

## Appendix A. USABC High Energy EV Performance Targets

### USABC Goals for Advanced Batteries for Light Duty High Energy Electric Vehicles (EVs)

End of Life Characteristics at 30°C	Units	EV Cell Level
Peak Discharge Power Density 30 s Pulse	W/L	1600
Peak Specific Discharge Power, 30 s Pulse	W/kg	800
Peak Specific Regen Power, 10 s Pulse	W/kg	300
Useable Energy (U.E.) Density <sup>1</sup>	Wh/L	850
Useable Specific Energy	Wh/kg	450
Calendar Life	Years	15
DST Cycle Life	Cycles	750 (25% Fast Charge)
Cost @ 250k Units <sup>3</sup>	\$/kWh	60 <sup>2</sup>
Fast Charge at 30°C (80% U.E. Target <sup>4</sup> )	Minutes	10 min
Unassisted Operating at -20°C	%	>70% Specific Useable Energy
Operating Environment	°C	-30° to +65°
Survival Temperature Range, 24 Hr.	°C	-40° to +75°
Maximum Self-discharge	%/month	<1
Maximum Allowable Stack Pressure	MPa	2

1. The definition of useable energy (U.E.) can be found in the “USABC Battery Test Manual for Electric vehicles” on USABC website.
2. The cost calculation should be based on US production..
3. One unit is defined as a pack with a useable energy of 100 kWh.
4. The definition of useable energy (U.E.) target can be found in the “USABC Battery Test Manual for Electric vehicles” on USABC website.