

1 **Q. With reference to Technical Workshop presentation slide 21 (pdf page 21 of 37):**

2 Please provide a version of the Technical Workshop table slide 21 that shows (a) kW.h, (b) kW,
3 (c) average rate assumed, (d) the calculation of loads times marginal costs to derive the
4 “incremental system costs”, and (e) a breakdown of program administration costs versus
5 incentives. Please also show the number of vehicles by type by year that are considered
6 incremental to that which would arise without the program, and the consumption in both kW.h
7 and peak kW for each type, by year.

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10 **A. Please refer to TC-IC-NLH-006, Attachment 1.**

Summary

Year	A		B		C		D		E		F		G		H		I		J		K		L		M		N		O		P	
	Winter On Peak (kWh)	Winter Off-Peak (kWh)	Winter On Peak Marginal Energy (\$/MWh)	Winter Off-Peak Marginal Energy (\$/MWh)	Non-Winter (kWh)	Rate (\$)	Non-Winter Marginal Energy (\$/MWh)	Non-Winter Marginal Energy (\$/MWh)	Capacity Marginal Cost (\$/kW)	Winter On Peak Marginal Costs (\$)	Winter Off-Peak Marginal Costs (\$)	Non-Winter Marginal Costs (\$)	Capacity Marginal Costs (\$)	Winter On Peak Marginal Costs (\$)	Winter Off-Peak Marginal Costs (\$)	Non-Winter Marginal Costs (\$)	Capacity Marginal Costs (\$)	Winter On Peak Marginal Costs (\$)	Winter Off-Peak Marginal Costs (\$)	Non-Winter Marginal Costs (\$)	Capacity Marginal Costs (\$)	Capital Costs (\$)	Admin Costs (\$)	Incentive Costs (\$)								
2021	104,545	104,545	78.35	63.81	209,090	0.116	27.24	27.24	326.26	8,191	6,671	10,114	8,191	6,671	5,696	10,114	8,191	6,671	5,696	10,114	1,538,318	1,168,940	166,610									
2022	597,709	597,709	78.62	64.21	1,195,418	0.119	28.60	28.60	333.46	46,992	38,379	57,689	46,992	38,379	34,189	57,689	46,992	38,379	34,189	57,689	1,529,602	2,192,002	821,710									
2023	1,576,940	1,576,940	69.62	56.27	3,153,880	0.122	25.59	25.59	340.90	109,787	88,734	152,041	109,787	88,734	80,708	152,041	109,787	88,734	80,708	152,041	460,139	2,124,842	1,816,475									
2024	3,337,056	3,337,056	68.46	56.27	6,674,113	0.126	26.80	26.80	349.56	228,455	187,776	324,392	228,455	187,776	178,866	324,392	228,455	187,776	178,866	324,392	460,417	2,478,146	2,015,592									
2025	6,727,971	6,727,971	67.00	56.00	13,455,942	0.131	28.76	28.76	357.53	450,774	376,766	646,414	450,774	376,766	386,993	646,414	450,774	376,766	386,993	646,414	310,703	1,198,216	3,187,280									
2026	14,159,777	14,159,777	74.12	63.36	28,319,554	0.134	30.40	30.40	371.67	1,049,523	897,163	1,331,078	1,049,523	897,163	833,161	1,331,078	1,049,523	897,163	833,161	1,331,078	1,074,265	1,074,265										
2027	24,570,938	24,570,938	76.59	66.02	49,141,875	0.137	33.74	33.74	380.44	1,881,888	1,622,173	2,325,539	1,881,888	1,622,173	1,493,913	2,325,539	1,881,888	1,622,173	1,493,913	2,325,539	1,706,223	1,706,223										
2028	37,708,366	37,708,366	79.35	69.28	75,416,733	0.142	39.41	39.41	390.08	2,992,159	2,612,436	3,633,963	2,992,159	2,612,436	2,544,561	3,633,963	2,992,159	2,612,436	2,544,561	3,633,963	2,980,070	2,980,070										
2029	53,052,057	53,052,057	83.28	71.82	106,104,114	0.145	41.01	41.01	405.82	4,418,175	3,810,199	5,232,143	4,418,175	3,810,199	3,709,108	5,232,143	4,418,175	3,810,199	3,709,108	5,232,143	3,651,420	3,651,420										
2030	71,008,806	71,008,806	84.95	73.26	142,017,611	0.148	42.66	42.66	413.94	6,032,198	5,202,105	7,141,767	6,032,198	5,202,105	5,709,108	7,141,767	6,032,198	5,202,105	5,709,108	7,141,767	4,333,560	4,333,560										
2031	91,112,893	91,112,893	88.38	76.22	182,225,786	0.151	43.52	43.52	422.21	7,894,932	6,807,955	9,352,528	7,894,932	6,807,955	7,473,079	9,352,528	7,894,932	6,807,955	7,473,079	9,352,528	5,060,808	5,060,808										
2032	113,434,534	113,434,534	90.15	77.74	226,869,068	0.154	43.52	43.52	430.64	10,025,344	8,645,980	11,887,529	10,025,344	8,645,980	9,489,933	11,887,529	10,025,344	8,645,980	9,489,933	11,887,529	5,787,603	5,787,603										
2033	137,672,222	137,672,222	91.95	79.30	275,344,443	0.154	43.52	43.52	430.64	12,411,151	10,702,639	14,731,329	12,411,151	10,702,639	11,746,194	14,731,329	12,411,151	10,702,639	11,746,194	14,731,329	6,613,038	6,613,038										
2034	164,303,048	164,303,048	91.95	79.30	328,606,097	0.154	43.52	43.52	430.64	15,107,665	13,029,232	17,989,125	15,107,665	13,029,232	14,300,937	17,989,125	15,107,665	13,029,232	14,300,937	17,989,125												

Includes consumption for custom electrification program.

