

- 1 **Q.** (2021 Electrification, Conservation and Demand Management Application, Volume
 2 **1, page 5) Over the 2009 to 2020 timeframe, reduced system costs from CDM**
 3 **programs are estimated at \$137 million. Please provide this calculation and all**
 4 **assumptions. What would the system cost savings be assuming the same quantities**
 5 **going forward in the 2021 to 2025 timeframe? Please provide that calculation and**
 6 **all assumptions as well.**
- 7
- 8 **A.** Table 1 provides a calculation of reduced system costs from Conservation and Demand
 9 Management (“CDM”) programs that totals approximately \$137 million over the 2009 to
 10 2020 timeframe.

Table 1:
Reduced System Costs from CDM Programs
2009-2020 Forecast
(\$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 | 21,714 |
| 2019 | 26,527 |
| 2020 | 27,111 |
| Total | 136,606 |

- 11 Table 2 provides a calculation of reduced system costs from CDM programs that totals
 12 approximately \$107 million over the 2021 to 2025 timeframe.

Table 2:
Reduced System Costs from CDM Programs
2021-2025 Forecast
(\$000s)

| Year | Reduced System Costs |
|--------------|----------------------|
| 2021 | 20,329 |
| 2022 | 21,613 |
| 2023 | 21,212 |
| 2024 | 21,796 |
| 2025 | 22,476 |
| Total | 107,426 |

1 Reduced system costs resulting from CDM programs are estimated on the basis of
2 annualized energy and demand savings and the avoided marginal and capacity costs for
3 each year.¹ Newfoundland and Labrador Hydro provides marginal costs on an annual
4 basis.²

5
6 Attachment A provides a detailed calculation of the 2021 forecast reduced system costs,
7 along with all assumptions.³

¹ 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.

² See Schedule H to *Electrification, Conservation and Demand Management Plan: 2021-2025* for the marginal cost projection of the Island Interconnected System over the period 2021 to 2040.

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

**Reduced System Costs from CDM Programs
2021 Forecast**

**Reduced System Costs from CDM Programs
2021 Forecast**

| Program | Annualized Net Energy Savings (kWh) A | Annualized Net Demand Savings (kW) B | Winter Off-Peak Savings (%) C | Winter On-Peak Savings (%) D | Non-Winter Savings (%) E | Avoided Energy Cost System Benefit F | Avoided Capacity Cost System Benefit G | Total System Benefit H |
|----------------------------------|---|--|--|---|---------------------------------------|--|--|-------------------------------------|
| Insulation ¹ | 38,723,717 | 13,040 | 22% | 32% | 46% | \$ 1,999,716 | \$ 4,254,430 | \$ 6,254,146 |
| Thermostat ² | 20,970,465 | 3,169 | 22% | 32% | 46% | \$ 1,082,927 | \$ 1,033,918 | \$ 2,116,845 |
| HRV ³ | 1,527,347 | 463 | 22% | 32% | 46% | \$ 78,873 | \$ 151,058 | \$ 229,931 |
| Small Technologies ⁴ | 48,023,583 | 11,216 | 12% | 29% | 59% | \$ 2,230,710 | \$ 3,659,332 | \$ 5,890,042 |
| Benchmarking ⁵ | 14,045,000 | 1,700 | 22% | 32% | 46% | \$ 725,292 | \$ 554,642 | \$ 1,279,934 |
| Business Efficiency ⁶ | 33,365,587 | 5,962 | 22% | 32% | 46% | \$ 1,723,019 | \$ 1,945,162 | \$ 3,668,181 |
| ENERGY STAR Windows ⁷ | 5,842,777 | 1,802 | 22% | 32% | 46% | \$ 301,725 | \$ 587,921 | \$ 889,646 |
| TOTAL | | | | | | | | \$ 20,328,725 |

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 Business Efficiency savings profile reflects a commercial lighting annual load curve.
- ⁷ ENERGY STAR Windows program ended in 2014, but savings persist for 25 years.
- ⁸ 2021 Marginal costs:
- | | | |
|--------------------------|----|---------|
| Winter Off Peak (\$/kWh) | \$ | 0.06381 |
| Winter On Peak (\$/kWh) | \$ | 0.07835 |
| Non-Winter (\$/kWh) | \$ | 0.02724 |
| Capacity Cost (\$/kW) | \$ | 326.26 |