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June 15, 2009

Ms. Mary Jo Kunkle
Executive Secretary
Michigan Public Service Commission
6545 Mercantile Way
P.O. Box 30221
Lansing, MI 48909

Re: Case No. U-15996: Electric Generation Alternatives Analysis for Proposed Permit to Install No. 341-07 for an Advanced Supercritical Pulverized Coal Boiler at the Karn-Weadock Generating Station

Dear Ms. Kunkle:

Enclosed for filing in this proceeding is supporting data used in the Electric Generation Alternatives Analysis previously submitted in this case. This information is being provided in response to the request of the Commission Staff.

If there are any questions, please call either myself or Kristin VanReesema at (517) 788-2925.

Sincerely,

Digitally signed by Jon R. Robinson
Date: 2009.06.15 10:17:08 -04'00'

Jon R. Robinson

cc: William E. Garrity
Richard J. Polena
David F. Ronk, Jr.
Kristin M. VanReesema
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BEI Electric Generation Alternatives Analysis
Figure 1 - Resource Additions 2008-2018

Line	(a)	(b) Renewables (Nameplate) MW	(c) Energy Efficiency and Demand Management MW	(d) Clean Coal MW	(e) Gas Combined Cycle MW	(f) Total MW
1	2008	0	0	0	535	535
2	2009	1	18	0	535	554
3	2010	5	45	0	535	585
4	2011	7	133	0	535	675
5	2012	9	277	0	535	821
6	2013	112	419	0	535	1,066
7	2014	212	559	0	535	1,306
8	2015	362	675	0	535	1,572
9	2016	512	779	0	535	1,826
10	2017	712	839	519	535	2,605
11	2018	912	898	519	535	2,863
12	2019	912	954	519	535	2,920
13	2020	912	1,000	519	535	2,966
14	2021	912	1,031	519	535	2,997
15	2022	912	1,062	519	535	3,028
16	2023	912	1,093	519	535	3,059
17	2024	912	1,124	519	535	3,090
18	2025	912	1,156	428	535	3,031
19	2026	912	1,187	428	535	3,062
20	2027	912	1,218	428	535	3,093
21	2028	912	1,249	428	535	3,124
22	2029	912	1,278	428	535	3,153
23	2030	912	1,308	428	535	3,183
24						
25	Resource Additions 2008-2018:					
26	MW	912	898	519	535	2,863
27	%	32%	31%	18%	19%	100%

BEI Electric Generation Alternatives Analysis
Figure 2 - Peak Load and Capacity

Line	(a)	(b) Existing Generation and Long Term Purchases MW	(c) Existing Renewables MW	(d) Zeeland Gas Plant MW	(e) Short Term Purchases MW	(f) New Clean Coal Plant MW	(g) Capacity Shortfall (With Retirements) MW	(h) Net Requirements MW	(i) Reserve Reduction MW	(j) Interruptibles MW	(k) New Renewables (Net) MW	(l) AMI - Demand Response MW	(m) AMI - Load Management MW	(n) Energy Efficiency MW	(o) Total Requirements (Including Reserves) MW	(p) Surplus Capacity MW
1	2008	7,791	289	868	511	0	0	9,459	21	162	0	0	0	0	9,642	93
2	2009	7,611	298	868	318	0	0	9,095	34	250	1	0	0	18	9,398	286
3	2010	7,628	298	868	382	0	0	9,176	37	250	5	0	0	45	9,513	222
4	2011	7,837	298	868	0	0	259	9,262	49	250	7	0	46	87	9,700	0
5	2012	7,834	298	868	0	0	180	9,179	67	250	9	44	89	144	9,783	0
6	2013	7,834	298	868	0	0	40	9,040	85	250	25	87	130	202	9,819	0
7	2014	7,855	298	868	0	0	0	8,940	103	250	37	130	170	259	9,889	82
8	2015	7,061	298	868	0	0	689	8,916	117	250	56	172	207	296	10,014	0
9	2016	7,084	298	868	0	0	592	8,842	131	250	75	214	242	323	10,076	0
10	2017	7,104	298	868	0	519	0	8,771	138	250	100	213	276	350	10,099	17
11	2018	6,801	298	868	0	519	219	8,705	146	250	125	212	308	378	10,123	0
12	2019	6,827	298	868	0	519	150	8,662	153	250	125	211	338	405	10,143	0
13	2020	6,827	298	868	0	519	115	8,627	159	250	125	211	357	432	10,160	0
14	2021	6,827	298	868	0	519	98	8,609	163	250	125	212	360	459	10,177	0
15	2022	6,049	298	868	0	519	855	8,589	167	250	125	213	363	486	10,192	0
16	2023	6,049	298	868	0	519	838	8,571	170	250	125	214	366	513	10,209	0
17	2024	6,049	298	868	0	519	822	8,555	174	250	125	215	369	540	10,229	0
18	2025	6,049	298	868	0	428	897	8,540	178	250	125	217	372	567	10,249	0
19	2026	6,049	298	868	0	428	885	8,528	182	250	125	218	375	594	10,272	0
20	2027	6,049	298	868	0	428	874	8,517	186	250	125	219	378	621	10,296	0
21	2028	6,049	298	868	0	428	864	8,507	190	250	125	220	381	648	10,320	0
22	2029	6,049	298	868	0	428	855	8,498	194	250	125	220	384	674	10,345	0
23	2030	6,049	298	868	0	428	853	8,495	198	250	125	220	387	701	10,376	0

BEI Electric Generation Alternatives Analysis
Figure 3 - Baseload Coal Plants

Campbell Plant					
Unit	In Service Date	Age (Years)	Capacity (MW)	Heat Rate (Btu/kWh)	% Western Coal
1	1962	46	260	10,054	100%
2	1967	41	355	10,010	40%
3	1980	28	830	9,923	100%
Total or Average		38	1,446	9,964	88%

Cobb Plant					
Unit	In Service Date	Age (Years)	Capacity (MW)	Heat Rate (Btu/kWh)	% Western Coal
4	1956	52	159	10,255	82%
5	1957	51	159	10,522	82%
Total or Average		51	317	10,386	82%

Karn/Weadock Plant					
Unit	In Service Date	Age (Years)	Capacity (MW)	Heat Rate (Btu/kWh)	% Western Coal
K - 1	1959	49	255	10,114	71%
K - 2	1961	47	260	10,190	71%
W - 7	1955	53	155	10,010	80%
W - 8	1958	50	155	9,981	80%
Total or Average		50	825	10,085	75%
New	2017		519*	9,134	100%

Whiting Plant					
Unit	In Service Date	Age (Years)	Capacity (MW)	Heat Rate (Btu/kWh)	% Western Coal
1	1952	56	102	10,783	85%
2	1952	56	102	10,783	85%
3	1953	55	124	10,705	85%
Total or Average		56	328	10,753	85%

BEI Electric Generation Alternatives Analysis
Figure 4 - Energy Requirements

Line	(a)	(b) Existing Generation and Long Term Purchases GWh	(c) Existing Renewables GWh	(d) Zeeland Gas Plant GWh	(e) Market Purchases GWh	(f) New Clean Coal Plant GWh	(g) Other New Capacity or Purchases GWh	(h) Net Requirements GWh	(i) Interruptibles GWh	(j) New Renewables GWh	(k) AMI - Demand Response GWh	(l) AMI - Load Management GWh	(m) Energy Efficiency GWh	(n) Total Requirements GWh
1	2009	27,959	2,016	1,673	5,771	0	0	37,518	0	7	0.00	0.00	122	37,647
2	2010	28,708	2,008	1,590	5,569	0	0	37,984	0	35	0.00	0.00	316	38,335
3	2011	30,255	1,997	1,265	5,116	0	0	38,632	0	50	0.00	0.05	611	39,294
4	2012	27,405	2,275	1,443	7,873	0	0	38,995	0	70	0.04	0.09	1,012	40,077
5	2013	28,269	2,272	1,303	6,842	0	0	38,686	0	335	0.09	0.13	1,416	40,438
6	2014	27,434	2,272	1,017	7,808	0	0	38,531	0	581	0.13	0.17	1,820	40,932
7	2015	23,381	2,272	1,020	11,930	0	0	38,602	0	948	0.17	0.21	2,224	41,776
8	2016	23,078	2,275	1,066	12,053	0	0	38,472	0	1,316	0.21	0.24	2,429	42,218
9	2017	22,538	2,272	788	8,200	4,145	0	37,943	0	1,807	0.21	0.28	2,635	42,385
10	2018	20,499	2,272	871	9,621	4,144	0	37,407	0	2,298	0.21	0.31	2,840	42,545
11	2019	20,142	2,272	850	9,927	4,144	0	37,336	0	2,298	0.21	0.34	3,045	42,680
12	2020	21,008	2,275	862	8,935	4,156	0	37,236	0	2,298	0.21	0.36	3,250	42,784
13	2021	19,204	2,272	795	10,738	4,135	0	37,144	0	2,298	0.21	0.36	3,455	42,897
14	2022	16,082	2,272	775	9,633	4,124	4,144	37,024	0	2,298	0.21	0.36	3,658	42,981
15	2023	13,224	2,272	778	12,379	4,129	4,145	36,922	0	2,298	0.21	0.37	3,862	43,082
16	2024	13,284	2,275	810	12,191	4,121	4,153	36,835	0	2,298	0.22	0.37	4,065	43,197
17	2025	12,345	2,245	486	14,865	3,402	3,415	36,751	0	2,298	0.22	0.37	4,267	43,316
18	2026	12,295	2,236	467	14,878	3,400	3,415	36,684	0	2,298	0.22	0.38	4,469	43,451
19	2027	11,767	2,228	434	15,422	3,378	3,405	36,627	0	2,298	0.22	0.38	4,670	43,595
20	2028	11,136	2,223	352	16,075	3,375	3,409	36,572	0	2,298	0.22	0.38	4,872	43,742
21	2029	11,780	2,218	340	15,436	3,355	3,398	36,521	0	2,298	0.22	0.38	5,073	43,892
22	2030	10,904	2,178	299	16,519	3,269	3,340	36,503	0	2,298	0.22	0.39	5,273	44,074

BEI Electric Generation Alternatives Analysis
Figure 6 - 2008 Capacity Fuel Mix

Line	(a)	(b) Consumers Energy MW	(c) Consumers Energy %	(d) Midwest ISO MW	(e) Midwest ISO %
1	Coal	3,054	32%	65,126	52%
2	Gas	3,443	36%	32,313	26%
3	Nuclear	778	8%	9,826	8%
4	Oil	469	5%	7,103	6%
5	Purchases	604	6%	6,291	5%
6	Pumped Storage	955	10%	2,500	2%
7	Renewables (Firm)	298	3%	1,573	1%
8	Total	9,600	100%	124,732	100%

BEI Electric Generation Alternatives Analysis
Figure 7 - Historical Gas Prices

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)
		Natural Gas		Natural Gas		Natural Gas		Natural Gas		Natural Gas		Natural Gas		Natural Gas
Line	Date	$/MMBtu	Date	$/MMBtu	Date	$/MMBtu	Date	$/MMBtu	Date	$/MMBtu	Date	$/MMBtu	Date	$/MMBtu
1	9/4/00	4.382	11/13/00	4.822	1/29/01	5.576	4/10/01	5.632	6/21/01	3.938	8/31/01	3.009	11/15/01	2.906
2	9/5/00	4.491	11/14/00	5.001	1/30/01	5.532	4/11/01	5.479	6/22/01	3.952	9/4/01	2.955	11/16/01	2.965
3	9/6/00	4.599	11/15/00	5.131	1/31/01	5.312	4/12/01	5.496	6/25/01	3.743	9/5/01	3.002	11/19/01	3.082
4	9/7/00	4.593	11/16/00	4.814	2/1/01	5.603	4/16/01	5.610	6/26/01	3.717	9/6/01	3.021	11/20/01	3.113
5	9/8/00	4.534	11/17/00	4.936	2/2/01	5.710	4/17/01	5.379	6/27/01	3.625	9/7/01	3.055	11/21/01	3.040
6	9/11/00	4.650	11/20/00	4.989	2/5/01	5.373	4/18/01	5.293	6/28/01	3.632	9/10/01	2.963	11/26/01	2.967
7	9/12/00	4.627	11/21/00	5.080	2/6/01	5.451	4/19/01	5.260	6/29/01	3.492	9/14/01	3.440	11/27/01	2.951
8	9/13/00	4.646	11/22/00	5.161	2/7/01	5.771	4/20/01	5.315	7/2/01	3.512	9/17/01	3.104	11/28/01	2.825
9	9/14/00	4.787	11/27/00	5.182	2/8/01	5.699	4/23/01	5.317	7/3/01	3.628	9/18/01	2.965	11/29/01	2.827
10	9/15/00	4.778	11/28/00	5.065	2/9/01	5.764	4/24/01	5.261	7/5/01	3.620	9/19/01	2.795	11/30/01	2.918
11	9/18/00	4.851	11/29/00	5.008	2/12/01	5.683	4/25/01	5.151	7/6/01	3.696	9/20/01	2.828	12/3/01	2.864
12	9/19/00	4.928	11/30/00	5.240	2/13/01	5.778	4/26/01	5.099	7/9/01	3.619	9/21/01	2.836	12/4/01	2.838
13	9/20/00	4.909	12/1/00	5.361	2/14/01	5.572	4/27/01	5.033	7/10/01	3.701	9/24/01	2.694	12/5/01	2.761
14	9/21/00	4.911	12/4/00	5.744	2/15/01	5.579	4/30/01	4.905	7/11/01	3.705	9/25/01	2.694	12/6/01	2.807
15	9/22/00	4.846	12/5/00	5.591	2/16/01	5.548	5/1/01	4.849	7/12/01	3.767	9/26/01	2.778	12/7/01	2.839
16	9/25/00	4.955	12/6/00	5.907	2/20/01	5.353	5/2/01	4.736	7/13/01	3.631	9/27/01	2.768	12/10/01	2.937
17	9/26/00	5.009	12/7/00	5.755	2/21/01	5.244	5/3/01	4.757	7/16/01	3.473	9/28/01	2.773	12/11/01	2.959
18	9/27/00	4.983	12/8/00	5.842	2/22/01	5.257	5/4/01	4.741	7/17/01	3.555	10/1/01	2.766	12/12/01	2.917
19	9/28/00	4.684	12/11/00	6.194	2/23/01	5.300	5/7/01	4.509	7/18/01	3.462	10/2/01	2.793	12/13/01	2.937
20	9/29/00	4.720	12/12/00	5.722	2/26/01	5.252	5/8/01	4.532	7/19/01	3.327	10/3/01	2.797	12/14/01	2.990
21	10/2/00	4.781	12/13/00	5.566	2/27/01	5.354	5/9/01	4.439	7/20/01	3.376	10/4/01	2.860	12/17/01	2.883
22	10/3/00	4.839	12/14/00	5.614	2/28/01	5.357	5/10/01	4.467	7/23/01	3.399	10/5/01	2.736	12/18/01	2.857
23	10/4/00	4.801	12/15/00	5.918	3/1/01	5.313	5/11/01	4.495	7/24/01	3.383	10/8/01	2.800	12/19/01	2.804
24	10/5/00	4.712	12/18/00	5.914	3/2/01	5.379	5/14/01	4.593	7/25/01	3.614	10/9/01	2.843	12/20/01	2.850
25	10/6/00	4.607	12/19/00	6.073	3/5/01	5.449	5/15/01	4.822	7/26/01	3.501	10/10/01	2.870	12/21/01	2.962
26	10/9/00	4.708	12/20/00	6.125	3/6/01	5.440	5/16/01	4.540	7/27/01	3.531	10/11/01	2.904	12/26/01	3.016
27	10/10/00	4.703	12/21/00	6.280	3/7/01	5.474	5/17/01	4.508	7/30/01	3.688	10/12/01	2.827	12/27/01	2.783
28	10/11/00	4.976	12/22/00	6.168	3/8/01	5.425	5/18/01	4.558	7/31/01	3.644	10/15/01	2.780	12/28/01	2.948
29	10/12/00	5.102	12/26/00	6.308	3/9/01	5.231	5/21/01	4.405	8/1/01	3.456	10/16/01	2.944	12/31/01	2.805
30	10/13/00	5.047	12/27/00	6.361	3/12/01	5.281	5/22/01	4.376	8/2/01	3.533	10/17/01	2.850	1/2/02	2.704
31	10/16/00	4.923	12/28/00	5.942	3/13/01	5.194	5/23/01	4.366	8/3/01	3.379	10/18/01	2.935	1/3/02	2.562
32	10/17/00	4.971	12/29/00	6.129	3/14/01	5.116	5/24/01	4.316	8/6/01	3.431	10/19/01	3.078	1/4/02	2.566
33	10/18/00	4.844	1/2/01	5.768	3/15/01	5.078	5/25/01	4.236	8/7/01	3.391	10/22/01	3.158	1/7/02	2.568
34	10/19/00	4.589	1/3/01	5.716	3/16/01	5.166	5/29/01	4.056	8/8/01	3.448	10/23/01	3.046	1/8/02	2.585
35	10/20/00	4.576	1/4/01	5.981	3/19/01	5.184	5/30/01	4.125	8/9/01	3.394	10/24/01	3.166	1/9/02	2.538
36	10/23/00	4.672	1/5/01	6.184	3/20/01	5.409	5/31/01	4.067	8/10/01	3.460	10/25/01	3.173	1/10/02	2.532
37	10/24/00	4.478	1/8/01	6.442	3/21/01	5.236	6/1/01	4.088	8/13/01	3.443	10/26/01	3.230	1/11/02	2.524
38	10/25/00	4.346	1/9/01	6.610	3/22/01	5.346	6/4/01	4.231	8/14/01	3.522	10/29/01	3.349	1/14/02	2.522
39	10/26/00	4.313	1/10/01	6.561	3/23/01	5.413	6/5/01	4.086	8/15/01	3.803	10/30/01	3.283	1/15/02	2.551
40	10/27/00	4.230	1/11/01	6.447	3/26/01	5.443	6/6/01	4.012	8/16/01	3.735	10/31/01	3.366	1/16/02	2.618
41	10/30/00	4.080	1/12/01	6.482	3/27/01	5.696	6/7/01	4.010	8/17/01	3.693	11/1/01	3.383	1/17/02	2.545
42	10/31/00	4.103	1/16/01	6.339	3/28/01	5.519	6/8/01	4.150	8/20/01	3.564	11/2/01	3.353	1/18/02	2.534
43	11/1/00	4.287	1/17/01	5.765	3/29/01	5.342	6/11/01	4.394	8/21/01	3.556	11/5/01	3.108	1/22/02	2.472
44	11/2/00	4.364	1/18/01	5.912	3/30/01	5.150	6/12/01	4.518	8/22/01	3.348	11/6/01	3.079	1/23/02	2.455
45	11/3/00	4.498	1/19/01	5.939	4/2/01	5.151	6/13/01	4.338	8/23/01	3.284	11/7/01	3.091	1/24/02	2.467
46	11/6/00	4.451	1/22/01	5.971	4/3/01	5.172	6/14/01	4.234	8/24/01	3.206	11/8/01	3.150	1/25/02	2.463
47	11/7/00	4.646	1/23/01	5.719	4/4/01	5.241	6/15/01	4.172	8/27/01	3.052	11/9/01	3.171	1/28/02	2.378
48	11/8/00	4.812	1/24/01	5.793	4/5/01	5.493	6/18/01	4.106	8/28/01	2.958	11/12/01	3.011	1/29/02	2.429
49	11/9/00	4.826	1/25/01	5.945	4/6/01	5.475	6/19/01	4.141	8/29/01	2.974	11/13/01	3.075	1/30/02	2.512

50	11/10/00	4.744	1/26/01	5.964	4/9/01	5.562	6/20/01	3.949	8/30/01	3.014	11/14/01	2.995	1/31/02	2.531				

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)
		Natural Gas		Natural Gas		Natural Gas		Natural Gas		Natural Gas		Natural Gas		Natural Gas
Line	Date	$/MMBtu	Date	$/MMBtu	Date	$/MMBtu	Date	$/MMBtu	Date	$/MMBtu	Date	$/MMBtu	Date	$/MMBtu
1	2/1/02	2.520	4/16/02	3.576	6/26/02	3.750	9/9/02	3.864	11/18/02	4.062	1/31/03	5.014	4/14/03	5.543
2	2/4/02	2.505	4/17/02	3.708	6/27/02	3.663	9/10/02	3.866	11/19/02	4.037	2/3/03	5.089	4/15/03	5.663
3	2/5/02	2.486	4/18/02	3.713	6/28/02	3.678	9/11/02	3.809	11/20/02	4.031	2/4/03	5.129	4/16/03	5.678
4	2/6/02	2.493	4/19/02	3.737	7/1/02	3.658	9/12/02	3.852	11/21/02	4.082	2/5/03	5.132	4/17/03	5.707
5	2/7/02	2.536	4/22/02	3.788	7/2/02	3.620	9/13/02	3.936	11/22/02	4.070	2/6/03	5.219	4/21/03	5.732
6	2/8/02	2.577	4/23/02	3.801	7/3/02	3.635	9/16/02	3.941	11/25/02	4.067	2/7/03	5.335	4/22/03	5.717
7	2/11/02	2.635	4/24/02	3.637	7/8/02	3.490	9/17/02	4.004	11/26/02	4.005	2/10/03	5.274	4/23/03	5.675
8	2/12/02	2.680	4/25/02	3.562	7/9/02	3.536	9/18/02	4.056	11/27/02	3.998	2/11/03	5.359	4/24/03	5.591
9	2/13/02	2.674	4/26/02	3.597	7/10/02	3.459	9/19/02	4.046	12/2/02	4.078	2/12/03	5.289	4/25/03	5.574
10	2/14/02	2.612	4/29/02	3.785	7/11/02	3.428	9/20/02	3.948	12/3/02	4.034	2/13/03	5.343	4/28/03	5.312
11	2/15/02	2.619	4/30/02	3.978	7/12/02	3.411	9/23/02	4.082	12/4/02	4.082	2/14/03	5.458	4/29/03	5.288
12	2/19/02	2.747	5/1/02	3.941	7/15/02	3.407	9/24/02	3.929	12/5/02	4.168	2/18/03	5.516	4/30/03	5.412
13	2/20/02	2.745	5/2/02	3.897	7/16/02	3.449	9/25/02	3.851	12/6/02	4.184	2/19/03	5.623	5/1/03	5.341
14	2/21/02	2.783	5/3/02	3.968	7/17/02	3.406	9/26/02	3.928	12/9/02	4.162	2/20/03	5.636	5/2/03	5.345
15	2/22/02	2.802	5/6/02	3.848	7/18/02	3.470	9/27/02	4.035	12/10/02	4.322	2/21/03	5.833	5/5/03	5.628
16	2/25/02	2.700	5/7/02	3.932	7/19/02	3.454	9/30/02	4.075	12/11/02	4.371	2/24/03	6.536	5/6/03	5.559
17	2/26/02	2.735	5/8/02	4.017	7/22/02	3.462	10/1/02	3.996	12/12/02	4.519	2/25/03	6.008	5/7/03	5.620
18	2/27/02	2.826	5/9/02	3.993	7/23/02	3.403	10/2/02	4.040	12/13/02	4.581	2/26/03	6.109	5/8/03	5.757
19	2/28/02	2.796	5/10/02	4.025	7/24/02	3.451	10/3/02	3.853	12/16/02	4.587	2/27/03	5.733	5/9/03	5.780
20	3/1/02	2.802	5/13/02	4.045	7/25/02	3.379	10/4/02	3.859	12/17/02	4.519	2/28/03	5.882	5/12/03	5.934
21	3/4/02	2.887	5/14/02	4.125	7/26/02	3.376	10/7/02	3.872	12/18/02	4.551	3/3/03	5.733	5/13/03	6.175
22	3/5/02	2.871	5/15/02	3.985	7/29/02	3.399	10/8/02	3.954	12/19/02	4.520	3/4/03	5.732	5/14/03	6.193
23	3/6/02	2.933	5/16/02	3.960	7/30/02	3.415	10/9/02	3.978	12/20/02	4.605	3/5/03	5.773	5/15/03	6.163
24	3/7/02	3.107	5/17/02	3.977	7/31/02	3.458	10/10/02	3.891	12/23/02	4.626	3/6/03	5.815	5/16/03	6.163
25	3/8/02	3.150	5/20/02	3.879	8/1/02	3.408	10/11/02	4.045	12/24/02	4.659	3/7/03	5.970	5/19/03	5.987
26	3/11/02	3.361	5/21/02	3.772	8/2/02	3.423	10/14/02	4.132	12/26/02	4.587	3/10/03	5.886	5/20/03	5.996
27	3/12/02	3.353	5/22/02	3.827	8/5/02	3.320	10/15/02	4.139	12/27/02	4.615	3/11/03	5.663	5/21/03	6.102
28	3/13/02	3.234	5/23/02	3.820	8/6/02	3.350	10/16/02	4.116	12/30/02	4.545	3/12/03	5.673	5/22/03	6.002
29	3/14/02	3.241	5/24/02	3.757	8/7/02	3.325	10/17/02	4.170	12/31/02	4.562	3/13/03	5.391	5/23/03	6.077
30	3/15/02	3.358	5/28/02	3.748	8/8/02	3.389	10/18/02	4.147	1/2/03	4.813	3/14/03	5.361	5/27/03	5.929
31	3/18/02	3.575	5/29/02	3.798	8/9/02	3.389	10/21/02	4.098	1/3/03	4.922	3/17/03	5.354	5/28/03	5.925
32	3/19/02	3.532	5/30/02	3.623	8/12/02	3.526	10/22/02	4.073	1/6/03	4.729	3/18/03	5.248	5/29/03	5.914
33	3/20/02	3.413	5/31/02	3.611	8/13/02	3.533	10/23/02	4.153	1/7/03	4.836	3/19/03	5.234	5/30/03	6.043
34	3/21/02	3.660	6/3/02	3.611	8/14/02	3.494	10/24/02	4.081	1/8/03	4.896	3/20/03	5.264	6/2/03	6.182
35	3/22/02	3.605	6/4/02	3.653	8/15/02	3.619	10/25/02	4.023	1/9/03	4.959	3/21/03	5.177	6/3/03	6.157
36	3/25/02	3.676	6/5/02	3.599	8/16/02	3.637	10/28/02	4.102	1/10/03	4.821	3/24/03	5.247	6/4/03	6.172
37	3/26/02	3.625	6/6/02	3.551	8/19/02	3.727	10/29/02	4.075	1/13/03	4.882	3/25/03	5.137	6/5/03	6.285
38	3/27/02	3.566	6/7/02	3.573	8/20/02	3.677	10/30/02	4.121	1/14/03	4.843	3/26/03	5.161	6/6/03	6.302
39	3/28/02	3.557	6/10/02	3.532	8/21/02	3.725	10/31/02	4.012	1/15/03	5.000	3/27/03	5.264	6/9/03	6.186
40	4/1/02	3.741	6/11/02	3.525	8/22/02	3.879	11/1/02	3.964	1/16/03	5.110	3/28/03	5.166	6/10/03	6.200
41	4/2/02	3.828	6/12/02	3.461	8/23/02	3.867	11/4/02	3.860	1/17/03	5.063	3/31/03	5.102	6/11/03	6.138
42	4/3/02	3.728	6/13/02	3.594	8/26/02	3.968	11/5/02	3.869	1/20/03	5.032	4/1/03	5.138	6/12/03	5.750
43	4/4/02	3.586	6/14/02	3.725	8/27/02	3.876	11/6/02	3.851	1/21/03	5.108	4/2/03	5.109	6/13/03	5.775
44	4/5/02	3.524	6/17/02	3.775	8/28/02	3.778	11/7/02	3.855	1/22/03	5.035	4/3/03	5.020	6/16/03	5.782
45	4/8/02	3.574	6/18/02	3.720	8/29/02	3.732	11/8/02	3.879	1/23/03	5.012	4/4/03	5.014	6/17/03	5.769
46	4/9/02	3.480	6/19/02	3.731	8/30/02	3.801	11/11/02	3.807	1/24/03	5.008	4/7/03	5.141	6/18/03	5.653
47	4/10/02	3.447	6/20/02	3.642	9/3/02	3.704	11/12/02	3.861	1/27/03	4.907	4/8/03	5.142	6/19/03	5.897
48	4/11/02	3.380	6/21/02	3.675	9/4/02	3.747	11/13/02	3.863	1/28/03	4.898	4/9/03	5.212	6/20/03	5.833
49	4/12/02	3.416	6/24/02	3.834	9/5/02	3.814	11/14/02	3.863	1/29/03	5.041	4/10/03	5.400	6/23/03	5.864
50	4/15/02	3.678	6/25/02	3.833	9/6/02	3.782	11/15/02	3.938	1/30/03	4.986	4/11/03	5.421	6/24/03	5.754

Line	(a) Date	(b) Natural Gas $/MMBtu	(c) Date	(d) Natural Gas $/MMBtu	(e) Date	(f) Natural Gas $/MMBtu	(g) Date	(h) Natural Gas $/MMBtu	(i) Date	(j) Natural Gas $/MMBtu	(k) Date	(l) Natural Gas $/MMBtu	(m) Date	(n) Natural Gas $/MMBtu
1	6/25/03	5.775	9/5/03	4.998	11/14/03	4.899	2/3/04	5.387	4/15/04	5.974	6/28/04	6.338	9/8/04	5.981
2	6/26/03	5.478	9/8/03	4.914	11/17/03	4.734	2/4/04	5.403	4/16/04	5.879	6/29/04	6.262	9/9/04	6.099
3	6/27/03	5.408	9/9/03	4.967	11/18/03	4.781	2/5/04	5.321	4/19/04	5.790	6/30/04	6.280	9/10/04	6.080
4	6/30/03	5.420	9/10/03	5.092	11/19/03	4.721	2/6/04	5.344	4/20/04	5.828	7/1/04	6.339	9/13/04	6.156
5	7/1/03	5.358	9/11/03	4.981	11/20/03	4.686	2/9/04	5.389	4/21/04	5.848	7/2/04	6.299	9/14/04	6.091
6	7/2/03	5.280	9/12/03	5.014	11/21/03	4.702	2/10/04	5.417	4/22/04	5.885	7/6/04	6.515	9/15/04	5.975
7	7/3/03	5.294	9/15/03	4.974	11/24/03	4.710	2/11/04	5.341	4/23/04	5.848	7/7/04	6.479	9/16/04	5.951
8	7/7/03	5.405	9/16/03	4.951	11/25/03	4.787	2/12/04	5.465	4/26/04	6.027	7/8/04	6.374	9/17/04	6.086
9	7/8/03	5.504	9/17/03	4.893	11/26/03	4.732	2/13/04	5.493	4/27/04	6.116	7/9/04	6.384	9/20/04	6.067
10	7/9/03	5.508	9/18/03	4.819	12/1/03	4.895	2/17/04	5.355	4/28/04	6.120	7/12/04	6.193	9/21/04	6.338
11	7/10/03	5.343	9/19/03	4.812	12/2/03	5.036	2/18/04	5.397	4/29/04	6.038	7/13/04	6.211	9/22/04	6.338
12	7/11/03	5.244	9/22/03	4.815	12/3/03	5.055	2/19/04	5.343	4/30/04	6.002	7/14/04	6.274	9/23/04	6.380
13	7/14/03	5.188	9/23/03	4.783	12/4/03	5.254	2/20/04	5.312	5/3/04	6.310	7/15/04	6.191	9/24/04	6.355
14	7/15/03	5.112	9/24/03	4.822	12/5/03	5.143	2/23/04	5.271	5/4/04	6.340	7/16/04	6.200	9/27/04	6.323
15	7/16/03	5.042	9/25/03	4.780	12/8/03	5.400	2/24/04	5.284	5/5/04	6.370	7/19/04	6.172	9/28/04	6.587
16	7/17/03	5.124	9/26/03	4.733	12/9/03	5.329	2/25/04	5.393	5/6/04	6.309	7/20/04	6.188	9/29/04	6.930
17	7/18/03	5.106	9/29/03	4.917	12/10/03	5.389	2/26/04	5.569	5/7/04	6.371	7/21/04	6.247	9/30/04	6.957
18	7/21/03	5.160	9/30/03	4.887	12/11/03	5.345	2/27/04	5.614	5/10/04	6.281	7/22/04	6.387	10/1/04	6.879
19	7/22/03	4.974	10/1/03	4.801	12/12/03	5.590	3/1/04	5.758	5/11/04	6.440	7/23/04	6.392	10/4/04	6.913
20	7/23/03	4.958	10/2/03	4.815	12/15/03	5.557	3/2/04	5.786	5/12/04	6.465	7/26/04	6.253	10/5/04	7.202
21	7/24/03	4.879	10/3/03	4.808	12/16/03	5.500	3/3/04	5.648	5/13/04	6.541	7/27/04	6.273	10/6/04	7.198
22	7/25/03	4.880	10/6/03	4.971	12/17/03	5.548	3/4/04	5.726	5/14/04	6.493	7/28/04	6.361	10/7/04	7.390
23	7/28/03	4.873	10/7/03	5.104	12/18/03	5.681	3/5/04	5.712	5/17/04	6.532	7/29/04	6.411	10/8/04	7.355
24	7/29/03	4.850	10/8/03	5.066	12/19/03	5.602	3/8/04	5.675	5/18/04	6.323	7/30/04	6.432	10/11/04	7.338
25	7/30/03	4.852	10/9/03	5.296	12/22/03	5.363	3/9/04	5.710	5/19/04	6.571	8/2/04	6.310	10/12/04	7.229
26	7/31/03	4.923	10/10/03	5.350	12/23/03	5.331	3/10/04	5.672	5/20/04	6.456	8/3/04	6.356	10/13/04	7.223
27	8/1/03	5.027	10/13/03	5.303	12/24/03	5.450	3/11/04	5.905	5/21/04	6.464	8/4/04	6.294	10/14/04	7.221
28	8/4/03	4.873	10/14/03	5.263	12/29/03	5.422	3/12/04	5.848	5/24/04	6.763	8/5/04	6.337	10/15/04	7.196
29	8/5/03	4.903	10/15/03	5.190	12/30/03	5.532	3/15/04	5.948	5/25/04	6.738	8/6/04	6.284	10/18/04	7.276
30	8/6/03	4.991	10/16/03	5.162	12/31/03	5.388	3/16/04	5.930	5/26/04	6.744	8/9/04	6.321	10/19/04	7.429
31	8/7/03	5.218	10/17/03	5.007	1/5/04	5.688	3/17/04	5.953	5/27/04	6.575	8/10/04	6.338	10/20/04	7.638
32	8/8/03	5.163	10/20/03	4.843	1/6/04	5.794	3/18/04	5.894	5/28/04	6.483	8/11/04	6.267	10/21/04	7.752
33	8/11/03	5.229	10/21/03	4.898	1/7/04	5.719	3/19/04	5.849	6/1/04	6.695	8/12/04	6.199	10/22/04	7.939
34	8/12/03	5.264	10/22/03	4.939	1/8/04	5.847	3/22/04	5.826	6/2/04	6.576	8/13/04	6.221	10/25/04	7.822
35	8/13/03	5.249	10/23/03	4.929	1/9/04	5.927	3/23/04	5.841	6/3/04	6.452	8/16/04	6.144	10/26/04	8.216
36	8/14/03	5.089	10/24/03	4.876	1/12/04	5.862	3/24/04	5.736	6/4/04	6.389	8/17/04	6.138	10/27/04	7.941
37	8/15/03	5.079	10/27/03	4.745	1/13/04	5.664	3/25/04	5.662	6/7/04	6.348	8/18/04	6.147	10/28/04	7.858
38	8/18/03	5.108	10/28/03	4.774	1/14/04	5.733	3/26/04	5.737	6/8/04	6.294	8/19/04	6.256	10/29/04	7.830
39	8/19/03	5.142	10/29/03	4.789	1/15/04	5.522	3/29/04	5.722	6/9/04	6.253	8/20/04	6.343	11/1/04	7.855
40	8/20/03	5.253	10/30/03	4.702	1/16/04	5.548	3/30/04	5.929	6/10/04	6.336	8/23/04	6.240	11/2/04	7.794
41	8/21/03	5.324	10/31/03	4.789	1/20/04	5.654	3/31/04	6.072	6/14/04	6.400	8/24/04	6.224	11/3/04	7.863
42	8/22/03	5.337	11/3/03	4.722	1/21/04	5.616	4/1/04	5.948	6/15/04	6.437	8/25/04	6.161	11/4/04	7.674
43	8/25/03	5.227	11/4/03	4.728	1/22/04	5.480	4/2/04	5.991	6/16/04	6.560	8/26/04	6.119	11/5/04	7.450
44	8/26/03	5.181	11/5/03	4.809	1/23/04	5.529	4/5/04	5.999	6/17/04	6.632	8/27/04	6.100	11/8/04	7.207
45	8/27/03	5.068	11/6/03	4.703	1/26/04	5.425	4/6/04	6.007	6/18/04	6.602	8/30/04	6.153	11/9/04	7.112
46	8/28/03	5.076	11/7/03	4.727	1/27/04	5.380	4/7/04	6.061	6/21/04	6.462	8/31/04	6.054	11/10/04	7.295
47	8/29/03	4.949	11/10/03	4.733	1/28/04	5.423	4/8/04	6.130	6/22/04	6.532	9/1/04	6.016	11/11/04	7.101
48	9/2/03	4.932	11/11/03	4.794	1/29/04	5.363	4/12/04	6.203	6/23/04	6.535	9/2/04	5.961	11/12/04	7.033
49	9/3/03	4.963	11/12/03	4.720	1/30/04	5.224	4/13/04	6.025	6/24/04	6.594	9/3/04	5.954	11/15/04	7.109
50	9/4/03	5.010	11/13/03	4.733	2/2/04	5.327	4/14/04	5.987	6/25/04	6.498	9/7/04	6.034	11/16/04	6.998

