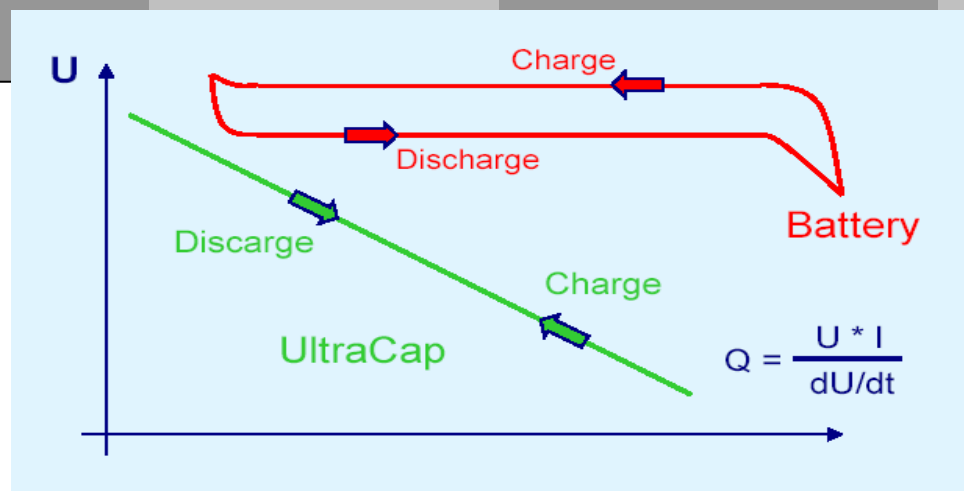
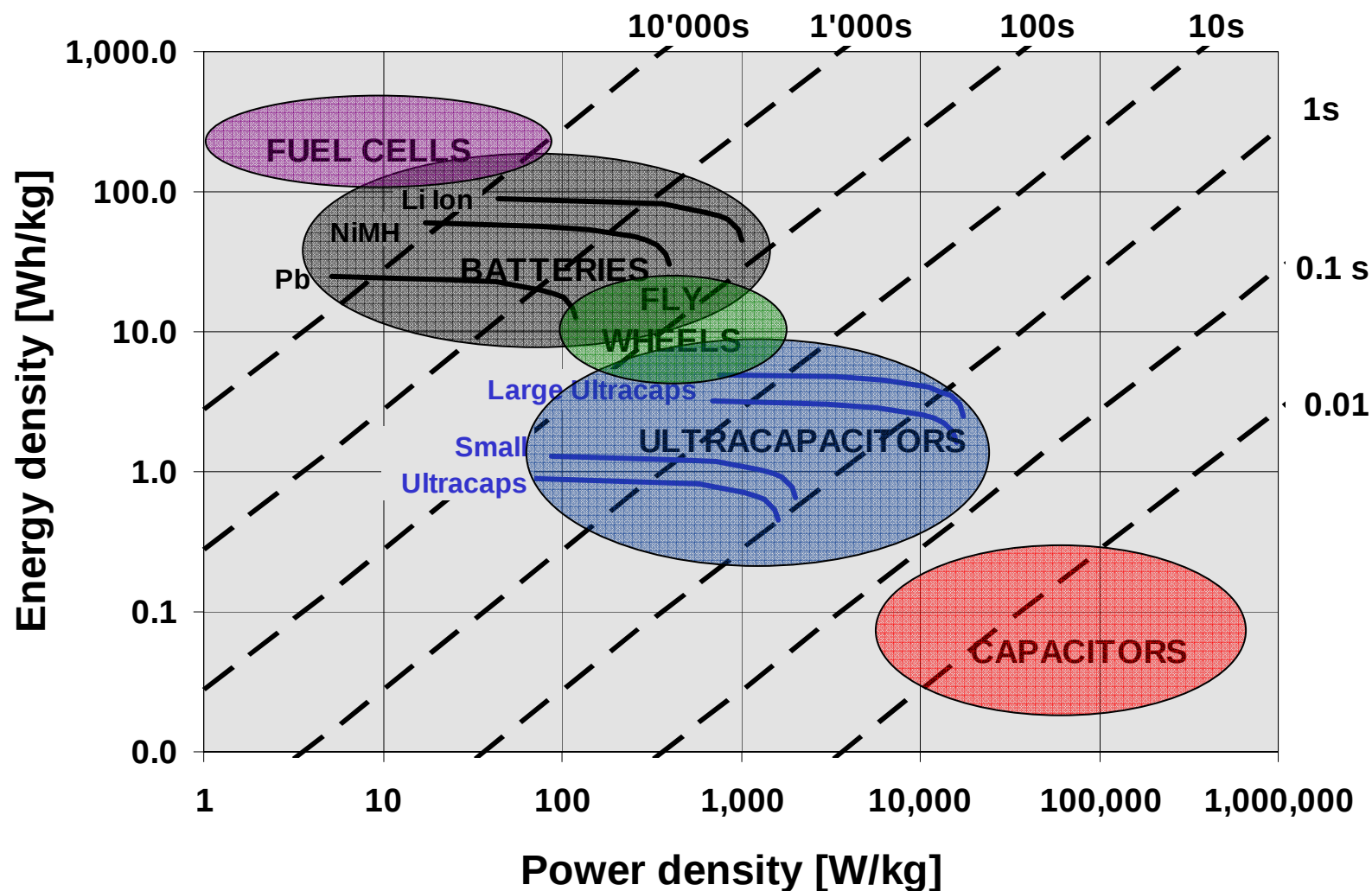


Characteristic	Lead Acid Battery	Ultracapacitor	Conventional Capacitor
Charge Time	1 to 5 hrs	0.3 to 30 s	10^{-3} to 10^{-6} s
Discharge Time	0.3 to 3 hrs	0.3 to 30 s	10^{-3} to 10^{-6} s
Energy (Wh/kg)	10 to 100	1 to 10	< 0.1
Cycle Life	1,000	>500,000	>500,000
Specific Power (W/kg)	~1000	~10,000	~100,000
Charge/discharge efficiency	0.7 to 0.85	0.85 to 0.98	>0.95



Energy Storage Technologies

Ragone plot



Ultracapacitor vs. Battery Technologies

