

# High Loading Sulfur/RGO Electrodes for LiS Batteries

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## Abstract

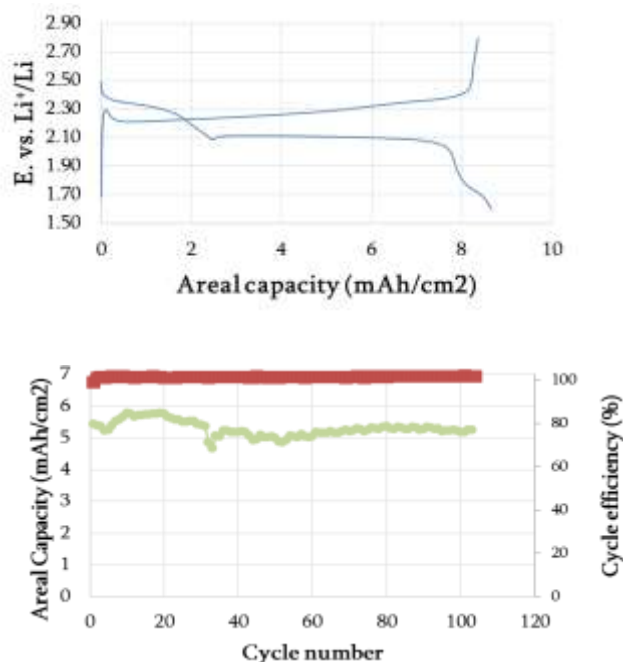
Graphene Batteries AS is working towards the commercialization of our RGO-supported-sulphur-cathode for LiS batteries which has shown promising results in laboratory scale coin cell.

Li-S batteries are considered among the most promising candidates to achieve high energy density at low cost [1]. Our sulphur cathode tested against Li foil delivered a stable areal capacity of  $\sim 5$  mAh/cm<sup>2</sup> over 100 cycles at >99.8% cycle efficiency. Current effort is directed towards increasing the sulphur utilization to yield 10 mAh/cm<sup>2</sup> for >200 cycles, as well as reducing the electrolyte/sulphur ratio down to 3 ( $\mu$ L/mg). Next, these results will be demonstrated on larger format cells where we can explore scalability issues and reliably extrapolate performance metrics of the final cells that are estimated to reach 350 Wh/kg.

## References

- [1] Quang Pang, Xiao Liang, Chun Yuen Kwok, Linda Nazar, Nature Energy, 1(2016) 1-11

## Figures



**Figure 1:** Electrochemical performance of S/RGO electrode **a)** Areal capacity vs. potential plot for the first cycle, **b)** Prolonged cycling at 0.2C rate.