

Hertford Theatre Hydro electricity scheme

Base Case (all current prices)

Year	NPV factor		Expenditure		Income			NPV Total	Net NPV	Cumulative NPV
			Cash	NPV	Feed in	Electricity				
0	1.000	Capital cost	-211000	-211000	17800	6800	24600	-186400	-186400	
1	0.966	Maintenance	-100	-97	17800	6800	23768	23671	-162729	
2	0.934	Maintenance	-100	-93	17800	6800	22964	22871	-139857	
3	0.902	Maintenance	-100	-90	17800	6800	22188	22098	-117760	
4	0.871	Maintenance	-100	-87	17800	6800	21437	21350	-96410	
5	0.842	Maintenance	-100	-84	17800	6800	20713	20628	-75781	
6	0.814	Maintenance	-100	-81	17800	6800	20012	19931	-55850	
7	0.786	Maintenance	-100	-79	17800	6800	19335	19257	-36594	
8	0.759	Maintenance	-100	-76	17800	6800	18682	18606	-17988	
9	0.734	Maintenance	-100	-73	17800	6800	18050	17976	-12	
10	0.709	Maintenance	-100	-71	17800	6800	17439	17369	17357	
11	0.685	Maintenance	-5000	-3425	17800	6800	16850	13425	30782	
12	0.662	Maintenance	-100	-66	17800	6800	16280	16214	46995	
13	0.639	Maintenance	-100	-64	17800	6800	15729	15665	62661	
14	0.618	Maintenance	-100	-62	17800	6800	15197	15136	77797	
15	0.597	Maintenance	-100	-60	17800	6800	14684	14624	92420	
16	0.577	Maintenance	-100	-58	17800	6800	14187	14129	106550	
17	0.557	Maintenance	-100	-56	17800	6800	13707	13651	120201	
18	0.538	Maintenance	-100	-54	17800	6800	13244	13190	133391	
19	0.520	Maintenance	-100	-52		6800	3537	3485	136876	
20	0.503	Maintenance	-100	-50		6800	3417	3367	140243	
21	0.486	Maintenance	-5000	-2428		6800	3302	874	141117	
22	0.469	Maintenance	-100	-47		6800	3190	3143	144261	
23	0.453	Maintenance	-100	-45		6800	3082	3037	147298	
24	0.438	Maintenance	-100	-44		6800	2978	2934	150232	

Sensitivity Analysis

**Scenario**

There is a 20% shortfall in generating capacity below existing estimate

0	1.000	Capital cost	-211000	-211000	14240	5440	19680	-191320	-191320
1	0.966	Maintenance	-100	-97	14240	5440	19014	18918	-172402
2	0.934	Maintenance	-100	-93	14240	5440	18371	18278	-154124
3	0.902	Maintenance	-100	-90	14240	5440	17750	17660	-136464
4	0.871	Maintenance	-100	-87	14240	5440	17150	17063	-119401
5	0.842	Maintenance	-100	-84	14240	5440	16570	16486	-102915
6	0.814	Maintenance	-100	-81	14240	5440	16010	15928	-86987
7	0.786	Maintenance	-100	-79	14240	5440	15468	15390	-71597
8	0.759	Maintenance	-100	-76	14240	5440	14945	14869	-56728
9	0.734	Maintenance	-100	-73	14240	5440	14440	14366	-42361
10	0.709	Maintenance	-100	-71	14240	5440	13952	13881	-28481
11	0.685	Maintenance	-5000	-3425	14240	5440	13480	10055	-18426
12	0.662	Maintenance	-100	-66	14240	5440	13024	12958	-5468
13	0.639	Maintenance	-100	-64	14240	5440	12583	12520	7051
14	0.618	Maintenance	-100	-62	14240	5440	12158	12096	19148
15	0.597	Maintenance	-100	-60	14240	5440	11747	11687	30835
16	0.577	Maintenance	-100	-58	14240	5440	11350	11292	42127
17	0.557	Maintenance	-100	-56	14240	5440	10966	10910	53037
18	0.538	Maintenance	-100	-54	14240	5440	10595	10541	63578
19	0.520	Maintenance	-100	-52	14240	5440	10237	10185	73762
20	0.503	Maintenance	-100	-50		5440	2734	2684	76446
21	0.486	Maintenance	-5000	-2428		5440	2642	214	76660
22	0.469	Maintenance	-100	-47		5440	2552	2505	79165
23	0.453	Maintenance	-100	-45		5440	2466	2421	81586
24	0.438	Maintenance	-100	-44		5440	2382	2339	83924