Line	(a) Date	(b) Natural Gas $/MMBtu	(c) Date	(d) Natural Gas $/MMBtu	(e) Date	(f) Natural Gas $/MMBtu	(g) Date	(h) Natural Gas $/MMBtu	(i) Date	(j) Natural Gas $/MMBtu	(k) Date	(l) Natural Gas $/MMBtu	(m) Date	(n) Natural Gas $/MMBtu
1	11/17/04	7.029	2/2/05	6.733	4/15/05	7.583	6/27/05	7.853	9/7/05	10.573	11/16/05	11.373	1/31/06	10.227
2	11/18/04	6.881	2/3/05	6.558	4/18/05	7.525	6/28/05	7.715	9/8/05	10.768	11/17/05	11.111	2/1/06	9.725
3	11/19/04	6.879	2/4/05	6.512	4/19/05	7.618	6/29/05	7.806	9/9/05	10.803	11/18/05	10.749	2/2/06	9.387
4	11/22/04	6.903	2/7/05	6.424	4/20/05	7.647	6/30/05	7.795	9/12/05	10.665	11/21/05	10.667	2/3/06	9.574
5	11/23/04	6.950	2/8/05	6.593	4/21/05	7.638	7/1/05	7.948	9/13/05	10.479	11/22/05	10.834	2/6/06	9.141
6	11/24/04	7.557	2/9/05	6.584	4/22/05	7.778	7/5/05	8.167	9/14/05	10.784	11/23/05	10.807	2/7/06	9.027
7	11/29/04	7.133	2/10/05	6.596	4/25/05	7.734	7/6/05	8.306	9/15/05	10.963	11/28/05	10.542	2/8/06	8.903
8	11/30/04	7.041	2/11/05	6.563	4/26/05	7.674	7/7/05	8.113	9/16/05	10.987	11/29/05	10.566	2/9/06	8.660
9	12/1/04	6.897	2/14/05	6.561	4/27/05	7.345	7/8/05	8.130	9/19/05	11.927	11/30/05	11.066	2/10/06	8.520
10	12/2/04	6.539	2/15/05	6.642	4/28/05	7.330	7/11/05	8.108	9/20/05	11.814	12/1/05	11.345	2/13/06	8.421
11	12/3/04	6.489	2/16/05	6.597	4/29/05	7.215	7/12/05	8.339	9/21/05	11.797	12/2/05	11.731	2/14/06	8.276
12	12/6/04	6.575	2/17/05	6.452	5/2/05	7.306	7/13/05	8.358	9/22/05	11.829	12/5/05	11.654	2/15/06	8.229
13	12/7/04	6.456	2/18/05	6.447	5/3/05	7.144	7/14/05	8.328	9/23/05	11.585	12/6/05	11.619	2/16/06	8.300
14	12/8/04	6.512	2/22/05	6.667	5/4/05	7.225	7/15/05	8.297	9/26/05	11.922	12/7/05	11.713	2/17/06	8.397
15	12/9/04	6.657	2/23/05	6.853	5/5/05	7.267	7/18/05	8.170	9/27/05	11.949	12/8/05	12.318	2/21/06	8.958
16	12/10/04	6.641	2/24/05	6.890	5/6/05	7.197	7/19/05	8.139	9/28/05	12.703	12/9/05	11.827	2/22/06	8.581
17	12/13/04	6.787	2/25/05	7.229	5/9/05	7.248	7/20/05	8.114	9/29/05	12.465	12/12/05	12.059	2/23/06	8.674
18	12/14/04	6.921	2/28/05	7.235	5/10/05	7.249	7/21/05	7.967	9/30/05	12.198	12/13/05	12.298	2/24/06	8.462
19	12/15/04	6.902	3/1/05	7.213	5/11/05	7.250	7/22/05	8.034	10/3/05	12.169	12/14/05	12.034	2/27/06	8.338
20	12/16/04	6.789	3/2/05	7.267	5/12/05	7.104	7/25/05	7.962	10/4/05	12.291	12/15/05	11.637	2/28/06	8.312
21	12/17/04	7.044	3/3/05	7.252	5/13/05	7.137	7/26/05	8.039	10/5/05	12.258	12/16/05	11.523	3/1/06	8.348
22	12/20/04	6.755	3/4/05	7.331	5/16/05	7.059	7/27/05	8.123	10/6/05	11.784	12/19/05	11.757	3/2/06	8.384
23	12/21/04	6.681	3/7/05	7.340	5/17/05	7.086	7/28/05	8.223	10/7/05	11.741	12/20/05	11.826	3/3/06	8.411
24	12/22/04	6.630	3/8/05	7.468	5/18/05	7.021	7/29/05	8.364	10/10/05	11.571	12/21/05	11.982	3/6/06	8.257
25	12/23/04	6.569	3/9/05	7.484	5/19/05	7.006	8/1/05	8.615	10/11/05	11.874	12/22/05	11.408	3/7/06	8.367
26	12/27/04	6.264	3/10/05	7.337	5/20/05	7.014	8/2/05	8.697	10/12/05	11.929	12/23/05	11.077	3/8/06	8.347
27	12/28/04	6.324	3/11/05	7.328	5/23/05	7.073	8/3/05	8.651	10/13/05	11.767	12/26/05	10.464	3/9/06	8.291
28	12/29/04	6.406	3/14/05	7.607	5/24/05	7.001	8/4/05	8.737	10/14/05	11.879	12/27/05	10.462	3/10/06	8.342
29	12/30/04	6.253	3/15/05	7.646	5/25/05	6.999	8/5/05	8.931	10/17/05	12.193	12/28/05	10.819	3/13/06	8.625
30	1/3/05	6.054	3/16/05	7.737	5/26/05	6.915	8/8/05	8.930	10/18/05	11.953	12/29/05	10.713	3/14/06	8.702
31	1/4/05	6.125	3/17/05	7.810	5/27/05	7.081	8/9/05	8.913	10/19/05	11.969	12/30/05	10.803	3/15/06	8.673
32	1/5/05	6.098	3/18/05	7.829	5/31/05	7.084	8/10/05	9.217	10/20/05	11.584	1/3/06	10.566	3/16/06	8.803
33	1/6/05	6.297	3/21/05	7.905	6/1/05	7.409	8/11/05	9.361	10/21/05	11.581	1/4/06	10.233	3/17/06	8.673
34	1/7/05	6.258	3/22/05	7.843	6/2/05	7.424	8/12/05	9.510	10/24/05	11.596	1/5/06	9.740	3/20/06	8.517
35	1/10/05	6.395	3/23/05	7.745	6/3/05	7.471	8/15/05	9.492	10/25/05	12.399	1/6/06	9.853	3/21/06	8.540
36	1/11/05	6.331	3/24/05	7.679	6/6/05	7.636	8/16/05	9.636	10/26/05	12.095	1/9/06	9.751	3/22/06	8.626
37	1/12/05	6.208	3/28/05	7.628	6/7/05	7.590	8/17/05	9.342	10/27/05	11.957	1/10/06	9.798	3/23/06	8.960
38	1/13/05	6.594	3/29/05	7.893	6/8/05	7.517	8/18/05	9.023	10/28/05	11.472	1/11/06	9.781	3/24/06	8.948
39	1/14/05	6.507	3/30/05	7.930	6/9/05	7.606	8/19/05	9.264	10/31/05	11.078	1/12/06	9.550	3/27/06	8.755
40	1/18/05	6.323	3/31/05	8.098	6/10/05	7.589	8/22/05	9.604	11/1/05	10.870	1/13/06	9.391	3/28/06	8.861
41	1/19/05	6.453	4/1/05	8.205	6/13/05	7.792	8/23/05	9.643	11/2/05	10.676	1/17/06	9.783	3/29/06	8.915
42	1/20/05	6.466	4/4/05	8.099	6/14/05	7.760	8/24/05	9.883	11/3/05	10.685	1/18/06	9.447	3/30/06	9.050
43	1/21/05	6.414	4/5/05	8.071	6/15/05	7.918	8/25/05	9.798	11/4/05	10.475	1/19/06	9.634	3/31/06	8.849
44	1/24/05	6.608	4/6/05	8.070	6/16/05	8.077	8/26/05	9.783	11/7/05	10.814	1/20/06	9.982	4/3/06	8.972
45	1/25/05	6.582	4/7/05	7.937	6/17/05	8.180	8/29/05	10.623	11/8/05	10.766	1/23/06	9.454	4/4/06	8.838
46	1/26/05	6.600	4/8/05	7.824	6/20/05	8.180	8/30/05	10.794	11/9/05	10.626	1/24/06	9.537	4/5/06	8.847
47	1/27/05	6.554	4/11/05	7.878	6/21/05	8.023	8/31/05	10.606	11/10/05	10.464	1/25/06	9.366	4/6/06	8.789
48	1/28/05	6.587	4/12/05	7.681	6/22/05	7.993	9/1/05	10.820	11/11/05	10.680	1/26/06	9.216	4/7/06	8.664
49	1/31/05	6.681	4/13/05	7.565	6/23/05	8.060	9/2/05	10.754	11/14/05	10.820	1/27/06	9.321	4/10/06	8.776
50	2/1/05	6.683	4/14/05	7.629	6/24/05	8.006	9/6/05	10.763	11/15/05	10.893	1/30/06	10.292	4/11/06	8.807

Line	(a) Date	(b) Natural Gas $/MMBtu	(c) Date	(d) Natural Gas $/MMBtu	(e) Date	(f) Natural Gas $/MMBtu	(g) Date	(h) Natural Gas $/MMBtu	(i) Date	(j) Natural Gas $/MMBtu	(k) Date	(l) Natural Gas $/MMBtu	(m) Date	(n) Natural Gas $/MMBtu
1	4/12/06	8.800	6/23/06	8.371	9/6/06	8.865	11/15/06	8.251	2/1/07	8.175	4/16/07	8.523	6/26/07	7.972
2	4/13/06	9.069	6/26/06	8.184	9/7/06	8.552	11/16/06	8.008	2/2/07	8.128	4/17/07	8.414	6/27/07	8.055
3	4/17/06	9.446	6/27/06	8.327	9/8/06	8.535	11/17/06	8.331	2/5/07	8.218	4/18/07	8.490	6/28/07	7.856
4	4/18/06	9.877	6/28/06	8.269	9/11/06	8.280	11/20/06	8.274	2/6/07	8.221	4/19/07	8.499	6/29/07	7.947
5	4/19/06	10.141	6/29/06	8.438	9/12/06	8.145	11/21/06	8.231	2/7/07	8.320	4/20/07	8.405	7/2/07	7.918
6	4/20/06	10.086	6/30/06	8.451	9/13/06	7.959	11/22/06	8.002	2/8/07	8.478	4/23/07	8.570	7/3/07	7.931
7	4/21/06	10.003	7/5/06	8.206	9/14/06	7.458	11/27/06	8.227	2/9/07	8.507	4/24/07	8.599	7/5/07	7.828
8	4/24/06	9.651	7/6/06	8.145	9/15/06	7.454	11/28/06	8.387	2/12/07	8.054	4/25/07	8.675	7/6/07	7.667
9	4/25/06	9.432	7/7/06	8.052	9/18/06	7.488	11/29/06	8.646	2/13/07	8.162	4/26/07	8.532	7/9/07	7.651
10	4/26/06	9.320	7/10/06	8.108	9/19/06	7.489	11/30/06	8.680	2/14/07	8.056	4/27/07	8.750	7/10/07	7.869
11	4/27/06	9.133	7/11/06	8.113	9/20/06	7.315	12/1/06	8.420	2/15/07	8.090	4/30/07	8.785	7/11/07	7.786
12	4/28/06	8.963	7/12/06	8.177	9/21/06	7.119	12/4/06	7.978	2/16/07	8.215	5/1/07	8.658	7/12/07	7.726
13	5/1/06	9.133	7/13/06	8.489	9/22/06	7.072	12/5/06	7.903	2/20/07	8.294	5/2/07	8.649	7/13/07	7.852
14	5/2/06	9.145	7/14/06	8.585	9/25/06	6.958	12/6/06	7.996	2/21/07	8.352	5/3/07	8.829	7/16/07	7.631
15	5/3/06	9.030	7/17/06	8.158	9/26/06	7.044	12/7/06	7.993	2/22/07	8.426	5/4/07	8.819	7/17/07	7.613
16	5/4/06	9.137	7/18/06	7.946	9/27/06	6.944	12/8/06	7.939	2/23/07	8.456	5/7/07	8.725	7/18/07	7.840
17	5/5/06	9.093	7/19/06	8.168	9/28/06	7.113	12/11/06	7.873	2/26/07	8.359	5/8/07	8.612	7/19/07	8.047
18	5/8/06	9.061	7/20/06	8.302	9/29/06	7.340	12/12/06	7.877	2/27/07	8.373	5/9/07	8.683	7/20/07	7.844
19	5/9/06	9.007	7/21/06	8.365	10/2/06	7.427	12/13/06	8.046	2/28/07	8.196	5/10/07	8.671	7/23/07	7.571
20	5/10/06	9.274	7/24/06	8.720	10/3/06	7.418	12/14/06	7.934	3/1/07	8.198	5/11/07	8.803	7/24/07	7.447
21	5/11/06	9.120	7/25/06	8.546	10/4/06	7.603	12/15/06	7.816	3/2/07	8.174	5/14/07	8.832	7/25/07	7.584
22	5/12/06	8.838	7/26/06	8.844	10/5/06	7.844	12/18/06	7.559	3/5/07	8.165	5/15/07	8.785	7/26/07	7.647
23	5/15/06	8.739	7/27/06	8.947	10/6/06	7.776	12/19/06	7.594	3/6/07	8.372	5/16/07	8.819	7/27/07	7.738
24	5/16/06	8.861	7/28/06	9.056	10/9/06	7.912	12/20/06	7.402	3/7/07	8.306	5/17/07	8.981	7/30/07	7.914
25	5/17/06	8.668	7/31/06	9.706	10/10/06	7.969	12/21/06	7.461	3/8/07	8.223	5/18/07	8.878	7/31/07	7.889
26	5/18/06	8.574	8/1/06	9.413	10/11/06	7.740	12/22/06	7.295	3/9/07	8.088	5/21/07	8.861	8/1/07	7.970
27	5/19/06	8.443	8/2/06	9.556	10/12/06	7.495	12/26/06	6.901	3/12/07	7.941	5/22/07	8.790	8/2/07	7.766
28	5/22/06	8.580	8/3/06	9.290	10/13/06	7.461	12/27/06	6.756	3/13/07	7.938	5/23/07	8.764	8/3/07	7.688
29	5/23/06	8.542	8/4/06	9.169	10/16/06	7.897	12/28/06	7.110	3/14/07	8.074	5/24/07	8.696	8/6/07	7.713
30	5/24/06	8.200	8/7/06	9.005	10/17/06	7.814	12/29/06	7.220	3/15/07	8.005	5/25/07	8.667	8/7/07	7.723
31	5/25/06	8.114	8/8/06	9.118	10/18/06	7.867	1/3/07	7.074	3/16/07	7.973	5/29/07	8.588	8/8/07	7.784
32	5/26/06	8.148	8/9/06	9.509	10/19/06	7.968	1/4/07	7.058	3/19/07	7.924	5/30/07	8.794	8/9/07	7.965
33	5/30/06	8.224	8/10/06	9.394	10/20/06	7.996	1/5/07	7.069	3/20/07	7.964	5/31/07	8.798	8/10/07	8.070
34	5/31/06	8.278	8/11/06	9.222	10/23/06	7.789	1/8/07	7.230	3/21/07	8.189	6/1/07	8.783	8/13/07	8.097
35	6/1/06	8.451	8/14/06	9.064	10/24/06	7.875	1/9/07	7.405	3/22/07	8.352	6/4/07	9.027	8/14/07	8.175
36	6/2/06	8.621	8/15/06	9.107	10/25/06	8.211	1/10/07	7.451	3/23/07	8.345	6/5/07	8.936	8/15/07	8.093
37	6/5/06	8.599	8/16/06	9.039	10/26/06	8.017	1/11/07	7.085	3/26/07	8.323	6/6/07	8.943	8/16/07	8.015
38	6/6/06	8.518	8/17/06	8.970	10/27/06	7.805	1/12/07	7.324	3/27/07	8.518	6/7/07	8.770	8/17/07	8.062
39	6/7/06	8.198	8/18/06	9.006	10/30/06	7.611	1/16/07	7.328	3/28/07	8.571	6/8/07	8.655	8/20/07	7.546
40	6/8/06	8.280	8/21/06	8.891	10/31/06	7.757	1/17/07	7.033	3/29/07	8.568	6/11/07	8.628	8/21/07	7.456
41	6/9/06	8.306	8/22/06	9.266	11/1/06	7.946	1/18/07	7.083	3/30/07	8.675	6/12/07	8.699	8/22/07	7.324
42	6/12/06	8.304	8/23/06	9.207	11/2/06	8.034	1/19/07	7.510	4/2/07	8.620	6/13/07	8.663	8/23/07	7.349
43	6/13/06	8.207	8/24/06	9.259	11/3/06	8.137	1/22/07	7.820	4/3/07	8.409	6/14/07	8.817	8/24/07	7.250
44	6/14/06	8.497	8/25/06	9.315	11/6/06	7.806	1/23/07	7.928	4/4/07	8.495	6/15/07	8.922	8/27/07	7.142
45	6/15/06	9.057	8/28/06	9.109	11/7/06	7.992	1/24/07	7.768	4/5/07	8.596	6/18/07	8.751	8/28/07	7.227
46	6/16/06	9.125	8/29/06	9.114	11/8/06	8.067	1/25/07	7.449	4/9/07	8.562	6/19/07	8.604	8/29/07	7.140
47	6/19/06	8.894	8/30/06	8.814	11/9/06	8.156	1/26/07	7.693	4/10/07	8.812	6/20/07	8.463	8/30/07	7.364
48	6/20/06	8.539	8/31/06	8.857	11/10/06	8.041	1/29/07	7.543	4/11/07	8.801	6/21/07	8.367	8/31/07	7.251
49	6/21/06	8.574	9/1/06	8.827	11/13/06	8.065	1/30/07	8.253	4/12/07	8.856	6/22/07	8.208	9/4/07	7.337
50	6/22/06	8.458	9/5/06	8.926	11/14/06	8.119	1/31/07	8.228	4/13/07	8.748	6/25/07	8.053	9/5/07	7.409

Line	(a) Date	(b) Natural Gas $/MMBtu	(c) Date	(d) Natural Gas $/MMBtu	(e) Date	(f) Natural Gas $/MMBtu	(g) Date	(h) Natural Gas $/MMBtu	(i) Date	(j) Natural Gas $/MMBtu	(k) Date	(l) Natural Gas $/MMBtu	(m) Date	(n) Natural Gas $/MMBtu
1	9/6/07	7.326	11/15/07	7.973	2/4/08	8.333	4/16/08	10.841	6/26/08	13.112	9/8/08	8.332	11/17/08	6.904
2	9/7/07	7.221	11/16/07	8.157	2/5/08	8.418	4/17/08	10.825	6/27/08	12.978	9/9/08	8.287	11/18/08	6.870
3	9/10/07	7.379	11/19/07	8.002	2/6/08	8.468	4/18/08	11.035	6/30/08	13.126	9/10/08	8.087	11/19/08	7.023
4	9/11/07	7.386	11/20/07	7.772	2/7/08	8.573	4/21/08	11.237	7/1/08	13.260	9/11/08	7.986	11/20/08	6.661
5	9/12/07	7.760	11/21/07	7.822	2/8/08	8.755	4/22/08	11.141	7/2/08	13.147	9/12/08	8.054	11/21/08	6.721
6	9/13/07	7.527	11/26/07	7.995	2/11/08	8.990	4/23/08	11.308	7/3/08	13.334	9/15/08	8.018	11/24/08	7.091
7	9/14/07	7.619	11/27/07	7.816	2/12/08	8.912	4/24/08	11.294	7/7/08	12.854	9/16/08	7.927	11/25/08	6.737
8	9/17/07	7.771	11/28/07	7.564	2/13/08	8.864	4/25/08	11.433	7/8/08	12.355	9/17/08	8.401	11/26/08	7.130
9	9/18/07	7.700	11/29/07	7.672	2/14/08	9.178	4/28/08	11.618	7/9/08	12.096	9/18/08	8.267	11/28/08	6.860
10	9/19/07	7.483	11/30/07	7.545	2/15/08	9.058	4/29/08	11.071	7/10/08	12.346	9/19/08	8.235	12/1/08	6.925
11	9/20/07	7.602	12/3/07	7.490	2/19/08	9.336	4/30/08	11.074	7/11/08	12.047	9/22/08	8.313	12/2/08	6.773
12	9/21/07	7.642	12/4/07	7.470	2/20/08	9.311	5/1/08	10.852	7/14/08	12.102	9/23/08	8.435	12/3/08	6.711
13	9/24/07	7.743	12/5/07	7.525	2/21/08	9.233	5/2/08	11.056	7/15/08	11.636	9/24/08	8.271	12/4/08	6.454
14	9/25/07	7.658	12/6/07	7.653	2/22/08	9.531	5/5/08	11.422	7/16/08	11.506	9/25/08	8.286	12/5/08	6.171
15	9/26/07	7.632	12/7/07	7.532	2/25/08	9.580	5/6/08	11.406	7/17/08	10.805	9/26/08	8.070	12/8/08	6.060
16	9/27/07	7.737	12/10/07	7.457	2/26/08	9.650	5/7/08	11.578	7/18/08	10.815	9/29/08	7.798	12/9/08	6.094
17	9/28/07	7.749	12/11/07	7.494	2/27/08	9.470	5/8/08	11.504	7/21/08	10.778	9/30/08	7.956	12/10/08	6.208
18	10/1/07	7.799	12/12/07	7.743	2/28/08	9.910	5/9/08	11.762	7/22/08	10.395	10/1/08	8.154	12/11/08	6.131
19	10/2/07	8.007	12/13/07	7.604	2/29/08	9.860	5/12/08	11.571	7/23/08	10.096	10/2/08	7.957	12/12/08	5.981
20	10/3/07	7.898	12/14/07	7.454	3/3/08	9.864	5/13/08	11.681	7/24/08	9.760	10/3/08	7.858	12/15/08	6.086
21	10/4/07	7.982	12/17/07	7.500	3/4/08	9.820	5/14/08	11.859	7/25/08	9.541	10/6/08	7.440	12/16/08	6.180
22	10/5/07	7.861	12/18/07	7.615	3/5/08	10.160	5/15/08	11.712	7/28/08	9.596	10/7/08	7.418	12/17/08	6.127
23	10/8/07	7.701	12/19/07	7.637	3/6/08	10.171	5/16/08	11.461	7/29/08	9.546	10/8/08	7.390	12/18/08	6.030
24	10/9/07	7.686	12/20/07	7.588	3/7/08	10.202	5/19/08	11.351	7/30/08	9.666	10/9/08	7.453	12/19/08	5.853
25	10/10/07	7.767	12/21/07	7.628	3/10/08	10.452	5/20/08	11.720	7/31/08	9.619	10/10/08	7.194	12/22/08	5.788
26	10/11/07	7.713	12/26/07	7.524	3/11/08	10.468	5/21/08	11.967	8/1/08	9.875	10/13/08	7.321	12/23/08	6.155
27	10/12/07	7.738	12/27/07	7.571	3/12/08	10.497	5/22/08	11.992	8/4/08	9.366	10/14/08	7.288	12/26/08	6.196
28	10/15/07	7.992	12/28/07	7.871	3/13/08	10.752	5/23/08	12.119	8/5/08	9.321	10/15/08	7.109	12/29/08	6.422
29	10/16/07	7.954	1/2/08	8.257	3/14/08	10.425	5/27/08	12.054	8/6/08	9.339	10/16/08	7.157	12/30/08	6.388
30	10/17/07	8.080	1/3/08	8.068	3/17/08	9.639	5/28/08	12.118	8/7/08	9.180	10/17/08	7.241	1/2/09	6.497
31	10/18/07	8.075	1/4/08	8.137	3/18/08	9.935	5/29/08	11.552	8/8/08	8.908	10/20/08	7.174	1/5/09	6.595
32	10/19/07	7.796	1/7/08	8.204	3/19/08	9.568	5/30/08	11.723	8/11/08	8.973	10/21/08	7.287	1/6/09	6.529
33	10/22/07	7.648	1/8/08	8.288	3/20/08	9.593	6/2/08	11.950	8/12/08	8.958	10/22/08	7.193	1/7/09	6.415
34	10/23/07	7.610	1/9/08	8.369	3/24/08	9.894	6/3/08	12.150	8/13/08	9.061	10/23/08	6.916	1/8/09	6.131
35	10/24/07	7.780	1/10/08	8.445	3/25/08	10.007	6/4/08	12.210	8/14/08	8.836	10/24/08	6.801	1/9/09	6.065
36	10/25/07	7.905	1/11/08	8.450	3/26/08	10.169	6/5/08	12.330	8/15/08	8.788	10/27/08	6.704	1/12/09	6.092
37	10/26/07	7.894	1/14/08	8.537	3/27/08	10.186	6/6/08	12.496	8/18/08	8.607	10/28/08	6.767	1/13/09	5.782
38	10/29/07	8.024	1/15/08	8.412	3/28/08	10.244	6/9/08	12.485	8/19/08	8.653	10/29/08	7.091	1/14/09	5.604
39	10/30/07	8.171	1/16/08	8.347	3/31/08	10.467	6/10/08	12.332	8/20/08	8.765	10/30/08	6.939	1/15/09	5.460
40	10/31/07	8.405	1/17/08	8.295	4/1/08	10.102	6/11/08	12.550	8/21/08	8.916	10/31/08	7.210	1/16/09	5.439
41	11/1/07	8.619	1/18/08	8.246	4/2/08	10.222	6/12/08	12.718	8/22/08	8.594	11/3/08	7.253	1/20/09	5.256
42	11/2/07	8.475	1/22/08	7.990	4/3/08	9.857	6/13/08	12.593	8/25/08	8.597	11/4/08	7.578	1/21/09	5.354
43	11/5/07	8.198	1/23/08	7.931	4/4/08	9.767	6/16/08	12.888	8/26/08	8.917	11/5/08	7.610	1/22/09	5.280
44	11/6/07	8.090	1/24/08	8.107	4/7/08	10.214	6/17/08	12.887	8/27/08	9.082	11/6/08	7.380	1/23/09	5.134
45	11/7/07	7.906	1/25/08	8.262	4/8/08	10.119	6/18/08	13.117	8/28/08	8.790	11/7/08	7.186	1/26/09	5.116
46	11/8/07	8.005	1/28/08	8.346	4/9/08	10.438	6/19/08	12.839	8/29/08	8.672	11/10/08	7.531	1/27/09	5.091
47	11/9/07	8.134	1/29/08	8.272	4/10/08	10.472	6/20/08	12.957	9/2/08	8.172	11/11/08	7.055	1/28/09	5.072
48	11/12/07	8.161	1/30/08	8.457	4/11/08	10.283	6/23/08	13.158	9/3/08	8.168	11/12/08	6.783	1/29/09	5.388
49	11/13/07	8.157	1/31/08	8.487	4/14/08	10.429	6/24/08	13.032	9/4/08	8.222	11/13/08	6.750	1/30/09	5.253
50	11/14/07	8.086	2/1/08	8.234	4/15/08	10.599	6/25/08	12.804	9/5/08	8.338	11/14/08	6.760	2/2/09	5.326

Line	(a) Date	(b) Natural Gas $/MMBtu	(c) Date	(d) Natural Gas $/MMBtu
1	2/3/09	5.331	4/16/09	4.755
2	2/4/09	5.403	4/17/09	4.875
3	2/5/09	5.417	4/20/09	4.716
4	2/6/09	5.517	4/21/09	4.694
5	2/9/09	5.569	4/22/09	4.708
6	2/10/09	5.358	4/23/09	4.606
7	2/11/09	5.333	4/24/09	4.507
8	2/12/09	5.265	4/27/09	4.454
9	2/13/09	5.210	4/28/09	4.490
10	2/17/09	4.970	4/29/09	4.637
11	2/18/09	4.954	4/30/09	4.612
12	2/19/09	4.837	5/1/09	4.734
13	2/20/09	4.775	5/4/09	4.908
14	2/23/09	4.831	5/5/09	4.844
15	2/24/09	4.926	5/6/09	5.075
16	2/25/09	4.782	5/7/09	5.270
17	2/26/09	4.983	5/8/09	5.451
18	2/27/09	5.071	5/11/09	5.420
19	3/2/09	5.020	5/12/09	5.505
20	3/3/09	5.101	5/13/09	5.401
21	3/4/09	5.158	5/14/09	5.399
22	3/5/09	4.940	5/15/09	5.242
23	3/6/09	4.805	5/18/09	5.298
24	3/9/09	4.731	5/19/09	5.124
25	3/10/09	4.707	5/20/09	5.186
26	3/11/09	4.655	5/21/09	4.884
27	3/12/09	4.839	5/22/09	4.813
28	3/13/09	4.782		
29	3/16/09	4.711		
30	3/17/09	4.666		
31	3/18/09	4.561		
32	3/19/09	4.989		
33	3/20/09	5.064		
34	3/23/09	5.154		
35	3/24/09	5.234		
36	3/25/09	5.208		
37	3/26/09	4.880		
38	3/27/09	4.619		
39	3/30/09	4.767		
40	3/31/09	4.825		
41	4/1/09	4.742		
42	4/2/09	4.811		
43	4/3/09	4.838		
44	4/6/09	4.781		
45	4/7/09	4.648		
46	4/8/09	4.717		
47	4/9/09	4.712		
48	4/13/09	4.738		
49	4/14/09	4.813		
50	4/15/09	4.818		

BEI Electric Generation Alternatives Analysis
Figure 7 - Historical Coal Prices

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
		Eastern Coal	Western Coal		Eastern Coal	Western Coal		Eastern Coal	Western Coal		Eastern Coal	Western Coal		Eastern Coal	Western Coal
Line	Date	$/MMBtu	$/MMBtu	Date	$/MMBtu	$/MMBtu	Date	$/MMBtu	$/MMBtu	Date	$/MMBtu	$/MMBtu	Date	$/MMBtu	$/MMBtu
1	9/4/00	0.934	0.240	8/20/01	1.830	0.384	8/5/02	1.120	0.321	7/21/03	1.220	0.327	7/2/04	2.210	0.335
2	9/11/00	0.934	0.243	8/27/01	1.820	0.446	8/12/02	1.100	0.313	7/28/03	1.220	0.338	7/9/04	2.200	0.332
3	9/18/00	0.958	0.260	9/3/01	1.780	0.446	8/19/02	1.090	0.307	8/4/03	1.226	0.349	7/16/04	2.200	0.338
4	9/25/00	0.958	0.260	9/10/01	1.700	0.440	8/26/02	1.090	0.313	8/11/03	1.230	0.349	7/23/04	2.180	0.332
5	10/2/00	0.958	0.260	9/17/01	1.660	0.455	9/2/02	1.090	0.318	8/18/03	1.260	0.355	7/30/04	2.200	0.338
6	10/9/00	0.962	0.263	9/24/01	1.620	0.477	9/9/02	1.080	0.313	8/25/03	1.290	0.352	8/6/04	2.200	0.335
7	10/16/00	0.964	0.263	10/1/01	1.620	0.455	9/16/02	1.090	0.347	9/1/03	1.352	0.389	8/13/04	2.230	0.341
8	10/23/00	1.000	0.264	10/8/01	1.560	0.455	9/23/02	1.090	0.347	9/8/03	1.360	0.398	8/20/04	2.250	0.344
9	10/30/00	1.020	0.265	10/15/01	1.580	0.463	9/30/02	1.070	0.349	9/15/03	1.350	0.384	8/27/04	2.320	0.347
10	11/6/00	1.020	0.265	10/22/01	1.580	0.472	10/7/02	1.060	0.347	9/22/03	1.350	0.384	9/3/04	2.380	0.344
11	11/13/00	1.020	0.263	10/29/01	1.560	0.472	10/14/02	1.040	0.347	9/29/03	1.340	0.384	9/10/04	2.520	0.347
12	11/20/00	1.020	0.258	11/5/01	1.540	0.469	10/21/02	1.040	0.344	10/6/03	1.360	0.381	9/17/04	2.540	0.341
13	11/27/00	1.060	0.257	11/12/01	1.520	0.463	10/28/02	1.040	0.344	10/13/03	1.370	0.378	9/24/04	2.550	0.335
14	12/4/00	1.100	0.255	11/19/01	1.440	0.432	11/4/02	1.040	0.335	10/20/03	1.396	0.384	10/1/04	2.580	0.341
15	12/11/00	1.120	0.253	11/26/01	1.440	0.432	11/11/02	1.052	0.321	10/27/03	1.386	0.381	10/8/04	2.500	0.341
16	12/18/00	1.120	0.257	12/3/01	1.400	0.412	11/18/02	1.048	0.318	11/3/03	1.376	0.375	10/15/04	2.440	0.347
17	12/25/00	1.180	0.257	12/10/01	1.340	0.375	11/25/02	1.052	0.321	11/10/03	1.370	0.372	10/22/04	2.440	0.344
18	1/1/01	1.220	0.259	12/17/01	1.330	0.381	12/2/02	1.060	0.321	11/17/03	1.360	0.366	10/29/04	2.440	0.341
19	1/8/01	1.300	0.273	12/24/01	1.240	0.369	12/9/02	1.060	0.321	11/24/03	1.386	0.366	11/5/04	2.440	0.338
20	1/15/01	1.320	0.275	12/31/01	1.240	0.372	12/16/02	1.080	0.341	12/1/03	1.386	0.366	11/12/04	2.430	0.330
21	1/22/01	1.400	0.289	1/7/02	1.240	0.358	12/23/02	1.120	0.341	12/8/03	1.450	0.372	11/19/04	2.420	0.330
22	1/29/01	1.440	0.291	1/14/02	1.200	0.347	12/30/02	1.120	0.338	12/15/03	1.468	0.375	11/26/04	2.390	0.327
23	2/5/01	1.480	0.313	1/21/02	1.160	0.321	1/6/03	1.120	0.338	12/22/03	1.480	0.352	12/3/04	2.360	0.327
24	2/12/01	1.480	0.342	1/28/02	1.100	0.290	1/13/03	1.120	0.332	12/29/03	1.480	0.352	12/10/04	2.330	0.321
25	2/19/01	1.440	0.403	2/4/02	1.040	0.290	1/20/03	1.140	0.332	12/31/03	1.500	0.355	12/17/04	2.240	0.324
26	2/26/01	1.440	0.460	2/11/02	1.000	0.284	1/27/03	1.130	0.332	1/9/04	1.640	0.375	12/24/04	2.210	0.321
27	3/5/01	1.520	0.597	2/18/02	1.000	0.270	2/3/03	1.140	0.332	1/16/04	1.590	0.378	12/30/04	2.260	0.321
28	3/12/01	1.520	0.597	2/25/02	0.940	0.270	2/10/03	1.140	0.330	1/23/04	1.750	0.369	1/7/05	2.220	0.344
29	3/19/01	1.600	0.696	3/4/02	0.920	0.276	2/17/03	1.190	0.327	1/30/04	1.780	0.358	1/14/05	2.290	0.347
30	3/26/01	1.660	0.696	3/11/02	0.920	0.298	2/24/03	1.224	0.324	2/6/04	1.790	0.358	1/21/05	2.300	0.349
31	4/2/01	1.680	0.696	3/18/02	1.040	0.304	3/3/03	1.250	0.324	2/13/04	1.960	0.355	1/28/05	2.320	0.349
32	4/9/01	1.820	0.696	3/25/02	1.060	0.330	3/10/03	1.240	0.324	2/20/04	1.960	0.349	2/4/05	2.320	0.352
33	4/16/01	1.940	0.682	4/1/02	1.040	0.332	3/17/03	1.310	0.341	2/27/04	2.116	0.358	2/11/05	2.300	0.352
34	4/23/01	2.000	0.690	4/8/02	1.050	0.347	3/24/03	1.300	0.341	3/5/04	2.360	0.372	2/18/05	2.310	0.355
35	4/30/01	1.960	0.781	4/15/02	1.090	0.341	3/31/03	1.270	0.338	3/12/04	2.180	0.372	2/25/05	2.320	0.358
36	5/7/01	2.010	0.795	4/22/02	1.110	0.330	4/7/03	1.270	0.335	3/19/04	2.220	0.372	3/4/05	2.360	0.361
37	5/14/01	1.980	0.795	4/29/02	1.090	0.327	4/14/03	1.300	0.332	3/26/04	2.240	0.372	3/11/05	2.380	0.366
38	5/21/01	1.980	0.795	5/6/02	1.090	0.327	4/21/03	1.310	0.327	4/2/04	2.180	0.398	3/18/05	2.410	0.372
39	5/28/01	1.960	0.739	5/13/02	1.090	0.327	4/28/03	1.300	0.327	4/9/04	2.180	0.392	3/25/05	2.400	0.375
40	6/4/01	1.960	0.739	5/20/02	1.040	0.318	5/5/03	1.290	0.327	4/16/04	2.080	0.349	4/1/05	2.430	0.398
41	6/11/01	1.960	0.724	5/27/02	1.030	0.318	5/12/03	1.290	0.327	4/23/04	2.190	0.341	4/8/05	2.410	0.409
42	6/18/01	1.920	0.682	6/3/02	0.990	0.313	5/19/03	1.290	0.327	4/30/04	2.150	0.349	4/15/05	2.420	0.426
43	6/25/01	1.900	0.639	6/10/02	0.980	0.301	5/26/03	1.290	0.315	5/7/04	2.160	0.344	4/22/05	2.440	0.446
44	7/2/01	1.900	0.611	6/17/02	0.980	0.298	6/2/03	1.250	0.324	5/14/04	2.170	0.347	4/29/05	2.440	0.449
45	7/9/01	1.900	0.597	6/24/02	0.990	0.304	6/9/03	1.230	0.324	5/21/04	2.210	0.344	5/6/05	2.450	0.455
46	7/16/01	1.880	0.469	7/1/02	1.050	0.304	6/16/03	1.260	0.330	5/28/04	2.200	0.341	5/13/05	2.390	0.457
47	7/23/01	1.800	0.440	7/8/02	1.050	0.313	6/23/03	1.200	0.324	6/4/04	2.140	0.338	5/20/05	2.360	0.457
48	7/30/01	1.800	0.440	7/15/02	1.080	0.318	6/30/03	1.200	0.324	6/11/04	2.140	0.335	5/27/05	2.320	0.457
49	8/6/01	1.800	0.355	7/22/02	1.100	0.318	7/7/03	1.240	0.324	6/18/04	2.160	0.332	6/3/05	2.300	0.457

