

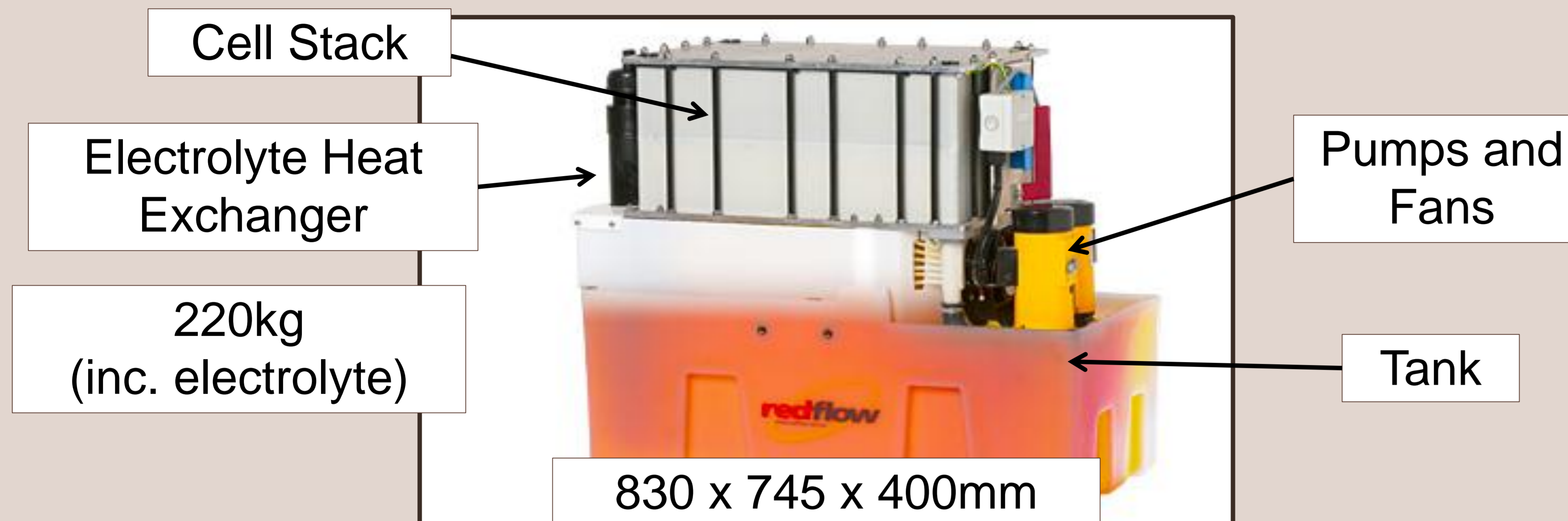
# ZINC-BROMINE FLOW BATTERIES IN RESIDENTIAL ELECTRICITY SUPPLY: TWO CASE STUDIES