Column J = A x F / 1000

Column K = B x G / 1000

Column L = C x H / 1000

Column M = D x I

Consumption by Vehicle Type

	kWh	kW
Residential BEV ¹	4,500	0.23
Residential PHEV ²	2,300	0.23
Commercial BEV	6,700	0.42
Commercial PHEV	3,350	0.42
MDV ³	22,500	1.20
HDV ⁴	162,500	9.00
Bus	81,000	3.00

¹ Battery Electric Vehicle ("BEV").

² Plug-in Hybrid Electric Vehicle ("PHEV").

³ Medium-Duty Vehicle ("MDV").

⁴ Heavy-Duty Vehicle ("HDV").

Vehicle Types - Number of Units

Plan	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Residential BEV ¹	33	213	649	1,498	2,832	6,674	11,947	18,426	25,704	33,774	42,523	51,824	61,413	71,411
Residential PHEV ²	44	195	481	895	1,521	2,815	4,433	6,339	8,432	10,704	13,126	15,553	17,969	22,051
Commercial BEV	4	24	66	160	329	752	1,423	2,352	3,488	4,904	6,429	8,111	9,928	11,763
Commercial PHEV	10	61	164	387	755	1,487	2,623	4,174	6,075	8,400	11,128	14,185	17,626	21,218
MDV ³	2	4	8	13	93	209	370	583	855	1,193	1,602	2,077	2,652	3,301
HDV ⁴	-	-	-	-	3	9	19	33	52	81	119	167	225	292
Bus	-	1	2	4	13	24	38	56	78	104	134	168	207	249
Total	93	498	1,370	2,957	5,546	11,970	20,853	31,963	44,684	59,160	75,061	92,085	110,020	130,285

Baseline	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Residential BEV	454	811	1,317	1,875	2,481	3,163	3,902	4,676	5,479	6,308	7,152	8,010	8,879	9,740
Residential PHEV	501	778	1,126	1,667	2,473	3,466	4,676	6,091	7,706	9,515	11,509	13,666	15,995	18,432
Commercial BEV	28	56	101	169	272	414	609	858	1,159	1,515	1,917	2,363	2,852	3,362
Commercial PHEV	103	169	277	426	621	865	1,194	1,606	2,106	2,709	3,410	4,199	5,091	6,044
MDV	4	13	34	78	155	273	434	646	914	1,245	1,641	2,098	2,649	3,266
HDV	-	-	-	1	5	11	21	35	54	82	120	166	221	285
Bus	2	5	9	16	25	36	51	69	90	116	145	178	215	255
Total	1,092	1,832	2,864	4,232	6,032	8,228	10,887	13,981	17,508	21,490	25,894	30,680	35,902	41,384

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	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Residential BEV ²	148,500	958,500	2,920,500	6,741,000	12,744,000	30,033,000	53,761,500	82,917,000	115,668,000	151,983,000	191,353,500	233,208,000	276,358,500	321,349,500
Residential PHEV ³	101,200	448,500	1,106,300	2,058,500	3,498,300	6,474,500	10,195,900	14,579,700	19,393,600	24,619,200	30,189,800	35,771,900	41,328,700	50,717,300
Commercial BEV	26,800	160,800	442,200	1,072,000	2,204,300	5,038,400	9,534,100	15,758,400	23,369,600	32,856,800	43,074,300	54,343,700	66,517,600	78,812,100
Commercial PHEV	33,500	204,350	549,400	1,296,450	2,529,250	4,981,450	8,787,050	13,982,900	20,351,250	28,140,000	37,278,800	47,519,750	59,047,100	71,080,300
MDV ⁴	45,000	90,000	180,000	292,500	2,092,500	4,702,500	8,325,000	13,117,500	19,237,500	26,842,500	36,045,000	46,732,500	59,670,000	74,272,500
HDV ⁵	-	81,000	162,000	324,000	487,500	1,462,500	3,087,500	5,362,500	8,450,000	13,162,500	19,337,500	27,137,500	36,562,500	47,450,000
Bus	-	-	-	-	1,053,000	1,944,000	3,078,000	4,536,000	6,318,000	8,424,000	10,854,000	13,608,000	16,767,000	20,169,000
Total	355,000	1,943,150	5,360,400	11,784,450	24,608,850	54,636,350	96,769,050	150,254,000	212,787,950	286,028,000	368,132,900	458,321,350	556,251,400	663,850,700

¹ Based on Newfoundland Power Inc. uptake which the net present value is based on.

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	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Residential BEV ²	7	48	146	337	637	1,502	2,688	4,146	5,783	7,599	9,568	11,660	13,818	16,067
Residential PHEV ³	10	44	108	201	342	633	997	1,426	1,897	2,408	2,953	3,499	4,043	4,961
Commercial BEV	2	10	28	67	138	316	598	988	1,465	2,060	2,700	3,407	4,170	4,940
Commercial PHEV	4	26	69	163	317	625	1,102	1,753	2,552	3,528	4,674	5,958	7,403	8,912
MDV ⁴	2	5	10	16	112	251	444	699	1,025	1,430	1,921	2,490	3,180	3,958
HDV ⁵	-	-	-	-	27	81	171	297	468	729	1,070	1,502	2,024	2,627
Bus	-	3	6	12	39	72	114	168	234	312	402	504	621	747
	26	135	366	796	1,612	3,479	6,113	9,477	13,474	18,066	23,288	29,020	35,258	42,212

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