Testimony in support of H7811: 2024 Energy Storage Act

Dr. Hans Scholl, 71 Fales Avenue, Barrington, RI 02806

Date of Hearing: March 21, 2024

To Chair Solomon and the honorable Members of the House Corporations Committee:

I support the 2024 Energy Storage Act because it will lay the foundation to energy storage for Rhode Island. A good energy storage infrastructure is important, because it will dovetail with renewable energy generation and smoothen the peaks and troughs of wind and solar, contributing to consistent availability of clean energy, and to resilience.

H7811 is a milestone towards a reliable and flexible renewable electricity grid, by reducing peak demand, facilitating the integration of renewable energy and distributed energy resources, enhancing resilience and helping to start a state-based energy storage industry.

The bill not only sets policy, but it is also

- sets targets to install energy storage at scale,
- defines a storage compensation program and funding mechanisms for residential, commercial and industrial customers, with an eye on providing positive net present value to all ratepayers,
- asks for a docket to create a rate design for energy storage systems, and
- addresses energy storage procurement.

The bill comes at the right time. A recent analysis by the Rocky Mountain Institute[1] shows exponential growth of battery sales across all sectors, with the stationary battery storage market beginning to rapidly increase (Exhibit 1, below). The analysis also demonstrates that the cost of batteries continues to rapidly decline, while the energy density continues to increase, driving an exponential growth of the storage battery industry and of installed capacity (Exhibits 2 and 5, below).

Historic forecasts have underestimated this rate of growth in battery performance and of the decline in cost: while historically a linear rate of either was predicted, the current reality shows that the rates are actually exponential (Exhibit 4, below, for electric vehicle batteries, as representative for the trends in battery storage). All indicators are in favor of beginning to plan and to build our Rhode Island battery storage infrastructure, now!

Please bring the bill to a vote, in 2024. The timing is right, and waiting any longer will unnecessarily and avoidably let us fall behind in the transition to renewable, clean energy.

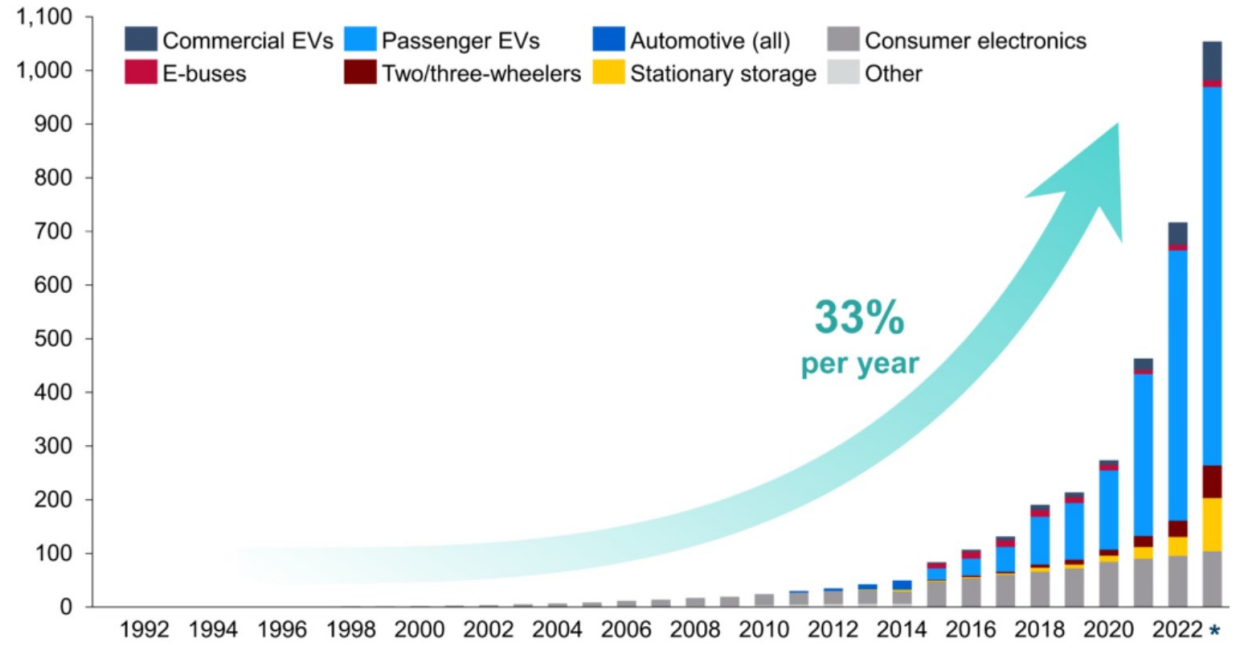
Thank you very much for considering my input, and thank you to Representative Handy for introducing this important bill.