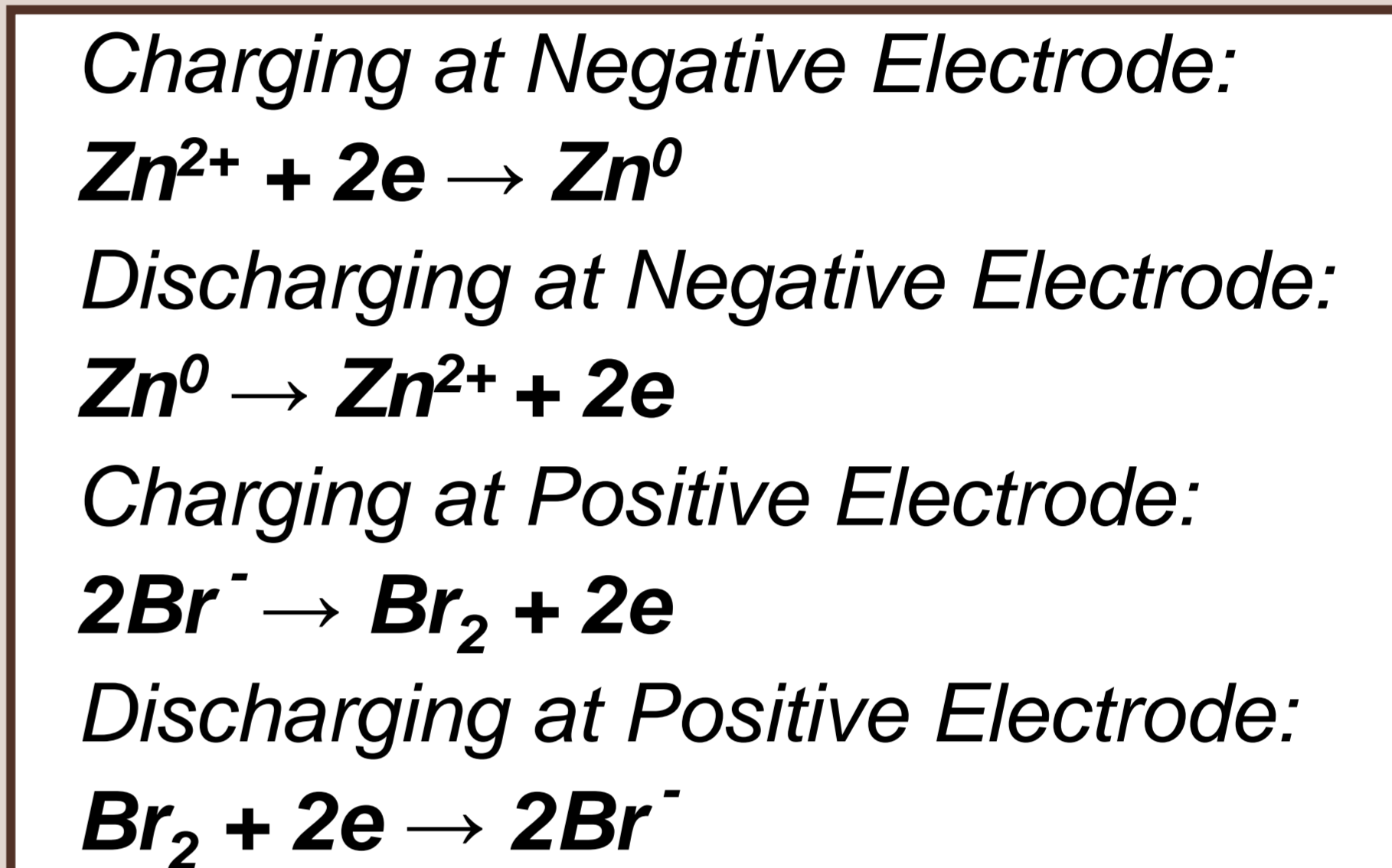
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## Zinc-Bromine Flow Battery Technology



- 5kW
- 10kWh
- 42-57V DC
- 10-50°C
- 100% DoD
- 70-75% efficiency
- Recyclable Materials