50	8/13/01	1.810	0.355	7/29/02	1.140	0.318	7/14/03	1.220	0.318	6/25/04	2.170	0.330	6/10/05	2.280	0.460			

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
		Eastern Coal	Western Coal		Eastern Coal	Western Coal		Eastern Coal	Western Coal		Eastern Coal	Western Coal		Eastern Coal	Western Coal
Line	Date	$/MMBtu	$/MMBtu	Date	$/MMBtu	$/MMBtu	Date	$/MMBtu	$/MMBtu	Date	$/MMBtu	$/MMBtu	Date	$/MMBtu	$/MMBtu
1	6/17/05	2.240	0.457	6/2/06	2.010	0.710	5/18/07	1.740	0.520	5/2/08	3.640	0.824	4/17/09	1.910	0.500
2	6/24/05	2.180	0.463	6/9/06	1.980	0.696	5/25/07	1.740	0.520	5/9/08	3.720	0.795	4/24/09	1.800	0.477
3	7/1/05	2.210	0.489	6/16/06	1.990	0.690	6/1/07	1.720	0.528	5/16/08	3.860	0.801	5/1/09	1.720	0.460
4	7/8/05	2.210	0.503	6/23/06	1.990	0.673	6/8/07	1.730	0.545	5/23/08	4.120	0.830	5/8/09	1.750	0.455
5	7/15/05	2.240	0.534	6/30/06	1.960	0.625	6/15/07	1.750	0.560	5/30/08	4.000	0.739	5/15/09	1.770	0.463
6	7/22/05	2.200	0.545	7/7/06	1.920	0.645	6/22/07	1.730	0.568	6/6/08	4.154	0.750	5/22/09	1.760	0.466
7	7/29/05	2.260	0.574	7/14/06	1.900	0.628	6/29/07	1.680	0.568	6/13/08	4.370	0.739			
8	8/5/05	2.280	0.591	7/21/06	1.910	0.619	7/6/07	1.740	0.588	6/20/08	4.712	0.739			
9	8/12/05	2.260	0.611	7/28/06	1.970	0.591	7/13/07	1.750	0.611	6/27/08	5.120	0.682			
10	8/19/05	2.240	0.605	8/4/06	2.000	0.580	7/20/07	1.750	0.619	7/4/08	5.940	0.781			
11	8/26/05	2.200	0.597	8/11/06	2.000	0.568	7/27/07	1.720	0.614	7/11/08	5.680	0.739			
12	9/2/05	2.310	0.591	8/18/06	1.950	0.554	8/3/07	1.720	0.614	7/18/08	5.420	0.795			
13	9/9/05	2.300	0.580	8/25/06	1.960	0.540	8/10/07	1.720	0.628	7/25/08	5.320	0.795			
14	9/16/05	2.280	0.574	9/1/06	1.960	0.511	8/17/07	1.760	0.619	8/1/08	5.470	0.795			
15	9/23/05	2.240	0.563	9/8/06	1.960	0.469	8/24/07	1.720	0.619	8/8/08	5.540	0.710			
16	9/30/05	2.270	0.548	9/15/06	1.960	0.463	8/31/07	1.720	0.625	8/15/08	5.600	0.682			
17	10/7/05	2.340	0.767	9/22/06	1.950	0.455	9/7/07	1.720	0.625	8/22/08	5.520	0.682			
18	10/14/05	2.300	0.938	9/29/06	1.950	0.463	9/14/07	1.720	0.625	8/29/08	5.280	0.710			
19	10/21/05	2.280	1.065	10/6/06	1.920	0.514	9/21/07	1.760	0.616	9/5/08	4.840	0.597			
20	10/28/05	2.270	1.080	10/13/06	1.880	0.531	9/28/07	1.820	0.608	9/12/08	4.920	0.653			
21	11/4/05	2.260	1.009	10/20/06	1.860	0.537	10/5/07	1.920	0.611	9/19/08	5.160	0.625			
22	11/11/05	2.260	0.938	10/27/06	1.870	0.554	10/12/07	1.960	0.619	9/26/08	5.400	0.628			
23	11/18/05	2.280	0.895	11/3/06	1.860	0.574	10/19/07	2.020	0.639	10/3/08	5.120	0.807			
24	11/25/05	2.280	0.895	11/10/06	1.869	0.580	10/26/07	2.080	0.648	10/10/08	4.640	0.767			
25	12/2/05	2.290	0.923	11/17/06	1.840	0.568	11/2/07	2.120	0.648	10/17/08	4.210	0.761			
26	12/9/05	2.300	0.994	11/24/06	1.820	0.537	11/9/07	2.170	0.634	10/24/08	4.160	0.784			
27	12/16/05	2.320	1.037	12/1/06	1.760	0.523	11/16/07	2.240	0.625	10/31/08	3.680	0.795			
28	12/23/05	2.320	1.108	12/8/06	1.700	0.509	11/23/07	2.280	0.631	11/7/08	3.670	0.795			
29	12/30/05	2.300	1.165	12/15/06	1.650	0.491	11/30/07	2.280	0.639	11/14/08	3.320	0.739			
30	1/6/06	2.300	1.207	12/22/06	1.600	0.460	12/7/07	2.240	0.662	11/21/08	3.000	0.739			
31	1/13/06	2.270	1.222	12/29/06	1.560	0.446	12/14/07	2.200	0.676	11/28/08	2.880	0.744			
32	1/20/06	2.260	1.222	1/5/07	1.580	0.455	12/21/07	2.150	0.690	12/5/08	2.790	0.744			
33	1/27/06	2.290	1.207	1/12/07	1.560	0.443	12/28/07	2.160	0.688	12/12/08	2.600	0.744			
34	2/3/06	2.320	1.136	1/19/07	1.500	0.455	1/4/08	2.240	0.696	12/19/08	2.600	0.753			
35	2/10/06	2.300	1.065	1/26/07	1.470	0.472	1/11/08	2.280	0.696	12/26/08	2.520	0.753			
36	2/17/06	2.310	1.009	2/2/07	1.470	0.489	1/18/08	2.300	0.710	1/2/09	2.440	0.764			
37	2/24/06	2.280	0.966	2/9/07	1.520	0.511	1/25/08	2.380	0.739	1/9/09	2.430	0.781			
38	3/3/06	2.240	0.895	2/16/07	1.530	0.511	2/1/08	2.680	0.781	1/16/09	2.380	0.773			
39	3/10/06	2.240	0.824	2/23/07	1.550	0.500	2/8/08	3.000	0.824	1/23/09	2.300	0.767			
40	3/17/06	2.240	0.795	3/2/07	1.580	0.494	2/15/08	3.160	0.852	1/30/09	2.260	0.739			
41	3/24/06	2.180	0.764	3/9/07	1.600	0.477	2/22/08	3.280	0.872	2/6/09	2.240	0.696			
42	3/31/06	2.120	0.767	3/16/07	1.600	0.486	2/29/08	3.340	0.949	2/13/09	2.180	0.668			
43	4/7/06	2.080	0.787	3/23/07	1.620	0.491	3/7/08	3.240	0.844	2/20/09	2.120	0.611			
44	4/14/06	2.070	0.795	3/30/07	1.620	0.469	3/14/08	3.220	0.824	2/27/09	2.160	0.591			
45	4/21/06	2.070	0.793	4/6/07	1.700	0.466	3/21/08	3.240	0.818	3/6/09	2.120	0.557			
46	4/28/06	2.060	0.795	4/13/07	1.730	0.472	3/28/08	3.280	0.852	3/13/09	2.100	0.540			
47	5/5/06	2.070	0.795	4/20/07	1.730	0.472	4/4/08	3.290	0.795	3/20/09	2.040	0.526			
48	5/12/06	2.060	0.784	4/27/07	1.730	0.480	4/11/08	3.380	0.801	3/27/09	2.020	0.511			
49	5/19/06	2.010	0.759	5/4/07	1.720	0.483	4/18/08	3.420	0.807	4/3/09	1.980	0.511			
50	5/26/06	2.000	0.739	5/11/07	1.730	0.500	4/25/08	3.500	0.852	4/10/09	1.930	0.503			

BEI Electric Generation Alternatives Analysis
Figure 8 - CECo 2018 Projected Resource Mix

Line	(a)	(b) Consumers Energy MW	(c) Consumers Energy %
1	Coal	2,599	24%
2	Gas	3,065	29%
3	Nuclear	778	7%
4	Oil	664	6%
5	Purchases	298	3%
6	Pumped Storage	1,082	10%
7	Renewables (Non-Firm)	806	8%
8	Renewables (Firm)	423	4%
9	Demand Response	212	2%
10	A/C Load Control	308	3%
11	Energy Efficiency	378	4%
12	Total	10,612	100%

BEI Electric Generation Alternatives Analysis
Figure 9 - Coal System Emissions
NO_x, SO_2, Mercury

Line	(a)	(b) NO_x Tons	(c) SO_2 Tons	(d) Mercury Pounds
1	1980	37,946	146,635	
2	1985	46,119	141,082	
3	1990	45,996	97,079	
4	1995	48,572	95,865	
5	1996	51,802	99,346	
6	1997	49,121	97,529	
7	1998	57,431	111,034	
8	1999	54,278	113,514	
9	2000	39,526	94,361	
10	2001	32,956	93,781	
11	2002	33,294	92,874	
12	2003	34,137	93,082	
13	2004	28,474	79,911	
14	2005	30,954	91,075	
15	2006	28,245	86,009	
16	2007	22,939	75,950	
17	2008	22,501	74,369	581
18	2009	15,085	75,013	629
19	2010	15,677	77,572	632
20	2011	16,142	80,197	575
21	2012	12,728	74,370	521
22	2013	13,545	78,664	565
23	2014	13,089	64,711	565
24	2015	7,361	30,136	97
25	2016	5,859	29,440	97
26	2017	6,615	15,028	125
27	2018	3,818	6,570	108

BEI Electric Generation Alternatives Analysis
Figure 9 (Additional) - NO_X Emissions Comparison
No Retirements and No New Coal Plant vs. Retirements and New Coal Plant

Line	(a)	(b) No Retirements + No New Coal NO_x Tons	(c) Retirements + New Coal NO_x Tons	(d) Difference NO_x Tons
1	1980	37,946	37,946	0
2	1985	46,119	46,119	0
3	1990	45,996	45,996	0
4	1995	48,572	48,572	0
5	1996	51,802	51,802	0
6	1997	49,121	49,121	0
7	1998	57,431	57,431	0
8	1999	54,278	54,278	0
9	2000	39,526	39,526	0
10	2001	32,956	32,956	0
11	2002	33,294	33,294	0
12	2003	34,137	34,137	0
13	2004	28,474	28,474	0
14	2005	30,954	30,954	0
15	2006	28,245	28,245	0
16	2007	22,939	22,939	0
17	2008	22,501	22,501	0
18	2009	15,085	15,085	0
19	2010	15,677	15,677	0
20	2011	16,142	16,142	0
21	2012	12,728	12,728	0
22	2013	13,545	13,545	0
23	2014	13,089	13,089	0
24	2015	13,319	7,361	-5,958
25	2016	11,439	5,859	-5,580
26	2017	11,589	6,615	-4,974
27	2018	10,956	3,818	-7,139

BEI Electric Generation Alternatives Analysis
Figure 9 (Additional) - SO_2 Emissions Comparison
No Retirements and No New Coal Plant vs. Retirements and New Coal Plant

Line	(a)	(b) No Retirements + No New Coal SO_2 Tons	(c) Retirements + New Coal SO_2 Tons	(d) Difference SO_2 Tons
1	1980	146,635	146,635	0
2	1985	141,082	141,082	0
3	1990	97,079	97,079	0
4	1995	95,865	95,865	0
5	1996	99,346	99,346	0
6	1997	97,529	97,529	0
7	1998	111,034	111,034	0
8	1999	113,514	113,514	0
9	2000	94,361	94,361	0
10	2001	93,781	93,781	0
11	2002	92,874	92,874	0
12	2003	93,082	93,082	0
13	2004	79,911	79,911	0
14	2005	91,075	91,075	0
15	2006	86,009	86,009	0
16	2007	75,950	75,950	0
17	2008	74,369	74,369	0
18	2009	75,013	75,013	0
19	2010	77,572	77,572	0
20	2011	80,197	80,197	0
21	2012	74,370	74,370	0
22	2013	78,664	78,664	0
23	2014	64,711	64,711	0
24	2015	51,349	30,136	-21,213
25	2016	49,516	29,440	-20,076
26	2017	34,406	15,028	-19,378
27	2018	19,421	6,570	-12,851

BEI Electric Generation Alternatives Analysis
Figure 9 (Additional) - Mercury Emissions Comparison
No Retirements and No New Coal Plant vs. Retirements and New Coal Plant

Line	(a)	(b) No Retirements + No New Coal Mercury Pounds	(c) Retirements + New Coal Mercury Pounds	(d) Difference Mercury Pounds
1	1980	0	0	0
2	1985	0	0	0
3	1990	0	0	0
4	1995	0	0	0
5	1996	0	0	0
6	1997	0	0	0
7	1998	0	0	0
8	1999	0	0	0
9	2000	0	0	0
10	2001	0	0	0
11	2002	0	0	0
12	2003	0	0	0
13	2004	0	0	0
14	2005	0	0	0
15	2006	0	0	0
16	2007	0	0	0
17	2008	581	581	0
18	2009	629	629	0
19	2010	632	632	0
20	2011	575	575	0
21	2012	521	521	0
22	2013	565	565	0
23	2014	565	565	0
24	2015	117	97	-20
25	2016	117	97	-20
26	2017	117	125	8
27	2018	117	108	-10

BEI Electric Generation Alternatives Analysis
Figure 10 - Coal System Energy and Emissions
CO_2

Line	(a)	(b) CO_2 Tons (000)	(c) Energy GWh
1	1980	13,573	13,110
2	1985	16,609	16,829
3	1990	16,516	16,707
4	1995	17,795	16,382
5	1996	18,178	17,367
6	1997	17,712	16,864
7	1998	20,359	18,415
8	1999	21,601	19,541
9	2000	19,939	18,318
10	2001	21,588	19,683
11	2002	21,812	19,743
12	2003	22,826	20,562
13	2004	20,975	19,273
14	2005	22,018	20,171
15	2006	20,148	18,107
16	2007	19,904	18,219
17	2008	20,048	18,146
18	2009	20,393	19,153
19	2010	20,801	19,542
20	2011	21,745	20,408
21	2012	20,156	18,857
22	2013	21,312	19,894
23	2014	20,125	18,745
24	2015	16,554	15,377
25	2016	16,202	15,032
26	2017	19,287	18,407
27	2018	17,756	17,096

BEI Electric Generation Alternatives Analysis
Figure 10 (Additional) - CO_2 Emissions Comparison
No Retirements and No New Coal Plant vs. Retirements and New Coal Plant

Line	(a)	(b) No Retirements + No New Coal CO_2 Tons (000)	(c) Retirements + New Coal CO_2 Tons (000)	(d) Difference CO_2 Tons (000)
1	1980	13,573	13,573	0
2	1985	16,609	16,609	0
3	1990	16,516	16,516	0
4	1995	17,795	17,795	0
5	1996	18,178	18,178	0
6	1997	17,712	17,712	0
7	1998	20,359	20,359	0
8	1999	21,601	21,601	0
9	2000	19,939	19,939	0
10	2001	21,588	21,588	0
11	2002	21,812	21,812	0
12	2003	22,826	22,826	0
13	2004	20,975	20,975	0
14	2005	22,018	22,018	0
15	2006	20,148	20,148	0
16	2007	19,904	19,904	0
17	2008	20,048	20,048	0
18	2009	20,393	20,393	0
19	2010	20,801	20,801	0
20	2011	21,745	21,745	0
21	2012	20,156	20,156	0
22	2013	21,312	21,312	0
23	2014	20,125	20,125	0
24	2015	20,856	16,554	-4,301
25	2016	20,272	16,202	-4,070
26	2017	19,790	19,287	-503
27	2018	20,377	17,756	-2,621

BEI Electric Generation Alternatives Analysis
Table 2 - Capacity Shortfall

Line	(a)	(b) Capacity Shortfall Assuming 519 MW Share of New Plant MW
1	2008	(93)
2	2009	(286)
3	2010	(222)
4	2011	259
5	2012	180
6	2013	40
7	2014	(82)
8	2015	689
9	2016	592
10	2017	(17)
11	2018	219
12	2019	150
13	2020	115
14	2021	98
15	2022	855
16	2023	838
17	2024	822
18	2025	897
19	2026	885
20	2027	874
21	2028	864
22	2029	855
23	2030	853

BEI Electric Generation Alternatives Analysis
Table 3 - Delivered Fuel Cost Comparison

Line	(a)	(b) Western Sub-Bituminous Coal $/MMBtu 2008$	(c) Eastern Bituminous Coal $/MMBtu 2008$	(d) Biomass - Wood $/MMBtu 2008$	(e) Western Sub-Bituminous Coal $/Ton 2008$	(f) Eastern Bituminous Coal $/Ton 2008$	(g) Biomass - Wood $/Ton 2008$
1	2008	1.92	6.39	2.94	31.92	157.21	29.84
2	2009	1.94	3.60	3.00	32.27	88.61	30.44
3	2010	2.41	3.70	3.06	39.98	91.07	31.05
4	2011	2.44	3.65	3.12	40.51	89.75	31.67
5	2012	2.46	3.57	3.18	40.85	87.91	32.30
6	2013	2.47	3.51	3.25	40.98	86.39	32.95
7	2014	2.51	3.55	3.31	41.63	87.43	33.61
8	2015	2.61	3.58	3.38	43.25	87.95	34.28
9	2016	2.64	3.62	3.44	43.86	89.06	34.96
10	2017	2.67	3.65	3.51	44.25	89.86	35.66
11	2018	2.69	3.70	3.58	44.66	90.91	36.38
12	2019	2.72	3.74	3.66	45.15	92.03	37.10
13	2020	2.74	3.77	3.73	45.43	92.63	37.85
14	2021	2.76	3.79	3.80	45.78	93.29	38.60
15	2022	2.78	3.82	3.88	46.13	93.98	39.37
16	2023	2.80	3.85	3.96	46.47	94.61	40.16
17	2024	2.82	3.87	4.04	46.77	95.20	40.97
18	2025	2.84	3.90	4.12	47.10	95.94	41.78
19	2026	2.86	3.94	4.20	47.46	96.93	42.62
20	2027	2.88	3.96	4.28	47.74	97.48	43.47
21	2028	2.89	3.99	4.37	48.00	98.06	44.34
22	2029	2.91	4.02	4.46	48.29	98.77	45.23
23	2030	2.93	4.04	4.55	48.57	99.50	46.13
24	Avg 2009-2030:	2.67	3.76	3.72	44.32	92.50	37.76

Heat Content (Btu/lb)

Western Sub-Bituminous Coal =	8,300
Eastern Bituminous Coal =	12,300
Biomass - Wood =	5,075

BEI Electric Generation Alternatives Analysis
Table 4 - Projected Emission Reductions

Line	(a)	(b) CO_2 Tons (000)	(c) NO_x Tons	(d) SO_2 Tons	(e) Mercury Pounds
1	2008	20,048	22,501	74,369	581
2	2018 - Existing Fleet and No New Plant	20,377	10,956	19,421	117
3	2018 - New Plant with Assumed Retirements	17,756	3,818	6,570	108
4					
5					
6		CO_2	NO_x	SO_2	Mercury
7		Reduction from 2008	Reduction from 2008	Reduction from 2008	Reduction from 2008
8	2008	0%	0%	0%	0%
9	2018 - Existing Fleet and No New Plant	-2%	51%	74%	80%
10	2018 - New Plant with Assumed Retirements	11%	83%	91%	81%

BEI Electric Generation Alternatives Analysis
Table 5 - Coal Technology Cost Summary
Levelized Cost of Advanced Supercritical Pulverized Coal Plant

1	COD (Jan1)	2009
2	Size MW	830
3	Plant Life Years	40
4	Last Year of Service	2048
5	Capital Cost + AFUDC (EOY 2008) $/kW	3276
6	Capital Cost (@ COD) $/kW	3276
7	Network Upgrade Cost (EOY 2009) $/kW	166
8	Network Upgrade Cost (@ COD) $/kW	166
9	Capital Fixed Charge Rate	12.3807%
10	Network Upgrade Fixed Charge Rate	20.0000%
11	Capital Cost Escalation Rate	4%
12	O&M Escalation Rate	2%
13	Long-term NOx Escalation Rate (2031+)	0.00%
14	Long-term SO2 Escalation Rate (2031+)	2.50%
15	Long-term CO2 Escalation Rate (2031+)	7.50%
16	Long-term Fuel Escalation Rate (2031+)	2.60%
17	Discount Rate	8.98%
18		
19		

20			2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
21	NOx	$/Ton	2,626.56	2,584.54	2,428.39	2,489.10	2,551.33	2,720.71	2,896.97	2,894.62	2,908.68	2,629.95	2,378.70	2,152.23	1,948.12	1,764.19	1,598.45	1,449.14	1,314.64
22	SO2	$/Ton	174.25	458.61	742.96	1,027.32	1,311.67	1,277.24	1,440.09	1,697.50	1,913.94	1,961.78	2,010.83	1,648.88	1,352.08	1,108.71	909.14	745.49	611.31
23	CO2	$/Ton	0.00	0.00	0.00	22.30	23.72	25.46	27.29	29.05	30.75	32.53	34.46	36.71	39.53	42.54	45.75	49.19	52.86
24	Fuel	$/MMBtu	1.98	2.51	2.59	2.66	2.73	2.82	2.99	3.10	3.19	3.28	3.38	3.47	3.57	3.67	3.77	3.87	3.97
25	Heat Rate	Btu/kWh	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134
26	FOM	$/kW-yr	35.88	36.60	37.33	38.08	38.84	39.62	40.41	41.22	42.04	42.89	43.74	44.62	45.51	46.42	47.35	48.30	49.26
27	VOM	$/MWh	2.47	2.52	2.57	2.62	2.67	2.73	2.78	2.84	2.89	2.95	3.01	3.07	3.13	3.20	3.26	3.32	3.39
28	NOx	lb/MMBtu	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
29	SO2	lb/MMBtu	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
30	CO2	lb/MMBtu	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30
31	NOx	lb/MWh	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
32	SO2	lb/MWh	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
33	CO2	T/MWh	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
34																			
35	Size	MW	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830
36	Capacity Factor	%	91.07%	90.69%	91.10%	91.10%	91.10%	91.07%	90.69%	90.29%	89.93%	88.77%	88.55%	88.04%	87.20%	86.44%	86.25%	86.19%	82.40%
37	Generation	GWh	6,622	6,594	6,624	6,624	6,624	6,622	6,594	6,565	6,539	6,454	6,438	6,401	6,340	6,285	6,271	6,267	5,991
38																			
39	Capital Cost	$000	336,641	336,641	336,641	336,641	336,641	336,641	336,641	336,641	336,641	336,641	336,641	336,641	336,641	336,641	336,641	336,641	336,641
40	Network Upgrade Cost	$000	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556
41	Fuel Cost	$000	119,918	150,922	156,688	161,148	164,894	170,803	180,245	185,637	190,281	193,316	198,878	202,923	206,598	210,473	215,779	221,407	217,426
42	Fixed O&M	$000	29,784	30,380	30,987	31,607	32,239	32,884	33,542	34,212	34,897	35,595	36,307	37,033	37,773	38,529	39,299	40,085	40,887
43	Variable O&M	$000	16,358	16,616	17,024	17,364	17,712	18,060	18,345	18,628	18,926	19,055	19,388	19,661	19,863	20,083	20,440	20,836	20,317
44	NOx	$000	3,972	3,892	3,673	3,765	3,859	4,114	4,362	4,339	4,343	3,876	3,497	3,146	2,820	2,532	2,289	2,074	1,798
45	SO2	$000	316	829	1,348	1,865	2,381	2,318	2,602	3,054	3,429	3,470	3,548	2,892	2,349	1,909	1,562	1,280	1,004
46	CO2	$000	0	0	0	139,143	148,035	158,824	169,563	179,683	189,440	197,793	209,031	221,417	236,150	251,905	270,324	290,416	298,346
47																			
48	Total Cost (Mix of Annual+Levelized)	$000	534,545	566,835	573,917	719,089	733,317	751,200	772,856	789,751	805,514	817,301	834,846	851,269	869,751	889,629	913,892	940,295	943,975
49	40-Year Levelized Cost	$000	839,790	839,790	839,790	839,790	839,790	839,790	839,790	839,790	839,790	839,790	839,790	839,790	839,790	839,790	839,790	839,790	839,790
50	Total Cost (Mix of Annual+Levelized)	$/MWh	81	86	87	109	111	113	117	120	123	127	130	133	137	142	146	150	158
51																			
52																			
53	40-Year PV @ COD	$000	9,051,848																
54	40-Year PV @ COD	GWh	68,134																
55	40-Year Levelized Cost @ COD	$000	839,790																
56	40-Year Levelized $/MWh @ COD	$/MWh	133																
57																			
58	**40-Year Levelized $/MWh (2008$) Excl. CO2**	**$/MWh**	**97**																
59	**40-Year Levelized $/MWh (2008$) Incl. CO2**	**$/MWh**	**133**																

2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
1,193.51	1,084.45	986.27	897.91	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42
313.29	321.13	329.15	337.38	345.82	354.46	363.33	372.41	381.72	391.26	401.04	411.07	421.35	431.88	442.68	453.74	465.09	476.71	488.63	500.85	513.37	526.20	539.36
56.96	61.35	65.79	70.56	76.12	81.83	87.96	94.56	101.65	109.28	117.47	126.28	135.75	145.94	156.88	168.65	181.30	194.89	209.51	225.22	242.12	260.27	279.79
4.08	4.19	4.30	4.41	4.52	4.64	4.76	4.89	5.01	5.14	5.28	5.41	5.55	5.70	5.85	6.00	6.15	6.32	6.48	6.65	6.82	7.00	7.18
9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134
50.25	51.25	52.28	53.32	54.39	55.48	56.59	57.72	58.87	60.05	61.25	62.48	63.73	65.00	66.30	67.63	68.98	70.36	71.76	73.20	74.66	76.16	77.68
3.46	3.53	3.60	3.67	3.74	3.82	3.90	3.97	4.05	4.13	4.22	4.30	4.39	4.47	4.56	4.66	4.75	4.84	4.94	5.04	5.14	5.24	5.35
0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30
0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830
80.88%	79.93%	78.60%	77.41%	74.72%	74.72%	74.72%	74.72%	74.72%	74.72%	74.72%	74.72%	74.72%	74.72%	74.72%	74.72%	74.72%	74.72%	74.72%	74.72%	74.72%	74.72%	74.72%
5,881	5,812	5,715	5,628	5,433	5,433	5,433	5,433	5,433	5,433	5,433	5,433	5,433	5,433	5,433	5,433	5,433	5,433	5,433	5,433	5,433	5,433	5,433
336,641	336,641	336,641	336,641	336,641	336,641	336,641	336,641	336,641	336,641	336,641	336,641	336,641	336,641	336,641	336,641	336,641	336,641	336,641	336,641	336,641	336,641	336,641
27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556
219,349	222,386	224,310	226,643	224,471	230,307	236,295	242,439	248,742	255,210	261,845	268,653	275,638	282,805	290,157	297,702	305,442	313,383	321,531	329,891	338,468	347,268	356,297
41,705	42,539	43,390	44,257	45,143	46,045	46,966	47,906	48,864	49,841	50,838	51,855	52,892	53,950	55,029	56,129	57,252	58,397	59,565	60,756	61,971	63,211	64,475
20,341	20,504	20,567	20,660	20,342	20,749	21,164	21,587	22,019	22,460	22,909	23,367	23,834	24,311	24,797	25,293	25,799	26,315	26,841	27,378	27,926	28,484	29,054
1,603	1,439	1,287	1,154	1,015	1,015	1,015	1,015	1,015	1,015	1,015	1,015	1,015	1,015	1,015	1,015	1,015	1,015	1,015	1,015	1,015	1,015	1,015
505	511	515	520	515	528	541	554	568	582	597	612	627	643	659	676	692	710	727	746	764	783	803
315,590	335,943	354,230	374,180	389,635	418,857	450,271	484,042	520,345	559,371	601,324	646,423	694,905	747,022	803,049	863,278	928,024	997,625	1,072,447	1,152,881	1,239,347	1,332,298	1,432,220
963,289	987,520	1,008,497	1,031,612	1,045,318	1,081,699	1,120,451	1,161,741	1,205,751	1,252,676	1,302,725	1,356,122	1,413,108	1,473,943	1,538,904	1,608,290	1,682,421	1,761,643	1,846,325	1,936,864	2,033,689	2,137,257	2,248,062
839,790	839,790	839,790	839,790	839,790	839,790	839,790	839,790	839,790	839,790	839,790	839,790	839,790	839,790	839,790	839,790	839,790	839,790	839,790	839,790	839,790	839,790	839,790
164	170	176	183	192	199	206	214	222	231	240	250	260	271	283	296	310	324	340	356	374	393	414

BEI Electric Generation Alternatives Analysis
Table 5 - Coal Technology Cost Summary
Levelized Cost of Subcritical Pulverized Coal Plant

1	COD (Jan1)	2009
2	Size MW	830
3	Plant Life Years	40
4	Last Year of Service	2048
5	Capital Cost + AFUDC (EOY 2008) $/kW	3148
6	Capital Cost (@ COD) $/kW	3148
7	Network Upgrade Cost (EOY 2009) $/kW	166
8	Network Upgrade Cost (@ COD) $/kW	166
9	Capital Fixed Charge Rate	12.3807%
10	Network Upgrade Fixed Charge Rate	20.0000%
11	Capital Cost Escalation Rate	4%
12	O&M Escalation Rate	2%
13	Long-term NOx Escalation Rate (2031+)	0.00%
14	Long-term SO2 Escalation Rate (2031+)	2.50%
15	Long-term CO2 Escalation Rate (2031+)	7.50%
16	Long-term Fuel Escalation Rate (2031+)	2.60%
17	Discount Rate	8.98%
18		
19		

20			2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
21	NOx	$/Ton	2,626.56	2,584.54	2,428.39	2,489.10	2,551.33	2,720.71	2,896.97	2,894.62	2,908.68	2,629.95	2,378.70	2,152.23	1,948.12	1,764.19	1,598.45	1,449.14	1,314.64
22	SO2	$/Ton	174.25	458.61	742.96	1,027.32	1,311.67	1,277.24	1,440.09	1,697.50	1,913.94	1,961.78	2,010.83	1,648.88	1,352.08	1,108.71	909.14	745.49	611.31
23	CO2	$/Ton	0.00	0.00	0.00	22.30	23.72	25.46	27.29	29.05	30.75	32.53	34.46	36.71	39.53	42.54	45.75	49.19	52.86
24	Fuel	$/MMBtu	1.98	2.51	2.59	2.66	2.73	2.82	2.99	3.10	3.19	3.28	3.38	3.47	3.57	3.67	3.77	3.87	3.97
25	Heat Rate	Btu/kWh	9,407	9,407	9,407	9,407	9,407	9,407	9,407	9,407	9,407	9,407	9,407	9,407	9,407	9,407	9,407	9,407	9,407
26	FOM	$/kW-yr	35.31	36.02	36.74	37.47	38.22	38.99	39.77	40.56	41.37	42.20	43.04	43.90	44.78	45.68	46.59	47.52	48.47
27	VOM	$/MWh	2.45	2.50	2.55	2.60	2.65	2.71	2.76	2.81	2.87	2.93	2.99	3.05	3.11	3.17	3.23	3.30	3.36
28	NOx	lb/MMBtu	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
29	SO2	lb/MMBtu	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
30	CO2	lb/MMBtu	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30
31	NOx	lb/MWh	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47
32	SO2	lb/MWh	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
33	CO2	T/MWh	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
34																			
35	Size	MW	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830
36	Capacity Factor	%	86.37%	85.73%	86.50%	86.50%	86.42%	85.93%	85.62%	84.44%	83.72%	81.74%	81.92%	80.94%	79.81%	78.18%	77.88%	77.93%	73.99%
37	Generation	GWh	6,280	6,233	6,289	6,289	6,284	6,248	6,226	6,139	6,087	5,943	5,956	5,885	5,803	5,685	5,662	5,666	5,380
38																			
39	Capital Cost	$000	323,488	323,488	323,488	323,488	323,488	323,488	323,488	323,488	323,488	323,488	323,488	323,488	323,488	323,488	323,488	323,488	323,488
40	Network Upgrade Cost	$000	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556
41	Fuel Cost	$000	117,126	146,923	153,223	157,584	161,103	165,982	175,258	178,806	182,427	183,324	189,478	192,141	194,742	196,070	200,660	206,158	201,073
42	Fixed O&M	$000	29,307	29,894	30,491	31,101	31,723	32,358	33,005	33,665	34,338	35,025	35,726	36,440	37,169	37,912	38,671	39,444	40,233
43	Variable O&M	$000	15,389	15,580	16,035	16,356	16,668	16,905	17,181	17,282	17,477	17,405	17,792	17,931	18,034	18,021	18,309	18,687	18,097
44	NOx	$000	3,879	3,789	3,592	3,682	3,770	3,998	4,241	4,179	4,164	3,676	3,332	2,979	2,658	2,359	2,129	1,931	1,663
45	SO2	$000	309	807	1,319	1,823	2,326	2,252	2,530	2,941	3,288	3,290	3,380	2,738	2,214	1,779	1,453	1,192	928
46	CO2	$000	0	0	0	136,066	144,632	154,340	164,871	173,071	181,620	187,570	199,151	209,652	222,599	234,667	251,382	270,415	275,908
47																			
48	Total Cost (Mix of Annual+Levelized)	$000	517,055	548,036	555,703	697,656	711,267	726,879	748,131	760,990	774,359	781,334	799,903	812,925	828,460	841,851	863,646	888,871	888,947
49	40-Year Levelized Cost	$000	798,257	798,257	798,257	798,257	798,257	798,257	798,257	798,257	798,257	798,257	798,257	798,257	798,257	798,257	798,257	798,257	798,257
50	Total Cost (Mix of Annual+Levelized)	$/MWh	82	88	88	111	113	116	120	124	127	131	134	138	143	148	153	157	165
51																			
52																			
53	40-Year PV @ COD	$000	8,604,176																
54	40-Year PV @ COD	GWh	63,079																
55	40-Year Levelized Cost @ COD	$000	798,257																
56	40-Year Levelized $/MWh @ COD	$/MWh	136																
57																			
58	**40-Year Levelized $/MWh (2008$) Excl. CO2**	**$/MWh**	**101**																
59	**40-Year Levelized $/MWh (2008$) Incl. CO2**	**$/MWh**	**136**																