Dr. Hans Scholl March 19, 2024

71 Fales Avenue
Barrington, RI 02806; (203) 687-6415; clclt17@mac.com

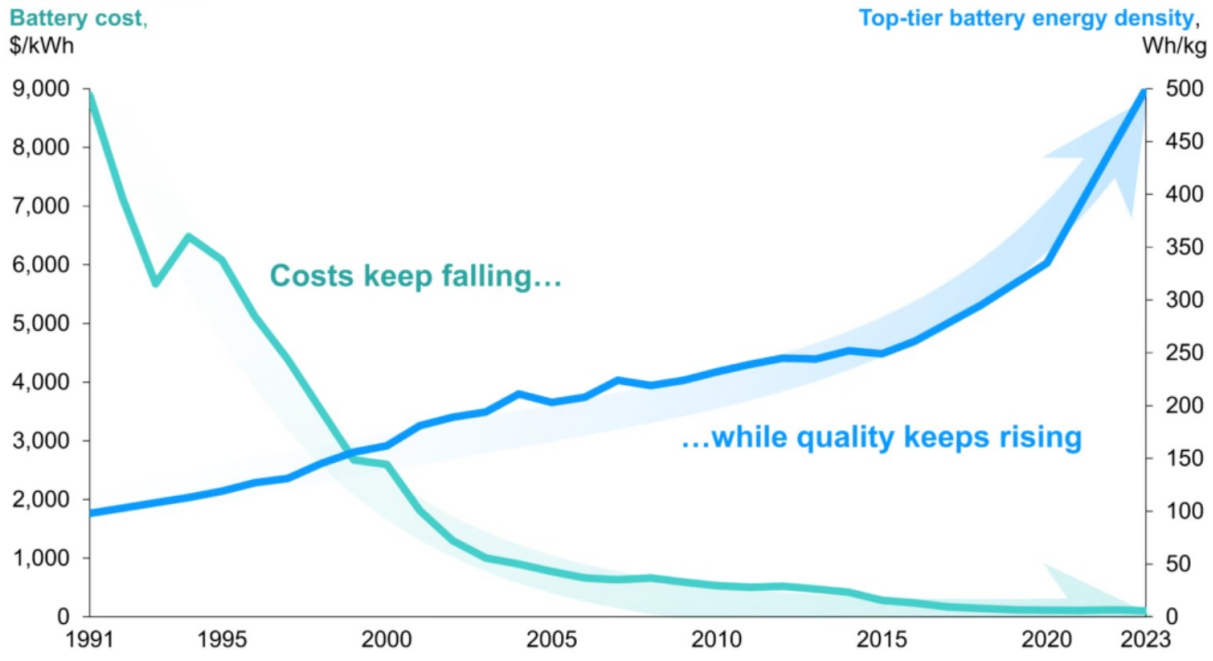
[1] https://rmi.org/the-rise-of-batteries-in-six-charts-and-not-too-many-numbers/

Exhibit 1: Global battery sales by sector, GWh/y



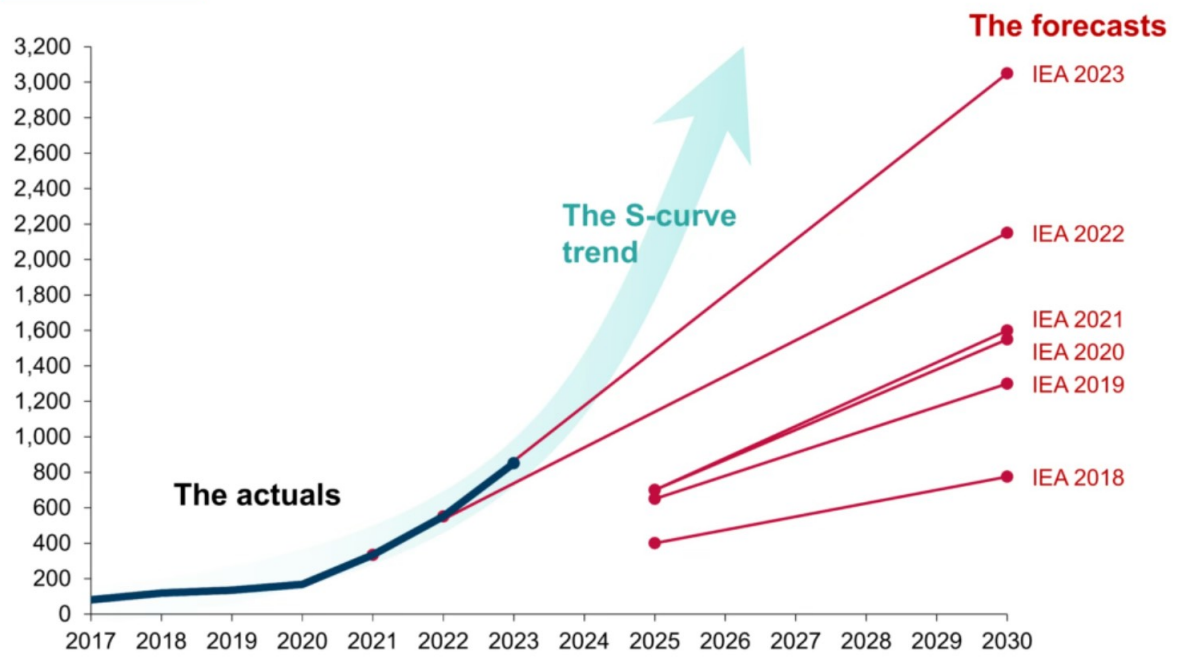
Source: Ziegler and Trancik (2021), Placke et al. (2017) for 1991-2014; *BNEF Long-Term Electric Vehicle Outlook* (2023) for 2015-2022 and the latest outlook for 2023 (*) from the BNEF Lithium-Ion Battery Price Survey (2023).

