

NEEDS FOR AND ALTERNATIVES TO (NFAT)**Manitoba Hydro Undertaking #66**

Provide the annual capital tax, water rental, debt guarantee fee, etc as shown in Table 13.3 over the planning period that led to the present value calculations.

Response:

The annual tax cash flows are expressed in constant 2012\$. The NPV's are adjusted to 2014\$. Please see the following attachment.

All Gas

Year	Water Rentals	Capital Taxes	Coal Taxes	Carbon Taxes	Debt Guarantee Fee	Sinking Fund Fee	Total
2014 NPV (2014\$)	1303	992	10	139	1895	4	4344
2014	99.16	59.64	1.82	0.42	97.53	0.24	259
2015	97.35	61.34	2.06	0.54	107.64	0.10	269
2016	95.57	64.15	2.09	0.60	119.15	0.12	282
2017	94.05	65.68	2.05	0.67	127.84	0.23	291
2018	91.37	65.48	2.06	0.81	134.05	0.33	294
2019	89.50	64.06	1.19	0.96	137.16	0.47	293
2020	89.43	62.41	0.00	1.10	134.89	0.31	288
2021	87.67	61.69	0.00	1.11	133.68	0.34	284
2022	85.53	61.24	0.00	2.25	132.76	0.33	282
2023	83.42	60.50	0.00	2.93	128.83	0.09	276
2024	82.02	60.45	0.00	3.51	127.26	0.10	273
2025	81.55	60.39	0.00	3.05	127.69	0.20	273
2026	80.30	59.76	0.00	3.27	127.20	0.30	271
2027	78.51	59.23	0.00	3.42	123.42	0.22	265
2028	76.67	59.58	0.00	5.48	121.36	0.32	263
2029	75.28	61.05	0.00	6.45	120.39	0.41	264
2030	76.16	62.43	0.00	6.20	120.83	0.48	266
2031	73.85	62.92	0.00	11.03	119.27	0.44	268
2032	72.02	62.34	0.00	12.56	112.70	0.18	260
2033	70.35	62.09	0.00	14.15	110.71	0.26	258
2034	69.00	62.46	0.00	16.35	107.21	0.23	255
2035	68.14	62.73	0.00	17.73	106.72	0.31	256
2036	68.09	63.41	0.00	17.64	105.47	0.25	255
2037	66.17	63.60	0.00	23.72	105.98	0.27	260
2038	65.01	63.94	0.00	25.67	105.21	0.26	260
2039	64.94	64.73	0.00	26.53	104.26	0.21	261
2040	63.10	65.06	0.00	32.65	105.27	0.24	266
2041	61.40	64.90	0.00	36.67	104.67	0.23	268
2042	60.39	65.46	0.00	39.82	103.46	0.24	269
2043	60.36	66.17	0.00	40.99	103.67	0.24	271
2044	58.87	66.53	0.00	47.44	104.17	0.25	277
2045	57.39	65.95	0.00	52.18	104.68	0.32	281
2046	56.33	65.74	0.00	56.22	103.80	0.40	282
2047	55.51	65.25	0.00	59.43	101.24	0.33	282

K22/Gas

Year	Water Rentals	Capital Taxes	Coal Taxes	Carbon Taxes	Debt Guarantee Fee	Sinking Fund Fee	Total
2014 NPV (2014\$)	1385	1188	10	93	2162	6	4844
2014	99.16	59.63	1.82	0.42	97.54	0.24	259
2015	97.35	61.78	2.06	0.54	107.65	0.10	269
2016	95.57	65.41	2.09	0.60	118.88	0.12	283
2017	94.05	67.76	2.05	0.67	127.81	0.23	293
2018	91.38	69.03	2.07	0.81	134.26	0.33	298
2019	89.50	70.18	1.19	0.96	139.49	0.47	302
2020	88.83	72.46	0.00	1.22	141.38	0.31	304
2021	87.18	75.80	0.00	1.25	147.09	0.34	312
2022	87.16	78.84	0.00	1.51	153.49	0.33	321
2023	92.62	81.13	0.00	1.58	155.73	0.09	331
2024	92.52	81.41	0.00	1.87	158.99	0.12	335
2025	92.47	80.18	0.00	1.36	160.38	0.24	335
2026	90.68	78.87	0.00	1.45	158.54	0.39	330
2027	88.92	78.14	0.00	1.44	153.35	0.27	322
2028	87.42	78.44	0.00	1.55	152.19	0.39	320
2029	86.62	79.22	0.00	2.04	149.93	0.51	318
2030	84.94	79.56	0.00	2.63	148.93	0.60	317
2031	83.36	79.73	0.00	3.16	145.10	0.59	312
2032	81.83	80.72	0.00	4.38	138.85	0.35	306
2033	82.00	80.90	0.00	3.95	136.40	0.45	304
2034	79.65	83.54	0.00	9.55	134.88	0.45	308
2035	77.69	81.82	0.00	10.99	139.43	0.56	310
2036	76.24	82.01	0.00	12.25	134.89	0.58	306
2037	76.66	82.33	0.00	11.90	134.12	0.61	306
2038	74.37	82.23	0.00	18.66	133.48	0.63	309
2039	73.06	82.37	0.00	20.41	131.56	0.62	308
2040	72.63	82.94	0.00	21.28	131.17	0.68	309
2041	70.72	83.41	0.00	28.65	130.97	0.70	314
2042	68.97	82.90	0.00	31.83	130.92	0.74	315
2043	67.70	82.86	0.00	34.32	128.93	0.78	315
2044	67.36	83.19	0.00	34.44	127.89	0.82	314
2045	65.81	82.96	0.00	42.49	128.24	0.91	320
2046	64.63	82.38	0.00	45.65	127.26	0.99	321
2047	63.32	81.33	0.00	47.95	126.45	1.10	320

