

1 **Section 1: Introduction**
2

3 **Q. (Section 1, page 1-4) It is stated “CDM programs have delivered approximately \$180.3**
4 **million in bill savings and \$180.0 million in reduced system costs for Newfoundland**
5 **Power’s customers from 2009 to 2022.” Please provide these calculations and all**
6 **assumptions.**

7
8 **A.** The bill savings calculation uses the annual estimated energy savings for residential
9 customers and general service customers.

10
11 For residential customers, the energy savings are applied to the applicable yearly kWh
12 charges, including tax, to estimate the annual bill savings.

13
14 Results are outlined in Table 1.

Table 1:
Residential Bill Savings
2009 to 2022

Year	Energy Savings (MWh)	Electricity Rate Including Tax (\$/kWh)	Bill Savings Including Tax (\$000s)
2009	2,463	0.10075	248
2010	6,815	0.10651	726
2011	17,646	0.11028	1,946
2012	25,290	0.11729	2,966
2013	32,904	0.11492	3,781
2014	44,189	0.11737	5,186
2015	57,136	0.11525	6,585
2016	79,407	0.11080	8,798
2017	103,291	0.12195	12,596
2018	128,254	0.13100	16,801
2019	151,106	0.14033	21,205
2020	165,974	0.14033	23,291
2021	177,105	0.14398	25,500
2022	189,276	0.14198	26,873
Total			156,502

1 For general service customers, the energy savings are applied to a blended kWh charge to
 2 estimate the combined annual bill savings. The weighted kWh charge combines the
 3 second block energy charge with a weighted peak demand savings benefit based on four
 4 months of Winter Demand and eight months of Non-Winter Demand.
 5
 6 Results are outlined in Table 2.

**Table 2:
 Commercial Bill Savings
 2009 to 2022**

Year	Energy Savings (MWh)	Electricity Rate Including Tax (\$/kWh)	Bill Savings Including Tax (\$000s)
2009	170	0.07338	12
2010	877	0.07700	68
2011	2,169	0.08581	186
2012	2,947	0.09351	276
2013	3,443	0.09099	313
2014	5,824	0.09332	543
2015	9,441	0.08574	809
2016	12,284	0.07419	911
2017	20,402	0.08318	1,697
2018	27,544	0.09023	2,485
2019	35,233	0.09653	3,401
2020	40,797	0.09653	3,938
2021	44,510	0.09966	4,436
2022	47,828	0.09818	4,696
Total			23,771

7 Combined, residential and general service bill savings are approximately \$180.3 million.¹

¹ \$156.502 million in Table 1 + \$23.771 million in Table 2 = \$180.273 million.

1 Table 3 provides a calculation of reduced system costs from Conservation and Demand
 2 Management (“CDM”) programs that totals approximately \$180 million over the 2009 to
 3 2022 timeframe.

Table 3:
Reduced System Costs from CDM Programs
2009-2022
(\$000s)

Year	Reduced System Costs
2009	369
2010	1,393
2011	4,140
2012	6,110
2013	6,899
2014	9,764
2015	8,790
2016	8,776
2017	15,213
2018	21,310
2019	26,178
2020	25,683
2021	20,650
2022	24,386
Total	179,661

4 Reduced system costs resulting from CDM programs are estimated on the basis of
 5 annualized energy and demand savings and the avoided marginal energy and capacity
 6 costs for each year as provided by Newfoundland and Labrador Hydro.²

7

8 Attachment A provides a detailed calculation of the 2022 reduced system costs, along
 9 with all assumptions.³

² Energy and demand savings are cumulative as the savings achieved from a project in one year are realized in subsequent years until the life of the technology has expired. For example, insulation projects have an expected life of 25 years.

³ Reduced system costs are calculated in the same manner for each year with consistent assumptions.

**Newfoundland Power Inc.
Reduced System Costs from CDM Program
2022 Cumulative Savings**

Newfoundland Power Inc.
Reduced System Costs from CDM Programs
2022 Cumulative Savings

Program	Annualized Net Energy Savings (kWh)	Annualized Net Demand Savings (kW)	Winter Off-Peak Savings (%)	Winter On-Peak Savings (%)	Non-Winter Savings (%)	Avoided Energy Cost System Benefit	Avoided Capacity Cost System Benefit	Total System Benefit
	A	B	C	D	E	F	G	H
Insulation & Air Sealing ¹	38,897,369	14,747	22%	32%	46%	\$ 1,999,801	\$ 4,821,102	\$ 6,820,903
Thermostat ²	19,487,012	3,368	22%	32%	46%	\$ 1,001,871	\$ 1,101,069	\$ 2,102,940
HRV ³	1,976,142	592	22%	32%	46%	\$ 101,598	\$ 193,537	\$ 295,135
Small Technologies ⁴	51,588,101	11,890	12%	29%	59%	\$ 2,396,262	\$ 3,887,089	\$ 6,283,351
Benchmarking ⁵	17,276,000	9,820	22%	32%	46%	\$ 888,198	\$ 3,210,363	\$ 4,098,561
Energy Savers Kit ⁶	631,009	171	12%	29%	59%	\$ 29,310	\$ 55,903	\$ 85,214
Business Efficiency ⁷	33,957,968	6,235	22%	32%	46%	\$ 1,745,855	\$ 2,038,351	\$ 3,784,207
ENERGY STAR Windows ⁸	5,960,532	1,864	22%	32%	46%	\$ 306,444	\$ 609,380	\$ 915,825
Total								\$ 24,386,135

Assumptions:

- ¹ Insulation savings reflect free ridership of basement wall insulation.
- ² Thermostat free ridership is weighted based on weight of programmable and electronic thermostat rebates.
- ³ HRV energy and demand savings represent a blend of electrically heated and non-electrically heated homes.
- ⁴ Small Technologies reflect an annual lighting load curve and free ridership levels of LED bulbs.
- ⁵ Benchmarking savings only persist for 1 year.
- ⁶ Energy Savers Kit is the program for customers with low income with measures similar to the Small Technologies Program.
- ⁷ Business Efficiency savings profile reflects a commercial lighting annual load curve.
- ⁸ ENERGY STAR Windows program ended in 2014, but savings persist for 25 years.
- ⁹ 2022 Marginal costs

Winter Off Peak (\$/kWh)	\$ 0.06295
Winter On Peak (\$/kWh)	\$ 0.07708
Non-Winter (\$/kWh)	\$ 0.02804
Capacity Cost (\$/kW)	\$ 326.92