2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
1,193.51	1,084.45	986.27	897.91	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42
313.29	321.13	329.15	337.38	345.82	354.46	363.33	372.41	381.72	391.26	401.04	411.07	421.35	431.88	442.68	453.74	465.09	476.71	488.63	500.85	513.37	526.20	539.36
56.96	61.35	65.79	70.56	76.12	81.83	87.96	94.56	101.65	109.28	117.47	126.28	135.75	145.94	156.88	168.65	181.30	194.89	209.51	225.22	242.12	260.27	279.79
4.08	4.19	4.30	4.41	4.52	4.64	4.76	4.89	5.01	5.14	5.28	5.41	5.55	5.70	5.85	6.00	6.15	6.32	6.48	6.65	6.82	7.00	7.18
9,407	9,407	9,407	9,407	9,407	9,407	9,407	9,407	9,407	9,407	9,407	9,407	9,407	9,407	9,407	9,407	9,407	9,407	9,407	9,407	9,407	9,407	9,407
49.44	50.43	51.44	52.47	53.52	54.59	55.68	56.79	57.93	59.09	60.27	61.48	62.71	63.96	65.24	66.54	67.87	69.23	70.62	72.03	73.47	74.94	76.44
3.43	3.50	3.57	3.64	3.71	3.79	3.86	3.94	4.02	4.10	4.18	4.27	4.35	4.44	4.53	4.62	4.71	4.80	4.90	5.00	5.10	5.20	5.30
0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30
0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47
0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830
71.41%	70.54%	68.84%	68.25%	65.83%	65.83%	65.83%	65.83%	65.83%	65.83%	65.83%	65.83%	65.83%	65.83%	65.83%	65.83%	65.83%	65.83%	65.83%	65.83%	65.83%	65.83%	65.83%
5,192	5,129	5,005	4,962	4,786	4,786	4,786	4,786	4,786	4,786	4,786	4,786	4,786	4,786	4,786	4,786	4,786	4,786	4,786	4,786	4,786	4,786	4,786
323,488	323,488	323,488	323,488	323,488	323,488	323,488	323,488	323,488	323,488	323,488	323,488	323,488	323,488	323,488	323,488	323,488	323,488	323,488	323,488	323,488	323,488	323,488
27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556
199,469	202,124	202,325	205,794	203,657	208,952	214,385	219,959	225,678	231,545	237,566	243,742	250,080	256,582	263,253	270,097	277,120	284,325	291,718	299,302	307,084	315,068	323,260
41,038	41,858	42,695	43,549	44,420	45,309	46,215	47,139	48,082	49,044	50,025	51,025	52,046	53,086	54,148	55,231	56,336	57,462	58,612	59,784	60,980	62,199	63,443
17,817	17,951	17,869	18,069	17,777	18,133	18,495	18,865	19,243	19,627	20,020	20,420	20,829	21,245	21,670	22,104	22,546	22,997	23,457	23,926	24,404	24,892	25,390
1,457	1,308	1,161	1,048	921	921	921	921	921	921	921	921	921	921	921	921	921	921	921	921	921	921	921
459	465	465	472	467	479	491	503	516	528	542	555	569	583	598	613	628	644	660	676	693	711	729
286,988	305,335	319,512	339,760	353,506	380,019	408,520	439,159	472,096	507,504	545,566	586,484	630,470	677,755	728,587	783,231	841,974	905,122	973,006	1,045,981	1,124,430	1,208,762	1,299,419
898,273	920,085	935,071	959,737	971,793	1,004,856	1,040,071	1,077,591	1,117,579	1,160,214	1,205,683	1,254,192	1,305,958	1,361,217	1,420,221	1,483,241	1,550,568	1,622,515	1,699,416	1,781,634	1,869,556	1,963,597	2,064,206
798,257	798,257	798,257	798,257	798,257	798,257	798,257	798,257	798,257	798,257	798,257	798,257	798,257	798,257	798,257	798,257	798,257	798,257	798,257	798,257	798,257	798,257	798,257
173	179	187	193	203	210	217	225	234	242	252	262	273	284	297	310	324	339	355	372	391	410	431

BEI Electric Generation Alternatives Analysis
Table 5 - Coal Technology Cost Summary
Levelized Cost of Subcritical Circulating Fluidized Bed Coal Plant

1	COD (Jan1)	2009
2	Size MW	830
3	Plant Life Years	40
4	Last Year of Service	2048
5	Capital Cost + AFUDC (EOY 2008) $/kW	3571
6	Capital Cost (@ COD) $/kW	3571
7	Network Upgrade Cost (EOY 2009) $/kW	166
8	Network Upgrade Cost (@ COD) $/kW	166
9	Capital Fixed Charge Rate	12.3807%
10	Network Upgrade Fixed Charge Rate	20.0000%
11	Capital Cost Escalation Rate	4%
12	O&M Escalation Rate	2%
13	Long-term NOx Escalation Rate (2031+)	0.00%
14	Long-term SO2 Escalation Rate (2031+)	2.50%
15	Long-term CO2 Escalation Rate (2031+)	7.50%
16	Long-term Fuel Escalation Rate (2031+)	2.60%
17	Discount Rate	8.98%
18		
19		

20			2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
21	NOx	$/Ton	2,626.56	2,584.54	2,428.39	2,489.10	2,551.33	2,720.71	2,896.97	2,894.62	2,908.68	2,629.95	2,378.70	2,152.23	1,948.12	1,764.19	1,598.45	1,449.14	1,314.64
22	SO2	$/Ton	174.25	458.61	742.96	1,027.32	1,311.67	1,277.24	1,440.09	1,697.50	1,913.94	1,961.78	2,010.83	1,648.88	1,352.08	1,108.71	909.14	745.49	611.31
23	CO2	$/Ton	0.00	0.00	0.00	22.30	23.72	25.46	27.29	29.05	30.75	32.53	34.46	36.71	39.53	42.54	45.75	49.19	52.86
24	Fuel	$/MMBtu	1.98	2.51	2.59	2.66	2.73	2.82	2.99	3.10	3.19	3.28	3.38	3.47	3.57	3.67	3.77	3.87	3.97
25	Heat Rate	Btu/kWh	9,798	9,798	9,798	9,798	9,798	9,798	9,798	9,798	9,798	9,798	9,798	9,798	9,798	9,798	9,798	9,798	9,798
26	FOM	$/kW-yr	34.27	34.95	35.65	36.37	37.09	37.84	38.59	39.36	40.15	40.96	41.77	42.61	43.46	44.33	45.22	46.12	47.04
27	VOM	$/MWh	1.34	1.37	1.40	1.42	1.45	1.48	1.51	1.54	1.57	1.60	1.64	1.67	1.70	1.74	1.77	1.81	1.84
28	NOx	lb/MMBtu	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
29	SO2	lb/MMBtu	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
30	CO2	lb/MMBtu	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30
31	NOx	lb/MWh	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
32	SO2	lb/MWh	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
33	CO2	T/MWh	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
34																			
35	Size	MW	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830
36	Capacity Factor	%	86.97%	86.48%	87.00%	87.00%	86.92%	86.35%	86.02%	84.36%	83.53%	81.69%	81.64%	79.93%	79.15%	77.37%	76.41%	76.57%	71.59%
37	Generation	GWh	6,324	6,288	6,326	6,326	6,320	6,279	6,254	6,134	6,073	5,940	5,936	5,812	5,755	5,625	5,556	5,567	5,205
38																			
39	Capital Cost	$000	366,955	366,955	366,955	366,955	366,955	366,955	366,955	366,955	366,955	366,955	366,955	366,955	366,955	366,955	366,955	366,955	366,955
40	Network Upgrade Cost	$000	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556
41	Fuel Cost	$000	122,846	154,376	160,514	165,082	168,769	173,724	183,377	186,058	189,580	190,838	196,686	197,635	201,179	202,086	205,066	210,974	202,653
42	Fixed O&M	$000	28,444	29,013	29,593	30,185	30,788	31,404	32,032	32,673	33,326	33,993	34,673	35,366	36,074	36,795	37,531	38,282	39,047
43	Variable O&M	$000	8,483	8,603	8,828	9,004	9,176	9,299	9,448	9,451	9,545	9,522	9,706	9,693	9,791	9,761	9,833	10,050	9,586
44	NOx	$000	4,069	3,981	3,763	3,857	3,950	4,184	4,438	4,349	4,327	3,826	3,459	3,064	2,746	2,431	2,175	1,976	1,676
45	SO2	$000	324	848	1,381	1,910	2,437	2,357	2,647	3,060	3,417	3,425	3,508	2,817	2,287	1,833	1,485	1,220	935
46	CO2	$000	0	0	0	142,541	151,515	161,540	172,509	180,091	188,742	195,258	206,726	215,647	229,956	241,867	256,902	276,732	278,075
47																			
48	Total Cost (Mix of Annual+Levelized)	$000	558,676	591,332	598,590	747,091	761,146	777,019	798,962	810,194	823,448	831,373	849,269	858,732	876,545	889,285	907,503	933,745	926,484
49	40-Year Levelized Cost	$000	844,482	844,482	844,482	844,482	844,482	844,482	844,482	844,482	844,482	844,482	844,482	844,482	844,482	844,482	844,482	844,482	844,482
50	Total Cost (Mix of Annual+Levelized)	$/MWh	88	94	95	118	120	124	128	132	136	140	143	148	152	158	163	168	178
51																			
52																			
53	40-Year PV @ COD	$000	9,102,420																
54	40-Year PV @ COD	GWh	62,818																
55	40-Year Levelized Cost @ COD	$000	844,482																
56	40-Year Levelized $/MWh @ COD	$/MWh	145																
57																			
58	**40-Year Levelized $/MWh (2008$) Excl. CO2**	**$/MWh**	**108**																
59	**40-Year Levelized $/MWh (2008$) Incl. CO2**	**$/MWh**	**145**																

2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
1,193.51	1,084.45	986.27	897.91	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42
313.29	321.13	329.15	337.38	345.82	354.46	363.33	372.41	381.72	391.26	401.04	411.07	421.35	431.88	442.68	453.74	465.09	476.71	488.63	500.85	513.37	526.20	539.36
56.96	61.35	65.79	70.56	76.12	81.83	87.96	94.56	101.65	109.28	117.47	126.28	135.75	145.94	156.88	168.65	181.30	194.89	209.51	225.22	242.12	260.27	279.79
4.08	4.19	4.30	4.41	4.52	4.64	4.76	4.89	5.01	5.14	5.28	5.41	5.55	5.70	5.85	6.00	6.15	6.32	6.48	6.65	6.82	7.00	7.18
9,798	9,798	9,798	9,798	9,798	9,798	9,798	9,798	9,798	9,798	9,798	9,798	9,798	9,798	9,798	9,798	9,798	9,798	9,798	9,798	9,798	9,798	9,798
47.99	48.95	49.92	50.92	51.94	52.98	54.04	55.12	56.22	57.35	58.49	59.66	60.86	62.07	63.32	64.58	65.87	67.19	68.54	69.91	71.30	72.73	74.18
1.88	1.92	1.95	1.99	2.03	2.07	2.12	2.16	2.20	2.24	2.29	2.34	2.38	2.43	2.48	2.53	2.58	2.63	2.68	2.74	2.79	2.85	2.90
0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30
0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830
68.75%	67.87%	66.83%	65.90%	64.40%	64.40%	64.40%	64.40%	64.40%	64.40%	64.40%	64.40%	64.40%	64.40%	64.40%	64.40%	64.40%	64.40%	64.40%	64.40%	64.40%	64.40%	64.40%
4,998	4,934	4,859	4,791	4,682	4,682	4,682	4,682	4,682	4,682	4,682	4,682	4,682	4,682	4,682	4,682	4,682	4,682	4,682	4,682	4,682	4,682	4,682
366,955	366,955	366,955	366,955	366,955	366,955	366,955	366,955	366,955	366,955	366,955	366,955	366,955	366,955	366,955	366,955	366,955	366,955	366,955	366,955	366,955	366,955	366,955
27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556
199,997	202,547	204,581	206,967	207,508	212,903	218,438	224,118	229,945	235,923	242,057	248,351	254,808	261,433	268,230	275,204	282,359	289,701	297,233	304,961	312,890	321,025	329,372
39,828	40,625	41,437	42,266	43,111	43,973	44,853	45,750	46,665	47,598	48,550	49,521	50,512	51,522	52,552	53,603	54,675	55,769	56,884	58,022	59,182	60,366	61,573
9,388	9,453	9,495	9,550	9,519	9,710	9,904	10,102	10,304	10,510	10,720	10,935	11,153	11,376	11,604	11,836	12,073	12,314	12,560	12,812	13,068	13,329	13,596
1,461	1,311	1,174	1,054	939	939	939	939	939	939	939	939	939	939	939	939	939	939	939	939	939	939	939
460	466	470	475	476	488	500	513	525	538	552	566	580	594	609	624	640	656	672	689	707	724	742
287,747	305,972	323,075	341,696	360,190	387,204	416,244	447,463	481,022	517,099	555,881	597,572	642,390	690,570	742,362	798,040	857,893	922,235	991,402	1,065,757	1,145,689	1,231,616	1,323,987
933,394	954,885	974,744	996,519	1,016,254	1,049,727	1,085,389	1,123,394	1,163,911	1,207,119	1,253,211	1,302,395	1,354,893	1,410,945	1,470,808	1,534,757	1,603,090	1,676,124	1,754,202	1,837,691	1,926,986	2,022,510	2,124,720
844,482	844,482	844,482	844,482	844,482	844,482	844,482	844,482	844,482	844,482	844,482	844,482	844,482	844,482	844,482	844,482	844,482	844,482	844,482	844,482	844,482	844,482	844,482
187	194	201	208	217	224	232	240	249	258	268	278	289	301	314	328	342	358	375	392	412	432	454

BEI Electric Generation Alternatives Analysis
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1	COD (Jan1)	2009
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6	Capital Cost (@ COD) $/kW	3686
7	Network Upgrade Cost (EOY 2009) $/kW	166
8	Network Upgrade Cost (@ COD) $/kW	166
9	Capital Fixed Charge Rate	12.3807%
10	Network Upgrade Fixed Charge Rate	20.0000%
11	Capital Cost Escalation Rate	4%
12	O&M Escalation Rate	2%
13	Long-term NOx Escalation Rate (2031+)	0.00%
14	Long-term SO2 Escalation Rate (2031+)	2.50%
15	Long-term CO2 Escalation Rate (2031+)	7.50%
16	Long-term Fuel Escalation Rate (2031+)	2.60%
17	Discount Rate	8.98%
18		
19		

20			2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
21	NOx	$/Ton	2,626.56	2,584.54	2,428.39	2,489.10	2,551.33	2,720.71	2,896.97	2,894.62	2,908.68	2,629.95	2,378.70	2,152.23	1,948.12	1,764.19	1,598.45	1,449.14	1,314.64
22	SO2	$/Ton	174.25	458.61	742.96	1,027.32	1,311.67	1,277.24	1,440.09	1,697.50	1,913.94	1,961.78	2,010.83	1,648.88	1,352.08	1,108.71	909.14	745.49	611.31
23	CO2	$/Ton	0.00	0.00	0.00	22.30	23.72	25.46	27.29	29.05	30.75	32.53	34.46	36.71	39.53	42.54	45.75	49.19	52.86
24	Fuel	$/MMBtu	1.98	2.51	2.59	2.66	2.73	2.82	2.99	3.10	3.19	3.28	3.38	3.47	3.57	3.67	3.77	3.87	3.97
25	Heat Rate	Btu/kWh	9,508	9,508	9,508	9,508	9,508	9,508	9,508	9,508	9,508	9,508	9,508	9,508	9,508	9,508	9,508	9,508	9,508
26	FOM	$/kW-yr	34.27	34.95	35.65	36.37	37.09	37.84	38.59	39.36	40.15	40.96	41.77	42.61	43.46	44.33	45.22	46.12	47.04
27	VOM	$/MWh	1.35	1.38	1.41	1.44	1.47	1.49	1.52	1.56	1.59	1.62	1.65	1.68	1.72	1.75	1.79	1.82	1.86
28	NOx	lb/MMBtu	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
29	SO2	lb/MMBtu	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
30	CO2	lb/MMBtu	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30
31	NOx	lb/MWh	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48
32	SO2	lb/MWh	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57
33	CO2	T/MWh	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
34																			
35	Size	MW	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830
36	Capacity Factor	%	87.00%	86.84%	87.00%	87.00%	87.00%	86.87%	86.43%	85.96%	85.32%	83.45%	83.45%	82.83%	82.31%	80.86%	80.66%	79.96%	76.44%
37	Generation	GWh	6,326	6,314	6,326	6,326	6,326	6,316	6,284	6,250	6,203	6,068	6,068	6,022	5,985	5,879	5,864	5,814	5,557
38																			
39	Capital Cost	$000	378,773	378,773	378,773	378,773	378,773	378,773	378,773	378,773	378,773	378,773	378,773	378,773	378,773	378,773	378,773	378,773	378,773
40	Network Upgrade Cost	$000	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556
41	Fuel Cost	$000	119,246	150,435	155,763	160,196	163,921	169,593	178,807	183,987	187,904	189,181	195,102	198,743	203,016	204,965	210,055	213,800	209,955
42	Fixed O&M	$000	28,444	29,013	29,593	30,185	30,788	31,404	32,032	32,673	33,326	33,993	34,673	35,366	36,074	36,795	37,531	38,282	39,047
43	Variable O&M	$000	8,563	8,719	8,909	9,087	9,269	9,440	9,580	9,719	9,839	9,817	10,013	10,137	10,275	10,296	10,475	10,592	10,328
44	NOx	$000	3,949	3,879	3,651	3,743	3,836	4,085	4,327	4,301	4,289	3,793	3,431	3,081	2,771	2,466	2,228	2,003	1,737
45	SO2	$000	314	826	1,341	1,854	2,367	2,301	2,581	3,026	3,387	3,395	3,480	2,833	2,308	1,859	1,521	1,236	969
46	CO2	$000	0	0	0	138,322	147,161	157,698	168,209	178,086	187,073	193,563	205,061	216,856	232,056	245,313	263,153	280,438	288,095
47																			
48	Total Cost (Mix of Annual+Levelized)	$000	566,845	599,200	605,585	749,715	763,671	780,851	801,866	818,122	832,146	840,070	858,088	873,345	892,829	908,022	931,292	952,678	956,459
49	40-Year Levelized Cost	$000	858,535	858,535	858,535	858,535	858,535	858,535	858,535	858,535	858,535	858,535	858,535	858,535	858,535	858,535	858,535	858,535	858,535
50	Total Cost (Mix of Annual+Levelized)	$/MWh	90	95	96	119	121	124	128	131	134	138	141	145	149	154	159	164	172
51																			
52																			
53	40-Year PV @ COD	$000	9,253,892																
54	40-Year PV @ COD	GWh	64,220																
55	40-Year Levelized Cost @ COD	$000	858,535																
56	40-Year Levelized $/MWh @ COD	$/MWh	144																
57																			
58	**40-Year Levelized $/MWh (2008$) Excl. CO2**	**$/MWh**	**108**																
59	**40-Year Levelized $/MWh (2008$) Incl. CO2**	**$/MWh**	**144**																

2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
1,193.51	1,084.45	986.27	897.91	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42
313.29	321.13	329.15	337.38	345.82	354.46	363.33	372.41	381.72	391.26	401.04	411.07	421.35	431.88	442.68	453.74	465.09	476.71	488.63	500.85	513.37	526.20	539.36
56.96	61.35	65.79	70.56	76.12	81.83	87.96	94.56	101.65	109.28	117.47	126.28	135.75	145.94	156.88	168.65	181.30	194.89	209.51	225.22	242.12	260.27	279.79
4.08	4.19	4.30	4.41	4.52	4.64	4.76	4.89	5.01	5.14	5.28	5.41	5.55	5.70	5.85	6.00	6.15	6.32	6.48	6.65	6.82	7.00	7.18
9,508	9,508	9,508	9,508	9,508	9,508	9,508	9,508	9,508	9,508	9,508	9,508	9,508	9,508	9,508	9,508	9,508	9,508	9,508	9,508	9,508	9,508	9,508
47.99	48.95	49.92	50.92	51.94	52.98	54.04	55.12	56.22	57.35	58.49	59.66	60.86	62.07	63.32	64.58	65.87	67.19	68.54	69.91	71.30	72.73	74.18
1.90	1.93	1.97	2.01	2.05	2.09	2.13	2.18	2.22	2.27	2.31	2.36	2.40	2.45	2.50	2.55	2.60	2.65	2.71	2.76	2.82	2.87	2.93
0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30
0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48
0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57
0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830
74.55%	73.28%	71.33%	70.48%	67.92%	67.92%	67.92%	67.92%	67.92%	67.92%	67.92%	67.92%	67.92%	67.92%	67.92%	67.92%	67.92%	67.92%	67.92%	67.92%	67.92%	67.92%	67.92%
5,420	5,328	5,187	5,124	4,938	4,938	4,938	4,938	4,938	4,938	4,938	4,938	4,938	4,938	4,938	4,938	4,938	4,938	4,938	4,938	4,938	4,938	4,938
378,773	378,773	378,773	378,773	378,773	378,773	378,773	378,773	378,773	378,773	378,773	378,773	378,773	378,773	378,773	378,773	378,773	378,773	378,773	378,773	378,773	378,773	378,773
27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556
210,452	212,225	211,910	214,809	212,377	217,899	223,565	229,377	235,341	241,460	247,738	254,179	260,788	267,568	274,525	281,663	288,986	296,499	304,208	312,118	320,233	328,559	337,102
39,828	40,625	41,437	42,266	43,111	43,973	44,853	45,750	46,665	47,598	48,550	49,521	50,512	51,522	52,552	53,603	54,675	55,769	56,884	58,022	59,182	60,366	61,573
10,274	10,301	10,229	10,308	10,132	10,335	10,541	10,752	10,967	11,187	11,410	11,639	11,871	12,109	12,351	12,598	12,850	13,107	13,369	13,637	13,909	14,187	14,471
1,538	1,373	1,216	1,094	961	961	961	961	961	961	961	961	961	961	961	961	961	961	961	961	961	961	961
484	488	487	493	487	499	512	525	538	551	565	579	593	608	624	639	655	671	688	705	723	741	760
302,789	320,593	334,648	354,643	368,643	396,291	426,013	457,964	492,311	529,234	568,927	611,596	657,466	706,776	759,784	816,768	878,026	943,877	1,014,668	1,090,768	1,172,576	1,260,519	1,355,058
971,694	991,933	1,006,256	1,029,943	1,042,040	1,076,287	1,112,773	1,151,657	1,193,111	1,237,320	1,284,480	1,334,804	1,388,520	1,445,873	1,507,125	1,572,560	1,642,481	1,717,214	1,797,108	1,882,540	1,973,913	2,071,662	2,176,253
858,535	858,535	858,535	858,535	858,535	858,535	858,535	858,535	858,535	858,535	858,535	858,535	858,535	858,535	858,535	858,535	858,535	858,535	858,535	858,535	858,535	858,535	858,535
179	186	194	201	211	218	225	233	242	251	260	270	281	293	305	318	333	348	364	381	400	420	441

BEI Electric Generation Alternatives Analysis
Table 5 - Coal Technology Cost Summary
Levelized Cost of Integrated Gasification Combined Cycle

1	COD (Jan1)	2009
2	Size MW	830
3	Plant Life Years	40
4	Last Year of Service	2048
5	Capital Cost + AFUDC (EOY 2008) $/kW	4181
6	Capital Cost (@ COD) $/kW	4181
7	Network Upgrade Cost (EOY 2009) $/kW	166
8	Network Upgrade Cost (@ COD) $/kW	166
9	Capital Fixed Charge Rate	12.3807%
10	Network Upgrade Fixed Charge Rate	20.0000%
11	Capital Cost Escalation Rate	4%
12	O&M Escalation Rate	2%
13	Long-term NOx Escalation Rate (2031+)	0.00%
14	Long-term SO2 Escalation Rate (2031+)	2.50%
15	Long-term CO2 Escalation Rate (2031+)	7.50%
16	Long-term Fuel Escalation Rate (2031+)	2.60%
17	Discount Rate	8.98%
18		
19		

20			2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
21	NOx	$/Ton	2,626.56	2,584.54	2,428.39	2,489.10	2,551.33	2,720.71	2,896.97	2,894.62	2,908.68	2,629.95	2,378.70	2,152.23	1,948.12	1,764.19	1,598.45	1,449.14	1,314.64
22	SO2	$/Ton	174.25	458.61	742.96	1,027.32	1,311.67	1,277.24	1,440.09	1,697.50	1,913.94	1,961.78	2,010.83	1,648.88	1,352.08	1,108.71	909.14	745.49	611.31
23	CO2	$/Ton	0.00	0.00	0.00	22.30	23.72	25.46	27.29	29.05	30.75	32.53	34.46	36.71	39.53	42.54	45.75	49.19	52.86
24	Fuel	$/MMBtu	1.98	2.51	2.59	2.66	2.73	2.82	2.99	3.10	3.19	3.28	3.38	3.47	3.57	3.67	3.77	3.87	3.97
25	Heat Rate	Btu/kWh	9,490	9,490	9,490	9,490	9,490	9,490	9,490	9,490	9,490	9,490	9,490	9,490	9,490	9,490	9,490	9,490	9,490
26	FOM	$/kW-yr	70.93	72.35	73.80	75.27	76.78	78.31	79.88	81.48	83.11	84.77	86.46	88.19	89.96	91.76	93.59	95.46	97.37
27	VOM	$/MWh	1.06	1.08	1.11	1.13	1.15	1.17	1.20	1.22	1.25	1.27	1.30	1.32	1.35	1.38	1.40	1.43	1.46
28	NOx	lb/MMBtu	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
29	SO2	lb/MMBtu	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
30	CO2	lb/MMBtu	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00
31	NOx	lb/MWh	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57
32	SO2	lb/MWh	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
33	CO2	T/MWh	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
34																			
35	Size	MW	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830
36	Capacity Factor	%	80.96%	80.87%	80.96%	80.96%	80.96%	80.96%	80.72%	80.36%	80.09%	79.06%	79.16%	78.88%	78.25%	77.05%	77.14%	76.75%	73.32%
37	Generation	GWh	5,886	5,880	5,886	5,886	5,886	5,886	5,869	5,843	5,823	5,749	5,755	5,736	5,690	5,602	5,609	5,580	5,331
38																			
39	Capital Cost	$000	429,639	429,639	429,639	429,639	429,639	429,639	429,639	429,639	429,639	429,639	429,639	429,639	429,639	429,639	429,639	429,639	429,639
40	Network Upgrade Cost	$000	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556
41	Fuel Cost	$000	110,757	139,820	144,675	148,792	152,252	157,755	166,676	171,664	176,052	178,895	184,704	188,915	192,635	194,928	200,516	204,831	201,012
42	Fixed O&M	$000	58,873	60,050	61,251	62,476	63,726	65,000	66,300	67,626	68,979	70,358	71,765	73,201	74,665	76,158	77,681	79,235	80,820
43	Variable O&M	$000	6,259	6,377	6,512	6,642	6,775	6,911	7,028	7,136	7,255	7,305	7,460	7,583	7,673	7,706	7,869	7,986	7,782
44	NOx	$000	4,402	4,327	4,070	4,171	4,276	4,560	4,841	4,815	4,822	4,304	3,898	3,514	3,156	2,814	2,552	2,302	1,995
45	SO2	$000	146	384	623	861	1,099	1,070	1,203	1,412	1,586	1,605	1,647	1,346	1,095	884	726	592	464
46	CO2	$000	0	0	0	121,438	129,199	138,656	148,209	157,057	165,673	173,012	183,499	194,841	208,129	220,520	237,443	253,958	260,716
47																			
48	Total Cost (Mix of Annual+Levelized)	$000	637,631	668,153	674,325	801,576	814,520	831,146	851,451	866,904	881,562	892,675	910,168	926,595	944,547	960,204	983,983	1,006,099	1,009,984
49	40-Year Levelized Cost	$000	910,993	910,993	910,993	910,993	910,993	910,993	910,993	910,993	910,993	910,993	910,993	910,993	910,993	910,993	910,993	910,993	910,993
50	Total Cost (Mix of Annual+Levelized)	$/MWh	108	114	115	136	138	141	145	148	151	155	158	162	166	171	175	180	189
51																			
52																			
53	40-Year PV @ COD	$000	9,819,327																
54	40-Year PV @ COD	GWh	60,469																
55	40-Year Levelized Cost @ COD	$000	910,993																
56	40-Year Levelized $/MWh @ COD	$/MWh	162																
57																			
58	**40-Year Levelized $/MWh (2008$) Excl. CO2**	**$/MWh**	**128**																
59	**40-Year Levelized $/MWh (2008$) Incl. CO2**	**$/MWh**	**162**																

2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
1,193.51	1,084.45	986.27	897.91	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42
313.29	321.13	329.15	337.38	345.82	354.46	363.33	372.41	381.72	391.26	401.04	411.07	421.35	431.88	442.68	453.74	465.09	476.71	488.63	500.85	513.37	526.20	539.36
56.96	61.35	65.79	70.56	76.12	81.83	87.96	94.56	101.65	109.28	117.47	126.28	135.75	145.94	156.88	168.65	181.30	194.89	209.51	225.22	242.12	260.27	279.79
4.08	4.19	4.30	4.41	4.52	4.64	4.76	4.89	5.01	5.14	5.28	5.41	5.55	5.70	5.85	6.00	6.15	6.32	6.48	6.65	6.82	7.00	7.18
9,490	9,490	9,490	9,490	9,490	9,490	9,490	9,490	9,490	9,490	9,490	9,490	9,490	9,490	9,490	9,490	9,490	9,490	9,490	9,490	9,490	9,490	9,490
99.32	101.31	103.33	105.40	107.51	109.66	111.85	114.09	116.37	118.70	121.07	123.49	125.96	128.48	131.05	133.67	136.35	139.07	141.85	144.69	147.58	150.54	153.55
1.49	1.52	1.55	1.58	1.61	1.64	1.68	1.71	1.74	1.78	1.81	1.85	1.89	1.93	1.96	2.00	2.04	2.08	2.13	2.17	2.21	2.26	2.30
0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00
0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57
0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830
71.39%	70.64%	69.05%	68.05%	64.96%	64.96%	64.96%	64.96%	64.96%	64.96%	64.96%	64.96%	64.96%	64.96%	64.96%	64.96%	64.96%	64.96%	64.96%	64.96%	64.96%	64.96%	64.96%
5,191	5,136	5,020	4,948	4,723	4,723	4,723	4,723	4,723	4,723	4,723	4,723	4,723	4,723	4,723	4,723	4,723	4,723	4,723	4,723	4,723	4,723	4,723
429,639	429,639	429,639	429,639	429,639	429,639	429,639	429,639	429,639	429,639	429,639	429,639	429,639	429,639	429,639	429,639	429,639	429,639	429,639	429,639	429,639	429,639	429,639
27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556
201,172	204,206	204,726	207,023	202,734	208,005	213,413	218,962	224,655	230,496	236,489	242,638	248,946	255,419	262,060	268,873	275,864	283,037	290,396	297,946	305,692	313,640	321,795
82,436	84,085	85,766	87,482	89,231	91,016	92,836	94,693	96,587	98,519	100,489	102,499	104,549	106,640	108,772	110,948	113,167	115,430	117,739	120,094	122,495	124,945	127,444
7,729	7,800	7,777	7,818	7,611	7,764	7,919	8,077	8,239	8,404	8,572	8,743	8,918	9,096	9,278	9,464	9,653	9,846	10,043	10,244	10,449	10,658	10,871
1,764	1,586	1,410	1,265	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
232	235	235	238	232	238	244	250	257	263	270	276	283	290	298	305	313	320	329	337	345	354	363
273,584	291,582	305,595	323,068	332,629	357,576	384,394	413,223	444,215	477,531	513,346	551,847	593,236	637,728	685,558	736,975	792,248	851,667	915,542	984,207	1,058,023	1,137,375	1,222,678
1,024,112	1,046,688	1,062,704	1,084,089	1,090,733	1,122,894	1,157,102	1,193,502	1,232,248	1,273,508	1,317,461	1,364,299	1,414,227	1,467,469	1,524,262	1,584,860	1,649,540	1,718,595	1,792,343	1,871,123	1,955,300	2,045,267	2,141,446
910,993	910,993	910,993	910,993	910,993	910,993	910,993	910,993	910,993	910,993	910,993	910,993	910,993	910,993	910,993	910,993	910,993	910,993	910,993	910,993	910,993	910,993	910,993
197	204	212	219	231	238	245	253	261	270	279	289	299	311	323	336	349	364	380	396	414	433	453

BEI Electric Generation Alternatives Analysis
Table 5 - Coal Technology Cost Summary
Levelized Cost of Ultra Supercritical Pulverized Coal Plant

1	COD (Jan1)	2009
2	Size MW	830
3	Plant Life Years	40
4	Last Year of Service	2048
5	Capital Cost + AFUDC (EOY 2008) $/kW	3361
6	Capital Cost (@ COD) $/kW	3361
7	Network Upgrade Cost (EOY 2009) $/kW	166
8	Network Upgrade Cost (@ COD) $/kW	166
9	Capital Fixed Charge Rate	12.3807%
10	Network Upgrade Fixed Charge Rate	20.0000%
11	Capital Cost Escalation Rate	4%
12	O&M Escalation Rate	2%
13	Long-term NOx Escalation Rate (2031+)	0.00%
14	Long-term SO2 Escalation Rate (2031+)	2.50%
15	Long-term CO2 Escalation Rate (2031+)	7.50%
16	Long-term Fuel Escalation Rate (2031+)	2.60%
17	Discount Rate	8.98%
18		
19		

20			2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
21	NOx	$/Ton	2,626.56	2,584.54	2,428.39	2,489.10	2,551.33	2,720.71	2,896.97	2,894.62	2,908.68	2,629.95	2,378.70	2,152.23	1,948.12	1,764.19	1,598.45	1,449.14	1,314.64
22	SO2	$/Ton	174.25	458.61	742.96	1,027.32	1,311.67	1,277.24	1,440.09	1,697.50	1,913.94	1,961.78	2,010.83	1,648.88	1,352.08	1,108.71	909.14	745.49	611.31
23	CO2	$/Ton	0.00	0.00	0.00	22.30	23.72	25.46	27.29	29.05	30.75	32.53	34.46	36.71	39.53	42.54	45.75	49.19	52.86
24	Fuel	$/MMBtu	1.98	2.51	2.59	2.66	2.73	2.82	2.99	3.10	3.19	3.28	3.38	3.47	3.57	3.67	3.77	3.87	3.97
25	Heat Rate	Btu/kWh	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019
26	FOM	$/kW-yr	36.53	37.26	38.01	38.77	39.54	40.33	41.14	41.96	42.80	43.66	44.53	45.42	46.33	47.26	48.20	49.16	50.15
27	VOM	$/MWh	2.48	2.53	2.58	2.63	2.68	2.74	2.79	2.85	2.90	2.96	3.02	3.08	3.14	3.21	3.27	3.33	3.40
28	NOx	lb/MMBtu	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
29	SO2	lb/MMBtu	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
30	CO2	lb/MMBtu	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30
31	NOx	lb/MWh	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
32	SO2	lb/MWh	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
33	CO2	T/MWh	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
34																			
35	Size	MW	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830
36	Capacity Factor	%	91.10%	91.02%	91.10%	91.10%	91.10%	91.10%	90.96%	90.56%	90.31%	89.36%	89.47%	89.26%	88.77%	87.68%	87.77%	87.44%	84.38%
37	Generation	GWh	6,624	6,618	6,624	6,624	6,624	6,624	6,614	6,584	6,567	6,498	6,505	6,490	6,454	6,375	6,381	6,358	6,135
38																			
39	Capital Cost	$000	345,376	345,376	345,376	345,376	345,376	345,376	345,376	345,376	345,376	345,376	345,376	345,376	345,376	345,376	345,376	345,376	345,376
40	Network Upgrade Cost	$000	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556
41	Fuel Cost	$000	118,443	149,557	154,715	159,119	162,818	168,703	178,508	183,851	188,679	192,164	198,419	203,145	207,676	210,822	216,814	221,783	219,845
42	Fixed O&M	$000	30,320	30,927	31,545	32,176	32,819	33,476	34,145	34,828	35,525	36,235	36,960	37,699	38,453	39,222	40,007	40,807	41,623
43	Variable O&M	$000	16,412	16,725	17,075	17,416	17,765	18,120	18,455	18,740	19,063	19,240	19,649	19,993	20,281	20,434	20,862	21,201	20,867
44	NOx	$000	3,923	3,857	3,627	3,717	3,810	4,063	4,320	4,297	4,307	3,853	3,489	3,149	2,835	2,536	2,300	2,077	1,818
45	SO2	$000	312	821	1,332	1,841	2,351	2,289	2,577	3,024	3,401	3,449	3,539	2,895	2,361	1,912	1,570	1,282	1,015
46	CO2	$000	0	0	0	137,391	146,171	156,871	167,929	177,954	187,844	196,615	208,548	221,659	237,383	252,323	271,620	290,909	301,666
47																			
48	Total Cost (Mix of Annual+Levelized)	$000	542,342	574,818	581,225	724,593	738,666	756,454	778,866	795,626	811,750	824,488	843,536	861,473	881,921	900,181	926,104	950,991	959,767
49	40-Year Levelized Cost	$000	850,741	850,741	850,741	850,741	850,741	850,741	850,741	850,741	850,741	850,741	850,741	850,741	850,741	850,741	850,741	850,741	850,741
50	Total Cost (Mix of Annual+Levelized)	$/MWh	82	87	88	109	112	114	118	121	124	127	130	133	137	141	145	150	156
51																			
52																			
53	40-Year PV @ COD	$000	9,169,891																
54	40-Year PV @ COD	GWh	68,769																
55	40-Year Levelized Cost @ COD	$000	850,741																
56	40-Year Levelized $/MWh @ COD	$/MWh	133																
57																			
58	**40-Year Levelized $/MWh (2008$) Excl. CO2**	**$/MWh**	**98**																
59	**40-Year Levelized $/MWh (2008$) Incl. CO2**	**$/MWh**	**133**																