Exhibit 2: Battery cost and energy density since 1990



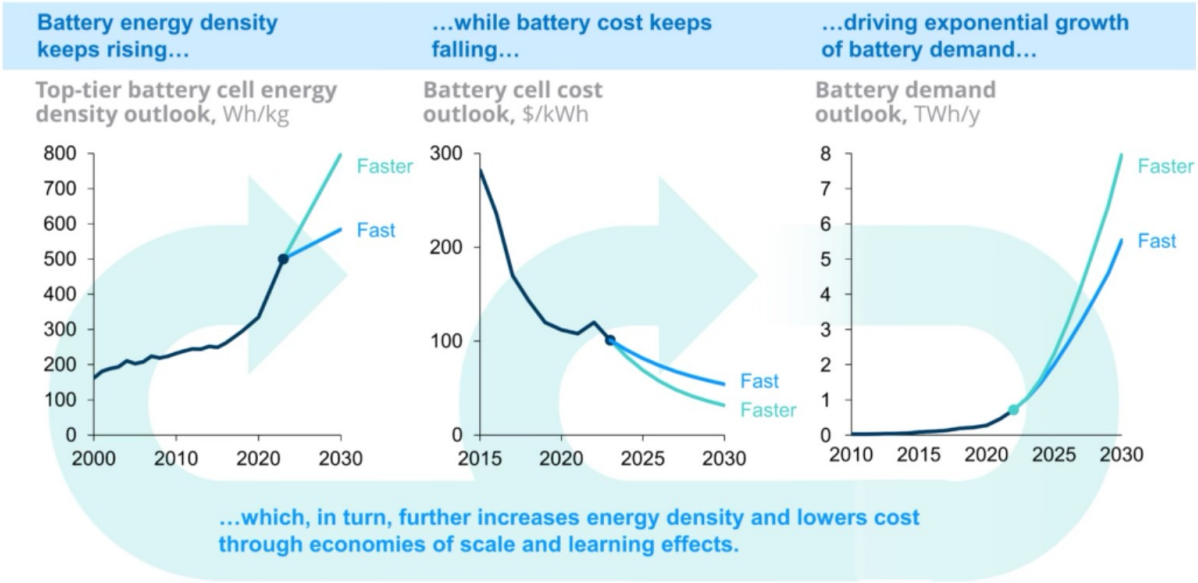
Source: Ziegler and Trancik (2021) before 2018 (end of data), BNEF *Long-Term Electric Vehicle Outlook* (2023) since 2018, BNEF *Lithium-Ion Battery Price Survey* (2023) for 2015-2023, RMI analysis.

Exhibit 4: Automotive lithium-ion battery demand, IEA forecast vs. actuals, GWh/y



Source: IEA *Global EV Outlook* (2018-2023) current policy scenarios and actuals; BNEF *Long-Term Electric Vehicle Outlook* (2023) for 2023 estimate.

Exhibit 5: A reinforcing feedback loop between battery quality, cost and market size



Source: Ziegler and Trancik (2021) before 2018 (end of data), BNEF *Long-Term Electric Vehicle Outlook* (2023) since 2018, BNEF Lithium-Ion Battery Price Survey (2023) for 2015-2023, RMI analysis.