

Supplementary Materials

Table S1. Input and output production amount of tower 2 in period of 2017.04–2017.06 (JINJU INDUSTRY’s data).

2017.04			2017.05			2017.06		
Day	Input Fuel (Ton)	Output Steam (Ton/hr)	Day	Input Fuel (Ton)	Output Steam (Ton/hr)	Day	Input Fuel (Ton)	Output Steam (Ton/hr)
1	103.38	376	1	135.50	416	1	139.96	601
2	101.82	352	2	120.99	397	2	142.12	571
3	109.38	368	3	124.49	413	3	127.51	540
4	92.26	322	4	123.69	478	4	133.74	560
5	92.75	366	5	123.54	463	5	121.97	531
6	114.95	509	6	120.91	510	6	135.99	507
7	124.10	504	7	122.18	501	7	142.41	569
8	132.66	506	8	132.50	483	8	127.49	528
9	126.63	469	9	129.32	444	9	110.89	484
10	124.84	473	10	125.18	417	10	134.67	482
11	116.92	493	11	121.00	424	11	159.39	470
12	146.36	487	12	80.45	245	12	119.69	506
13	143.14	512	13	112.54	416	13	138.88	505
14	137.26	528	14	118.27	455	14	115.68	504
15	91.39	360	15	120.83	430	15	108.01	460
16	17.68	17	16	123.23	434	16	127.60	454
17	77.14	465	17	122.07	442	17	139.93	439
18	113.54	497	18	124.04	448	18	122.42	365
19	98.82	350	19	129.19	434	19	99.93	432
20	154.65	473	20	120.64	399	20	77.93	381
21	52.18	307	21	112.70	359	21	18.61	74
22	112.66	379	22	114.57	344	22	69.65	402
23	125.45	379	23	121.55	351	23	77.54	476
24	122.47	412	24	101.37	281	24	74.35	479
25	131.86	417	25	43.10	173	25	83.13	484
26	128.86	474	26	0.00	0	26	77.09	440
27	134.85	520	27	0.00	0	27	82.32	320
28	122.58	487	28	0.00	0	28	81.56	426
29	121.20	488	29	0.00	0	29	75.55	417
30	120.61	428	30	60.76	274	30	76.32	518
31	-	-	31	119.05	502	31	-	-
Total	3,392	12,718	Total	3,104	10,94	Total	3,242	13,926
Average	113	424	Average	100	353	Average	108	464
η		3.75	η		3.52	η		4.29

Table S2. Input and output production amount of tower 2 in period of 2018.04–2018.06 (JINJU INDUSTRY’s data).

2018.04			2018.05			2018.06		
Day	Input Fuel (Ton)	Output Steam (Ton/hr)	Day	Input Fuel (Ton)	Output Steam (Ton/hr)	Day	Input Fuel (Ton)	Output Steam (Ton/hr)
1	0.00	0	1	75.18	483	1	74.83	443
2	0.00	0	2	73.83	483	2	73.96	422
3	0.00	0	3	73.40	478	3	74.88	420
4	0.00	0	4	74.12	470	4	74.66	447
5	0.00	0	5	73.23	461	5	74.28	440
6	0.00	0	6	71.47	446	6	73.22	443
7	5.38	25	7	74.06	447	7	75.65	452
8	52.33	486	8	74.92	457	8	73.80	436
9	71.70	477	9	73.92	455	9	74.94	433
10	72.84	486	10	73.03	450	10	76.28	433
11	72.43	478	11	73.64	457	11	74.31	439
12	74.22	488	12	74.07	460	12	75.07	446
13	70.75	516	13	74.22	435	13	75.78	451
14	70.68	488	14	72.52	453	14	58.66	327
15	72.56	483	15	72.35	461	15	75.58	473
16	75.28	499	16	71.42	460	16	74.23	459
17	74.00	475	17	74.32	453	17	73.81	443
18	72.99	474	18	72.78	458	18	72.52	452
19	71.85	476	19	75.58	468	19	72.45	447
20	64.92	414	20	69.14	422	20	73.66	456
21	66.27	402	21	61.63	435	21	72.87	446
22	75.02	479	22	75.58	444	22	75.05	438
23	74.35	490	23	76.62	441	23	74.03	441
24	72.95	477	24	74.05	451	24	74.25	415
25	75.66	488	25	73.78	440	25	–	–
26	75.17	487	26	75.48	436	26	–	–
27	72.58	477	27	71.49	419	27	–	–
28	73.54	488	28	74.18	440	28	–	–
29	74.46	473	29	75.56	438	29	–	–
30	71.82	458	30	73.32	449	30	–	–
31	–	–	31	73.17	451	31	–	–
Total	1,654	10,984	Total	2,272	14,001	Total	1,769	10,502
Average	55	366	Average	73	452	Average	74	438
η		6.64	η		6.16	η		5.94