2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
1,193.51	1,084.45	986.27	897.91	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42
313.29	321.13	329.15	337.38	345.82	354.46	363.33	372.41	381.72	391.26	401.04	411.07	421.35	431.88	442.68	453.74	465.09	476.71	488.63	500.85	513.37	526.20	539.36
56.96	61.35	65.79	70.56	76.12	81.83	87.96	94.56	101.65	109.28	117.47	126.28	135.75	145.94	156.88	168.65	181.30	194.89	209.51	225.22	242.12	260.27	279.79
4.08	4.19	4.30	4.41	4.52	4.64	4.76	4.89	5.01	5.14	5.28	5.41	5.55	5.70	5.85	6.00	6.15	6.32	6.48	6.65	6.82	7.00	7.18
9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019
51.15	52.17	53.22	54.28	55.37	56.48	57.60	58.76	59.93	61.13	62.35	63.60	64.87	66.17	67.49	68.84	70.22	71.62	73.06	74.52	76.01	77.53	79.08
3.47	3.54	3.61	3.68	3.76	3.83	3.91	3.99	4.07	4.15	4.23	4.31	4.40	4.49	4.58	4.67	4.76	4.86	4.96	5.05	5.16	5.26	5.36
0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30
0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830	830
82.78%	81.99%	80.63%	79.79%	76.95%	76.95%	76.95%	76.95%	76.95%	76.95%	76.95%	76.95%	76.95%	76.95%	76.95%	76.95%	76.95%	76.95%	76.95%	76.95%	76.95%	76.95%	76.95%
6,018	5,961	5,863	5,802	5,595	5,595	5,595	5,595	5,595	5,595	5,595	5,595	5,595	5,595	5,595	5,595	5,595	5,595	5,595	5,595	5,595	5,595	5,595
345,376	345,376	345,376	345,376	345,376	345,376	345,376	345,376	345,376	345,376	345,376	345,376	345,376	345,376	345,376	345,376	345,376	345,376	345,376	345,376	345,376	345,376	345,376
27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556	27,556
221,670	225,247	227,216	230,687	228,239	234,174	240,262	246,509	252,918	259,494	266,241	273,163	280,265	287,552	295,029	302,699	310,570	318,644	326,929	335,429	344,151	353,098	362,279
42,455	43,305	44,171	45,054	45,955	46,874	47,812	48,768	49,743	50,738	51,753	52,788	53,844	54,921	56,019	57,139	58,282	59,448	60,637	61,850	63,087	64,348	65,635
20,881	21,096	21,162	21,361	21,010	21,431	21,859	22,296	22,742	23,197	23,661	24,134	24,617	25,109	25,612	26,124	26,646	27,179	27,723	28,277	28,843	29,420	30,008
1,620	1,458	1,304	1,175	1,032	1,032	1,032	1,032	1,032	1,032	1,032	1,032	1,032	1,032	1,032	1,032	1,032	1,032	1,032	1,032	1,032	1,032	1,032
510	518	522	530	523	537	550	564	578	592	607	622	638	654	670	687	704	722	740	758	777	797	816
318,929	340,265	358,819	380,857	396,176	425,889	457,831	492,168	529,081	568,762	611,419	657,275	706,571	759,564	816,531	877,771	943,604	1,014,374	1,090,452	1,172,236	1,260,154	1,354,665	1,456,265
978,996	1,004,820	1,026,126	1,052,595	1,065,869	1,102,868	1,142,278	1,184,269	1,229,027	1,276,748	1,327,645	1,381,947	1,439,899	1,501,764	1,567,825	1,638,385	1,713,770	1,794,331	1,880,445	1,972,514	2,070,975	2,176,292	2,288,968
850,741	850,741	850,741	850,741	850,741	850,741	850,741	850,741	850,741	850,741	850,741	850,741	850,741	850,741	850,741	850,741	850,741	850,741	850,741	850,741	850,741	850,741	850,741
163	169	175	181	191	197	204	212	220	228	237	247	257	268	280	293	306	321	336	353	370	389	409

BEI Electric Generation Alternatives Analysis
Table 5 - Coal Technology Cost Summary
Levelized Cost of Advanced Supercritical Pulverized Coal Plant with 90% Carbon Capture and Sequestration

1	COD (Jan1)	2009
2	Size MW	685
3	Plant Life Years	40
4	Last Year of Service	2048
5	Capital Cost + AFUDC (EOY 2008) $/kW	4921
6	Capital Cost (@ COD) $/kW	4921
7	Network Upgrade Cost (EOY 2009) $/kW	166
8	Network Upgrade Cost (@ COD) $/kW	166
9	Capital Fixed Charge Rate	12.3807%
10	Network Upgrade Fixed Charge Rate	20.0000%
11	Capital Cost Escalation Rate	4%
12	O&M Escalation Rate	2%
13	Long-term NOx Escalation Rate (2031+)	0.00%
14	Long-term SO2 Escalation Rate (2031+)	2.50%
15	Long-term CO2 Escalation Rate (2031+)	7.50%
16	Long-term Fuel Escalation Rate (2031+)	2.60%
17	Discount Rate	8.98%
18		
19		

20			2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
21	NOx	$/Ton	2,626.56	2,584.54	2,428.39	2,489.10	2,551.33	2,720.71	2,896.97	2,894.62	2,908.68	2,629.95	2,378.70	2,152.23	1,948.12	1,764.19	1,598.45	1,449.14	1,314.64
22	SO2	$/Ton	174.25	458.61	742.96	1,027.32	1,311.67	1,277.24	1,440.09	1,697.50	1,913.94	1,961.78	2,010.83	1,648.88	1,352.08	1,108.71	909.14	745.49	611.31
23	CO2	$/Ton	0.00	0.00	0.00	22.30	23.72	25.46	27.29	29.05	30.75	32.53	34.46	36.71	39.53	42.54	45.75	49.19	52.86
24	Fuel	$/MMBtu	1.98	2.51	2.59	2.66	2.73	2.82	2.99	3.10	3.19	3.28	3.38	3.47	3.57	3.67	3.77	3.87	3.97
25	Heat Rate	Btu/kWh	10,836	10,836	10,836	10,836	10,836	10,836	10,836	10,836	10,836	10,836	10,836	10,836	10,836	10,836	10,836	10,836	10,836
26	FOM	$/kW-yr	58.47	59.64	60.83	62.05	63.29	64.55	65.85	67.16	68.51	69.88	71.27	72.70	74.15	75.64	77.15	78.69	80.26
27	VOM	$/MWh	3.48	3.55	3.62	3.69	3.77	3.84	3.92	4.00	4.08	4.16	4.24	4.33	4.41	4.50	4.59	4.68	4.78
28	NOx	lb/MMBtu	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
29	SO2	lb/MMBtu	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
30	CO2	lb/MMBtu	20.63	20.63	20.63	20.63	20.63	20.63	20.63	20.63	20.63	20.63	20.63	20.63	20.63	20.63	20.63	20.63	20.63
31	NOx	lb/MWh	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
32	SO2	lb/MWh	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
33	CO2	T/MWh	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
34																			
35	Size	MW	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685
36	Capacity Factor	%	86.09%	81.45%	84.43%	89.00%	89.00%	89.00%	89.00%	89.00%	89.00%	89.00%	89.00%	89.00%	89.00%	89.00%	89.00%	88.98%	88.77%
37	Generation	GWh	5,166	4,887	5,066	5,341	5,341	5,341	5,341	5,341	5,341	5,341	5,341	5,341	5,341	5,341	5,341	5,339	5,327
38																			
39	Capital Cost	$000	417,339	417,339	417,339	417,339	417,339	417,339	417,339	417,339	417,339	417,339	417,339	417,339	417,339	417,339	417,339	417,339	417,339
40	Network Upgrade Cost	$000	22,742	22,742	22,742	22,742	22,742	22,742	22,742	22,742	22,742	22,742	22,742	22,742	22,742	22,742	22,742	22,742	22,742
41	Fuel Cost	$000	110,984	132,701	142,174	154,140	157,723	163,425	173,181	179,165	184,367	189,766	195,705	200,854	206,463	212,183	218,011	223,780	229,351
42	Fixed O&M	$000	40,051	40,852	41,669	42,502	43,352	44,219	45,104	46,006	46,926	47,865	48,822	49,798	50,794	51,810	52,846	53,903	54,981
43	Variable O&M	$000	17,977	17,348	18,342	19,722	20,117	20,519	20,930	21,348	21,775	22,211	22,655	23,108	23,570	24,041	24,522	25,006	25,448
44	NOx	$000	3,676	3,422	3,333	3,601	3,691	3,936	4,191	4,188	4,208	3,805	3,441	3,114	2,818	2,552	2,313	2,096	1,897
45	SO2	$000	293	729	1,224	1,784	2,277	2,217	2,500	2,947	3,323	3,406	3,491	2,863	2,347	1,925	1,578	1,294	1,059
46	CO2	$000	0	0	0	13,309	14,160	15,196	16,292	17,342	18,355	19,416	20,570	21,916	23,600	25,395	27,312	29,353	31,471
47																			
48	Total Cost (Mix of Annual+Levelized)	$000	613,061	635,132	646,822	675,140	681,402	689,594	702,278	711,077	719,035	726,550	734,765	741,734	749,674	757,988	766,663	775,513	784,287
49	40-Year Levelized Cost	$000	731,953	731,953	731,953	731,953	731,953	731,953	731,953	731,953	731,953	731,953	731,953	731,953	731,953	731,953	731,953	731,953	731,953
50	Total Cost (Mix of Annual+Levelized)	$/MWh	119	130	128	126	128	129	131	133	135	136	138	139	140	142	144	145	147
51																			
52																			
53	40-Year PV @ COD	$000	7,889,511																
54	40-Year PV @ COD	GWh	56,583																
55	40-Year Levelized Cost @ COD	$000	731,953																
56	40-Year Levelized $/MWh @ COD	$/MWh	139																
57																			
58	**40-Year Levelized $/MWh (2008$) Excl. CO2**	**$/MWh**	**135**																
59	**40-Year Levelized $/MWh (2008$) Incl. CO2**	**$/MWh**	**139**																

2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
1,193.51	1,084.45	986.27	897.91	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42
313.29	321.13	329.15	337.38	345.82	354.46	363.33	372.41	381.72	391.26	401.04	411.07	421.35	431.88	442.68	453.74	465.09	476.71	488.63	500.85	513.37	526.20	539.36
56.96	61.35	65.79	70.56	76.12	81.83	87.96	94.56	101.65	109.28	117.47	126.28	135.75	145.94	156.88	168.65	181.30	194.89	209.51	225.22	242.12	260.27	279.79
4.08	4.19	4.30	4.41	4.52	4.64	4.76	4.89	5.01	5.14	5.28	5.41	5.55	5.70	5.85	6.00	6.15	6.32	6.48	6.65	6.82	7.00	7.18
10,836	10,836	10,836	10,836	10,836	10,836	10,836	10,836	10,836	10,836	10,836	10,836	10,836	10,836	10,836	10,836	10,836	10,836	10,836	10,836	10,836	10,836	10,836
81.87	83.51	85.18	86.88	88.62	90.39	92.20	94.04	95.92	97.84	99.80	101.80	103.83	105.91	108.03	110.19	112.39	114.64	116.93	119.27	121.65	124.09	126.57
4.87	4.97	5.07	5.17	5.27	5.38	5.49	5.60	5.71	5.82	5.94	6.06	6.18	6.30	6.43	6.56	6.69	6.82	6.96	7.10	7.24	7.39	7.53
0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
20.63	20.63	20.63	20.63	20.63	20.63	20.63	20.63	20.63	20.63	20.63	20.63	20.63	20.63	20.63	20.63	20.63	20.63	20.63	20.63	20.63	20.63	20.63
0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685
88.61%	88.45%	88.16%	87.98%	86.82%	86.82%	86.82%	86.82%	86.82%	86.82%	86.82%	86.82%	86.82%	86.82%	86.82%	86.82%	86.82%	86.82%	86.82%	86.82%	86.82%	86.82%	86.82%
5,317	5,308	5,290	5,279	5,209	5,209	5,209	5,209	5,209	5,209	5,209	5,209	5,209	5,209	5,209	5,209	5,209	5,209	5,209	5,209	5,209	5,209	5,209
417,339	417,339	417,339	417,339	417,339	417,339	417,339	417,339	417,339	417,339	417,339	417,339	417,339	417,339	417,339	417,339	417,339	417,339	417,339	417,339	417,339	417,339	417,339
22,742	22,742	22,742	22,742	22,742	22,742	22,742	22,742	22,742	22,742	22,742	22,742	22,742	22,742	22,742	22,742	22,742	22,742	22,742	22,742	22,742	22,742	22,742
235,300	240,957	246,323	252,199	255,342	261,981	268,792	275,781	282,951	290,308	297,856	305,600	313,546	321,698	330,062	338,644	347,448	356,482	365,751	375,260	385,017	395,027	405,298
56,081	57,203	58,347	59,514	60,704	61,918	63,156	64,419	65,708	67,022	68,362	69,730	71,124	72,547	73,998	75,478	76,987	78,527	80,097	81,699	83,333	85,000	86,700
25,910	26,381	26,818	27,298	27,477	28,027	28,587	29,159	29,742	30,337	30,944	31,563	32,194	32,838	33,494	34,164	34,848	35,545	36,256	36,981	37,720	38,475	39,244
1,719	1,559	1,413	1,284	1,155	1,155	1,155	1,155	1,155	1,155	1,155	1,155	1,155	1,155	1,155	1,155	1,155	1,155	1,155	1,155	1,155	1,155	1,155
542	554	566	579	586	600	615	631	646	663	679	696	714	731	750	768	788	807	827	848	869	891	913
33,854	36,400	38,899	41,637	44,322	47,646	51,220	55,061	59,191	63,630	68,402	73,532	79,047	84,976	91,349	98,200	105,565	113,483	121,994	131,143	140,979	151,553	162,919
793,487	803,134	812,448	822,592	829,667	841,408	853,607	866,287	879,474	893,196	907,480	922,357	937,861	954,026	970,889	988,490	1,006,872	1,026,080	1,046,161	1,067,168	1,089,155	1,112,182	1,136,311
731,953	731,953	731,953	731,953	731,953	731,953	731,953	731,953	731,953	731,953	731,953	731,953	731,953	731,953	731,953	731,953	731,953	731,953	731,953	731,953	731,953	731,953	731,953
149	151	154	156	159	162	164	166	169	171	174	177	180	183	186	190	193	197	201	205	209	213	218

BEI Electric Generation Alternatives Analysis
Table 5 - Coal Technology Cost Summary
Levelized Cost of Advanced Supercritical Pulverized Coal Plant (Higher Capital Cost Due to Lower Economy of Scale - Range of 10-15% Higher than 830 MW Facility)

1	COD (Jan1)	2009
2	Size MW	500
3	Plant Life Years	40
4	Last Year of Service	2048
5	Capital Cost + AFUDC (EOY 2008) $/kW	3686
6	Capital Cost (@ COD) $/kW	3686
7	Network Upgrade Cost (EOY 2009) $/kW	166
8	Network Upgrade Cost (@ COD) $/kW	166
9	Capital Fixed Charge Rate	12.3807%
10	Network Upgrade Fixed Charge Rate	20.0000%
11	Capital Cost Escalation Rate	4%
12	O&M Escalation Rate	2%
13	Long-term NOx Escalation Rate (2031+)	0.00%
14	Long-term SO2 Escalation Rate (2031+)	2.50%
15	Long-term CO2 Escalation Rate (2031+)	7.50%
16	Long-term Fuel Escalation Rate (2031+)	2.60%
17	Discount Rate	8.98%

			2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
21	NOx	$/Ton	2,626.56	2,584.54	2,428.39	2,489.10	2,551.33	2,720.71	2,896.97	2,894.62	2,908.68	2,629.95	2,378.70	2,152.23	1,948.12	1,764.19	1,598.45	1,449.14	1,314.64
22	SO2	$/Ton	174.25	458.61	742.96	1,027.32	1,311.67	1,277.24	1,440.09	1,697.50	1,913.94	1,961.78	2,010.83	1,648.88	1,352.08	1,108.71	909.14	745.49	611.31
23	CO2	$/Ton	0.00	0.00	0.00	22.30	23.72	25.46	27.29	29.05	30.75	32.53	34.46	36.71	39.53	42.54	45.75	49.19	52.86
24	Fuel	$/MMBtu	1.98	2.51	2.59	2.66	2.73	2.82	2.99	3.10	3.19	3.28	3.38	3.47	3.57	3.67	3.77	3.87	3.97
25	Heat Rate	Btu/kWh	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134
26	FOM	$/kW-yr	35.88	36.60	37.33	38.08	38.84	39.62	40.41	41.22	42.04	42.89	43.74	44.62	45.51	46.42	47.35	48.30	49.26
27	VOM	$/MWh	2.47	2.52	2.57	2.62	2.67	2.73	2.78	2.84	2.89	2.95	3.01	3.07	3.13	3.20	3.26	3.32	3.39
28	NOx	lb/MMBtu	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
29	SO2	lb/MMBtu	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
30	CO2	lb/MMBtu	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30
31	NOx	lb/MWh	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
32	SO2	lb/MWh	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
33	CO2	T/MWh	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
35	Size	MW	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500
36	Capacity Factor	%	91.07%	90.69%	91.10%	91.10%	91.10%	91.07%	90.69%	90.29%	89.93%	88.77%	88.55%	88.04%	87.20%	86.44%	86.25%	86.19%	82.40%
37	Generation	GWh	3,989	3,972	3,990	3,990	3,990	3,989	3,972	3,955	3,939	3,888	3,879	3,856	3,819	3,786	3,778	3,775	3,609
39	Capital Cost	$000	228,145	228,145	228,145	228,145	228,145	228,145	228,145	228,145	228,145	228,145	228,145	228,145	228,145	228,145	228,145	228,145	228,145
40	Network Upgrade Cost	$000	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600
41	Fuel Cost	$000	72,240	90,917	94,390	97,077	99,334	102,894	108,582	111,830	114,627	116,455	119,806	122,243	124,457	126,791	129,988	133,378	130,979
42	Fixed O&M	$000	17,942	18,301	18,667	19,040	19,421	19,810	20,206	20,610	21,022	21,443	21,871	22,309	22,755	23,210	23,674	24,148	24,631
43	Variable O&M	$000	9,854	10,009	10,255	10,460	10,670	10,880	11,051	11,222	11,401	11,479	11,680	11,844	11,965	12,098	12,313	12,552	12,239
44	NOx	$000	2,393	2,344	2,213	2,268	2,325	2,478	2,628	2,614	2,616	2,335	2,107	1,895	1,699	1,525	1,379	1,249	1,083
45	SO2	$000	190	499	812	1,123	1,434	1,396	1,568	1,839	2,066	2,090	2,137	1,742	1,415	1,150	941	771	605
46	CO2	$000	0	0	0	83,821	89,178	95,677	102,146	108,243	114,120	119,152	125,922	133,384	142,259	151,750	162,846	174,950	179,727
48	Total Cost (Mix of Annual+Levelized)	$000	347,364	366,816	371,083	458,535	467,106	477,880	490,926	501,103	510,599	517,699	528,269	538,162	549,296	561,270	575,887	591,792	594,009
49	40-Year Levelized Cost	$000	531,247	531,247	531,247	531,247	531,247	531,247	531,247	531,247	531,247	531,247	531,247	531,247	531,247	531,247	531,247	531,247	531,247
50	Total Cost (Mix of Annual+Levelized)	$/MWh	87	92	93	115	117	120	124	127	130	133	136	140	144	148	152	157	165

53	40-Year PV @ COD	$000	5,726,155
54	40-Year PV @ COD	GWh	41,044
55	40-Year Levelized Cost @ COD	$000	531,247
56	40-Year Levelized $/MWh @ COD	$/MWh	140
58	**40-Year Levelized $/MWh (2008$) Excl. CO2**	**$/MWh**	**104**
59	**40-Year Levelized $/MWh (2008$) Incl. CO2**	**$/MWh**	**140**

2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
1,193.51	1,084.45	986.27	897.91	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42
313.29	321.13	329.15	337.38	345.82	354.46	363.33	372.41	381.72	391.26	401.04	411.07	421.35	431.88	442.68	453.74	465.09	476.71	488.63	500.85	513.37	526.20	539.36
56.96	61.35	65.79	70.56	76.12	81.83	87.96	94.56	101.65	109.28	117.47	126.28	135.75	145.94	156.88	168.65	181.30	194.89	209.51	225.22	242.12	260.27	279.79
4.08	4.19	4.30	4.41	4.52	4.64	4.76	4.89	5.01	5.14	5.28	5.41	5.55	5.70	5.85	6.00	6.15	6.32	6.48	6.65	6.82	7.00	7.18
9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134	9,134
50.25	51.25	52.28	53.32	54.39	55.48	56.59	57.72	58.87	60.05	61.25	62.48	63.73	65.00	66.30	67.63	68.98	70.36	71.76	73.20	74.66	76.16	77.68
3.46	3.53	3.60	3.67	3.74	3.82	3.90	3.97	4.05	4.13	4.22	4.30	4.39	4.47	4.56	4.66	4.75	4.84	4.94	5.04	5.14	5.24	5.35
0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30	206.30
0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500
80.88%	79.93%	78.60%	77.41%	74.72%	74.72%	74.72%	74.72%	74.72%	74.72%	74.72%	74.72%	74.72%	74.72%	74.72%	74.72%	74.72%	74.72%	74.72%	74.72%	74.72%	74.72%	74.72%
3,542	3,501	3,443	3,390	3,273	3,273	3,273	3,273	3,273	3,273	3,273	3,273	3,273	3,273	3,273	3,273	3,273	3,273	3,273	3,273	3,273	3,273	3,273
228,145	228,145	228,145	228,145	228,145	228,145	228,145	228,145	228,145	228,145	228,145	228,145	228,145	228,145	228,145	228,145	228,145	228,145	228,145	228,145	228,145	228,145	228,145
16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600
132,138	133,968	135,127	136,532	135,223	138,739	142,346	146,047	149,845	153,741	157,738	161,839	166,047	170,364	174,794	179,338	184,001	188,785	193,694	198,730	203,897	209,198	214,637
25,123	25,626	26,138	26,661	27,194	27,738	28,293	28,859	29,436	30,025	30,625	31,238	31,863	32,500	33,150	33,813	34,489	35,179	35,882	36,600	37,332	38,079	38,840
12,254	12,352	12,390	12,446	12,254	12,499	12,749	13,004	13,265	13,530	13,800	14,076	14,358	14,645	14,938	15,237	15,542	15,852	16,169	16,493	16,823	17,159	17,502
965	867	775	695	612	612	612	612	612	612	612	612	612	612	612	612	612	612	612	612	612	612	612
304	308	311	313	310	318	326	334	342	351	360	369	378	387	397	407	417	428	438	449	460	472	484
190,114	202,375	213,392	225,410	234,720	252,324	271,248	291,591	313,461	336,970	362,243	389,411	418,617	450,014	483,765	520,047	559,050	600,979	646,053	694,507	746,595	802,589	862,783
605,644	620,241	632,878	646,802	655,059	676,975	700,320	725,193	751,705	779,974	810,123	842,290	876,620	913,267	952,400	994,199	1,038,856	1,086,580	1,137,593	1,192,135	1,250,463	1,312,854	1,379,604
531,247	531,247	531,247	531,247	531,247	531,247	531,247	531,247	531,247	531,247	531,247	531,247	531,247	531,247	531,247	531,247	531,247	531,247	531,247	531,247	531,247	531,247	531,247
171	177	184	191	200	207	214	222	230	238	248	257	268	279	291	304	317	332	348	364	382	401	422

BEI Electric Generation Alternatives Analysis
Table 6 - Coal Technology Emissions Summary

Line	(a)	(b)	(c) ASCPC	(d) SUBPC	(e) SUBCFB	(f) SUPCFB	(g) IGCC	(h) USCPC	(i) SEQ+ASCPC[1]
1	Net Heat Rate	Btu/kWh	9,134	9,407	9,798	9,508	9,490	9,019	10,836
2									
3	NOx	lb/MWh	0.46	0.47	0.49	0.48	0.57	0.45	0.54
4		lb/MMBtu	0.05	0.05	0.05	0.05	0.06	0.05	0.05
5									
6	SO2	lb/MWh	0.55	0.56	0.59	0.57	0.28	0.54	0.65
7		lb/MMBtu	0.06	0.06	0.06	0.06	0.03	0.06	0.06
8									
9	CO2	T/MWh	0.94	0.97	1.01	0.98	0.93	0.93	0.11
10		lb/MMBtu	206.3	206.3	206.3	206.3	195.0	206.3	20.6
11									
12	Hg	lb/GWh	0.0079	0.0082	0.0085	0.0083	0.0083	0.0078	0.0094
13		lb/TBtu	0.87	0.87	0.87	0.87	0.87	0.87	0.87
14									
15	PM	lb/MWh	0.22	0.23	0.24	0.23	0.23	0.22	0.26
16		lb/MMBtu	0.024	0.024	0.024	0.024	0.024	0.024	0.024
17									
18	PM Filterable	lb/MWh	0.10	0.10	0.11	0.10	0.10	0.10	0.12
19		lb/MMBtu	0.011	0.011	0.011	0.011	0.011	0.011	0.011
20									
21	CO	lb/MWh	1.14	1.18	1.22	1.19	1.19	1.13	1.35
22		lb/MMBtu	0.125	0.125	0.125	0.125	0.125	0.125	0.125
23									
24	VOC	lb/MWh	0.031	0.032	0.033	0.032	0.032	0.031	0.037
25		lb/MMBtu	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034
26									
27	H2SO4	lb/MWh	0.037	0.038	0.039	0.038	0.038	0.036	0.043
28		lb/MMBtu	0.004	0.004	0.004	0.004	0.004	0.004	0.004
29									
30	HCL	lb/MWh	0.021	0.022	0.023	0.022	0.022	0.021	0.025
31		lb/MMBtu	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023
32									
33	Hydrogen Fluoride	lb/MWh	0.0016	0.0016	0.0017	0.0016	0.0016	0.0015	0.0018
34		lb/MMBtu	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017
35									
36	Lead[2]	lb/MWh	0.087	0.091	0.091	0.091	0.097	0.087	0.111
37		lb/yr	573	573	573	573	573	573	573

[1] SEQ + ASCPC has not been demonstrated at a commercial level. these emission levels are subjective.
[2] Emission rate in lb/MWh based on approximate first-year generation.

BEI Electric Generation Alternatives Analysis
Table 6 - Coal Technology Emissions Summary

Line	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
	Coal Technology		ASCPC	Subcritical PC	Subcritical CFB	Supercritical CFB	IGCC	Ultra SCPC	Sequestration on ASCPC
	40-yr. Bus-Bar Cost Excluding CO2 Cost		$97 per MWh	$101 per MWh	$108 per MWh	$108 per MWh	$128 per MWh	$98 per MWh	$135 per MWh
1									
2	**Emission Rates**	**NO_x Lbs/MWh**	0.46	0.47	0.49	0.48	0.57	0.45	0.54
3									
4									
5		**SO_2 Lbs/MWh**	0.55	0.56	0.59	0.57	0.28	0.54	0.65
6									
7									
8		**Mercury Lbs/GWh**	0.0079	0.0082	0.0085	0.0083	0.0083	0.0078	0.0094
9									
10									
11		**Particulate Lbs/MWh**	0.22	0.23	0.24	0.23	0.23	0.22	0.26
12									
13									
14		**CO_2 Tons/MWh**	0.94	0.97	1.01	0.98	0.93	0.93	0.11
15									
16									
17		**PM Filterable Lbs/MWh**	0.10	0.10	0.11	0.10	0.10	0.10	0.12
18									
19									
20		**CO Lbs/MWh**	1.14	1.18	1.22	1.19	1.19	1.13	1.35
21									
22									
23		**VOC Lbs/MWh**	0.031	0.032	0.033	0.032	0.032	0.031	0.037
24									
25									
26		**H_2SO_4 Lbs/MWh**	0.037	0.038	0.039	0.038	0.038	0.036	0.043
27									
28									
29		**HCL Lbs/MWh**	0.021	0.022	0.023	0.022	0.022	0.021	0.025
30									
31									
32		**Hydrogen Fluoride Lbs/MWh**	0.0016	0.0016	0.0017	0.0016	0.0016	0.0015	0.0018
33									
34									
35		**Lead Lbs/MWh**	0.087	0.091	0.091	0.091	0.097	0.087	0.111
36									
37									

BEI Electric Generation Alternatives Analysis
Table 7 - Lower Emitting Technologies Cost Summary
Levelized Cost of Natural Gas Combined Cycle

1	COD (Jan1)	2009
2	Size MW	500
3	Plant Life Years	40
4	Last Year of Service	2048
5	Capital Cost + AFUDC (EOY 2008) $/kW	1043
6	Capital Cost (@ COD) $/kW	1043
7	Network Upgrade Cost (EOY 2009) $/kW	166
8	Network Upgrade Cost (@ COD) $/kW	166
9	Capital Fixed Charge Rate	12.4000%
10	Network Upgrade Fixed Charge Rate	20.0000%
11	Capital Cost Escalation Rate	4%
12	O&M Escalation Rate	2%
13	Long-term NOx Escalation Rate (2031+)	0.00%
14	Long-term SO2 Escalation Rate (2031+)	2.50%
15	Long-term CO2 Escalation Rate (2031+)	7.50%
16	Long-term Fuel Escalation Rate (2031+)	2.60%
17	Discount Rate	8.98%
18		
19		

20			2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
21	NOx	$/Ton	2,626.56	2,584.54	2,428.39	2,489.10	2,551.33	2,720.71	2,896.97	2,894.62	2,908.68	2,629.95	2,378.70	2,152.23	1,948.12	1,764.19	1,598.45	1,449.14	1,314.64
22	SO2	$/Ton	174.25	458.61	742.96	1,027.32	1,311.67	1,277.24	1,440.09	1,697.50	1,913.94	1,961.78	2,010.83	1,648.88	1,352.08	1,108.71	909.14	745.49	611.31
23	CO2	$/Ton	0.00	0.00	0.00	22.30	23.72	25.46	27.29	29.05	30.75	32.53	34.46	36.71	39.53	42.54	45.75	49.19	52.86
24	Fuel	$/MMBtu	7.62	8.40	8.56	8.50	8.49	9.04	9.59	10.14	10.59	11.07	11.66	12.40	13.16	14.10	14.98	15.65	16.44
25	Heat Rate	Btu/kWh	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300
26	FOM	$/kW-yr	15.04	15.34	15.65	15.96	16.28	16.61	16.94	17.28	17.62	17.97	18.33	18.70	19.07	19.46	19.84	20.24	20.65
27	VOM	$/MWh	4.41	4.50	4.59	4.68	4.77	4.87	4.97	5.07	5.17	5.27	5.38	5.48	5.59	5.70	5.82	5.94	6.05
28	NOx	lb/MMBtu	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
29	SO2	lb/MMBtu	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
30	CO2	lb/MMBtu	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00
31	CO2	T/MWh	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44
32																			
33	Size	MW	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500
34	Capacity Factor	%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
35	Generation	GWh	657	657	657	657	657	657	657	657	657	657	657	657	657	657	657	657	657
36																			
37	Capital Cost	$000	64,666	64,666	64,666	64,666	64,666	64,666	64,666	64,666	64,666	64,666	64,666	64,666	64,666	64,666	64,666	64,666	64,666
38	Network Upgrade Cost	$000	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600
39	Fuel Cost	$000	36,564	40,297	41,052	40,786	40,733	43,372	46,012	48,652	50,771	53,087	55,928	59,466	63,117	67,628	71,841	75,079	78,843
40	Fixed O&M	$000	7,520	7,670	7,824	7,980	8,140	8,303	8,469	8,638	8,811	8,987	9,167	9,350	9,537	9,728	9,922	10,121	10,323
41	Variable O&M	$000	2,897	2,955	3,014	3,075	3,136	3,199	3,263	3,328	3,395	3,463	3,532	3,603	3,675	3,748	3,823	3,899	3,977
42	NOx	$000	189	186	175	179	184	196	208	208	209	189	171	155	140	127	115	104	95
43	SO2	$000	0	1	2	2	3	3	3	4	5	5	5	4	3	3	2	2	1
44	CO2	$000	0	0	0	6,416	6,826	7,326	7,854	8,360	8,849	9,360	9,916	10,565	11,377	12,242	13,166	14,154	15,210
45																			
46	Total Cost (Mix of Annual+Levelized)	$000	128,436	132,376	133,333	139,704	140,288	143,664	147,075	150,457	153,305	156,357	159,985	164,409	169,115	174,742	180,136	184,626	189,716
47	40-Year Levelized Cost	$000	171,443	171,443	171,443	171,443	171,443	171,443	171,443	171,443	171,443	171,443	171,443	171,443	171,443	171,443	171,443	171,443	171,443
48	Total Cost (Mix of Annual+Levelized)	$/MWh	195	201	203	213	214	219	224	229	233	238	244	250	257	266	274	281	289
49																			
50																			
51	40-Year PV @ COD	$000	1,847,936																
52	40-Year PV @ COD	GWh	7,082																
53	40-Year Levelized Cost @ COD	$000	171,443																
54	40-Year Levelized $/MWh @ COD	$/MWh	261																
55																			
56	**40-Year Levelized $/MWh (2008$) Excl. CO2**	**$/MWh**	**243**																
57	**40-Year Levelized $/MWh (2008$) Incl. CO2**	**$/MWh**	**261**																

2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
1,193.51	1,084.45	986.27	897.91	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42
313.29	321.13	329.15	337.38	345.82	354.46	363.33	372.41	381.72	391.26	401.04	411.07	421.35	431.88	442.68	453.74	465.09	476.71	488.63	500.85	513.37	526.20	539.36
56.96	61.35	65.79	70.56	76.12	81.83	87.96	94.56	101.65	109.28	117.47	126.28	135.75	145.94	156.88	168.65	181.30	194.89	209.51	225.22	242.12	260.27	279.79
17.17	18.10	22.87	24.29	25.70	26.37	27.05	27.76	28.48	29.22	29.98	30.76	31.56	32.38	33.22	34.08	34.97	35.88	36.81	37.77	38.75	39.76	40.79
7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300
21.06	21.48	21.91	22.35	22.80	23.25	23.72	24.19	24.67	25.17	25.67	26.19	26.71	27.24	27.79	28.34	28.91	29.49	30.08	30.68	31.29	31.92	32.56
6.18	6.30	6.42	6.55	6.68	6.82	6.95	7.09	7.24	7.38	7.53	7.68	7.83	7.99	8.15	8.31	8.48	8.65	8.82	9.00	9.18	9.36	9.55
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00
0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44
500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500
15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
657	657	657	657	657	657	657	657	657	657	657	657	657	657	657	657	657	657	657	657	657	657	657
64,666	64,666	64,666	64,666	64,666	64,666	64,666	64,666	64,666	64,666	64,666	64,666	64,666	64,666	64,666	64,666	64,666	64,666	64,666	64,666	64,666	64,666	64,666
16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600
82,369	86,814	109,665	116,485	123,254	126,459	129,747	133,120	136,581	140,132	143,776	147,514	151,349	155,284	159,322	163,464	167,714	172,075	176,549	181,139	185,849	190,681	195,638
10,530	10,740	10,955	11,174	11,398	11,626	11,858	12,095	12,337	12,584	12,836	13,093	13,354	13,621	13,894	14,172	14,455	14,744	15,039	15,340	15,647	15,960	16,279
4,057	4,138	4,221	4,305	4,391	4,479	4,569	4,660	4,753	4,849	4,945	5,044	5,145	5,248	5,353	5,460	5,569	5,681	5,794	5,910	6,029	6,149	6,272
86	78	71	65	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16,391	17,656	18,932	20,306	21,904	23,547	25,313	27,211	29,252	31,446	33,805	36,340	39,066	41,995	45,145	48,531	52,171	56,084	60,290	64,812	69,673	74,898	80,515
194,700	200,693	225,110	233,602	242,273	247,436	252,812	258,413	264,250	270,337	276,687	283,317	290,240	297,475	305,040	312,953	321,236	329,909	338,998	348,527	358,522	369,013	380,031
171,443	171,443	171,443	171,443	171,443	171,443	171,443	171,443	171,443	171,443	171,443	171,443	171,443	171,443	171,443	171,443	171,443	171,443	171,443	171,443	171,443	171,443	171,443
296	305	343	356	369	377	385	393	402	411	421	431	442	453	464	476	489	502	516	530	546	562	578

