

POLICY BRIEF

To: Town Council

From: Magnus Thorsson, Chair Resilience & Energy Committee

Date: October 24, 2023

Subject: Adopting a policy of net-zero standard for all Town buildings, which are more cost effective to construct and operate than conventional mixed energy buildings.

Motion to recommend that the Town Council adopt net-zero building standards for all new construction and rehabilitation of Town owned buildings. This would include all school buildings as they are significant emitters and must be included in net-zero building requirements to meet State set emission goals.

Summary: Barrington Resilient Future Resolution (BRFR) notes among its top priorities “installing solar and zero carbon systems on public buildings and property to include school buildings and facilities”¹. To meet set emissions goals of 45 percent by 2030 and net zero emissions by 2050, Town must accelerate efforts toward achieving stated goals. The Town Council has the fiduciary responsibility to evaluate any building proposal on the merits of economic and societal benefits. Net-zero all-electric public buildings offer benefits including lower construction costs, lower carbon emissions, improved public safety, better indoor health, higher efficiency, and lower operating costs especially when paired with PV panels. Conversely, any fossil fuel equipment will have to be replaced by 2030, 2050 at the latest. This would place unnecessary financial hardship on taxpayers in addition to the high cost of fossil fuels and related operational cost.

Renewable energy has reached a tipping point, where its lifetime cost is now lower than the cost of fossil fuel generated energy. This advantage is due to reduction in hardware cost, innovation, and economies of scale. Furthermore, battery energy storage systems cost has dropped precipitously over the last decade making them finically justifiable and relevant to resilience². The technical solutions available now for all-electric development

¹ Town Council, Barrington. (2021). Town of Barrington Resilient Future Resolution. https://clerkshq.com/Content/Attachments/Barrington-ri/210201_resil.pdf?clientSite=Barrington-ri

are less expensive, more advanced and fitting for our local climate. Electric heat pumps are the most cost-efficient HVAC options especially when powered with renewable energy. Consequently, Town will suffer financial self-harm by continuing to install fossil fuel-based energy infrastructure on Town owned properties.

Economic models show a significant benefit to early adopters to renewable energy. Utility-scale solar photovoltaic leveled cost of energy LCOE is approximately 3.7 cents per kWh vs natural gas at 5.6 cents, and coal at 10.9 cents. This shift in cost parity in favor of renewables is a strategic opportunity for decision makers, who act expeditiously.

Implementing renewable energy in a timely manner across our infrastructure offers cost savings for taxpayers. Behind-the-meter resilience hubs, capable of functioning during power outages and supplying critical energy during adverse situations, could save lives.

Distributed generation of PV electricity with BESS will reduce the demand on the electrical grid and save taxpayer funding from lower transmission costs and virtual net metering. Distributed PV with BESS behind the meter promotes energy autonomy and increases Barrington's resiliency. Energy autonomy refers to a system, such as a building, or community, can produce and manage its energy needs independently, without relying on external sources or grids. Most buildings have emergency generators which would serve as a source of energy to support battery banks in case of limited solar output.

Grant and incentive opportunities.

Executive order, signed into law on 5/09/23³ administered by OER offers resources for municipalities who: work toward a clean energy future, protect public health, and reduce emissions with a public and private sector collaboration. The expressed goal is leading by example to transition to clean energy in accordance with 2021 AOC.

² Empirically grounded technology forecasts and the energy transition.

<https://www.sciencedirect.com/science/article/pii/S254243512200410X>

³ Leading by Example RI. <https://governor.ri.gov/executive-orders/executive-order-23-06>

The fund will provide an initial advance up to a maximum of one hundred thousand dollars (\$100,000) to any city or town upon the enactment of a qualifying ordinance based on the expenditure records justifying any expenses of the city or town incurred after enactment of the qualifying ordinance. Additional reimbursement of rebates or incentives more than the initial advance shall be available within sixty (60) days of the approval of expenditure records up to a maximum of five hundred thousand dollars (\$500,000) per city or town.