

1 **Q. (Reference CA-NP-046) It is stated with respect to net metering commercial-**
 2 **grade battery storage technology “This alternative was determined to be cost**
 3 **prohibitive.” Has NP determined that this alternative will be cost prohibitive**
 4 **throughout the remaining life of a feeder addition? Was there a time when**
 5 **electric vehicles were considered cost prohibitive relative to gasoline vehicles?**
 6 **Was there a time when rooftop solar was cost prohibitive relative to grid power**
 7 **in places such as Arizona?**

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 9 A. Newfoundland Power has not made the determination that the alternative will be cost
 10 prohibitive throughout the remaining life of a feeder addition. As described in
 11 Newfoundland Power’s *2024 Capital Budget Application*, report *1.2 Feeder Additions for*
 12 *Load Growth*, Newfoundland Power made the determination that commercial-grade
 13 battery storage technology is not *currently* least cost to address the overload conditions
 14 on either of the three single-phase to three-phase upgrade projects proposed.¹

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 16 Due to the magnitude of the overloads on the feeders proposed in the *Feeder Additions*
 17 *for Load Growth* project, deferral to a future period while waiting for utility-scale battery
 18 systems to become least cost is not possible. Doing so would expose customers on
 19 these distribution feeders to unnecessary outages. There is also no evidence that the
 20 cost of these commercial-grade battery storage technologies will become cost
 21 competitive in the future.²

22
 23 Newfoundland Power observes there was a time when electric vehicles were considered
 24 cost prohibitive relative to gasoline vehicles. Newfoundland Power also observes that
 25 electric vehicle subsidies are currently available from the Federal Government as well as
 26 the Government of Newfoundland and Labrador to improve the economics of purchasing
 27 electric vehicles.³ Electric vehicles have become more affordable as the adoption rate of
 28 electric vehicles increased over time. As noted in the response to Request for
 29 Information CA-NP-071, non-wires alternatives (“NWAs”) have not yet been widely
 30 adopted in Canada and have been largely implemented as pilot or demonstration
 31 projects. Utility grade NWAs are not at a comparable stage of developmental maturity
 32 when compared to electric vehicles.

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 34 Newfoundland Power is unable to comment on the economic viability of rooftop solar in
 35 Arizona as it lacks the necessary information for the analysis.

¹ Since the filing of Newfoundland Power’s *2024 Capital Budget Application*, Newfoundland and Labrador Hydro (“Hydro”) has filed a *Battery Energy Storage System Report* examining the feasibility of short- and long-term battery energy storage solutions. This report implied a higher cost per kilowatt hour (between \$555/kWh and \$685/kWh) in comparison to Newfoundland Power’s assumed \$427/kWh. It is important to note however that Hydro provided full lifecycle cost estimates for the battery storage systems, where Newfoundland Power only considered procurement cost.

² Hydro’s *Battery Energy Storage System Report*, Attachment A, page 6, has provided a cost summary. This summary indicates that the costs of the proposed battery solutions have increased by 29% for the 50 MW/200 MWh alternative and 45% for the 20 MW/180 MWh alternative since first being considered in August 2022.

³ See Newfoundland and Labrador Hydro (n.d.). *Electric Vehicle Rebate Program*. Retrieved from <https://nlhydro.com/electric-vehicles/ev-rebate/>

1 Newfoundland Power observes that many factors can influence the economics of rooftop
2 solar installation. For example, the solar resource available, as measured in solar
3 irradiance (kWh/m²), has a significant impact on the electricity that can be generated by
4 a solar installation. Newfoundland and Labrador is classified as a region that
5 experiences a mean daily solar irradiance of between 3 and 3.5 kWh/m² per day.
6 Arizona experiences approximately twice that amount at 6 to 6.5 kWh/m² per day.⁴
7 Another consideration is the impact of potential subsidies. The Arizona Corporation
8 Commission website lists 10 residential and 16 commercial incentive programs to
9 encourage solar adoption.⁵ The Province of Newfoundland and Labrador currently has
10 no comparable incentives available to specifically encourage the adoption of rooftop
11 solar.

⁴ See the National Renewable Energy Laboratory global horizontal solar irradiance map, available from <https://www.nrel.gov/gis/assets/images/nsrdb-v3-ghi-2018-01.jpg>

⁵ See Arizona Goes Solar (n.d.). *Residential/Non-Residential Incentives*. Retrieved from <https://arizonagoessolar.org/incentives/>