

What's next for battery technology?

- Li-ion dominates today's rechargeable battery industry, and demand is growing quickly as they are adopted in electric vehicles and grid storage applications.
- A wave of new improvements to today's conventional technologies are on the horizon and will eventually be adopted in most major end markets.

IHS Markit predicts that

7 TWh

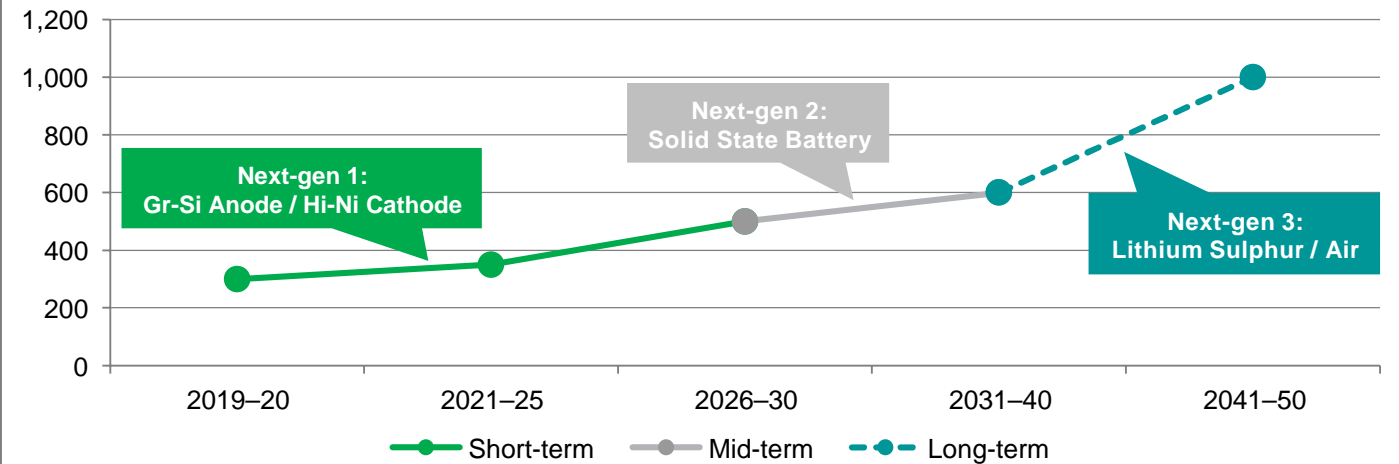
of next generation batteries will be sold between 2020 and 2030

(includes next-gen 1, 2 and 3 batteries)

Key obstacles for adoption of next-generation technology:

- ✓ Ability to scale to meet end market demand
- ✓ Stability of the chemistry system
- ✓ Cost reduction needed to compete with mainstream Li-ion technology

Li-ion battery technology roadmap from 2019 to 2050 (specific energy, Wh/kg)



Notes: Gr/Si = Graphite and Silicon mixture; Li = Lithium; Hi-Ni = high Nickel percentage in NMC or NCA cathode; Next-gen = Next-generation
Source: IHS Markit

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