harbin	2000	292.88	1,038	1.73	10.26	294.80
	2003	532.81	1,613	3.05	12.11	280.02
	2006	697.50	1,701	4.24	14.72	248.45
	2010	806.03	1,805	5.97	19.82	223.63
Hangzhou	2000	253.81	726	3.20	11.01	177.28
	2003	334.67	815	3.99	13.38	151.24
	2006	423.77	972	4.49	13.90	124.14
	2010	699.98	1,187	9.30	23.98	93.75
Hefei	2000	101.93	82	9.98	20.06	97.49
	2003	158.99	77	17.86	28.37	77.65
	2006	238.53	118	26.80	28.03	73.27
	2010	282.70	127	32.25	29.06	73.75
Huhhot	2000	98.04	150	3.61	11.72	169.35
	2003	177.26	193	5.68	13.50	141.51
	2006	234.37	269	6.76	13.66	113.24
	2010	315.24	296	11.04	18.27	99.46
Jinan	2000	418.39	1,276	6.60	15.22	159.15
	2003	482.54	1,298	8.21	16.56	135.36
	2006	587.81	1,315	10.03	20.12	122.33
	2010	742.38	1,191	14.45	23.72	106.65
Kunming	2000	187.73	450	2.75	14.11	141.14
	2003	252.82	419	3.82	15.62	129.45
	2006	314.39	434	5.33	19.46	123.83
	2010	372.60	434	6.30	20.20	109.76
Lanzhou	2000	100.86	138	3.06	10.46	129.92
	2003	132.99	151	2.44	11.34	111.78
	2006	161.89	176	1.33	11.99	103.41
	2010	181.90	191	1.54	11.75	99.06
Nanjing	2000	341.75	797	3.68	19.11	173.26
	2003	439.81	1,021	4.34	17.31	160.67
	2006	732.24	1,293	8.16	25.86	118.19

	2010	1,036.80	1,530	11.81	29.50	94.56
Nanning	2000	194.01	514	2.06	18.86	224.33
	2003	213.35	598	2.25	18.99	214.85
	2006	291.93	725	3.13	21.67	209.51
	2010	451.86	832	4.09	24.77	138.16
Shenyang	2000	423.29	777	7.58	17.51	134.85
	2003	569.56	848	8.02	22.40	120.45
	2006	683.01	912	9.37	28.26	106.60
	2010	945.73	1,044	13.37	34.99	94.82
Shijiazhuang	2000	192.60	118	32.67	10.82	82.74
	2003	218.40	82	39.35	12.62	83.61
	2006	246.20	89	43.91	12.18	78.30
	2010	268.19	53	50.18	12.94	66.95
Taiyuan	2000	244.15	322	12.48	13.33	127.86
	2003	297.68	342	11.49	15.69	113.60
	2006	337.20	381	10.48	17.87	97.85
	2010	423.00	323	14.69	24.55	83.16
Wuhan	2000	428.93	1,559	3.14	21.78	141.56
	2003	661.47	2,278	4.14	15.12	128.07
	2006	685.13	2,324	5.10	30.01	111.30
	2010	898.00	2,681	6.87	33.82	100.95
Xi'an	2000	338.24	897	5.88	15.79	161.31
	2003	486.68	954	5.70	20.40	136.28
	2006	666.92	1,054	5.67	27.44	106.14
	2010	945.83	1,192	8.73	33.75	93.70
Xining	2000	48.51	38	10.48	9.53	82.41
	2003	54.43	37	9.49	12.27	75.17
	2006	83.35	38	8.87	13.69	70.11
	2010	99.56	45	11.55	15.86	71.43
Yinchuan	2000	63.68	178	2.32	13.30	201.80
	2003	80.85	179	3.13	12.92	179.12
	2006	139.33	303	5.54	23.00	134.58
	2010	198.30	324	8.03	25.14	109.99
Zhengzhou	2000	229.36	379	14.72	11.45	118.50
	2003	265.14	374	18.84	15.67	109.90
	2006	374.97	313	29.89	25.67	81.54
	2010	428.34	317	35.47	30.25	76.43

Table S2: The energy consumption for 20 provinces from 2000 to 2010 (Unit: 10⁴ tons of SCE)

Province	Capital	2000	2003	2006	2010
Jilin	Changchun	3,766	5,174	5,908	8,297
Hunan	Changsha	4,071	6,298	10,581	14,880
Fujian	Fuzhou	3,463	4,808	6,828	9,809
Zhejiang	Hangzhou	6,560	9,523	13,219	16,865
Heilongjiang	Harbin	6,166	6,714	8,731	11,234
Anhui	Hefei	4,879	5,457	7,069	9,707
Inner Mongolia	Huhhot	3,549	5,778	11,221	16,820
Shandong	Jinan	11,362	16,625	26,759	34,808
Yunnan	Kunming	3,468	4,450	6,621	8,674
Gansu	Lanzhou	3,012	3,525	4,743	5,923
Jiangsu	Nanjing	8,612	11,060	19,041	25,774
Guangxi	Nanning	2,669	3,523	5,390	7,919
Liaoning	Shenyang	10,656	11,253	14,987	20,947
Hebei	Shijiazhuang	11,196	15,298	21,794	27,531
Shanxi	Taiyuan	6,728	10,386	14,098	16,808
Hubei	Wuhan	6,269	7,708	11,049	15,138
Shaanxi	Xi'an	2,731	4,170	6,129	8,882
Qinghai	Xining	897	1,123	1,903	2,568
Ningxia	Yinchuan	1,179	2,015	2,830	3,681
Henan	Zhengzhou	7,919	10,595	16,232	21,438