BEI Electric Generation Alternatives Analysis
Table 7 - Lower Emitting Technologies Cost Summary
Levelized Cost of Natural Gas Combustion Turbine

1	COD (Jan1)	2009
2	Size MW	160
3	Plant Life Years	20
4	Last Year of Service	2028
5	Year of 1st Replacement	2029
6	Last Year of Service for 1st Replacement	2048
7	Capital Cost + AFUDC (EOY 2008) $/kW	775
8	Capital Cost (@ 1st COD) $/kW	775
9	Capital Cost (@ 2nd COD) $/kW	1698
10	Network Upgrade Cost (EOY 2009) $/kW	166
11	Network Upgrade Cost (@ COD) $/kW	166
12	Capital Fixed Charge Rate	14.6293%
13	Network Upgrade Fixed Charge Rate	20.0000%
14	Capital Cost Escalation Rate	4%
15	O&M Escalation Rate	2%
16	Long-term NOx Escalation Rate (2031+)	0.00%
17	Long-term SO2 Escalation Rate (2031+)	2.50%
18	Long-term CO2 Escalation Rate (2031+)	7.50%
19	Long-term Fuel Escalation Rate (2031+)	6.00%
20	Discount Rate	8.98%
21		
22		

23			2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
24	NOx	$/Ton	2,626.56	2,584.54	2,428.39	2,489.10	2,551.33	2,720.71	2,896.97	2,894.62	2,908.68	2,629.95	2,378.70	2,152.23	1,948.12	1,764.19	1,598.45	1,449.14	1,314.64
25	SO2	$/Ton	174.25	458.61	742.96	1,027.32	1,311.67	1,277.24	1,440.09	1,697.50	1,913.94	1,961.78	2,010.83	1,648.88	1,352.08	1,108.71	909.14	745.49	611.31
26	CO2	$/Ton	0.00	0.00	0.00	22.30	23.72	25.46	27.29	29.05	30.75	32.53	34.46	36.71	39.53	42.54	45.75	49.19	52.86
27	Fuel	$/MMBtu	7.69	8.47	8.63	8.57	8.56	9.11	9.67	10.22	10.66	11.14	11.74	12.48	13.24	14.18	15.06	15.74	16.52
28	Heat Rate	Btu/kWh	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970
29	FOM	$/kW-yr	7.19	7.33	7.48	7.63	7.78	7.94	8.10	8.26	8.42	8.59	8.76	8.94	9.12	9.30	9.49	9.68	9.87
30	VOM	$/MWh	4.18	4.26	4.35	4.43	4.52	4.61	4.71	4.80	4.90	4.99	5.09	5.19	5.30	5.40	5.51	5.62	5.74
31	NOx	lb/MMBtu	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
32	SO2	lb/MMBtu	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
33	CO2	lb/MMBtu	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00
34																			
35	Size	MW	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160
36	Capacity Factor	%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
37	Generation	GWh	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42
38																			
39	Capital Cost	$000	18,140	18,140	18,140	18,140	18,140	18,140	18,140	18,140	18,140	18,140	18,140	18,140	18,140	18,140	18,140	18,140	18,140
40	Network Upgrade Cost	$000	5,312	5,312	5,312	5,312	5,312	5,312	5,312	5,312	5,312	5,312	5,312	5,312	5,312	5,312	5,312	5,312	5,312
41	Fuel Cost	$000	3,547	3,907	3,980	3,955	3,950	4,204	4,459	4,713	4,918	5,141	5,414	5,755	6,107	6,541	6,947	7,259	7,622
42	Fixed O&M	$000	1,150	1,173	1,197	1,221	1,245	1,270	1,296	1,321	1,348	1,375	1,402	1,430	1,459	1,488	1,518	1,548	1,579
43	Variable O&M	$000	176	179	183	186	190	194	198	202	206	210	214	218	223	227	232	236	241
44	NOx	$000	18	18	17	17	18	19	20	20	20	18	16	15	13	12	11	10	9
45	SO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	CO2	$000	0	0	0	617	657	705	755	804	851	900	954	1,016	1,094	1,177	1,266	1,361	1,463
47																			
48	Total Cost (Mix of Annual+Levelized)	$000	28,344	28,730	28,829	29,449	29,512	29,845	30,180	30,513	30,795	31,097	31,454	31,888	32,349	32,899	33,427	33,868	34,367
49																			
50																			
51	40-Year PV @ COD	$000	392,311																
52	40-Year PV @ COD	GWh	453																
53	40-Year Levelized $/MWh @ COD	$/MWh	866																
54																			
55	**40-Year Levelized $/MWh (2008$) Excl. CO2**	**$/MWh**	**839**																
56	**40-Year Levelized $/MWh (2008$) Incl. CO2**	**$/MWh**	**866**																

2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
1,193.51	1,084.45	986.27	897.91	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42
313.29	321.13	329.15	337.38	345.82	354.46	363.33	372.41	381.72	391.26	401.04	411.07	421.35	431.88	442.68	453.74	465.09	476.71	488.63	500.85	513.37	526.20	539.36
56.96	61.35	65.79	70.56	76.12	81.83	87.96	94.56	101.65	109.28	117.47	126.28	135.75	145.94	156.88	168.65	181.30	194.89	209.51	225.22	242.12	260.27	279.79
17.26	18.19	22.95	24.38	25.79	27.34	28.98	30.72	32.56	34.51	36.58	38.78	41.10	43.57	46.19	48.96	51.89	55.01	58.31	61.81	65.52	69.45	73.61
10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970
10.07	10.27	10.47	10.68	10.90	11.12	11.34	11.57	11.80	12.03	12.27	12.52	12.77	13.02	13.28	13.55	13.82	14.10	14.38	14.67	14.96	15.26	15.57
5.85	5.97	6.09	6.21	6.33	6.46	6.59	6.72	6.85	6.99	7.13	7.27	7.42	7.57	7.72	7.87	8.03	8.19	8.36	8.52	8.69	8.87	9.04
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00
160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160
3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42
18,140	18,140	18,140	39,748	39,748	39,748	39,748	39,748	39,748	39,748	39,748	39,748	39,748	39,748	39,748	39,748	39,748	39,748	39,748	39,748	39,748	39,748	39,748
5,312	5,312	5,312	5,312	5,312	5,312	5,312	5,312	5,312	5,312	5,312	5,312	5,312	5,312	5,312	5,312	5,312	5,312	5,312	5,312	5,312	5,312	5,312
7,961	8,390	10,588	11,244	11,896	12,610	13,366	14,168	15,018	15,919	16,875	17,887	18,960	20,098	21,304	22,582	23,937	25,373	26,896	28,509	30,220	32,033	33,955
1,611	1,643	1,676	1,709	1,744	1,779	1,814	1,850	1,887	1,925	1,964	2,003	2,043	2,084	2,126	2,168	2,211	2,256	2,301	2,347	2,394	2,442	2,490
246	251	256	261	266	272	277	283	288	294	300	306	312	318	325	331	338	344	351	358	366	373	380
8	8	7	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1,576	1,698	1,821	1,953	2,107	2,265	2,434	2,617	2,813	3,024	3,251	3,495	3,757	4,039	4,342	4,667	5,018	5,394	5,798	6,233	6,701	7,203	7,744
34,855	35,442	37,800	60,234	61,078	61,990	62,957	63,984	65,073	66,228	67,455	68,756	70,138	71,604	73,161	74,814	76,569	78,433	80,412	82,513	84,745	87,116	89,635

BEI Electric Generation Alternatives Analysis
Table 7 - Lower Emitting Technologies Cost Summary
Levelized Cost of On-Shore Wind

1	COD (Jan1)	2009
2	Size MW	450
3	Plant Life Years	20
4	Last Year of Service	2028
5	Year of 1st Replacement	2029
6	Last Year of Service for 1st Replacement	2048
7	Capital Cost + AFUDC (EOY 2008) $/kW	2427
8	Capital Cost (@ 1st COD) $/kW	2427
9	Capital Cost (@ 2nd COD) $/kW	4384
10	Network Upgrade Cost (EOY 2009) $/kW	166
11	Network Upgrade Cost (@ COD) $/kW	166
12	Capital Fixed Charge Rate	14.5145%
13	Network Upgrade Fixed Charge Rate	20.0000%
14	Capital Cost Escalation Rate	3%
15	O&M Escalation Rate	2%
16	Long-term NOx Escalation Rate (2031+)	0.00%
17	Long-term SO2 Escalation Rate (2031+)	2.50%
18	Long-term CO2 Escalation Rate (2031+)	7.50%
19	Long-term Fuel Escalation Rate (2031+)	2.60%
20	Discount Rate	8.98%
21		
22		

			2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
24	NOx	$/Ton	2,626.56	2,584.54	2,428.39	2,489.10	2,551.33	2,720.71	2,896.97	2,894.62	2,908.68	2,629.95	2,378.70	2,152.23	1,948.12	1,764.19	1,598.45	1,449.14	1,314.64
25	SO2	$/Ton	174.25	458.61	742.96	1,027.32	1,311.67	1,277.24	1,440.09	1,697.50	1,913.94	1,961.78	2,010.83	1,648.88	1,352.08	1,108.71	909.14	745.49	611.31
26	CO2	$/Ton	0.00	0.00	0.00	22.30	23.72	25.46	27.29	29.05	30.75	32.53	34.46	36.71	39.53	42.54	45.75	49.19	52.86
27	Fuel	$/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Heat Rate	Btu/kWh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	FOM	$/kW-yr	41.64	39.17	23.14	23.97	24.84	25.74	26.67	27.64	28.64	29.69	30.78	31.91	33.08	34.30	35.57	36.88	38.25
30	VOM	$/MWh	2.99	3.23	3.32	3.94	3.97	4.00	4.13	4.22	4.27	4.36	4.51	4.65	4.83	5.00	5.20	5.43	5.48
31	NOx	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	SO2	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	CO2	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34																			
35	Size	MW	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450
36	Capacity Factor	%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%
37	Generation	GWh	1,104	1,104	1,104	1,104	1,104	1,104	1,104	1,104	1,104	1,104	1,104	1,104	1,104	1,104	1,104	1,104	1,104
38																			
39	Capital Cost	$000	158,532	158,532	158,532	158,532	158,532	158,532	158,532	158,532	158,532	158,532	158,532	158,532	158,532	158,532	158,532	158,532	158,532
40	Network Upgrade Cost	$000	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940
41	Fuel Cost	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	Fixed O&M	$000	18,738	17,626	10,413	10,788	11,177	11,581	12,001	12,437	12,890	13,360	13,849	14,357	14,885	15,434	16,005	16,597	17,214
43	Variable O&M	$000	3,301	3,567	3,660	4,347	4,381	4,420	4,559	4,657	4,712	4,812	4,978	5,132	5,331	5,518	5,743	5,997	6,047
44	NOx	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	SO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	CO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47																			
48	Total Cost (Mix of Annual+Levelized)	$000	195,511	194,665	187,545	188,607	189,030	189,473	190,032	190,566	191,074	191,645	192,300	192,961	193,689	194,424	195,220	196,067	196,733
49	40-Year Levelized Cost	$000	214,270	214,270	214,270	214,270	214,270	214,270	214,270	214,270	214,270	214,270	214,270	214,270	214,270	214,270	214,270	214,270	214,270
50	Total Cost (Mix of Annual+Levelized)	$/MWh	177	176	170	171	171	172	172	173	173	174	174	175	175	176	177	178	178
51																			
52																			
53	40-Year PV @ COD	$000	2,309,551																
54	40-Year PV @ COD	GWh	11,897																
55	40-Year Levelized Cost @ COD	$000	214,270																
56	40-Year Levelized $/MWh @ COD	$/MWh	194																
57																			
58	**40-Year Levelized $/MWh (2008$) Excl. CO2**	**$/MWh**	**194**																
59	**40-Year Levelized $/MWh (2008$) Incl. CO2**	**$/MWh**	**194**	**(Company-Built)**															
60	**40-Year Levelized $/MWh (2008$) Incl. CO2**	**$/MWh**	**198**	**(Average of Company-Built and PPA)**															

2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
1,193.51	1,084.45	986.27	897.91	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42
313.29	321.13	329.15	337.38	345.82	354.46	363.33	372.41	381.72	391.26	401.04	411.07	421.35	431.88	442.68	453.74	465.09	476.71	488.63	500.85	513.37	526.20	539.36
56.96	61.35	65.79	70.56	76.12	81.83	87.96	94.56	101.65	109.28	117.47	126.28	135.75	145.94	156.88	168.65	181.30	194.89	209.51	225.22	242.12	260.27	279.79
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39.68	41.16	42.70	70.43	67.31	47.69	49.49	51.36	53.31	55.34	57.44	59.64	61.92	64.29	66.76	69.33	72.01	74.80	77.70	80.72	83.86	87.13	90.54
5.65	5.84	6.19	6.41	6.48	6.55	6.63	6.70	6.78	6.86	6.94	7.02	7.10	7.18	7.26	7.35	7.43	7.52	7.61	7.70	7.79	7.88	7.97
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450
28.00%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%	28.00%
1,104	1,104	1,104	1,104	1,104	1,104	1,104	1,104	1,104	1,104	1,104	1,104	1,104	1,104	1,104	1,104	1,104	1,104	1,104	1,104	1,104	1,104	1,104
158,532	158,532	158,532	286,327	286,327	286,327	286,327	286,327	286,327	286,327	286,327	286,327	286,327	286,327	286,327	286,327	286,327	286,327	286,327	286,327	286,327	286,327	286,327
14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17,854	18,520	19,213	31,692	30,287	21,461	22,271	23,113	23,990	24,901	25,850	26,836	27,863	28,932	30,044	31,201	32,405	33,659	34,964	36,322	37,736	39,209	40,742
6,236	6,450	6,829	7,072	7,151	7,233	7,315	7,398	7,483	7,569	7,656	7,744	7,834	7,925	8,017	8,110	8,204	8,300	8,398	8,496	8,597	8,698	8,801
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
197,563	198,442	199,514	340,031	338,705	329,960	330,852	331,778	332,739	333,737	334,772	335,847	336,964	338,123	339,327	340,577	341,876	343,226	344,628	346,085	347,600	349,174	350,810
214,270	214,270	214,270	214,270	214,270	214,270	214,270	214,270	214,270	214,270	214,270	214,270	214,270	214,270	214,270	214,270	214,270	214,270	214,270	214,270	214,270	214,270	214,270
179	180	181	308	307	299	300	301	301	302	303	304	305	306	307	309	310	311	312	314	315	316	318

BEI Electric Generation Alternatives Analysis
Table 7 - Lower Emitting Technologies Cost Summary
Levelized Cost of CT Back-up for On-Shore Wind

1	COD (Jan1)	2009	
2	Size MW	394 *	450 MW of wind @ 12.5% capacity credit = 394 MW of CT back-up needed
3	Plant Life Years	20	
4	Last Year of Service	2028	
5	Year of 1st Replacement	2029	
6	Last Year of Service for 1st Replacement	2048	
7	Capital Cost + AFUDC (EOY 2008) $/kW	775	
8	Capital Cost (@ 1st COD) $/kW	775	
9	Capital Cost (@ 2nd COD) $/kW	1698	
10	Network Upgrade Cost (EOY 2009) $/kW	166	
11	Network Upgrade Cost (@ COD) $/kW	166	
12	Capital Fixed Charge Rate	14.6293%	
13	Network Upgrade Fixed Charge Rate	20.0000%	
14	Capital Cost Escalation Rate	4%	
15	O&M Escalation Rate	2%	
16	Long-term NOx Escalation Rate (2031+)	0.00%	
17	Long-term SO2 Escalation Rate (2031+)	2.50%	
18	Long-term CO2 Escalation Rate (2031+)	7.50%	
19	Long-term Fuel Escalation Rate (2031+)	6.00%	
20	Discount Rate	8.98%	
21			
22			

23			2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
24	NOx	$/Ton	2,626.56	2,584.54	2,428.39	2,489.10	2,551.33	2,720.71	2,896.97	2,894.62	2,908.68	2,629.95	2,378.70	2,152.23	1,948.12	1,764.19	1,598.45	1,449.14	1,314.64
25	SO2	$/Ton	174.25	458.61	742.96	1,027.32	1,311.67	1,277.24	1,440.09	1,697.50	1,913.94	1,961.78	2,010.83	1,648.88	1,352.08	1,108.71	909.14	745.49	611.31
26	CO2	$/Ton	0.00	0.00	0.00	22.30	23.72	25.46	27.29	29.05	30.75	32.53	34.46	36.71	39.53	42.54	45.75	49.19	52.86
27	Fuel	$/MMBtu	7.69	8.47	8.63	8.57	8.56	9.11	9.67	10.22	10.66	11.14	11.74	12.48	13.24	14.18	15.06	15.74	16.52
28	Heat Rate	Btu/kWh	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970
29	FOM	$/kW-yr	7.19	7.33	7.48	7.63	7.78	7.94	8.10	8.26	8.42	8.59	8.76	8.94	9.12	9.30	9.49	9.68	9.87
30	VOM	$/MWh	4.18	4.26	4.35	4.43	4.52	4.61	4.71	4.80	4.90	4.99	5.09	5.19	5.30	5.40	5.51	5.62	5.74
31	NOx	lb/MMBtu	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
32	SO2	lb/MMBtu	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
33	CO2	lb/MMBtu	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00
34																			
35	Size	MW	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394
36	Capacity Factor	%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
37	Generation	GWh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38																			
39	Capital Cost	$000	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642
40	Network Upgrade Cost	$000	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073
41	Fuel Cost	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	Fixed O&M	$000	2,831	2,888	2,946	3,004	3,065	3,126	3,188	3,252	3,317	3,384	3,451	3,520	3,591	3,662	3,736	3,810	3,887
43	Variable O&M	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	NOx	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	SO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	CO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47																			
48	Total Cost (Mix of Annual+Levelized)	$000	60,546	60,603	60,660	60,719	60,779	60,841	60,903	60,967	61,032	61,098	61,166	61,235	61,305	61,377	61,450	61,525	61,601
49																			
50																			
51	40-Year PV @ COD	$000	746,832																
52	40-Year PV @ COD	GWh	11,897 *	PV of generation from 450 MW of wind @ 28% capacity factor															
53	40-Year Levelized $/MWh @ COD	$/MWh	63																
54																			
55	**40-Year Levelized $/MWh (2008$) Excl. CO2**	**$/MWh**	**63**																
56	**40-Year Levelized $/MWh (2008$) Incl. CO2**	**$/MWh**	**63**																

2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
1,193.51	1,084.45	986.27	897.91	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42
313.29	321.13	329.15	337.38	345.82	354.46	363.33	372.41	381.72	391.26	401.04	411.07	421.35	431.88	442.68	453.74	465.09	476.71	488.63	500.85	513.37	526.20	539.36
56.96	61.35	65.79	70.56	76.12	81.83	87.96	94.56	101.65	109.28	117.47	126.28	135.75	145.94	156.88	168.65	181.30	194.89	209.51	225.22	242.12	260.27	279.79
17.26	18.19	22.95	24.38	25.79	27.34	28.98	30.72	32.56	34.51	36.58	38.78	41.10	43.57	46.19	48.96	51.89	55.01	58.31	61.81	65.52	69.45	73.61
10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970
10.07	10.27	10.47	10.68	10.90	11.12	11.34	11.57	11.80	12.03	12.27	12.52	12.77	13.02	13.28	13.55	13.82	14.10	14.38	14.67	14.96	15.26	15.57
5.85	5.97	6.09	6.21	6.33	6.46	6.59	6.72	6.85	6.99	7.13	7.27	7.42	7.57	7.72	7.87	8.03	8.19	8.36	8.52	8.69	8.87	9.04
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00
394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44,642	44,642	44,642	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817
13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3,964	4,044	4,124	4,207	4,291	4,377	4,464	4,554	4,645	4,738	4,832	4,929	5,028	5,128	5,231	5,335	5,442	5,551	5,662	5,775	5,891	6,009	6,129
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61,679	61,758	61,839	115,096	115,180	115,266	115,354	115,443	115,534	115,627	115,722	115,818	115,917	116,017	116,120	116,225	116,331	116,440	116,551	116,664	116,780	116,898	117,018

BEI Electric Generation Alternatives Analysis
Table 7 - Lower Emitting Technologies Cost Summary
Levelized Cost of Off-Shore Wind (Low End)

1	COD (Jan1)	2009
2	Size MW	450
3	Plant Life Years	20
4	Last Year of Service	2028
5	Year of 1st Replacement	2029
6	Last Year of Service for 1st Replacement	2048
7	Capital Cost + AFUDC (EOY 2008) $/kW	3398
8	Capital Cost (@ 1st COD) $/kW	3398
9	Capital Cost (@ 2nd COD) $/kW	6137
10	Network Upgrade Cost (EOY 2009) $/kW	166
11	Network Upgrade Cost (@ COD) $/kW	166
12	Capital Fixed Charge Rate	14.5145%
13	Network Upgrade Fixed Charge Rate	20.0000%
14	Capital Cost Escalation Rate	3%
15	O&M Escalation Rate	2%
16	Long-term NOx Escalation Rate (2031+)	0.00%
17	Long-term SO2 Escalation Rate (2031+)	2.50%
18	Long-term CO2 Escalation Rate (2031+)	7.50%
19	Long-term Fuel Escalation Rate (2031+)	2.60%
20	Discount Rate	8.98%

			2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
24	NOx	$/Ton	2,626.56	2,584.54	2,428.39	2,489.10	2,551.33	2,720.71	2,896.97	2,894.62	2,908.68	2,629.95	2,378.70	2,152.23	1,948.12	1,764.19	1,598.45	1,449.14	1,314.64
25	SO2	$/Ton	174.25	458.61	742.96	1,027.32	1,311.67	1,277.24	1,440.09	1,697.50	1,913.94	1,961.78	2,010.83	1,648.88	1,352.08	1,108.71	909.14	745.49	611.31
26	CO2	$/Ton	0.00	0.00	0.00	22.30	23.72	25.46	27.29	29.05	30.75	32.53	34.46	36.71	39.53	42.54	45.75	49.19	52.86
27	Fuel	$/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Heat Rate	Btu/kWh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	FOM	$/kW-yr	52.05	48.96	28.92	29.97	31.05	32.17	33.34	34.55	35.80	37.11	38.47	39.88	41.35	42.87	44.46	46.10	47.82
30	VOM	$/MWh	3.74	4.04	4.14	4.92	4.96	5.01	5.16	5.27	5.34	5.45	5.64	5.81	6.04	6.25	6.50	6.79	6.85
31	NOx	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	SO2	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	CO2	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	Size	MW	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450
36	Capacity Factor	%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%
37	Generation	GWh	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380
39	Capital Cost	$000	221,945	221,945	221,945	221,945	221,945	221,945	221,945	221,945	221,945	221,945	221,945	221,945	221,945	221,945	221,945	221,945	221,945
40	Network Upgrade Cost	$000	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940
41	Fuel Cost	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	Fixed O&M	$000	23,422	22,032	13,016	13,485	13,971	14,476	15,001	15,546	16,112	16,700	17,312	17,947	18,607	19,293	20,006	20,747	21,517
43	Variable O&M	$000	5,158	5,574	5,718	6,792	6,845	6,907	7,123	7,277	7,363	7,520	7,778	8,019	8,330	8,621	8,974	9,371	9,448
44	NOx	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	SO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	CO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	Total Cost (Mix of Annual+Levelized)	$000	265,465	264,491	255,619	257,162	257,701	258,268	259,009	259,708	260,360	261,105	261,975	262,850	263,822	264,799	265,864	267,002	267,850
49	40-Year Levelized Cost	$000	292,373	292,373	292,373	292,373	292,373	292,373	292,373	292,373	292,373	292,373	292,373	292,373	292,373	292,373	292,373	292,373	292,373
50	Total Cost (Mix of Annual+Levelized)	$/MWh	192	192	185	186	187	187	188	188	189	189	190	191	191	192	193	194	194

53	40-Year PV @ COD	$000	3,151,401
54	40-Year PV @ COD	GWh	14,871
55	40-Year Levelized Cost @ COD	$000	292,373
56	40-Year Levelized $/MWh @ COD	$/MWh	212
58	**40-Year Levelized $/MWh (2008$) Excl. CO2**	**$/MWh**	**212**
59	**40-Year Levelized $/MWh (2008$) Incl. CO2**	**$/MWh**	**212**

2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
1,193.51	1,084.45	986.27	897.91	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42
313.29	321.13	329.15	337.38	345.82	354.46	363.33	372.41	381.72	391.26	401.04	411.07	421.35	431.88	442.68	453.74	465.09	476.71	488.63	500.85	513.37	526.20	539.36
56.96	61.35	65.79	70.56	76.12	81.83	87.96	94.56	101.65	109.28	117.47	126.28	135.75	145.94	156.88	168.65	181.30	194.89	209.51	225.22	242.12	260.27	279.79
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49.60	51.45	53.37	88.03	84.13	59.61	61.86	64.20	66.64	69.17	71.80	74.55	77.40	80.37	83.45	86.67	90.01	93.50	97.12	100.89	104.82	108.91	113.17
7.06	7.30	7.73	8.01	8.10	8.19	8.28	8.38	8.47	8.57	8.67	8.77	8.87	8.97	9.08	9.18	9.29	9.40	9.51	9.62	9.74	9.85	9.97
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450
35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%
1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380
221,945	221,945	221,945	400,857	400,857	400,857	400,857	400,857	400,857	400,857	400,857	400,857	400,857	400,857	400,857	400,857	400,857	400,857	400,857	400,857	400,857	400,857	400,857
14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22,318	23,150	24,016	39,615	37,859	26,826	27,838	28,891	29,987	31,126	32,312	33,546	34,829	36,165	37,554	39,001	40,506	42,073	43,705	45,403	47,170	49,011	50,928
9,744	10,078	10,670	11,050	11,174	11,301	11,430	11,560	11,692	11,826	11,962	12,100	12,240	12,382	12,526	12,672	12,819	12,969	13,121	13,276	13,432	13,591	13,752
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
268,947	270,113	271,571	466,462	464,830	453,924	455,065	456,249	457,477	458,750	460,072	461,443	462,867	464,344	465,878	467,470	469,123	470,840	472,623	474,476	476,400	478,399	480,477
292,373	292,373	292,373	292,373	292,373	292,373	292,373	292,373	292,373	292,373	292,373	292,373	292,373	292,373	292,373	292,373	292,373	292,373	292,373	292,373	292,373	292,373	292,373
195	196	197	338	337	329	330	331	332	333	333	334	335	337	338	339	340	341	343	344	345	347	348

BEI Electric Generation Alternatives Analysis
Table 7 - Lower Emitting Technologies Cost Summary
Levelized Cost of CT Back-up for Off-Shore Wind (Low End)

1	COD (Jan1)	2009	
2	Size MW	394 *	450 MW of wind @ 12.5% capacity credit = 394 MW of CT back-up needed
3	Plant Life Years	20	
4	Last Year of Service	2028	
5	Year of 1st Replacement	2029	
6	Last Year of Service for 1st Replacement	2048	
7	Capital Cost + AFUDC (EOY 2008) $/kW	775	
8	Capital Cost (@ 1st COD) $/kW	775	
9	Capital Cost (@ 2nd COD) $/kW	1698	
10	Network Upgrade Cost (EOY 2009) $/kW	166	
11	Network Upgrade Cost (@ COD) $/kW	166	
12	Capital Fixed Charge Rate	14.6293%	
13	Network Upgrade Fixed Charge Rate	20.0000%	
14	Capital Cost Escalation Rate	4%	
15	O&M Escalation Rate	2%	
16	Long-term NOx Escalation Rate (2031+)	0.00%	
17	Long-term SO2 Escalation Rate (2031+)	2.50%	
18	Long-term CO2 Escalation Rate (2031+)	7.50%	
19	Long-term Fuel Escalation Rate (2031+)	6.00%	
20	Discount Rate	8.98%	
21			
22			

23			2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
24	NOx	$/Ton	2,626.56	2,584.54	2,428.39	2,489.10	2,551.33	2,720.71	2,896.97	2,894.62	2,908.68	2,629.95	2,378.70	2,152.23	1,948.12	1,764.19	1,598.45	1,449.14	1,314.64
25	SO2	$/Ton	174.25	458.61	742.96	1,027.32	1,311.67	1,277.24	1,440.09	1,697.50	1,913.94	1,961.78	2,010.83	1,648.88	1,352.08	1,108.71	909.14	745.49	611.31
26	CO2	$/Ton	0.00	0.00	0.00	22.30	23.72	25.46	27.29	29.05	30.75	32.53	34.46	36.71	39.53	42.54	45.75	49.19	52.86
27	Fuel	$/MMBtu	7.69	8.47	8.63	8.57	8.56	9.11	9.67	10.22	10.66	11.14	11.74	12.48	13.24	14.18	15.06	15.74	16.52
28	Heat Rate	Btu/kWh	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970
29	FOM	$/kW-yr	7.19	7.33	7.48	7.63	7.78	7.94	8.10	8.26	8.42	8.59	8.76	8.94	9.12	9.30	9.49	9.68	9.87
30	VOM	$/MWh	4.18	4.26	4.35	4.43	4.52	4.61	4.71	4.80	4.90	4.99	5.09	5.19	5.30	5.40	5.51	5.62	5.74
31	NOx	lb/MMBtu	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
32	SO2	lb/MMBtu	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
33	CO2	lb/MMBtu	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00
34																			
35	Size	MW	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394
36	Capacity Factor	%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
37	Generation	GWh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38																			
39	Capital Cost	$000	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642
40	Network Upgrade Cost	$000	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073
41	Fuel Cost	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	Fixed O&M	$000	2,831	2,888	2,946	3,004	3,065	3,126	3,188	3,252	3,317	3,384	3,451	3,520	3,591	3,662	3,736	3,810	3,887
43	Variable O&M	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	NOx	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	SO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	CO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47																			
48	Total Cost (Mix of Annual+Levelized)	$000	60,546	60,603	60,660	60,719	60,779	60,841	60,903	60,967	61,032	61,098	61,166	61,235	61,305	61,377	61,450	61,525	61,601
49																			
50																			
51	40-Year PV @ COD	$000	746,832																
52	40-Year PV @ COD	GWh	14,871 *	PV of generation from 450 MW of wind @ 35% capacity factor															
53	40-Year Levelized $/MWh @ COD	$/MWh	50																
54																			
55	**40-Year Levelized $/MWh (2008$) Excl. CO2**	**$/MWh**	**50**																
56	**40-Year Levelized $/MWh (2008$) Incl. CO2**	**$/MWh**	**50**																

2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
1,193.51	1,084.45	986.27	897.91	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42
313.29	321.13	329.15	337.38	345.82	354.46	363.33	372.41	381.72	391.26	401.04	411.07	421.35	431.88	442.68	453.74	465.09	476.71	488.63	500.85	513.37	526.20	539.36
56.96	61.35	65.79	70.56	76.12	81.83	87.96	94.56	101.65	109.28	117.47	126.28	135.75	145.94	156.88	168.65	181.30	194.89	209.51	225.22	242.12	260.27	279.79
17.26	18.19	22.95	24.38	25.79	27.34	28.98	30.72	32.56	34.51	36.58	38.78	41.10	43.57	46.19	48.96	51.89	55.01	58.31	61.81	65.52	69.45	73.61
10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970
10.07	10.27	10.47	10.68	10.90	11.12	11.34	11.57	11.80	12.03	12.27	12.52	12.77	13.02	13.28	13.55	13.82	14.10	14.38	14.67	14.96	15.26	15.57
5.85	5.97	6.09	6.21	6.33	6.46	6.59	6.72	6.85	6.99	7.13	7.27	7.42	7.57	7.72	7.87	8.03	8.19	8.36	8.52	8.69	8.87	9.04
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00
394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44,642	44,642	44,642	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817
13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3,964	4,044	4,124	4,207	4,291	4,377	4,464	4,554	4,645	4,738	4,832	4,929	5,028	5,128	5,231	5,335	5,442	5,551	5,662	5,775	5,891	6,009	6,129
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61,679	61,758	61,839	115,096	115,180	115,266	115,354	115,443	115,534	115,627	115,722	115,818	115,917	116,017	116,120	116,225	116,331	116,440	116,551	116,664	116,780	116,898	117,018

BEI Electric Generation Alternatives Analysis
Table 7 - Lower Emitting Technologies Cost Summary
Levelized Cost of Off-Shore Wind (High End)

1	COD (Jan1)	2009
2	Size MW	450
3	Plant Life Years	20
4	Last Year of Service	2028
5	Year of 1st Replacement	2029
6	Last Year of Service for 1st Replacement	2048
7	Capital Cost + AFUDC (EOY 2008) $/kW	7282
8	Capital Cost (@ 1st COD) $/kW	7282
9	Capital Cost (@ 2nd COD) $/kW	13151
10	Network Upgrade Cost (EOY 2009) $/kW	166
11	Network Upgrade Cost (@ COD) $/kW	166
12	Capital Fixed Charge Rate	14.5145%
13	Network Upgrade Fixed Charge Rate	20.0000%
14	Capital Cost Escalation Rate	3%
15	O&M Escalation Rate	2%
16	Long-term NOx Escalation Rate (2031+)	0.00%
17	Long-term SO2 Escalation Rate (2031+)	2.50%
18	Long-term CO2 Escalation Rate (2031+)	7.50%
19	Long-term Fuel Escalation Rate (2031+)	2.60%
20	Discount Rate	8.98%

			2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
24	NOx	$/Ton	2,626.56	2,584.54	2,428.39	2,489.10	2,551.33	2,720.71	2,896.97	2,894.62	2,908.68	2,629.95	2,378.70	2,152.23	1,948.12	1,764.19	1,598.45	1,449.14	1,314.64
25	SO2	$/Ton	174.25	458.61	742.96	1,027.32	1,311.67	1,277.24	1,440.09	1,697.50	1,913.94	1,961.78	2,010.83	1,648.88	1,352.08	1,108.71	909.14	745.49	611.31
26	CO2	$/Ton	0.00	0.00	0.00	22.30	23.72	25.46	27.29	29.05	30.75	32.53	34.46	36.71	39.53	42.54	45.75	49.19	52.86
27	Fuel	$/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Heat Rate	Btu/kWh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	FOM	$/kW-yr	104.10	97.92	57.85	59.93	62.09	64.34	66.67	69.09	71.61	74.22	76.94	79.76	82.70	85.75	88.91	92.21	95.63
30	VOM	$/MWh	7.48	8.08	8.29	9.85	9.92	10.01	10.33	10.55	10.67	10.90	11.28	11.62	12.07	12.50	13.01	13.58	13.70
31	NOx	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	SO2	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	CO2	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	Size	MW	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450
36	Capacity Factor	%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%
37	Generation	GWh	1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577
39	Capital Cost	$000	475,596	475,596	475,596	475,596	475,596	475,596	475,596	475,596	475,596	475,596	475,596	475,596	475,596	475,596	475,596	475,596	475,596
40	Network Upgrade Cost	$000	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940
41	Fuel Cost	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	Fixed O&M	$000	46,844	44,065	26,032	26,969	27,942	28,952	30,002	31,092	32,224	33,401	34,623	35,893	37,214	38,585	40,011	41,493	43,034
43	Variable O&M	$000	11,790	12,740	13,070	15,525	15,645	15,786	16,282	16,633	16,830	17,187	17,779	18,328	19,040	19,706	20,511	21,419	21,596
44	NOx	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	SO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	CO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	Total Cost (Mix of Annual+Levelized)	$000	549,171	547,342	529,639	533,031	534,124	535,275	536,820	538,261	539,590	541,125	542,939	544,758	546,790	548,828	551,059	553,449	555,166
49	40-Year Levelized Cost	$000	607,650	607,650	607,650	607,650	607,650	607,650	607,650	607,650	607,650	607,650	607,650	607,650	607,650	607,650	607,650	607,650	607,650
50	Total Cost (Mix of Annual+Levelized)	$/MWh	348	347	336	338	339	339	340	341	342	343	344	345	347	348	349	351	352