K19/250MW/Gas

Year	Water Rentals	Capital Taxes	Coal Taxes	Carbon Taxes	Debt Guarantee Fee	Sinking Fund Fee	Total
NPV	1413	1203	10	103	2218	6	4954
2014	99.17	59.65	1.82	0.42	97.54	0.24	259
2015	97.36	62.42	2.06	0.54	107.67	0.10	270
2016	95.58	68.10	2.09	0.60	120.67	0.12	287
2017	93.70	73.37	2.11	0.70	134.13	0.23	304
2018	91.11	77.74	2.09	0.86	147.02	0.33	319
2019	90.76	80.12	1.23	1.15	158.50	0.47	332
2020	98.80	81.70	0.00	1.16	163.35	0.33	345
2021	99.36	81.42	0.00	1.26	167.56	0.34	350
2022	97.97	80.21	0.00	1.32	167.25	0.33	347
2023	96.93	79.49	0.00	1.18	162.10	0.12	340
2024	95.16	79.47	0.00	2.08	160.12	0.15	337
2025	93.00	78.36	0.00	1.63	160.43	0.27	334
2026	90.80	77.38	0.00	1.92	158.20	0.40	329
2027	88.82	76.32	0.00	2.17	152.85	0.34	321
2028	87.08	76.24	0.00	2.60	150.79	0.46	317
2029	85.41	77.59	0.00	3.71	148.12	0.59	315
2030	84.53	78.28	0.00	4.15	147.51	0.68	315
2031	85.09	80.94	0.00	3.68	144.65	0.67	315
2032	82.62	80.32	0.00	9.06	141.60	0.43	314
2033	81.17	79.63	0.00	10.05	139.22	0.53	311
2034	79.74	78.76	0.00	11.22	135.21	0.53	305
2035	77.81	77.88	0.00	11.53	131.44	0.64	299
2036	76.39	77.78	0.00	12.62	127.63	0.59	295
2037	76.81	78.23	0.00	12.41	126.02	0.59	294
2038	74.47	78.19	0.00	19.66	125.72	0.61	299
2039	73.14	78.42	0.00	21.40	124.67	0.65	298
2040	72.58	79.04	0.00	22.40	124.48	0.71	299
2041	70.77	79.56	0.00	30.08	124.44	0.72	306
2042	69.05	79.15	0.00	33.18	124.51	0.76	307
2043	67.78	79.17	0.00	35.66	122.75	0.80	306
2044	67.30	79.57	0.00	35.84	121.87	0.84	305
2045	65.08	79.41	0.00	45.71	122.39	0.92	314
2046	65.26	78.88	0.00	45.93	121.56	0.99	313
2047	62.03	77.93	0.00	52.64	120.55	1.11	314

Preferred Development Plan

Year	Water Rentals	Capital Taxes	Coal Taxes	Carbon Taxes	Debt Guarantee Fee	Sinking Fund Fee	Total
2014 NPV (2014\$)	1512	1457	10	28	2597	7	5612
2014	99.17	59.63	1.82	0.42	97.54	0.24	259
2015	97.36	62.69	2.05	0.54	107.65	0.10	270
2016	95.59	69.05	2.10	0.60	120.87	0.12	288
2017	93.70	75.50	2.11	0.70	135.13	0.23	307
2018	91.69	81.29	2.04	0.79	149.71	0.33	326
2019	91.62	85.61	1.19	0.99	163.20	0.47	343
2020	98.49	89.14	0.00	1.13	171.10	0.33	360
2021	99.03	93.42	0.00	1.32	178.24	0.35	372
2022	97.89	98.54	0.00	1.40	186.19	0.33	384
2023	95.65	103.28	0.00	1.46	192.79	0.12	393
2024	93.53	107.44	0.00	1.71	201.02	0.17	404
2025	97.98	110.33	0.00	1.56	209.32	0.32	420
2026	105.79	112.30	0.00	1.62	213.93	0.48	434
2027	105.83	112.16	0.00	1.65	213.42	0.40	433
2028	104.22	110.90	0.00	1.76	211.72	0.56	429
2029	102.37	110.37	0.00	1.83	208.27	0.73	424
2030	101.08	109.36	0.00	1.85	205.60	0.87	419
2031	99.49	109.88	0.00	1.95	200.20	0.91	412
2032	97.86	107.78	0.00	2.01	191.79	0.71	400
2033	96.14	106.22	0.00	2.07	188.39	0.86	394
2034	94.48	104.38	0.00	2.14	183.52	0.90	385
2035	92.86	102.71	0.00	2.17	168.03	0.66	366
2036	91.31	101.12	0.00	2.26	163.61	0.70	359
2037	89.75	99.63	0.00	2.33	158.58	0.68	351
2038	88.16	98.20	0.00	2.37	153.61	0.65	343
2039	86.61	96.95	0.00	2.41	149.33	0.65	336
2040	85.38	96.27	0.00	2.34	146.40	0.73	331
2041	83.45	96.06	0.00	4.34	143.56	0.72	328
2042	81.97	95.12	0.00	4.93	142.20	0.76	325
2043	80.66	94.27	0.00	5.29	139.43	0.80	320
2044	79.49	93.59	0.00	6.17	136.87	0.84	317
2045	77.71	92.83	0.00	8.18	135.48	0.94	315
2046	76.33	92.76	0.00	10.06	133.66	1.02	314
2047	75.10	91.50	0.00	10.65	131.74	0.98	310