Table S3: The cumulative DN values of NTL data for each province from 2000 to 2010

Province	Capital	2000	2003	2006	2010
Jilin	Changchun	531,601	589,126	662,161	920,047
Hunan	Changsha	326,124	421,493	484,246	673,332
Fujian	Fuzhou	511,248	579,704	675,618	917,842
Zhejiang	Hangzhou	942,040	1,272,820	1,439,352	1,768,417
Heilongjiang	Harbin	1,006,283	1,155,829	1,364,963	2,056,301
Anhui	Hefei	519,055	625,493	737,830	1,178,124
Inner Mongolia	Huhhot	509,325	638,094	854,774	1,445,831
Shandong	Jinan	2,132,579	2,430,751	2,869,067	3,345,342
Yunnan	Kunming	433,109	534,781	637,301	958,475
Gansu	Lanzhou	252,683	310,965	369,268	598,438
Jiangsu	Nanjing	1,565,024	1,936,266	2,220,393	2,862,223
Guangxi	Nanning	374,563	466,150	545,589	814,239
Liaoning	Shenyang	1,033,395	1,118,787	1,234,905	1,602,086
Hebei	Shijiazhuang	1,819,637	1,959,828	2,168,371	2,638,056
Shanxi	Taiyuan	1,161,395	1,257,660	1,408,676	1,752,315
Hubei	Wuhan	480,587	539,723	593,225	847,928
Shaanxi	Xi'an	584,001	692,706	881,152	1,323,341
Qinghai	Xining	64,083	87,618	107,468	163,974
Ningxia	Yinchuan	136,720	168,977	210,287	319,416
Henan	Zhengzhou	1,337,302	1,516,963	1,784,616	2,191,819

Table S4: The cumulative DN values of NTL data for each city from 2000 to 2010

	2000	2003	2006	2010
Changchun	98,704	106,735	116,874	157,593
Changsha	25,697	32,676	36,098	38,861
Fuzhou	31,166	34,044	35,086	37,325
Harbin	141,552	155,846	167,170	207,785
Hangzhou	114,596	146,957	163,232	185,250
Hefei	33,165	38,745	42,597	53,620
Huhhot	43,355	47,002	52,829	64,801
Jinan	83,108	94,321	110,776	124,195
Kunming	61,416	66,182	73,624	102,285
Lanzhou	43,831	47,016	48,512	54,858
Nanjing	138,763	163,764	177,558	210,065
Nanning	44,285	55,697	62,980	81,957
Shenyang	129,871	136,774	149,815	178,963
Shijiazhuang	33,915	35,395	37,004	38,988
Taiyuan	63,230	65,917	68,662	78,094
Wuhan	130,944	149,499	165,078	207,397
Xi'an	91,389	101,294	117,534	140,542
Xining	16,800	18,965	20,589	24,139
Yinchuan	31,223	38,293	43,374	53,021
Zhengzhou	51,061	62,793	72,670	78,170

Table S5: The estimated urban energy consumption from 2000 to 2010 (Unit: 10⁴ tons of SCE)

	2000	2003	2006	2010
Changchun	699.24	937.40	1,042.79	1,421.18
Changsha	320.78	488.25	788.76	858.79
Fuzhou	211.11	282.36	354.59	398.89
Harbin	867.36	905.28	1,069.30	1,135.17
Hangzhou	798.00	1,099.50	1,499.12	1,766.69
Hefei	311.74	338.02	408.11	441.80
Huhhot	302.10	425.61	693.51	753.86
Jinan	442.78	645.10	1,033.18	1,292.24
Kunming	491.77	550.71	764.89	925.66
Lanzhou	522.47	532.96	623.10	542.95
Nanjing	763.58	935.42	1,522.65	1,891.61
Nanning	315.56	420.94	622.19	797.08
Shenyang	1,339.18	1,375.70	1,818.18	2,339.91
Shijiazhuang	208.67	276.29	371.92	406.88
Taiyuan	366.29	544.36	687.17	749.07
Wuhan	1,708.09	2,135.06	3,074.63	3,702.64
Xi'an	427.37	609.78	817.53	943.29
Xining	235.16	243.07	364.58	378.04
Yinchuan	269.25	456.63	583.72	611.02
Zhengzhou	302.36	438.57	660.97	764.57