53	40-Year PV @ COD	$000	6,549,685
54	40-Year PV @ COD	GWh	16,996
55	40-Year Levelized Cost @ COD	$000	607,650
56	40-Year Levelized $/MWh @ COD	$/MWh	385
58	**40-Year Levelized $/MWh (2008$) Excl. CO2**	**$/MWh**	**385**
59	**40-Year Levelized $/MWh (2008$) Incl. CO2**	**$/MWh**	**385**

2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
1,193.51	1,084.45	986.27	897.91	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42
313.29	321.13	329.15	337.38	345.82	354.46	363.33	372.41	381.72	391.26	401.04	411.07	421.35	431.88	442.68	453.74	465.09	476.71	488.63	500.85	513.37	526.20	539.36
56.96	61.35	65.79	70.56	76.12	81.83	87.96	94.56	101.65	109.28	117.47	126.28	135.75	145.94	156.88	168.65	181.30	194.89	209.51	225.22	242.12	260.27	279.79
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99.19	102.89	106.74	176.07	168.26	119.23	123.73	128.41	133.28	138.34	143.61	149.09	154.80	160.73	166.91	173.34	180.03	186.99	194.24	201.79	209.65	217.83	226.35
14.13	14.61	15.47	16.02	16.20	16.38	16.57	16.76	16.95	17.14	17.34	17.54	17.74	17.95	18.16	18.37	18.58	18.80	19.02	19.24	19.47	19.70	19.93
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450
40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%
1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577
475,596	475,596	475,596	858,980	858,980	858,980	858,980	858,980	858,980	858,980	858,980	858,980	858,980	858,980	858,980	858,980	858,980	858,980	858,980	858,980	858,980	858,980	858,980
14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940	14,940
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44,636	46,301	48,032	79,230	75,718	53,652	55,677	57,783	59,974	62,253	64,624	67,091	69,658	72,329	75,109	78,002	81,013	84,147	87,409	90,805	94,341	98,022	101,855
22,272	23,035	24,388	25,257	25,540	25,830	26,125	26,423	26,725	27,032	27,343	27,658	27,978	28,302	28,630	28,964	29,302	29,644	29,992	30,344	30,702	31,064	31,432
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
557,445	559,872	562,957	978,407	975,179	953,402	955,721	958,126	960,619	963,205	965,887	968,669	971,556	974,551	977,659	980,886	984,235	987,711	991,321	995,070	998,963	1,003,007	1,007,207
607,650	607,650	607,650	607,650	607,650	607,650	607,650	607,650	607,650	607,650	607,650	607,650	607,650	607,650	607,650	607,650	607,650	607,650	607,650	607,650	607,650	607,650	607,650
354	355	357	621	618	605	606	608	609	611	613	614	616	618	620	622	624	626	629	631	634	636	639

BEI Electric Generation Alternatives Analysis
Table 7 - Lower Emitting Technologies Cost Summary
Levelized Cost of CT Back-up for Off-Shore Wind (High End)

1	COD (Jan1)	2009	
2	Size MW	394 *	450 MW of wind @ 12.5% capacity credit = 394 MW of CT back-up needed
3	Plant Life Years	20	
4	Last Year of Service	2028	
5	Year of 1st Replacement	2029	
6	Last Year of Service for 1st Replacement	2048	
7	Capital Cost + AFUDC (EOY 2008) $/kW	775	
8	Capital Cost (@ 1st COD) $/kW	775	
9	Capital Cost (@ 2nd COD) $/kW	1698	
10	Network Upgrade Cost (EOY 2009) $/kW	166	
11	Network Upgrade Cost (@ COD) $/kW	166	
12	Capital Fixed Charge Rate	14.6293%	
13	Network Upgrade Fixed Charge Rate	20.0000%	
14	Capital Cost Escalation Rate	4%	
15	O&M Escalation Rate	2%	
16	Long-term NOx Escalation Rate (2031+)	0.00%	
17	Long-term SO2 Escalation Rate (2031+)	2.50%	
18	Long-term CO2 Escalation Rate (2031+)	7.50%	
19	Long-term Fuel Escalation Rate (2031+)	6.00%	
20	Discount Rate	8.98%	
21			
22			

23			2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
24	NOx	$/Ton	2,626.56	2,584.54	2,428.39	2,489.10	2,551.33	2,720.71	2,896.97	2,894.62	2,908.68	2,629.95	2,378.70	2,152.23	1,948.12	1,764.19	1,598.45	1,449.14	1,314.64
25	SO2	$/Ton	174.25	458.61	742.96	1,027.32	1,311.67	1,277.24	1,440.09	1,697.50	1,913.94	1,961.78	2,010.83	1,648.88	1,352.08	1,108.71	909.14	745.49	611.31
26	CO2	$/Ton	0.00	0.00	0.00	22.30	23.72	25.46	27.29	29.05	30.75	32.53	34.46	36.71	39.53	42.54	45.75	49.19	52.86
27	Fuel	$/MMBtu	7.69	8.47	8.63	8.57	8.56	9.11	9.67	10.22	10.66	11.14	11.74	12.48	13.24	14.18	15.06	15.74	16.52
28	Heat Rate	Btu/kWh	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970
29	FOM	$/kW-yr	7.19	7.33	7.48	7.63	7.78	7.94	8.10	8.26	8.42	8.59	8.76	8.94	9.12	9.30	9.49	9.68	9.87
30	VOM	$/MWh	4.18	4.26	4.35	4.43	4.52	4.61	4.71	4.80	4.90	4.99	5.09	5.19	5.30	5.40	5.51	5.62	5.74
31	NOx	lb/MMBtu	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
32	SO2	lb/MMBtu	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
33	CO2	lb/MMBtu	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00
34																			
35	Size	MW	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394
36	Capacity Factor	%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
37	Generation	GWh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38																			
39	Capital Cost	$000	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642	44,642
40	Network Upgrade Cost	$000	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073
41	Fuel Cost	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	Fixed O&M	$000	2,831	2,888	2,946	3,004	3,065	3,126	3,188	3,252	3,317	3,384	3,451	3,520	3,591	3,662	3,736	3,810	3,887
43	Variable O&M	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	NOx	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	SO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	CO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47																			
48	Total Cost (Mix of Annual+Levelized)	$000	60,546	60,603	60,660	60,719	60,779	60,841	60,903	60,967	61,032	61,098	61,166	61,235	61,305	61,377	61,450	61,525	61,601
49																			
50																			

51	40-Year PV @ COD	$000	746,832	
52	40-Year PV @ COD	GWh	16,996 *	PV of generation from 450 MW of wind @ 35% capacity factor
53	40-Year Levelized $/MWh @ COD	$/MWh	44	
54				
55	**40-Year Levelized $/MWh (2008$) Excl. CO2**	**$/MWh**	**44**	
56	**40-Year Levelized $/MWh (2008$) Incl. CO2**	**$/MWh**	**44**	

2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
1,193.51	1,084.45	986.27	897.91	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42
313.29	321.13	329.15	337.38	345.82	354.46	363.33	372.41	381.72	391.26	401.04	411.07	421.35	431.88	442.68	453.74	465.09	476.71	488.63	500.85	513.37	526.20	539.36
56.96	61.35	65.79	70.56	76.12	81.83	87.96	94.56	101.65	109.28	117.47	126.28	135.75	145.94	156.88	168.65	181.30	194.89	209.51	225.22	242.12	260.27	279.79
17.26	18.19	22.95	24.38	25.79	27.34	28.98	30.72	32.56	34.51	36.58	38.78	41.10	43.57	46.19	48.96	51.89	55.01	58.31	61.81	65.52	69.45	73.61
10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970	10,970
10.07	10.27	10.47	10.68	10.90	11.12	11.34	11.57	11.80	12.03	12.27	12.52	12.77	13.02	13.28	13.55	13.82	14.10	14.38	14.67	14.96	15.26	15.57
5.85	5.97	6.09	6.21	6.33	6.46	6.59	6.72	6.85	6.99	7.13	7.27	7.42	7.57	7.72	7.87	8.03	8.19	8.36	8.52	8.69	8.87	9.04
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00
394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44,642	44,642	44,642	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817	97,817
13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073	13,073
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3,964	4,044	4,124	4,207	4,291	4,377	4,464	4,554	4,645	4,738	4,832	4,929	5,028	5,128	5,231	5,335	5,442	5,551	5,662	5,775	5,891	6,009	6,129
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61,679	61,758	61,839	115,096	115,180	115,266	115,354	115,443	115,534	115,627	115,722	115,818	115,917	116,017	116,120	116,225	116,331	116,440	116,551	116,664	116,780	116,898	117,018

BEI Electric Generation Alternatives Analysis
Table 7 - Lower Emitting Technologies Cost Summary
Levelized Cost of Small Wind Generators

1	COD (Jan1)	2009
2	Size MW	0.015
3	Plant Life Years	20
4	Last Year of Service	2028
5	Year of 1st Replacement	2029
6	Last Year of Service for 1st Replacement	2048
7	Capital Cost (EOY 2008) $/kW	7000
8	Capital Cost (@ 1st COD) $/kW	7000
9	Capital Cost (@ 2nd COD) $/kW	15338
10	Network Upgrade Cost (EOY 2009) $/kW	0
11	Network Upgrade Cost (@ COD) $/kW	0
12	Capital Fixed Charge Rate	9.7700%
13	Network Upgrade Fixed Charge Rate	20.0000%
14	Capital Cost Escalation Rate	4%
15	O&M Escalation Rate	2%
16	Long-term NOx Escalation Rate (2031+)	0.00%
17	Long-term SO2 Escalation Rate (2031+)	2.50%
18	Long-term CO2 Escalation Rate (2031+)	7.50%
19	Long-term Fuel Escalation Rate (2031+)	2.60%
20	Discount Rate	8.98%

			2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
24	NOx	$/Ton	2,626.56	2,584.54	2,428.39	2,489.10	2,551.33	2,720.71	2,896.97	2,894.62	2,908.68	2,629.95	2,378.70	2,152.23	1,948.12	1,764.19	1,598.45	1,449.14	1,314.64
25	SO2	$/Ton	174.25	458.61	742.96	1,027.32	1,311.67	1,277.24	1,440.09	1,697.50	1,913.94	1,961.78	2,010.83	1,648.88	1,352.08	1,108.71	909.14	745.49	611.31
26	CO2	$/Ton	0.00	0.00	0.00	22.30	23.72	25.46	27.29	29.05	30.75	32.53	34.46	36.71	39.53	42.54	45.75	49.19	52.86
27	Fuel	$/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Heat Rate	Btu/kWh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	FOM	$/kW-yr	35.00	35.70	36.41	37.14	37.89	38.64	39.42	40.20	41.01	41.83	42.66	43.52	44.39	45.28	46.18	47.11	48.05
30	VOM	$/MWh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	NOx	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	SO2	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	CO2	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	Size	MW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	Capacity Factor	%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
37	Generation	GWh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	Capital Cost	$000	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
40	Network Upgrade Cost	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	Fuel Cost	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	Fixed O&M	$000	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
43	Variable O&M	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	NOx	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	SO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	CO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	Total Cost (Mix of Annual+Levelized)	$000	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
49	40-Year Levelized Cost	$000	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
50	Total Cost (Mix of Annual+Levelized)	$/MWh	547	548	548	549	549	550	550	551	552	552	553	554	554	555	556	556	557

53	40-Year PV @ COD	$000	138
54	40-Year PV @ COD	GWh	0.21
55	40-Year Levelized Cost @ COD	$000	13
56	40-Year Levelized $/MWh @ COD	$/MWh	648
58	**40-Year Levelized $/MWh (2008$) Excl. CO2**	**$/MWh**	**648**
59	**40-Year Levelized $/MWh (2008$) Incl. CO2**	**$/MWh**	**648**

2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
1,193.51	1,084.45	986.27	897.91	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42
313.29	321.13	329.15	337.38	345.82	354.46	363.33	372.41	381.72	391.26	401.04	411.07	421.35	431.88	442.68	453.74	465.09	476.71	488.63	500.85	513.37	526.20	539.36
56.96	61.35	65.79	70.56	76.12	81.83	87.96	94.56	101.65	109.28	117.47	126.28	135.75	145.94	156.88	168.65	181.30	194.89	209.51	225.22	242.12	260.27	279.79
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49.01	49.99	50.99	52.01	53.05	54.11	55.19	56.30	57.42	58.57	59.74	60.94	62.15	63.40	64.67	65.96	67.28	68.62	70.00	71.40	72.82	74.28	75.77
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	10	10	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	11	11	23	23	23	23	23	23	23	23	23	23	23	23	23	23	24	24	24	24	24	24
13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
558	559	559	1180	1181	1182	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198

BEI Electric Generation Alternatives Analysis
Table 7 - Lower Emitting Technologies Cost Summary
Levelized Cost of Circulating Fluidized Bed Biomass Plant

1	COD (Jan1)	2009
2	Size MW	35
3	Plant Life Years	40
4	Last Year of Service	2048
5	Capital Cost + AFUDC (EOY 2008) $/kW	4227
6	Capital Cost (@ COD) $/kW	4227
7	Network Upgrade Cost (EOY 2009) $/kW	166
8	Network Upgrade Cost (@ COD) $/kW	166
9	Capital Fixed Charge Rate	12.3807%
10	Network Upgrade Fixed Charge Rate	20.0000%
11	Capital Cost Escalation Rate	4%
12	O&M Escalation Rate	2%
13	Long-term NOx Escalation Rate (2031+)	0.00%
14	Long-term SO2 Escalation Rate (2031+)	2.50%
15	Long-term CO2 Escalation Rate (2031+)	7.50%
16	Long-term Fuel Escalation Rate (2031+)	2.60%
17	Discount Rate	8.98%

			2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
21	NOx	$/Ton	2,626.56	2,584.54	2,428.39	2,489.10	2,551.33	2,720.71	2,896.97	2,894.62	2,908.68	2,629.95	2,378.70	2,152.23	1,948.12	1,764.19	1,598.45	1,449.14	1,314.64
22	SO2	$/Ton	174.25	458.61	742.96	1,027.32	1,311.67	1,277.24	1,440.09	1,697.50	1,913.94	1,961.78	2,010.83	1,648.88	1,352.08	1,108.71	909.14	745.49	611.31
23	CO2	$/Ton	0.00	0.00	0.00	22.30	23.72	25.46	27.29	29.05	30.75	32.53	34.46	36.71	39.53	42.54	45.75	49.19	52.86
24	Fuel	$/MMBtu	3.06	3.18	3.31	3.44	3.58	3.73	3.88	4.04	4.20	4.37	4.55	4.73	4.92	5.12	5.33	5.54	5.76
25	Heat Rate	Btu/kWh	14,307	14,307	14,307	14,307	14,307	14,307	14,307	14,307	14,307	14,307	14,307	14,307	14,307	14,307	14,307	14,307	14,307
26	FOM	$/kW-yr	59.46	60.65	61.86	63.10	64.36	65.65	66.96	68.30	69.67	71.06	72.48	73.93	75.41	76.92	78.46	80.03	81.63
27	VOM	$/MWh	1.13	1.15	1.18	1.20	1.22	1.25	1.27	1.30	1.32	1.35	1.38	1.41	1.43	1.46	1.49	1.52	1.55
28	NOx	lb/MMBtu	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
29	SO2	lb/MMBtu	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
30	CO2	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Size	MW	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
33	Capacity Factor	%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%
34	Generation	GWh	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276
36	Capital Cost	$000	18,317	18,317	18,317	18,317	18,317	18,317	18,317	18,317	18,317	18,317	18,317	18,317	18,317	18,317	18,317	18,317	18,317
37	Network Upgrade Cost	$000	1,162	1,162	1,162	1,162	1,162	1,162	1,162	1,162	1,162	1,162	1,162	1,162	1,162	1,162	1,162	1,162	1,162
38	Fuel Cost	$000	12,076	12,564	13,071	13,599	14,149	14,720	15,315	15,934	16,577	17,247	17,944	18,669	19,423	20,208	21,024	21,873	22,757
39	Fixed O&M	$000	2,081	2,123	2,165	2,208	2,253	2,298	2,344	2,391	2,438	2,487	2,537	2,588	2,639	2,692	2,746	2,801	2,857
40	Variable O&M	$000	312	318	324	331	338	344	351	358	365	373	380	388	395	403	411	420	428
41	NOx	$000	415	408	383	393	403	430	457	457	459	415	376	340	308	279	252	229	208
42	SO2	$000	38	100	161	223	285	277	313	369	416	426	437	358	294	241	197	162	133
43	CO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	Total Cost (Mix of Annual+Levelized)	$000	34,400	34,991	35,584	36,233	36,905	37,548	38,258	38,987	39,735	40,427	41,152	41,821	42,538	43,301	44,110	44,963	45,861
46	40-Year Levelized Cost	$000	41,619	41,619	41,619	41,619	41,619	41,619	41,619	41,619	41,619	41,619	41,619	41,619	41,619	41,619	41,619	41,619	41,619
47	Total Cost (Mix of Annual+Levelized)	$/MWh	125	127	129	131	134	136	139	141	144	147	149	152	154	157	160	163	166

50	40-Year PV @ COD	$000	448,600
51	40-Year PV @ COD	GWh	2,974
52	40-Year Levelized Cost @ COD	$000	41,619
53	40-Year Levelized $/MWh @ COD	$/MWh	151
55	**40-Year Levelized $/MWh (2008$) Excl. CO2**	**$/MWh**	**151**
56	**40-Year Levelized $/MWh (2008$) Incl. CO2**	**$/MWh**	**151**

2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
1,193.51	1,084.45	986.27	897.91	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42
313.29	321.13	329.15	337.38	345.82	354.46	363.33	372.41	381.72	391.26	401.04	411.07	421.35	431.88	442.68	453.74	465.09	476.71	488.63	500.85	513.37	526.20	539.36
56.96	61.35	65.79	70.56	76.12	81.83	87.96	94.56	101.65	109.28	117.47	126.28	135.75	145.94	156.88	168.65	181.30	194.89	209.51	225.22	242.12	260.27	279.79
6.00	6.24	6.49	6.75	7.03	7.21	7.40	7.59	7.79	7.99	8.20	8.41	8.63	8.85	9.08	9.32	9.56	9.81	10.07	10.33	10.60	10.87	11.15
14,307	14,307	14,307	14,307	14,307	14,307	14,307	14,307	14,307	14,307	14,307	14,307	14,307	14,307	14,307	14,307	14,307	14,307	14,307	14,307	14,307	14,307	14,307
83.26	84.92	86.62	88.35	90.12	91.92	93.76	95.64	97.55	99.50	101.49	103.52	105.59	107.70	109.86	112.05	114.30	116.58	118.91	121.29	123.72	126.19	128.72
1.58	1.61	1.65	1.68	1.71	1.75	1.78	1.82	1.85	1.89	1.93	1.97	2.01	2.05	2.09	2.13	2.17	2.22	2.26	2.31	2.35	2.40	2.45
0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%
276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276
18,317	18,317	18,317	18,317	18,317	18,317	18,317	18,317	18,317	18,317	18,317	18,317	18,317	18,317	18,317	18,317	18,317	18,317	18,317	18,317	18,317	18,317	18,317
1,162	1,162	1,162	1,162	1,162	1,162	1,162	1,162	1,162	1,162	1,162	1,162	1,162	1,162	1,162	1,162	1,162	1,162	1,162	1,162	1,162	1,162	1,162
23,676	24,633	25,628	26,664	27,741	28,462	29,202	29,961	30,740	31,540	32,360	33,201	34,064	34,950	35,858	36,791	37,747	38,729	39,736	40,769	41,829	42,916	44,032
2,914	2,972	3,032	3,092	3,154	3,217	3,282	3,347	3,414	3,483	3,552	3,623	3,696	3,770	3,845	3,922	4,000	4,080	4,162	4,245	4,330	4,417	4,505
437	445	454	463	473	482	492	502	512	522	532	543	554	565	576	588	599	611	624	636	649	662	675
188	171	156	142	129	129	129	129	129	129	129	129	129	129	129	129	129	129	129	129	129	129	129
68	70	71	73	75	77	79	81	83	85	87	89	91	94	96	99	101	104	106	109	111	114	117
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46,762	47,770	48,820	49,913	51,051	51,846	52,662	53,499	54,357	55,237	56,139	57,064	58,013	58,986	59,984	61,007	62,056	63,132	64,235	65,367	66,527	67,717	68,937
41,619	41,619	41,619	41,619	41,619	41,619	41,619	41,619	41,619	41,619	41,619	41,619	41,619	41,619	41,619	41,619	41,619	41,619	41,619	41,619	41,619	41,619	41,619
169	173	177	181	185	188	191	194	197	200	203	207	210	214	217	221	225	229	233	237	241	245	250

BEI Electric Generation Alternatives Analysis
Table 7 - Lower Emitting Technologies Cost Summary
Levelized Cost of Solar PV

1	COD (Jan1)	2009
2	Size MW	0.150
3	Plant Life Years	20
4	Last Year of Service	2028
5	Year of 1st Replacement	2029
6	Last Year of Service for 1st Replacement	2048
7	Capital Cost (EOY 2008) $/kW	6500
8	Capital Cost (@ 1st COD) $/kW	6500
9	Capital Cost (@ 2nd COD) $/kW	14242
10	Network Upgrade Cost (EOY 2009) $/kW	0
11	Network Upgrade Cost (@ COD) $/kW	0
12	Capital Fixed Charge Rate	9.7700%
13	Network Upgrade Fixed Charge Rate	20.0000%
14	Capital Cost Escalation Rate	4%
15	O&M Escalation Rate	2%
16	Long-term NOx Escalation Rate (2031+)	0.00%
17	Long-term SO2 Escalation Rate (2031+)	2.50%
18	Long-term CO2 Escalation Rate (2031+)	7.50%
19	Long-term Fuel Escalation Rate (2031+)	2.60%
20	Discount Rate	8.98%

			2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
24	NOx	$/Ton	2,626.56	2,584.54	2,428.39	2,489.10	2,551.33	2,720.71	2,896.97	2,894.62	2,908.68	2,629.95	2,378.70	2,152.23	1,948.12	1,764.19	1,598.45	1,449.14	1,314.64
25	SO2	$/Ton	174.25	458.61	742.96	1,027.32	1,311.67	1,277.24	1,440.09	1,697.50	1,913.94	1,961.78	2,010.83	1,648.88	1,352.08	1,108.71	909.14	745.49	611.31
26	CO2	$/Ton	0.00	0.00	0.00	22.30	23.72	25.46	27.29	29.05	30.75	32.53	34.46	36.71	39.53	42.54	45.75	49.19	52.86
27	Fuel	$/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Heat Rate	Btu/kWh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	FOM	$/kW-yr	32.50	33.15	33.81	34.49	35.18	35.88	36.60	37.33	38.08	38.84	39.62	40.41	41.22	42.04	42.88	43.74	44.62
30	VOM	$/MWh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	NOx	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	SO2	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	CO2	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	Size	MW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	Capacity Factor	%	14.70%	14.63%	14.55%	14.48%	14.41%	14.34%	14.26%	14.19%	14.12%	14.05%	13.98%	13.91%	13.84%	13.77%	13.70%	13.64%	13.57%
37	Generation	GWh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	Capital Cost	$000	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95
40	Network Upgrade Cost	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	Fuel Cost	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	Fixed O&M	$000	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6	7	7
43	Variable O&M	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	NOx	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	SO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	CO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	Total Cost (Mix of Annual+Levelized)	$000	100	100	100	100	101	101	101	101	101	101	101	101	101	102	102	102	102
49	40-Year Levelized Cost	$000	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119
50	Total Cost (Mix of Annual+Levelized)	$/MWh	518	522	525	528	531	534	538	541	544	547	551	554	558	561	565	568	572

53	40-Year PV @ COD	$000	1,277
54	40-Year PV @ COD	GWh	2.01
55	40-Year Levelized Cost @ COD	$000	119
56	40-Year Levelized $/MWh @ COD	$/MWh	635
58	**40-Year Levelized $/MWh (2008$) Excl. CO2**	**$/MWh**	**635**
59	**40-Year Levelized $/MWh (2008$) Incl. CO2**	**$/MWh**	**635**

2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
1,193.51	1,084.45	986.27	897.91	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42
313.29	321.13	329.15	337.38	345.82	354.46	363.33	372.41	381.72	391.26	401.04	411.07	421.35	431.88	442.68	453.74	465.09	476.71	488.63	500.85	513.37	526.20	539.36
56.96	61.35	65.79	70.56	76.12	81.83	87.96	94.56	101.65	109.28	117.47	126.28	135.75	145.94	156.88	168.65	181.30	194.89	209.51	225.22	242.12	260.27	279.79
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45.51	46.42	47.35	48.29	49.26	50.24	51.25	52.27	53.32	54.39	55.47	56.58	57.71	58.87	60.05	61.25	62.47	63.72	65.00	66.30	67.62	68.97	70.35
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.50%	13.43%	13.36%	14.70%	14.63%	14.55%	14.48%	14.41%	14.34%	14.26%	14.19%	14.12%	14.05%	13.98%	13.91%	13.84%	13.77%	13.70%	13.64%	13.57%	13.50%	13.43%	13.36%
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	95	95	209	209	209	209	209	209	209	209	209	209	209	209	209	209	209	209	209	209	209	209
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	7	7	7	7	8	8	8	8	8	8	8	9	9	9	9	9	10	10	10	10	10	11
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
102	102	102	216	216	216	216	217	217	217	217	217	217	218	218	218	218	218	218	219	219	219	219
119	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119
576	579	583	1118	1124	1131	1137	1144	1150	1157	1164	1171	1177	1184	1191	1198	1205	1212	1219	1227	1234	1241	1249

BEI Electric Generation Alternatives Analysis
Table 7 - Lower Emitting Technologies Cost Summary
Levelized Cost of Nuclear

1	COD (Jan1)	2009
2	Size MW	750
3	Plant Life Years	40
4	Last Year of Service	2048
5	Capital Cost + AFUDC (EOY 2008) $/kW	6491
6	Capital Cost (@ COD) $/kW	6491
7	Network Upgrade Cost (EOY 2009) $/kW	166
8	Network Upgrade Cost (@ COD) $/kW	166
9	Capital Fixed Charge Rate	13.6000%
10	Network Upgrade Fixed Charge Rate	20.0000%
11	Capital Cost Escalation Rate	4%
12	O&M Escalation Rate	2%
13	Long-term NOx Escalation Rate (2031+)	0.00%
14	Long-term SO2 Escalation Rate (2031+)	2.50%
15	Long-term CO2 Escalation Rate (2031+)	7.50%
16	Long-term Fuel Escalation Rate (2031+)	2.60%
17	Discount Rate	8.98%
18		
19		

20			2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
21	NOx	$/Ton	2,626.56	2,584.54	2,428.39	2,489.10	2,551.33	2,720.71	2,896.97	2,894.62	2,908.68	2,629.95	2,378.70	2,152.23	1,948.12	1,764.19	1,598.45	1,449.14	1,314.64
22	SO2	$/Ton	174.25	458.61	742.96	1,027.32	1,311.67	1,277.24	1,440.09	1,697.50	1,913.94	1,961.78	2,010.83	1,648.88	1,352.08	1,108.71	909.14	745.49	611.31
23	CO2	$/Ton	0.00	0.00	0.00	22.30	23.72	25.46	27.29	29.05	30.75	32.53	34.46	36.71	39.53	42.54	45.75	49.19	52.86
24	Fuel	$/MMBtu	0.68	0.69	0.70	0.71	0.72	0.74	0.75	0.76	0.78	0.79	0.80	0.82	0.84	0.85	0.87	0.89	0.90
25	Heat Rate	Btu/kWh	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
26	FOM	$/kW-yr	75.00	76.50	78.03	79.59	81.18	82.81	84.46	86.15	87.87	89.63	91.42	93.25	95.12	97.02	98.96	100.94	102.96
27	VOM	$/MWh	2.26	2.31	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.81	2.87	2.92	2.98	3.04	3.10
28	NOx	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	SO2	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	CO2	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																			
32	Size	MW	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750
33	Capacity Factor	%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%
34	Generation	GWh	6,110	6,110	6,110	6,110	6,110	6,110	6,110	6,110	6,110	6,110	6,110	6,110	6,110	6,110	6,110	6,110	6,110
35																			
36	Capital Cost	$000	662,082	662,082	662,082	662,082	662,082	662,082	662,082	662,082	662,082	662,082	662,082	662,082	662,082	662,082	662,082	662,082	662,082
37	Network Upgrade Cost	$000	24,900	24,900	24,900	24,900	24,900	24,900	24,900	24,900	24,900	24,900	24,900	24,900	24,900	24,900	24,900	24,900	24,900
38	Fuel Cost	$000	42,899	43,652	44,441	45,246	46,032	46,803	47,587	48,425	49,311	50,196	51,131	52,074	53,068	54,126	55,187	56,294	57,416
39	Fixed O&M	$000	56,250	57,375	58,523	59,693	60,887	62,105	63,347	64,614	65,906	67,224	68,568	69,940	71,339	72,765	74,221	75,705	77,219
40	Variable O&M	$000	13,809	14,085	14,367	14,654	14,947	15,246	15,551	15,862	16,179	16,503	16,833	17,170	17,513	17,863	18,220	18,585	18,957
41	NOx	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	SO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	CO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44																			
45	Total Cost (Mix of Annual+Levelized)	$000	799,940	802,094	804,312	806,575	808,848	811,135	813,466	815,883	818,378	820,905	823,514	826,165	828,901	831,737	834,610	837,566	840,574
46	40-Year Levelized Cost	$000	825,941	825,941	825,941	825,941	825,941	825,941	825,941	825,941	825,941	825,941	825,941	825,941	825,941	825,941	825,941	825,941	825,941
47	Total Cost (Mix of Annual+Levelized)	$/MWh	131	131	132	132	132	133	133	134	134	134	135	135	136	136	137	137	138
48																			
49																			
50	40-Year PV @ COD	$000	8,902,575																
51	40-Year PV @ COD	GWh	65,859																
52	40-Year Levelized Cost @ COD	$000	825,941																
53	40-Year Levelized $/MWh @ COD	$/MWh	135																
54																			
55	**40-Year Levelized $/MWh (2008$) Excl. CO2**	**$/MWh**	**135**																
56	**40-Year Levelized $/MWh (2008$) Incl. CO2**	**$/MWh**	**135**																

2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
1,193.51	1,084.45	986.27	897.91	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42
313.29	321.13	329.15	337.38	345.82	354.46	363.33	372.41	381.72	391.26	401.04	411.07	421.35	431.88	442.68	453.74	465.09	476.71	488.63	500.85	513.37	526.20	539.36
56.96	61.35	65.79	70.56	76.12	81.83	87.96	94.56	101.65	109.28	117.47	126.28	135.75	145.94	156.88	168.65	181.30	194.89	209.51	225.22	242.12	260.27	279.79
0.92	0.94	0.96	0.98	1.00	1.01	1.04	1.07	1.10	1.12	1.15	1.18	1.21	1.25	1.28	1.31	1.35	1.38	1.42	1.45	1.49	1.53	1.57
10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
105.02	107.12	109.26	111.45	113.67	115.95	118.27	120.63	123.05	125.51	128.02	130.58	133.19	135.85	138.57	141.34	144.17	147.05	149.99	152.99	156.05	159.17	162.36
3.16	3.23	3.29	3.36	3.43	3.49	3.56	3.64	3.71	3.78	3.86	3.93	4.01	4.09	4.18	4.26	4.34	4.43	4.52	4.61	4.70	4.80	4.89
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750
93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%
6,110	6,110	6,110	6,110	6,110	6,110	6,110	6,110	6,110	6,110	6,110	6,110	6,110	6,110	6,110	6,110	6,110	6,110	6,110	6,110	6,110	6,110	6,110
662,082	662,082	662,082	662,082	662,082	662,082	662,082	662,082	662,082	662,082	662,082	662,082	662,082	662,082	662,082	662,082	662,082	662,082	662,082	662,082	662,082	662,082	662,082
24,900	24,900	24,900	24,900	24,900	24,900	24,900	24,900	24,900	24,900	24,900	24,900	24,900	24,900	24,900	24,900	24,900	24,900	24,900	24,900	24,900	24,900	24,900
58,525	59,675	60,849	62,019	63,232	64,468	66,144	67,864	69,628	71,439	73,296	75,202	77,157	79,163	81,221	83,333	85,500	87,723	90,004	92,344	94,745	97,208	99,736
78,764	80,339	81,946	83,585	85,256	86,961	88,701	90,475	92,284	94,130	96,012	97,933	99,891	101,889	103,927	106,005	108,126	110,288	112,494	114,744	117,039	119,379	121,767
19,336	19,722	20,117	20,519	20,930	21,348	21,775	22,211	22,655	23,108	23,570	24,042	24,522	25,013	25,513	26,023	26,544	27,075	27,616	28,168	28,732	29,306	29,893
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
843,607	846,718	849,893	853,105	856,400	859,760	863,602	867,531	871,549	875,659	879,861	884,158	888,553	893,047	897,643	902,344	907,151	912,068	917,096	922,238	927,497	932,876	938,377
825,941	825,941	825,941	825,941	825,941	825,941	825,941	825,941	825,941	825,941	825,941	825,941	825,941	825,941	825,941	825,941	825,941	825,941	825,941	825,941	825,941	825,941	825,941
138	139	139	140	140	141	141	142	143	143	144	145	145	146	147	148	148	149	150	151	152	153	154

BEI Electric Generation Alternatives Analysis
Table 7 - Lower Emitting Technologies Cost Summary
Levelized Cost of Enhanced Geothermal System

1	COD (Jan1)	2009
2	Size MW	2
3	Plant Life Years	40
4	Last Year of Service	2048
5	Capital Cost (EOY 2008) $/kW	35944
6	Capital Cost (@ COD) $/kW	35944
7	Network Upgrade Cost (EOY 2009) $/kW	166
8	Network Upgrade Cost (@ COD) $/kW	166
9	Capital Fixed Charge Rate	12.4000%
10	Network Upgrade Fixed Charge Rate	20.0000%
11	Capital Cost Escalation Rate	4%
12	O&M Escalation Rate	2%
13	Long-term NOx Escalation Rate (2031+)	0.00%
14	Long-term SO2 Escalation Rate (2031+)	2.50%
15	Long-term CO2 Escalation Rate (2031+)	7.50%
16	Long-term Fuel Escalation Rate (2031+)	2.60%
17	Discount Rate	8.98%
18		
19		

20			2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
21	NOx	$/Ton	2,626.56	2,584.54	2,428.39	2,489.10	2,551.33	2,720.71	2,896.97	2,894.62	2,908.68	2,629.95	2,378.70	2,152.23	1,948.12	1,764.19	1,598.45	1,449.14	1,314.64
22	SO2	$/Ton	174.25	458.61	742.96	1,027.32	1,311.67	1,277.24	1,440.09	1,697.50	1,913.94	1,961.78	2,010.83	1,648.88	1,352.08	1,108.71	909.14	745.49	611.31
23	CO2	$/Ton	0.00	0.00	0.00	22.30	23.72	25.46	27.29	29.05	30.75	32.53	34.46	36.71	39.53	42.54	45.75	49.19	52.86
24	Fuel	$/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	Heat Rate	Btu/kWh	34,120	34,120	34,120	34,120	34,120	34,120	34,120	34,120	34,120	34,120	34,120	34,120	34,120	34,120	34,120	34,120	34,120
26	FOM	$/kW-yr	171.29	174.72	178.21	181.77	185.41	189.12	192.90	196.76	200.69	204.71	208.80	212.98	217.24	221.58	226.01	230.53	235.14
27	VOM	$/MWh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	NOx	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	SO2	lb/MMBtu	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	CO2	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																			
32	Size	MW	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
33	Capacity Factor	%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%
34	Generation	GWh	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
35																			
36	Capital Cost	$000	6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686
37	Network Upgrade Cost	$000	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
38	Fuel Cost	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	Fixed O&M	$000	257	262	267	273	278	284	289	295	301	307	313	319	326	332	339	346	353
40	Variable O&M	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	NOx	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	SO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	CO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44																			
45	Total Cost (Mix of Annual+Levelized)	$000	6,992	6,997	7,003	7,008	7,013	7,019	7,025	7,031	7,036	7,042	7,049	7,055	7,061	7,068	7,074	7,081	7,088
46	40-Year Levelized Cost	$000	7,053	7,053	7,053	7,053	7,053	7,053	7,053	7,053	7,053	7,053	7,053	7,053	7,053	7,053	7,053	7,053	7,053
47	Total Cost (Mix of Annual+Levelized)	$/MWh	560	561	561	561	562	562	563	563	564	564	565	565	566	566	567	567	568
48																			
49																			
50	40-Year PV @ COD	$000	76,019																
51	40-Year PV @ COD	GWh	135																
52	40-Year Levelized Cost @ COD	$000	7,053																
53	40-Year Levelized $/MWh @ COD	$/MWh	565																
54																			
55	**40-Year Levelized $/MWh (2008$) Excl. CO2**	**$/MWh**	**565**																
56	**40-Year Levelized $/MWh (2008$) Incl. CO2**	**$/MWh**	**565**																