**Scenario**

Electricity prices escalate by 3% above inflation

0	1.000	Capital cost	-211000	-211000	17800	6800	24600	-186400	-186400
1	0.966	Maintenance	-100	-97	18334	7004	24481	24385	-162015
2	0.934	Maintenance	-100	-93	18884	7214	24363	24270	-137746
3	0.902	Maintenance	-100	-90	19451	7431	24245	24155	-113591
4	0.871	Maintenance	-100	-87	20034	7653	24128	24041	-89550
5	0.842	Maintenance	-100	-84	20635	7883	24012	23927	-65623
6	0.814	Maintenance	-100	-81	21254	8120	23896	23814	-41809
7	0.786	Maintenance	-100	-79	21892	8363	23780	23701	-18107
8	0.759	Maintenance	-100	-76	22549	8614	23665	23589	5482
9	0.734	Maintenance	-100	-73	23225	8872	23551	23477	28960
10	0.709	Maintenance	-100	-71	23922	9139	23437	23366	52326
11	0.685	Maintenance	-5000	-3425	24639	9413	23324	19899	72225
12	0.662	Maintenance	-100	-66	25379	9695	23211	23145	95370
13	0.639	Maintenance	-100	-64	26140	9986	23099	23035	118405
14	0.618	Maintenance	-100	-62	26924	10286	22987	22926	141331
15	0.597	Maintenance	-100	-60	27732	10594	22876	22817	164148
16	0.577	Maintenance	-100	-58	28564	10912	22766	22708	186856
17	0.557	Maintenance	-100	-56	29421	11239	22656	22600	209456
18	0.538	Maintenance	-100	-54	30303	11577	22546	22493	231949
19	0.520	Maintenance	-100	-52	31212	11924	22438	22386	254334
20	0.503	Maintenance	-100	-50		12282	6172	6122	260456
21	0.486	Maintenance	-5000	-2428		12650	6142	3715	264171
22	0.469	Maintenance	-100	-47		13030	6113	6066	270237
23	0.453	Maintenance	-100	-45		13420	6083	6038	276275
24	0.438	Maintenance	-100	-44		13823	6054	6010	282285

**Scenario**

The electricity company negotiates/imposes a 50% reduction in the feed in tariff arising from fall in world demand from world wide depression taking effect from year 4

0	1.000	Capital cost	-211000	-211000	17800	6800	24600	-186400	-186400
1	0.966	Maintenance	-100	-97	17800	6800	23768	23671	-162729
2	0.934	Maintenance	-100	-93	17800	6800	22964	22871	-139857
3	0.902	Maintenance	-100	-90	17800	6800	22188	22098	-117760
4	0.871	Maintenance	-100	-87	17800	6800	21437	21350	-96410
5	0.842	Maintenance	-100	-84	8900	6800	13219	13135	-83275
6	0.814	Maintenance	-100	-81	8900	6800	12772	12691	-70584
7	0.786	Maintenance	-100	-79	8900	6800	12340	12261	-58323
8	0.759	Maintenance	-100	-76	8900	6800	11923	11847	-46476
9	0.734	Maintenance	-100	-73	8900	6800	11520	11446	-35030
10	0.709	Maintenance	-100	-71	8900	6800	11130	11059	-23971
11	0.685	Maintenance	-5000	-3425	8900	6800	10754	7329	-16642
12	0.662	Maintenance	-100	-66	8900	6800	10390	10324	-6318
13	0.639	Maintenance	-100	-64	8900	6800	10039	9975	3657
14	0.618	Maintenance	-100	-62	8900	6800	9699	9637	13294
15	0.597	Maintenance	-100	-60	8900	6800	9371	9311	22606
16	0.577	Maintenance	-100	-58	8900	6800	9054	8997	31602
17	0.557	Maintenance	-100	-56	8900	6800	8748	8692	40295
18	0.538	Maintenance	-100	-54	8900	6800	8452	8398	48693
19	0.520	Maintenance	-100	-52		6800	3537	3485	52178
20	0.503	Maintenance	-100	-50		6800	3417	3367	55545
21	0.486	Maintenance	-5000	-2428		6800	3302	874	56419
22	0.469	Maintenance	-100	-47		6800	3190	3143	59563
23	0.453	Maintenance	-100	-45		6800	3082	3037	62600
24	0.438	Maintenance	-100	-44		6800	2978	2934	65534

**Scenario**

There is more significant maintenance required than forecast occurring at 5 yearly intervals

0	1.000	Capital cost	-211000	-211000	17800	6800	24600	-186400	-186400
1	0.966	Maintenance	-100	-97	17800	6800	23768	23671	-162729
2	0.934	Maintenance	-100	-93	17800	6800	22964	22871	-139857
3	0.902	Maintenance	-100	-90	17800	6800	22188	22098	-117760
4	0.871	Maintenance	-100	-87	17800	6800	21437	21350	-96410
5	0.842	Maintenance	-100	-84	17800	6800	20713	20628	-75781
6	0.814	Maintenance	-10000	-8135	17800	6800	20012	11877	-63904
7	0.786	Maintenance	-100	-79	17800	6800	19335	19257	-44647
8	0.759	Maintenance	-100	-76	17800	6800	18682	18606	-26042
9	0.734	Maintenance	-100	-73	17800	6800	18050	17976	-8065
10	0.709	Maintenance	-100	-71	17800	6800	17439	17369	9303
11	0.685	Maintenance	-20000	-13699	17800	6800	16850	3151	12454
12	0.662	Maintenance	-100	-66	17800	6800	16280	16214	28668
13	0.639	Maintenance	-100	-64	17800	6800	15729	15665	44333
14	0.618	Maintenance	-100	-62	17800	6800	15197	15136	59469
15	0.597	Maintenance	-100	-60	17800	6800	14684	14624	74092
16	0.577	Maintenance	-30000	-17301	17800	6800	14187	-3114	70978
17	0.557	Maintenance	-100	-56	17800	6800	13707	13651	84630
18	0.538	Maintenance	-100	-54	17800	6800	13244	13190	97820
19	0.520	Maintenance	-100	-52		6800	3537	3485	101305
20	0.503	Maintenance	-100	-50		6800	3417	3367	104672
21	0.486	Maintenance	-45000	-21851		6800	3302	-18549	86123
22	0.469	Maintenance	-100	-47		6800	3190	3143	89266
23	0.453	Maintenance	-100	-45		6800	3082	3037	92303
24	0.438	Maintenance	-100	-44		6800	2978	2934	95238