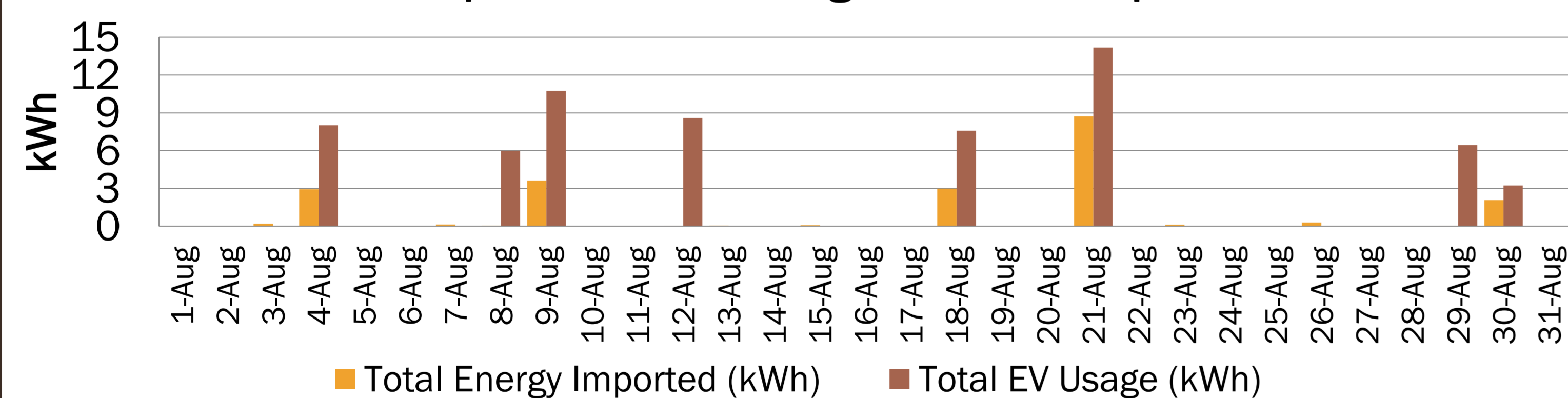


## Newington Smart Home

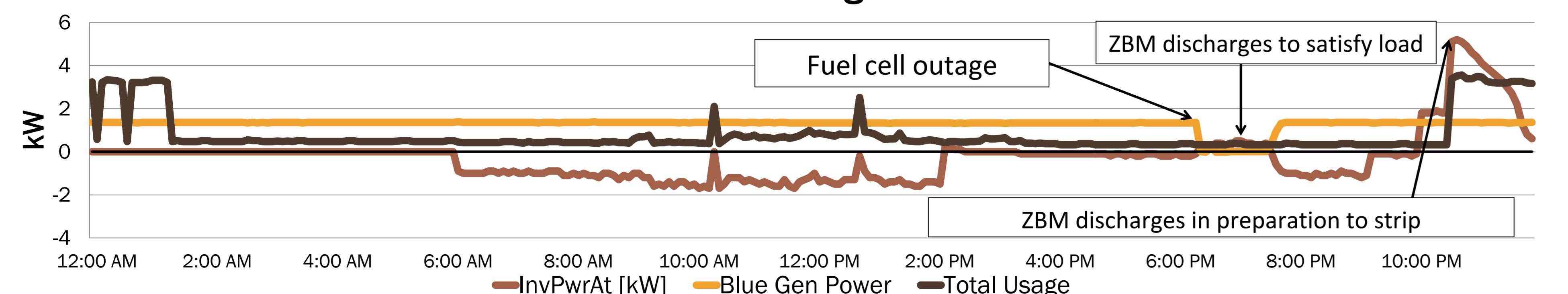
- Size and rating of ZBM adequate for the Smart Home load.
- The significant effect of large loads (e.g. EV) on grid import.
- The need for reliable distributed generation to back-up solar generation.
- R510 and embedded generation reduced grid import to <8% of the time.
- ROI Period = 216 years.



Comparison of EV Usage and Grid Import



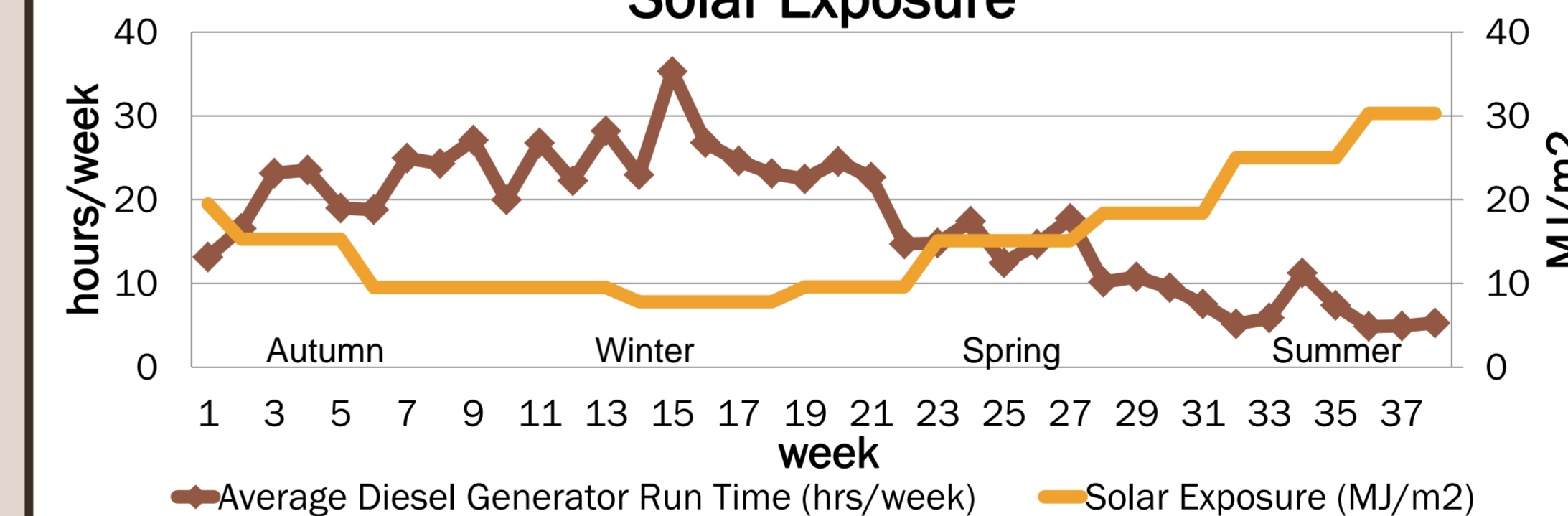
Blue Gen Fuel Cell Outage Performance



## Energy Safe Victoria Trial

- Customers may need to change their behavior to optimise RAPS system operation.
- The significance of variable solar exposure to performance of the RAPS ESS.
- The need for a diesel generator to back-up the solar generation.
- RAPS system reduced diesel generator runtime to <15% of the time.
- ROI Period = 57 years.

Average Weekly Diesel Generator Run Time vs. Solar Exposure



LA SOC Smoothing due to ZB Use