2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
1,193.51	1,084.45	986.27	897.91	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42
313.29	321.13	329.15	337.38	345.82	354.46	363.33	372.41	381.72	391.26	401.04	411.07	421.35	431.88	442.68	453.74	465.09	476.71	488.63	500.85	513.37	526.20	539.36
56.96	61.35	65.79	70.56	76.12	81.83	87.96	94.56	101.65	109.28	117.47	126.28	135.75	145.94	156.88	168.65	181.30	194.89	209.51	225.22	242.12	260.27	279.79
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34,120	34,120	34,120	34,120	34,120	34,120	34,120	34,120	34,120	34,120	34,120	34,120	34,120	34,120	34,120	34,120	34,120	34,120	34,120	34,120	34,120	34,120	34,120
239.85	244.64	249.54	254.53	259.62	264.81	270.11	275.51	281.02	286.64	292.37	298.22	304.18	310.27	316.47	322.80	329.26	335.84	342.56	349.41	356.40	363.53	370.80
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%
12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686
50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
360	367	374	382	389	397	405	413	422	430	439	447	456	465	475	484	494	504	514	524	535	545	556
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7,095	7,102	7,110	7,117	7,125	7,133	7,141	7,149	7,157	7,165	7,174	7,183	7,192	7,201	7,210	7,220	7,229	7,239	7,249	7,260	7,270	7,281	7,292
7,053	7,053	7,053	7,053	7,053	7,053	7,053	7,053	7,053	7,053	7,053	7,053	7,053	7,053	7,053	7,053	7,053	7,053	7,053	7,053	7,053	7,053	7,053
568	569	570	570	571	571	572	573	573	574	575	575	576	577	578	578	579	580	581	582	582	583	584

BEI Electric Generation Alternatives Analysis
Table 7 - Lower Emitting Technologies Cost Summary
Levelized Cost of Landfill Gas to Energy

1	COD (Jan1)	2009
2	Size MW	2
3	Plant Life Years	20
4	Last Year of Service	2028
5	Year of 1st Replacement	2029
6	Last Year of Service for 1st Replacement	2048
7	Capital Cost + AFUDC (EOY 2008) $/kW	2081
8	Capital Cost (@ 1st COD) $/kW	2081
9	Capital Cost (@ 2nd COD) $/kW	4560
10	Network Upgrade Cost (EOY 2009) $/kW	166
11	Network Upgrade Cost (@ COD) $/kW	166
12	Capital Fixed Charge Rate	13.5100%
13	Network Upgrade Fixed Charge Rate	20.0000%
14	Capital Cost Escalation Rate	4%
15	O&M Escalation Rate	2%
16	Long-term NOx Escalation Rate (2031+)	0.00%
17	Long-term SO2 Escalation Rate (2031+)	2.50%
18	Long-term CO2 Escalation Rate (2031+)	7.50%
19	Long-term Fuel Escalation Rate (2031+)	6.00%
20	Discount Rate	8.98%
21		
22		

			2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
23																			
24	NOx	$/Ton	2,626.56	2,584.54	2,428.39	2,489.10	2,551.33	2,720.71	2,896.97	2,894.62	2,908.68	2,629.95	2,378.70	2,152.23	1,948.12	1,764.19	1,598.45	1,449.14	1,314.64
25	SO2	$/Ton	174.25	458.61	742.96	1,027.32	1,311.67	1,277.24	1,440.09	1,697.50	1,913.94	1,961.78	2,010.83	1,648.88	1,352.08	1,108.71	909.14	745.49	611.31
26	CO2	$/Ton	0.00	0.00	0.00	22.30	23.72	25.46	27.29	29.05	30.75	32.53	34.46	36.71	39.53	42.54	45.75	49.19	52.86
27	Natural Gas Price	$/MMBtu	7.69	8.47	8.63	8.57	8.56	9.11	9.67	10.22	10.66	11.14	11.74	12.48	13.24	14.18	15.06	15.74	16.52
28	Fuel	$/MMBtu	1.92	2.12	2.16	2.14	2.14	2.28	2.42	2.55	2.67	2.79	2.93	3.12	3.31	3.55	3.77	3.93	4.13
29	Heat Rate	Btu/kWh	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600
30	FOM	$/kW-yr	74.28	75.77	77.28	78.83	80.40	82.01	83.65	85.32	87.03	88.77	90.55	92.36	94.21	96.09	98.01	99.97	101.97
31	VOM	$/MWh	15.92	16.24	16.56	16.89	17.23	17.58	17.93	18.29	18.65	19.03	19.41	19.79	20.19	20.59	21.01	21.43	21.85
32	NOx	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	SO2	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	CO2	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35																			
36	Size	MW	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
37	Capacity Factor	%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%
38	Generation	GWh	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9
39																			
40	Capital Cost	$000	562	562	562	562	562	562	562	562	562	562	562	562	562	562	562	562	562
41	Network Upgrade Cost	$000	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
42	Fuel Cost	$000	332	366	373	370	370	394	417	441	460	481	507	539	572	612	650	680	714
43	Fixed O&M	$000	149	152	155	158	161	164	167	171	174	178	181	185	188	192	196	200	204
44	Variable O&M	$000	237	242	247	252	257	262	267	272	278	283	289	295	301	307	313	319	325
45	NOx	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	SO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	CO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48																			
49	Total Cost (Mix of Annual+Levelized)	$000	1,346	1,388	1,403	1,408	1,416	1,448	1,480	1,513	1,541	1,571	1,606	1,647	1,690	1,740	1,788	1,827	1,872
50																			
51																			
52	40-Year PV @ COD	$000	19,965																
53	40-Year PV @ COD	GWh	161																
54	40-Year Levelized $/MWh @ COD	$/MWh	124																
55																			
56	**40-Year Levelized $/MWh (2008$)**	**$/MWh**	**124**																

2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
1,193.51	1,084.45	986.27	897.91	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42
313.29	321.13	329.15	337.38	345.82	354.46	363.33	372.41	381.72	391.26	401.04	411.07	421.35	431.88	442.68	453.74	465.09	476.71	488.63	500.85	513.37	526.20	539.36
56.96	61.35	65.79	70.56	76.12	81.83	87.96	94.56	101.65	109.28	117.47	126.28	135.75	145.94	156.88	168.65	181.30	194.89	209.51	225.22	242.12	260.27	279.79
17.26	18.19	22.95	24.38	25.79	27.34	28.98	30.72	32.56	34.51	36.58	38.78	41.10	43.57	46.19	48.96	51.89	55.01	58.31	61.81	65.52	69.45	73.61
4.31	4.55	5.74	6.09	6.45	6.83	7.24	7.68	8.14	8.63	9.15	9.69	10.28	10.89	11.55	12.24	12.97	13.75	14.58	15.45	16.38	17.36	18.40
11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600
104.01	106.09	108.21	110.38	112.58	114.84	117.13	119.47	121.86	124.30	126.79	129.32	131.91	134.55	137.24	139.98	142.78	145.64	148.55	151.52	154.55	157.64	160.80
22.29	22.74	23.19	23.66	24.13	24.61	25.10	25.61	26.12	26.64	27.17	27.72	28.27	28.84	29.41	30.00	30.60	31.21	31.84	32.48	33.12	33.79	34.46
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%
14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9
562	562	562	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,232
66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
745	785	991	1,053	1,114	1,181	1,251	1,327	1,406	1,490	1,580	1,675	1,775	1,882	1,995	2,114	2,241	2,376	2,518	2,669	2,829	2,999	3,179
208	212	216	221	225	230	234	239	244	249	254	259	264	269	274	280	286	291	297	303	309	315	322
332	339	345	352	359	367	374	381	389	397	405	413	421	429	438	447	456	465	474	484	493	503	513
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1,914	1,965	2,182	2,924	2,997	3,075	3,158	3,245	3,337	3,434	3,537	3,645	3,758	3,879	4,006	4,139	4,281	4,430	4,588	4,754	4,930	5,116	5,312

BEI Electric Generation Alternatives Analysis
Table 7 - Lower Emitting Technologies Cost Summary
Levelized Cost of Farm Based Anaerobic Digester

1	COD (Jan1)	2009
2	Size MW	0.700
3	Plant Life Years	20
4	Last Year of Service	2028
5	Year of 1st Replacement	2029
6	Last Year of Service for 1st Replacement	2048
7	Capital Cost + AFUDC (EOY 2008) $/kW	5961
8	Capital Cost (@ 1st COD) $/kW	5961
9	Capital Cost (@ 2nd COD) $/kW	13061
10	Network Upgrade Cost (EOY 2009) $/kW	166
11	Network Upgrade Cost (@ COD) $/kW	166
12	Capital Fixed Charge Rate	13.5100%
13	Network Upgrade Fixed Charge Rate	20.0000%
14	Capital Cost Escalation Rate	4%
15	O&M Escalation Rate	2%
16	Long-term NOx Escalation Rate (2031+)	0.00%
17	Long-term SO2 Escalation Rate (2031+)	2.50%
18	Long-term CO2 Escalation Rate (2031+)	7.50%
19	Long-term Fuel Escalation Rate (2031+)	6.00%
20	Discount Rate	8.98%
21		
22		

			2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
23																			
24	NOx	$/Ton	2,626.56	2,584.54	2,428.39	2,489.10	2,551.33	2,720.71	2,896.97	2,894.62	2,908.68	2,629.95	2,378.70	2,152.23	1,948.12	1,764.19	1,598.45	1,449.14	1,314.64
25	SO2	$/Ton	174.25	458.61	742.96	1,027.32	1,311.67	1,277.24	1,440.09	1,697.50	1,913.94	1,961.78	2,010.83	1,648.88	1,352.08	1,108.71	909.14	745.49	611.31
26	CO2	$/Ton	0.00	0.00	0.00	22.30	23.72	25.46	27.29	29.05	30.75	32.53	34.46	36.71	39.53	42.54	45.75	49.19	52.86
27	Fuel	$/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Heat Rate	Btu/kWh	17,060	17,060	17,060	17,060	17,060	17,060	17,060	17,060	17,060	17,060	17,060	17,060	17,060	17,060	17,060	17,060	17,060
29	FOM	$/kW-yr	53.06	54.12	55.20	56.31	57.43	58.58	59.75	60.95	62.17	63.41	64.68	65.97	67.29	68.64	70.01	71.41	72.84
30	VOM	$/MWh	15.92	16.24	16.56	16.89	17.23	17.58	17.93	18.29	18.65	19.03	19.41	19.79	20.19	20.59	21.01	21.43	21.85
31	NOx	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	SO2	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	CO2	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34																			
35	Size	MW	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
36	Capacity Factor	%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%
37	Generation	GWh	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
38																			
39	Capital Cost	$000	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564
40	Network Upgrade Cost	$000	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
41	Fuel Cost	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	Fixed O&M	$000	37	38	39	39	40	41	42	43	44	44	45	46	47	48	49	50	51
43	Variable O&M	$000	73	75	76	78	79	81	82	84	86	87	89	91	93	95	97	99	101
44	NOx	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	SO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	CO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47																			
48	Total Cost (Mix of Annual+Levelized)	$000	697	700	702	704	706	709	711	714	716	719	721	724	727	730	733	735	738
49																			
50																			
51	40-Year PV @ COD	$000	8,895																
52	40-Year PV @ COD	GWh	50																
53	40-Year Levelized $/MWh @ COD	$/MWh	179																
54																			
55	**40-Year Levelized $/MWh (2008$)**	**$/MWh**	**179**																

2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
1,193.51	1,084.45	986.27	897.91	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42
313.29	321.13	329.15	337.38	345.82	354.46	363.33	372.41	381.72	391.26	401.04	411.07	421.35	431.88	442.68	453.74	465.09	476.71	488.63	500.85	513.37	526.20	539.36
56.96	61.35	65.79	70.56	76.12	81.83	87.96	94.56	101.65	109.28	117.47	126.28	135.75	145.94	156.88	168.65	181.30	194.89	209.51	225.22	242.12	260.27	279.79
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17,060	17,060	17,060	17,060	17,060	17,060	17,060	17,060	17,060	17,060	17,060	17,060	17,060	17,060	17,060	17,060	17,060	17,060	17,060	17,060	17,060	17,060	17,060
74.30	75.78	77.30	78.84	80.42	82.03	83.67	85.34	87.05	88.79	90.57	92.38	94.23	96.11	98.03	99.99	101.99	104.03	106.11	108.24	110.40	112.61	114.86
22.29	22.74	23.19	23.66	24.13	24.61	25.10	25.61	26.12	26.64	27.17	27.72	28.27	28.84	29.41	30.00	30.60	31.21	31.84	32.48	33.12	33.79	34.46
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%
4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
564	564	564	1,235	1,235	1,235	1,235	1,235	1,235	1,235	1,235	1,235	1,235	1,235	1,235	1,235	1,235	1,235	1,235	1,235	1,235	1,235	1,235
23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	53	54	55	56	57	59	60	61	62	63	65	66	67	69	70	71	73	74	76	77	79	80
103	105	107	109	111	113	115	118	120	123	125	127	130	133	135	138	141	144	146	149	152	155	158
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
741	745	748	1,422	1,426	1,429	1,432	1,436	1,439	1,443	1,447	1,451	1,454	1,458	1,462	1,466	1,471	1,475	1,479	1,484	1,488	1,493	1,497

BEI Electric Generation Alternatives Analysis
Table 7 - Lower Emitting Technologies Cost Summary
Levelized Cost of Combined Heat and Power

1	COD (Jan1)	2009
2	Size MW	475
3	Plant Life Years	40
4	Last Year of Service	2048
5	Capital Cost + AFUDC (EOY 2008) $/kW	1043
6	Capital Cost (@ COD) $/kW	1043
7	Network Upgrade Cost (EOY 2009) $/kW	166
8	Network Upgrade Cost (@ COD) $/kW	166
9	Capital Fixed Charge Rate	12.4000%
10	Network Upgrade Fixed Charge Rate	20.0000%
11	Capital Cost Escalation Rate	4%
12	O&M Escalation Rate	2%
13	Long-term NOx Escalation Rate (2031+)	0.00%
14	Long-term SO2 Escalation Rate (2031+)	2.50%
15	Long-term CO2 Escalation Rate (2031+)	7.50%
16	Long-term Fuel Escalation Rate (2031+)	2.60%
17	Discount Rate	8.98%

			2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
21	NOx	$/Ton	2,626.56	2,584.54	2,428.39	2,489.10	2,551.33	2,720.71	2,896.97	2,894.62	2,908.68	2,629.95	2,378.70	2,152.23	1,948.12	1,764.19	1,598.45	1,449.14	1,314.64
22	SO2	$/Ton	174.25	458.61	742.96	1,027.32	1,311.67	1,277.24	1,440.09	1,697.50	1,913.94	1,961.78	2,010.83	1,648.88	1,352.08	1,108.71	909.14	745.49	611.31
23	CO2	$/Ton	0.00	0.00	0.00	22.30	23.72	25.46	27.29	29.05	30.75	32.53	34.46	36.71	39.53	42.54	45.75	49.19	52.86
24	Fuel	$/MMBtu	7.62	8.40	8.56	8.50	8.49	9.04	9.59	10.14	10.59	11.07	11.66	12.40	13.16	14.10	14.98	15.65	16.44
25	Heat Rate	Btu/kWh	7,665	7,665	7,665	7,665	7,665	7,665	7,665	7,665	7,665	7,665	7,665	7,665	7,665	7,665	7,665	7,665	7,665
26	FOM	$/kW-yr	15.04	15.34	15.65	15.96	16.28	16.61	16.94	17.28	17.62	17.97	18.33	18.70	19.07	19.46	19.84	20.24	20.65
27	VOM	$/MWh	4.41	4.50	4.59	4.68	4.77	4.87	4.97	5.07	5.17	5.27	5.38	5.48	5.59	5.70	5.82	5.94	6.05
28	NOx	lb/MMBtu	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
29	SO2	lb/MMBtu	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
30	CO2	lb/MMBtu	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00
32	Size	MW	475	475	475	475	475	475	475	475	475	475	475	475	475	475	475	475	475
33	Capacity Factor	%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%
34	Generation	GWh	3,537	3,537	3,537	3,537	3,537	3,537	3,537	3,537	3,537	3,537	3,537	3,537	3,537	3,537	3,537	3,537	3,537
36	Capital Cost	$000	61,433	61,433	61,433	61,433	61,433	61,433	61,433	61,433	61,433	61,433	61,433	61,433	61,433	61,433	61,433	61,433	61,433
37	Network Upgrade Cost	$000	15,770	15,770	15,770	15,770	15,770	15,770	15,770	15,770	15,770	15,770	15,770	15,770	15,770	15,770	15,770	15,770	15,770
38	Fuel Cost	$000	206,676	227,779	232,049	230,541	230,242	245,161	260,083	275,008	286,985	300,073	316,132	336,132	356,770	382,268	406,079	424,385	445,657
39	Fixed O&M	$000	7,144	7,287	7,433	7,581	7,733	7,888	8,045	8,206	8,370	8,538	8,708	8,883	9,060	9,242	9,426	9,615	9,807
40	Variable O&M	$000	15,598	15,909	16,228	16,552	16,883	17,221	17,565	17,917	18,275	18,640	19,013	19,394	19,781	20,177	20,581	20,992	21,412
41	NOx	$000	1,068	1,051	988	1,012	1,037	1,106	1,178	1,177	1,183	1,069	967	875	792	717	650	589	535
42	SO2	$000	2	6	10	14	18	17	20	23	26	27	27	22	18	15	12	10	8
43	CO2	$000	0	0	0	36,267	38,585	41,409	44,394	47,255	50,017	52,908	56,051	59,720	64,307	69,200	74,423	80,005	85,976
45	Total Cost (Mix of Annual+Levelized)	$000	307,690	329,235	333,909	369,170	371,700	390,005	408,488	426,789	442,059	458,458	478,102	502,228	527,932	558,822	588,374	612,800	640,598
46	40-Year Levelized Cost	$000	542,292	542,292	542,292	542,292	542,292	542,292	542,292	542,292	542,292	542,292	542,292	542,292	542,292	542,292	542,292	542,292	542,292
47	Total Cost (Mix of Annual+Levelized)	$/MWh	87	93	94	104	105	110	115	121	125	130	135	142	149	158	166	173	181

50	40-Year PV @ COD	$000	5,845,207
51	40-Year PV @ COD	GWh	38,123
52	40-Year Levelized Cost @ COD	$000	542,292
53	40-Year Levelized $/MWh @ COD	$/MWh	153
55	**40-Year Levelized $/MWh (2008$) Excl. CO2**	**$/MWh**	**135**
56	**40-Year Levelized $/MWh (2008$) Incl. CO2**	**$/MWh**	**153**

2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
1,193.51	1,084.45	986.27	897.91	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42
313.29	321.13	329.15	337.38	345.82	354.46	363.33	372.41	381.72	391.26	401.04	411.07	421.35	431.88	442.68	453.74	465.09	476.71	488.63	500.85	513.37	526.20	539.36
56.96	61.35	65.79	70.56	76.12	81.83	87.96	94.56	101.65	109.28	117.47	126.28	135.75	145.94	156.88	168.65	181.30	194.89	209.51	225.22	242.12	260.27	279.79
17.17	18.10	22.87	24.29	25.70	26.37	27.05	27.76	28.48	29.22	29.98	30.76	31.56	32.38	33.22	34.08	34.97	35.88	36.81	37.77	38.75	39.76	40.79
7,665	7,665	7,665	7,665	7,665	7,665	7,665	7,665	7,665	7,665	7,665	7,665	7,665	7,665	7,665	7,665	7,665	7,665	7,665	7,665	7,665	7,665	7,665
21.06	21.48	21.91	22.35	22.80	23.25	23.72	24.19	24.67	25.17	25.67	26.19	26.71	27.24	27.79	28.34	28.91	29.49	30.08	30.68	31.29	31.92	32.56
6.18	6.30	6.42	6.55	6.68	6.82	6.95	7.09	7.24	7.38	7.53	7.68	7.83	7.99	8.15	8.31	8.48	8.65	8.82	9.00	9.18	9.36	9.55
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00
475	475	475	475	475	475	475	475	475	475	475	475	475	475	475	475	475	475	475	475	475	475	475
85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%
3,537	3,537	3,537	3,537	3,537	3,537	3,537	3,537	3,537	3,537	3,537	3,537	3,537	3,537	3,537	3,537	3,537	3,537	3,537	3,537	3,537	3,537	3,537
61,433	61,433	61,433	61,433	61,433	61,433	61,433	61,433	61,433	61,433	61,433	61,433	61,433	61,433	61,433	61,433	61,433	61,433	61,433	61,433	61,433	61,433	61,433
15,770	15,770	15,770	15,770	15,770	15,770	15,770	15,770	15,770	15,770	15,770	15,770	15,770	15,770	15,770	15,770	15,770	15,770	15,770	15,770	15,770	15,770	15,770
465,590	490,718	619,882	658,429	696,694	714,808	733,393	752,461	772,025	792,098	812,692	833,822	855,501	877,744	900,566	923,981	948,004	972,652	997,941	1,023,888	1,050,509	1,077,822	1,105,845
10,003	10,203	10,407	10,616	10,828	11,044	11,265	11,491	11,720	11,955	12,194	12,438	12,687	12,940	13,199	13,463	13,732	14,007	14,287	14,573	14,864	15,162	15,465
21,840	22,277	22,723	23,177	23,641	24,113	24,596	25,088	25,589	26,101	26,623	27,156	27,699	28,253	28,818	29,394	29,982	30,582	31,193	31,817	32,454	33,103	33,765
485	441	401	365	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
4	4	4	5	5	5	5	5	5	5	5	6	6	6	6	6	6	6	7	7	7	7	7
92,653	99,799	107,010	114,779	123,813	133,099	143,082	153,813	165,349	177,750	191,081	205,412	220,818	237,379	255,183	274,322	294,896	317,013	340,789	366,348	393,824	423,361	455,113
667,778	700,645	837,631	884,574	932,516	960,605	989,876	1,020,392	1,052,224	1,085,444	1,120,131	1,156,369	1,194,246	1,233,858	1,275,307	1,318,701	1,364,156	1,411,796	1,461,753	1,514,168	1,569,193	1,626,990	1,687,731
542,292	542,292	542,292	542,292	542,292	542,292	542,292	542,292	542,292	542,292	542,292	542,292	542,292	542,292	542,292	542,292	542,292	542,292	542,292	542,292	542,292	542,292	542,292
189	198	237	250	264	272	280	289	298	307	317	327	338	349	361	373	386	399	413	428	444	460	477

BEI Electric Generation Alternatives Analysis
Table 7 - Lower Emitting Technologies Cost Summary
Levelized Cost of Dispatchable Customer Owned Distributed Generation

1	COD (Jan1)	2009
2	Size MW	0.75
3	Effective Rating	0.60
4	Plant Life Years	20
5	Last Year of Service	2028
6	Year of 1st Replacement	2029
7	Last Year of Service for 1st Replacement	2048
8	Capital Cost + AFUDC (EOY 2008) $/kW	327
9	Capital Cost (@ 1st COD) $/kW	327
10	Capital Cost (@ 2nd COD) $/kW	716
11	Network Upgrade Cost (EOY 2009) $/kW	0
12	Network Upgrade Cost (@ COD) $/kW	0
13	Capital Fixed Charge Rate	12.0000%
14	Network Upgrade Fixed Charge Rate	20.0000%
15	Capital Cost Escalation Rate	4%
16	O&M Escalation Rate	2%
17	Long-term NOx Escalation Rate (2031+)	0.00%
18	Long-term SO2 Escalation Rate (2031+)	2.50%
19	Long-term CO2 Escalation Rate (2031+)	7.50%
20	Long-term Fuel Escalation Rate (2031+)	2.60%
21	Discount Rate	8.98%
22		
23		

24			2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
25	NOx	$/Ton	2,626.56	2,584.54	2,428.39	2,489.10	2,551.33	2,720.71	2,896.97	2,894.62	2,908.68	2,629.95	2,378.70	2,152.23	1,948.12	1,764.19	1,598.45	1,449.14	1,314.64
26	SO2	$/Ton	174.25	458.61	742.96	1,027.32	1,311.67	1,277.24	1,440.09	1,697.50	1,913.94	1,961.78	2,010.83	1,648.88	1,352.08	1,108.71	909.14	745.49	611.31
27	CO2	$/Ton	0.00	0.00	0.00	22.30	23.72	25.46	27.29	29.05	30.75	32.53	34.46	36.71	39.53	42.54	45.75	49.19	52.86
28	Fuel	$/MMBtu	19.31	19.81	20.33	20.86	21.40	21.95	22.53	23.11	23.71	24.33	24.96	25.61	26.28	26.96	27.66	28.38	29.12
29	Heat Rate	Btu/kWh	8,633	8,633	8,633	8,633	8,633	8,633	8,633	8,633	8,633	8,633	8,633	8,633	8,633	8,633	8,633	8,633	8,633
30	FOM	$/kW-yr	6.83	6.97	7.11	7.25	7.39	7.54	7.69	7.85	8.00	8.16	8.33	8.49	8.66	8.84	9.01	9.19	9.38
31	VOM	$/MWh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	NOx	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	SO2	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	CO2	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35																			
36	Size	MW	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
37	Capacity Factor	%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
38	Generation	GWh	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026
39																			
40	Capital Cost	$000	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
41	Network Upgrade Cost	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	Fuel Cost	$000	4	4	5	5	5	5	5	5	5	6	6	6	6	6	6	6	7
43	Fixed O&M	$000	5	5	5	5	6	6	6	6	6	6	6	6	6	7	7	7	7
44	Variable O&M	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	NOx	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	SO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	CO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48																			
49	Total Cost (Mix of Annual+Levelized)	$000	33	33	33	34	34	34	34	35	35	35	35	36	36	36	37	37	37
50	40-Year Levelized Cost	$000	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
51	Total Cost (Mix of Annual+Levelized)	$/MWh	1258	1266	1274	1283	1292	1301	1310	1319	1329	1339	1349	1359	1370	1381	1392	1403	1415
52																			
53																			
54	40-Year PV @ COD	$000	430																
55	40-Year PV @ COD	GWh	0																
56	40-Year Levelized Cost @ COD	$000	40																
57	40-Year Levelized $/MWh @ COD	$/MWh	1,519																
58																			
59	**40-Year Levelized $/MWh (2008$) Excl. CO2**	**$/MWh**	**1,519**																
60	**40-Year Levelized $/MWh (2008$) Incl. CO2**	**$/MWh**	**1,519**																

2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
1,193.51	1,084.45	986.27	897.91	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42
313.29	321.13	329.15	337.38	345.82	354.46	363.33	372.41	381.72	391.26	401.04	411.07	421.35	431.88	442.68	453.74	465.09	476.71	488.63	500.85	513.37	526.20	539.36
56.96	61.35	65.79	70.56	76.12	81.83	87.96	94.56	101.65	109.28	117.47	126.28	135.75	145.94	156.88	168.65	181.30	194.89	209.51	225.22	242.12	260.27	279.79
29.87	30.65	31.45	32.26	33.10	33.96	34.85	35.75	36.68	37.64	38.62	39.62	40.65	41.71	42.79	43.90	45.04	46.22	47.42	48.65	49.92	51.21	52.54
8,633	8,633	8,633	8,633	8,633	8,633	8,633	8,633	8,633	8,633	8,633	8,633	8,633	8,633	8,633	8,633	8,633	8,633	8,633	8,633	8,633	8,633	8,633
9.56	9.75	9.95	10.15	10.35	10.56	10.77	10.99	11.21	11.43	11.66	11.89	12.13	12.37	12.62	12.87	13.13	13.39	13.66	13.93	14.21	14.50	14.79
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026
24	24	24	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	7	7	7	8	8	8	8	8	9	9	9	9	9	10	10	10	10	11	11	11	12	12
7	7	7	8	8	8	8	8	8	9	9	9	9	9	9	10	10	10	10	10	11	11	11
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	38	38	67	67	67	68	68	68	69	69	69	70	70	71	71	72	72	73	73	74	74	75
40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
1427	1439	1451	2531	2544	2558	2571	2585	2599	2614	2629	2644	2660	2676	2693	2709	2727	2744	2762	2781	2799	2819	2839

BEI Electric Generation Alternatives Analysis
Table 7 - Lower Emitting Technologies Cost Summary
Levelized Cost of Marine Power

1	COD (Jan1)	2009
2	Size MW	308
3	Plant Life Years	20
4	Last Year of Service	2028
5	Year of 1st Replacement	2029
6	Last Year of Service for 1st Replacement	2048
7	Capital Cost + AFUDC (EOY 2008) $/kW	4000
8	Capital Cost (@ 1st COD) $/kW	4000
9	Capital Cost (@ 2nd COD) $/kW	8764
10	Network Upgrade Cost (EOY 2009) $/kW	166
11	Network Upgrade Cost (@ COD) $/kW	166
12	Capital Fixed Charge Rate	14.5145%
13	Network Upgrade Fixed Charge Rate	20.0000%
14	Capital Cost Escalation Rate	4%
15	O&M Escalation Rate	2%
16	Long-term NOx Escalation Rate (2031+)	0.00%
17	Long-term SO2 Escalation Rate (2031+)	2.50%
18	Long-term CO2 Escalation Rate (2031+)	7.50%
19	Long-term Fuel Escalation Rate (2031+)	2.60%
20	Discount Rate	8.98%

			2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
24	NOx	$/Ton	2,626.56	2,584.54	2,428.39	2,489.10	2,551.33	2,720.71	2,896.97	2,894.62	2,908.68	2,629.95	2,378.70	2,152.23	1,948.12	1,764.19	1,598.45	1,449.14	1,314.64
25	SO2	$/Ton	174.25	458.61	742.96	1,027.32	1,311.67	1,277.24	1,440.09	1,697.50	1,913.94	1,961.78	2,010.83	1,648.88	1,352.08	1,108.71	909.14	745.49	611.31
26	CO2	$/Ton	0.00	0.00	0.00	22.30	23.72	25.46	27.29	29.05	30.75	32.53	34.46	36.71	39.53	42.54	45.75	49.19	52.86
27	Fuel	$/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Heat Rate	Btu/kWh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	FOM	$/kW-yr	266.00	271.32	276.75	282.28	287.93	293.69	299.56	305.55	311.66	317.89	324.25	330.74	337.35	344.10	350.98	358.00	365.16
30	VOM	$/MWh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	NOx	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	SO2	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	CO2	lb/MMBtu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	Size	MW	308	308	308	308	308	308	308	308	308	308	308	308	308	308	308	308	308
36	Capacity Factor	%	11.10%	11.10%	11.10%	11.10%	11.10%	11.10%	11.10%	11.10%	11.10%	11.10%	11.10%	11.10%	11.10%	11.10%	11.10%	11.10%	11.10%
37	Generation	GWh	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299
39	Capital Cost	$000	178,528	178,528	178,528	178,528	178,528	178,528	178,528	178,528	178,528	178,528	178,528	178,528	178,528	178,528	178,528	178,528	178,528
40	Network Upgrade Cost	$000	10,209	10,209	10,209	10,209	10,209	10,209	10,209	10,209	10,209	10,209	10,209	10,209	10,209	10,209	10,209	10,209	10,209
41	Fuel Cost	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	Fixed O&M	$000	81,795	83,431	85,100	86,802	88,538	90,308	92,114	93,957	95,836	97,753	99,708	101,702	103,736	105,811	107,927	110,085	112,287
43	Variable O&M	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	NOx	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	SO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	CO2	$000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	Total Cost (Mix of Annual+Levelized)	$000	270,532	272,168	273,837	275,539	277,275	279,046	280,852	282,694	284,573	286,490	288,445	290,439	292,473	294,548	296,664	298,823	301,024
49	40-Year Levelized Cost	$000	322,056	322,056	322,056	322,056	322,056	322,056	322,056	322,056	322,056	322,056	322,056	322,056	322,056	322,056	322,056	322,056	322,056
50	Total Cost (Mix of Annual+Levelized)	$/MWh	905	910	916	922	927	933	939	945	952	958	965	971	978	985	992	999	1007

53	40-Year PV @ COD	$000	3,471,342
54	40-Year PV @ COD	GWh	3,223
55	40-Year Levelized Cost @ COD	$000	322,056
56	40-Year Levelized $/MWh @ COD	$/MWh	1,077
58	**40-Year Levelized $/MWh (2008$) Excl. CO2**	**$/MWh**	**1,077**
59	**40-Year Levelized $/MWh (2008$) Incl. CO2**	**$/MWh**	**1,077**

2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
1,193.51	1,084.45	986.27	897.91	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42	818.42
313.29	321.13	329.15	337.38	345.82	354.46	363.33	372.41	381.72	391.26	401.04	411.07	421.35	431.88	442.68	453.74	465.09	476.71	488.63	500.85	513.37	526.20	539.36
56.96	61.35	65.79	70.56	76.12	81.83	87.96	94.56	101.65	109.28	117.47	126.28	135.75	145.94	156.88	168.65	181.30	194.89	209.51	225.22	242.12	260.27	279.79
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
372.46	379.91	387.51	395.26	403.17	411.23	419.46	427.84	436.40	445.13	454.03	463.11	472.37	481.82	491.46	501.29	511.31	521.54	531.97	542.61	553.46	564.53	575.82
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
308	308	308	308	308	308	308	308	308	308	308	308	308	308	308	308	308	308	308	308	308	308	308
11.10%	11.10%	11.10%	11.10%	11.10%	11.10%	11.10%	11.10%	11.10%	11.10%	11.10%	11.10%	11.10%	11.10%	11.10%	11.10%	11.10%	11.10%	11.10%	11.10%	11.10%	11.10%	11.10%
299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299
178,528	178,528	178,528	391,178	391,178	391,178	391,178	391,178	391,178	391,178	391,178	391,178	391,178	391,178	391,178	391,178	391,178	391,178	391,178	391,178	391,178	391,178	391,178
10,209	10,209	10,209	10,209	10,209	10,209	10,209	10,209	10,209	10,209	10,209	10,209	10,209	10,209	10,209	10,209	10,209	10,209	10,209	10,209	10,209	10,209	10,209
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
114,533	116,823	119,160	121,543	123,974	126,453	128,982	131,562	134,193	136,877	139,615	142,407	145,255	148,160	151,124	154,146	157,229	160,373	163,581	166,853	170,190	173,593	177,065
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303,270	305,561	307,897	522,930	525,361	527,840	530,369	532,949	535,580	538,264	541,001	543,794	546,642	549,547	552,510	555,533	558,616	561,760	564,968	568,239	571,576	574,980	578,452
322,056	322,056	322,056	322,056	322,056	322,056	322,056	322,056	322,056	322,056	322,056	322,056	322,056	322,056	322,056	322,056	322,056	322,056	322,056	322,056	322,056	322,056	322,056
1014	1022	1030	1749	1757	1765	1774	1782	1791	1800	1809	1819	1828	1838	1848	1858	1868	1879	1890	1900	1912	1923	1935

BEI Electric Generation Alternatives Analysis
Table 7 - Lower Emitting Technologies Cost Summary
Levelized Cost of Energy Efficiency

Line	(a)	(b)	(c)	(d)	(e)	(f)
	Total Electric and Gas Energy Optimization			Real Discount Rate		0.0898
		Utility / kWh	Total Cost / kWh	PV Factor	Utility / kWh	Total Cost / kWh
1	**Total C&I**	$0.015	$0.023	53%	$ 0.028	$ 0.043
2	**Total Residential**	$0.029	$0.051	63%	$ 0.046	$ 0.081
3	**Grand Total without Support Services**	$0.018	$0.030	56%	$ 0.033	$ 0.054
4	**Grand Total with Support Services**	$0.021	$0.033	56%	$ 0.038	$ 0.059
5						
6	Electric Allocation of Costs	60%				
7	Gas Allocation of Costs	40%				
8						
9	Electric Energy Optimization			Real Discount Rate		0.0898
10		Utility / kWh	Total Cost / kWh	PV Factor	Utility / kWh	Total Cost / kWh
11	**Total C&I**	$0.009	$0.014	53%	$ 0.017	$ 0.026
12	**Total Residential**	$0.018	$0.031	63%	$ 0.028	$ 0.048
13	**Grand Total without Support Services**	$0.011	$0.018	56%	$ 0.020	$ 0.032
14	**Grand Total with Support Services**	$0.013	$0.020	56%	$ 0.023	**$ 0.035**